TEACHER'S STRATEGIES FOR CURBING EXAMINATION MALPRACTICE INTERTIARY INSTITUTIONS IN NIGERIA

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Abstract

Examination malpractice is as old as examination itself, however, the rate at which examination malpractices occur in the Nigerian educational system is highly disturbing. It therefore needs prompt attention by all stakeholders. The phenomenon has both moral and legal dimensions. It is considered as a hydra headed problem that has pervaded the entire educational system in Nigeria. Its resultant effect is a gradual loss of confidence in the products of the system and gradual dc-recognition of certificates issued by Nigerian schools. This paper discusses the concept of examination malpractice, dimension, effects, causes of examination malpractice and strategies for managing the menace were emphasized.

Introduction

Examination is an important aspect of the education process. This is the stage at which the learner's knowledge, skills, ability and competencies are assessed, and judgment made about such performance. The outcome of such judgment is used for diagnosing as well as placement of students. Beating the due process of examinations leads to malpractices. Hence, examination malpractice is as old as examination itself. However, the rate at which examination malpractices occur in the Nigerian educational system is highly disturbing and, therefore, needs prompt attention by all stakeholders. In fact, the phenomenon has both moral and legal implications.

Examination malpractice was described as a cankerworm that has eroded the educational system of Nigeria. This prompted the Federal Military Government to promulgate "Examination Malpractices Decree 20" in 1984. The decree prescribes heavy punishment for offenders. In spite of stiff penalties, examination malpractice is growing in leaps and bounds at all levels of the Nigerian educational system. Pupils/students, teachers, school administrators, parents, examination invigilators and supervisors, custodians of examination materials, officials of examination bodies and law enforcement agents are involved. Hence, Decree 20 was amended copiously by "Examination Malpractices Decree 33 of 1999", which lists twelve various offences as examination malpractices.

Examination malpractice, as an antisocial behaviour, has in recent times attracted the attention of stakeholders in the education industry (WAEC, 2021; Adamolekun,

1998). The phenomenon has been defined in various ways by teachers, sociologists, philosophers, psychologists and educational administrators. Nyandwi (2017) defines examination malpractice as all forms of cheating which directly or indirectly falsify the ability of the students. Offences regarded as forms of examination malpractice during examinations include:

i. Using phone and other related electronic devices
ii. Using of tip note written on tiny piece of paper
iii. By writing the tip or note on their body part like hands, laps, arms etc. before stipulated time of paper.
iv. Writing tip on fingernails before going into the examination hall
v. By paying outsiders to sit for the candidate examination.
vi. Using another person to sit for an examination on behalf of a candidate
vii. Bringing in prepared answers/copying from textbooks, notebooks, laboratory specimens or any other instructional aids smuggled into the examination hail
viii. Collaborating with an invigilator to cheat in the examination hail
ix. Communicating or attempting to communicate between/among examinees
x. Copying or attempting to/ copy other student's work/answers in examinations
xi. Submitting or attempting to submit a new prepared answer script as a substitute for the original script after an examination
xii. Non-submission of answer script at the end of an examination
xiii. Illegal removal of answer scripts from the examination hail. Forms of examination malpractice before or after examinations include:
xiv. Using another person's work without appropriate acknowledgement both in the text or in the references list
xv. Copying laboratory and fieldwork reports and/or term papers of others
xvi. Obtaining set questions or answers beforehand
xvii. Modifying student's score cards, answer scripts and/or mark sheets
xviii. Submitting project, laboratory and/or field report not prepared or written by the students themselves
xix. Breaking into staff or departmental offices in order to obtain question papers, answer scripts or mark sheets, or substituting a fresh answer script for the original scripts
xx. Soliciting for examiner's help in order to pass examination.

Dimensions of Examination Malpractices

Year-in-year-out, students come up with new dimensions of examination malpractices. This is the more reason why drastic steps must be taken. The instances of examination malpractices vary. They range from impersonation, leakage of questions, tampering with results and computer fraud to fraudulent practices by invigilators, officials and security personnel charged with supervising examinations. Parents are not left out of the business. Some of these dimensions are discussed below:

1. **Bringing of foreign materials into examination hall:** This is a situation where students bring into the examination hall notes, textbooks, and other prepared materials. The method is nicknamed as hide and seek, microchips, tattoo and magic desk. Sometimes, students bring into the hail unauthorized materials like sophisticated and scientific calculators or four figure tables. Nnam and Inah (2018) identified some methods like giraffing, contraband, bullet, super print, escort, missiles, pregnant biros and so on.

2. **Assistance from educational stakeholders:** Examination stakeholders include parents, teachers, lecturers, supervisors, security agents, printers and staff of examination bodies. Some parents go to any length in buying question papers for their children while some others even buy certificates for their children. Supervisors colluding with teachers, school principals or students by allowing teachers to come around to teach the students during the examination period; lecturers or teachers releasing question papers or giving underserved marks or allowing students to illegally re-take examination papers. Security agents, printers and staff of examination bodies also sell question papers. Otoo (2018) stated that: leakage is one problem which appear to defy all solutions. Its persistence, despite methods of blocking loopholes, is an indication of the malaise and corruption in society

3. **Irregular Activities inside and outside the examination halls:** Students who had the mind to cheat exhibit strange and unwholesome behaviours. They use various such methods as:
   (i) Stealing, converting, substituting or misappropriating the scripts of other candidates.
   (ii) Substituting worked scripts during or after an examination.
   (iii) Tearing part of the question paper or answer booklet during the examination to enhance cheating.
   (iv) Seeking and receiving helps from other candidates.

4. **Impersonation:** This is a situation where a candidate sits in an examination for another candidate, thereby pretending to be the real or original candidate. Impersonation is becoming very rampant, even among school candidates. Nnam and Inah (2018) listed various methods that have been devised by students and these include:
   (a) Posing as a bona-fide candidate: impersonators write the examination on behalf of the candidate they are impersonating. Under-graduates and graduate youth Corpers engage in this type of cheating.
   (b) Entry for similar subjects: the plot is hatched right from the entry stage by making the impersonator to enter for the same subjects and sit for the examinations in the hail with the candidate; he writes the candidate's

name and number on his booklet while the candidate writes the impersonator's and they exchange scripts before submitting.

(c) Multiple entries: that is candidates entering for the same examination in several parts of the locality.

It has also been observed that several candidates struggle unnecessarily for live question papers at the beginning of a paper which are then passed to touts for assistance. Also, candidates deliberately come into the hail with the sole aim of smuggling the question paper out as soon as the paper starts and bringing the solution inside later.

5. **Insult or Assault on Examination Officials:** There are cases of students insulting examination officials as they carry out their businesses. The aim is to distract them from effective supervision, so that they can have a way out. Sometimes students disturb the conduct of examinations due to poor preparation.

6. **Electronically assisted malpractices:** In recent times, it has been discovered that students make use of electronic gadgets to cheat during examinations. Such things as unauthorized scientific calculators, organizers, compact disc (the smallest size) and mobile phones (GSM) to take advantage of others.

7. **Collusion:** This is a situation where two or more candidates agree to receive or give assistance to each other. If it is verbal, this is called ECOMOG or ECO WAS. Otoo (2018) identified the use of terms like 'laya', Ecornog, and so on, which are also common among students. Nnam and Inah (2018) said that collusion involves exchange of scripts, passing notes for help from outside and inside the hail; delaying commencement of examination in one centre to obtain question paper from nearby centre which has started, collusion, arising from bribes or threat to the lives and/or property of supervisors.

8. **Mass cheating:** Candidates in an examination hail at times are massively involved in one or some of the irregularities aforementioned.

9. **Inscription:** Students have now advanced to the level of inscribing materials or information on anything like parts of their body, for example palms, thighs, baby pampers; dresses, handkerchiefs, rulers, purses, chairs, tables, walls of examination halls and so on. Some student even code points and synthesize their notes in such a way that they will be the only one that could understand and use them for cheating.

10. **Personality Connection:** There are cases where some influential students make use of godfathers in politics, economic high towers, parents, and cult members to influence the outcome of examinations.

Typical Example of Examination Malpractices

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Effects of Examination Malpractices

Some of the dangers of examination malpractices include:

a. Not being able to defend the certificate (failure in job performance).
b. Perpetual condemnation of the conscience.
c. Possibility of unfulfilled dreams and vision, if the student is rusticated from school or terminated at the working place.
d. Spillover effect borne by parents and other relatives of culprits.
e. The culprit may be initiated into a system of dishonesty and corrupt practices by which they become hardened.
f. It makes nonsense of the educational system and it militates against the country's goal of technological advancement.
g. It discredits certificates issued by national examination bodies and institutions of higher learning and the nation as a whole.
i. It makes students to loose the ability to study or work hard in their studies.
j. When a candidate is caught and expelled, there will be no certificate to show for whatever year(s) they might have put into their educational career.

Causes of Examination Malpractice.

A number of factors responsible for examination malpractices in the Nigerian school system have been identified by Otoo (2018). These factors could be regarded as immediate and remote causes of examination malpractices, taking source from the society, the home and the school. Among others, these causes are:

i. Moral decadence
ii. Undue emphasis on examination results and certificates
iii. Quest for material wealth
iv. Poor teaching/learning habits
v. Poor conditions under which examinations are conducted
vi. Maladministration of school heads and examiners
vii. Poor logistics for examinations
viii. The desire to satisfy parents' ambition
ix. Unpreparedness of students for examinations
x. Students' lack of self-confidence
xi. Peer/group influence
xii. Benefits derived by vendors of examination papers
xiii. Injustice in the punishment of culprit/insincerity in tackling the problem
xiv. Incessant staff strikes that often interrupt the school programme and
xv. Teacher's threat to fail students.

Curbing Examination Malpractice in the Tertiary Institutions

Examination malpractice occurs both within and outside the examination halls. It is perpetrated by students, staff and other external agents before, during and even after examinations. Many strategies applied to curb examination malpractices within the Tertiary Institutions tend to be ineffective. In fact, new devices for perpetrating examination malpractices grow by leaps and bounds on campuses, making such strategies look as if they are addressing the symptoms rather than the root causes. This situation might not be unconnected with the fact that student culprits are usually targeted by these strategies, brushing aside the contributory roles of other Tertiary Institutions members in the ultimate act. The timeliness and effectiveness of the disciplinary measures meted out to culprits have also been faulted (Olaseinde-Williams, 2004).

Strategic management here refers to the setting of goals and actions towards academic honesty coupled with provision of an enabling environment by Tertiary administration and compliance with expected behaviours by Tertiary staff and students. In this case, every member of the Tertiary community would therefore have a common vision and would be governed by such written documents as mission and policy statement and standard organizational behaviours to achieve the mission.

The achievement of this vision would definitely require abolition of all acts of academic dishonesty, examination malpractice inclusive. In addition, dedication would be expected of the Tertiary Institution, staff and students in the performance of their obligations and functions. Specifically, college administration would have to set achievable goals and objectives and provide the necessary enabling environment for achieving them. The different categories of staff and students would equally have to effectively and efficiently perform their expected roles and functions. It is under the resultant academic integrity climate, which according to Olaseinde- Williams (2004), is a

behavioural issue having to do with transparency and self-discipline in all academic transactions including examination matters in the Tertiary system, that effective teaching and learning would take place and all acts of academic dishonesty abolished.

Expectations and Obligation in Strategic Management Policy

Under the strategic management policy, all categories of people within the university community must have specific obligations to perform towards goal achievement. Expected obligations of college administration, different categories of staff and students must be made clear to each of these parties in the school commodity

College Administration: The basic obligation of the college administration is the provision of a conducive working and learning environment for staff and students. This obligation involves, among others:

i. Formulation of concrete and achievable goals,
ii. Provision of necessary human (lectures and support staff); material and physical resources to work with,
iii. Setting up monitoring devices for detecting non-compliance with goal attainment activities, and,
iv. Provision and application of a fair and free policy framework for dealing with non-compliance to set standards.

Academic Staff: Academic staff in college are expected to teach and engage in research and community service (Federal Republic of Nigeria, 1998). The most basic among these functions is teaching. In fact, the other two functions (research and community service) are expected to assist teaching. Effective teaching is therefore necessary to ensure malpractice-free examinations. For teaching to be effective, the teachers must be proficient in the principles and practice of education. There is thus the need for college of education lecturers to have teaching qualifications such as Post-Graduate Diploma in Education (PGDE).

In relation to effective teaching, academic staff would be expected to:

i. Attend lectures punctually and be well prepared;
ii. Be accessible to students;
iv. Give and grade tests and assignments objectively and provide prompt feedback to students on their performances;
iv. Avoid taking undue advantage of students; and
v. Relate well to other members of the university community.

Different categories of academic and non-academic staff are involved in examination matters. These officers, including the Heads of Department (Chief Examiners). Course Lecturers, Examination Coordinators/Officers. Typists, Chief Invigilators and Invigilators must be acquainted with their duties as stipulated in Academic Programmes and must carry them out.

College Students: College students are obliged to respect and obey constituted authority. In this regard. Students should be acquainted with the Information Handbook

and or Code of Conduct Manual relating to dos and don'ts on campuses. Students should be provided with information on issues such as:

i. General behaviours on campus
ii. Lecture attendance and eligibility for examinations
iii. Procedures for continuous assessment of courses
v. Use of such university facilities as library, counselling centre and recreational facilities.

Under the expected open environment where each group knows the obligations of the other groups, accountability is enshrined in the system and students become so self-disciplined that they abhor acts of dishonesty and report violators (co-students and even stall).

Other ways to eradicate examination malpractice is to sanctionof schools for examination malpractices. For example, The West African Examination Council, WAEC (2022) has barred and delisted two schools in Imo state for a period of 5 years, derecognized 28 schools for examination malpractices. See list of the school below.

Conclusion

Examination malpractice has become a hydra-headed problem that pervades the entire educational system in Nigeria. It is perpetrated by students and staff alike both within and outside the examination rooms using different techniques that grow by the day. The resultant effect is gradual loss of confidence in Nigerian certificates. Strategic management policy, in which specific obligations of Tertiary/Colleges administration, staff and students are clearly stated, is advocated. Though strategic management make for long term achievement of goals is targeted, it also stresses the provision of adaptive measures in the short term. Therefore, the following recommendations are made to curb examination malpractices pending the time that the policy would inculcate permanent ethical reorientation in university members.

Recommendations

1. Moral/religious counselling should be used as a strategy to reduce involvement of students and staff in examination malpractice. Such counselling could be given during orientation programmes for new students and staff during registration for courses by level advisers, during lectures and workshops and seminars. At such for a, the consequence of examination malpractice should be explained to both students and staff Staff members are also counselled on the moral implications of using intimidation and threats to extort sex, money and other favours from students in exchange for grades.
2. Pending the provision of adequate hail and seats for examinations, adequate number of invigilators should be assigned to examination room (the policy of a chief invigilator and at least one invigilator to every 40 students should be adhered to).
3. All activities relating to examinations such as question paper production, invigilation, marking and result collation as well as computation should be handled with a high sense of responsibility by those concerned.

4. Concerted efforts should be made to properly acquaint staff and students with regulations governing examination conduct in the colleges. Towards this end, workshops and orientation programmes should be carried out periodically to acquaint staff with their duties as examiners and invigilators and students of their expected preparation for, and conduct at examinations.
5. For the many examination offenders now and the few that would still violate even after self-discipline has been enshrined in the long run, appropriate sanctions should be applied.

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EFFECT OF METACOGNITIVE REGULATION AND SYSTEMATIC DESENSITIZATION ON BEHAVIOURAL COMPONENT OF PUBLIC SPEAKING ANXIETY AMONG SENIOR SECONDARY SCHOOL STUDENTS IN KAURU, KADUNA STATE, NIGERIA

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Abstract
The research examined the effect of Metacognitive Regulation and Systematic Desensitization on behavioural component of public speaking anxiety among Senior Secondary school students in Kauru, Kaduna State. It was a Quasi Experimental study where two groups were assigned to two treatments on behavioural component of public speaking anxiety for ten weeks. The two treatment packages used include Metacognitive regulation and Systematic Desensitization. The population of the study consists of one hundred and ninety one (191) senior secondary school students (SS3). Forty (40) students were purposively selected as sample size for the research. The instrument used to collect data for the study was the Personal Report of Public Speaking Anxiety Survey (PRPSAS) and the collected data were analysed using paired sample t-test and ANCOVA. The results reveal that significant difference in the mean score of pretest and posttest on behavioural component of public speaking anxiety among Senior Secondary School students exposed to metacognitive regulation and Systematic Desensitization with (t=22.066, P= .000 and t= 6.822, P= .000) respectively. A significant difference in the mean score of metacognitive regulation and systematic desensitization exists on Public Speaking Anxiety in favour of systematic desensitization among Senior Secondary School students with (F=8.50, P= .003). It was thus concluded that metacognitive regulation and systematic desensitization have significant effect on behavioural component of Public Speaking Anxiety with systematic desensitization being more effective than metacognitive regulation. It was therefore, recommended that psychologists should use both metacognitive regulation and systematic desensitization to treat behavioural component of public speaking anxiety with preference to systematic desensitization.
Keywords: *Metacognitive Regulation, Systematic Desensitization, Public Speaking Anxiety*

Introduction

At infancy and early stages of life children communicate without fear. Shockingly at adolescence they manifest anxiousness when speaking to the public. It appears that the problem of public speaking anxiety has reached the extent that majority

of students of secondary schools fear to be picked out to deliver a public talk even when they don't actually have problem with the language they are using. It is observed that in a class of forty students, the class teacher struggles to be able to pick out eight students that can speak publicly without long preparation (Rogland-Harutunian, 2017). A lot of training and rehearsal must be carried out to prepare the students to be able to stand and face the challenge of public speaking so that they would be able to cope, otherwise the performance might not be good. One other painful thing is that there are some of those students that if they were to speak in group of their intimate friends, many of them would not have problem of speaking. They might even lead in some of the discussion but when they are in the midst of unfamiliar people, they manifest anxiousness. However, some students feel anxious when familiar members are part of the audience they are to speak to.

Public speaking anxiety is the uneasiness to speak in public. Barnard (2017), states that the term public speaking anxiety or speech anxiety is the fear of public speaking and that the term originated from Greek word "glossophobia" which connote: *glossa*, to mean *tongue*, and *phobos* to mean fear or dread. Moss (2022) states that public speaking anxiety is the total response of a human being to threat or danger associated with speaking in public. According to Nordquist (2020), public speaking anxiety (PSA) is the intense worry and fear that a person experiences when delivering or preparing to speak to an audience. He furthered that public speaking anxiety is sometimes referred to as stage fright or communication apprehension and that for some, the fear of public speaking is greater than the fear of death, heights, or snakes. There are various dimensions of public speaking anxiety just as there are types of public speaking anxiety. Beidel, Tunner and Dancu (2017), and Hopf and Ayres (2019) state that basic dimensions of public speaking anxiety include cognition, behavioural, emotional and psychological dimensions.

Metacognitive regulation is how an individual controls his/her thinking to facilitate learning process. For example, students with effective metacognitive-regulation skills can select appropriate learning strategies for a task and modify their approaches based on the outcome (Stanton, Xyanthe & Nicole 2020). In contrast, students who plan to do "more of the same" after earning a poor grade on an exam lack these skills. Drew (2020) citing Fravell, defines metacognitive regulation to mean thinking about thinking which assist in monitoring, evaluating and controlling ones thinking. The concept includes all the processes involved in regulating how we think. These processes include planning out our work, tracking our progress, and assessing our own knowledge. Truncer, (2016) describes metacognition as an individual's knowledge about his/her own cognitive processes. Phases of metacognitive regulation include orientation strategies, planning strategies, strategies for regulating cognitive processing, strategies for checking (monitoring) the implementation of the planned action, strategies for the evaluation of the outcome of task processing and strategies for recapitulation and self-regulation.

According to Systematic desensitization may sound like something that would be done to the person while strapped down in the basement of a scary hospital, but it

actually refers to the fact that we become less anxious about something when we are exposed to it more often (Bodie, 2020). Systematic desensitization as stated by Bodie (2020), is also known as exposure therapy because it is a gradual exposure which involves presenting an individual with a threatening stimulus for short periods of time ranging from a few seconds to a few minutes, depending on the nervousness of the stimulus. This technique allows students to progressively build their confidence over the course of a semester. Moreover, each time a student delivers a speech or discusses his or her topic, ideas, or source material with the instructor or other students, the student is utilizing this type of "repeated exposure" therapy. Conceptually, Santrock (2019) defines systematic desensitization as method based on classical conditioning that reduces anxiety by getting the individual to associate deep relaxation with successive visualization of increasing anxiety-producing situations. Mc Leoud (2021) and Gilston (2020) states that first, the patient is taught a deep muscle relaxation technique and breathing exercises. E.g. control over breathing, muscle de-tensioning or meditation and that the step is very important because of reciprocal inhibition, where once response is inhibited because it is incompatible with another: in the case of phobias, fears involve tension and tension is incompatible with relaxation. In this exercise, the person can be made to tighten his muscles and then loosen them gradually. This exercise can induce deep muscle relaxation in the patient.

Theoretically, Drew (2020) states that one of early theories of metacognition was proposed by John Flavell, an American professor and child psychologist, in the 1970s. He postulated that thinking about how we think can't be stumbled upon. It needs to be strategic and based on specific techniques, such as self-questioning and that we need to plan our thinking before conducting a task but coming up with a 'plan of attack' for our studies. He believes that we should be using meta-strategies to be better at learning or working. The theory of metacognition by Brown (1987) divided metacognition into two broad categories namely: knowledge of cognition and regulation of cognition. Grew and Evny (2021) that Beck's cognitive theory considers the subjective symptoms such as a negative view of self, world, and future defining features of anxiety.

Empirically, Muhammad (2021) carried out a study on the effect of and the findings revealed that metacognitive regulation strategy has significant effect on behavioral component of public speaking anxiety. Samah and Fahim (2016) embarked on study on speaking anxiety and found that teaching self-regulated strategies to university students was effective in developing their speaking proficiency and reducing their behavioural and anxiety considerably. Charles. Keaten, Sakamoto (2018) found that metacognitive regulation is effective to reduce public speaking anxiety of students. Hopf and Ayres (2009) carried out a study on treatment of anxiety by the use of Systematic Desensitization technique and found that systematic desensitization has positive effects on behavioural manifestations of speech anxiety. Idris and Justman (2016) carried out a study on the effect of metacognitive teaching on speaking ability of low ranking junior high school students and the pre-test and post-test mean scores showed that metacognitive regulation has significance effects on students' behavioural

speaking skills. Studies by Nordahl, Halvorsen, Hjemdah, Ternava and Wells (2016), Chen and Wang (2015), Ebrahimi, Pallesen, Kenter and Nordgreen (2019) found significant effect of metacognitive regulation on behavior component of public speaking anxiety. Niles, Lieberman and Hur (2015), Mc Groskey, Ralph, David and Barack (2016) and Kumar (2017) found systematic desensitization effective in the treatment of behavior component of public speaking anxiety.

Hypotheses

$H0_1$: There is no significant difference in the pretest and posttest mean score of behavioural component of public speaking anxiety among Senior Secondary School students exposed to metacognitive regulation treatment in Kauru, Kaduna State, Nigeria

$H0_2$: There is no significant difference in the pretest and posttest mean score of behavioural component of public speaking anxiety among Senior Secondary School students exposed to systematic desensitization treatment in Kauru, Kaduna State, Nigeria.

$H0_3$: There is no significant difference in the pretest and posttest mean score of Public Speaking Anxiety among Senior Secondary School students exposed to metacognitive regulation and systematic desensitization treatments in Kauru, Kaduna State, Nigeria.

Methodology

The design adopted by the researcher for this study was quasi experimental design involving pretest and post-test. Kerlinger (1978) and Price (2017) state that pretest and posttest quasi experimental design is applied when the researcher manipulates the independent variable to determine the cause and effect of a variable on another without involving a control group. The population of the study included all the one hundred and ninety one (191) senior secondary school students (SS3) who were identified with the problem of public speaking anxiety in Senior Secondary. Forty (40) students were sampled for the study in line with Charitaki (2015). The technique used by the researcher was simple random in order to enable the researcher give equal chances of being selected for the study to each participants.

Table 2: Sample Distribution of SS3 students with problem of public speaking anxiety

S/N	Name of School	Number of Students
01.	Gov. Sec. Sch Kauru	20
02.	Gov. Sec. Kagadama	20
	Total	**40**

Two instruments were used for the study and they are the Personal Report of Public Speaking Anxiety Survey (PRPSAS), adapted from Johannes (2018) and Students' Public Speaking Anxiety Scale (SPSAS) adapted from Hayaramae (2016) to suit the present study. They are in a Likert rating scale on five (5) points from SA to SD. The instruments were validated and pilot tested. By the use of Chronbach Alpha, PRPSAS was found to have reliability coefficient of .822 while SPSAS has .80 which were considered good enough to be used for the study in line with submission of Williams (2021) and Anastasi in Asch, (2021). Paired t-test and ANCOVA were employed to analyse the data.

Results

The null hypotheses were tested with paired t-test and ANCOVA as presented below:

$H0_1$: There is no significant difference in the pretest and posttest mean score of behavioural component of public speaking anxiety among Senior Secondary School students exposed to metacognitive regulation treatment in Kauru, Kaduna State, Nigeria.

Table 3: **T-Test statistics on Difference between Pretest and posttest Mean Scores of Behavioural Component of Public Speaking Anxiety Treatment**

Variables	N	Means	SD	df	t	P
Pretest	20	50.50	8.08	19	13.56	.000
Posttest	20	25.15	4.79			

Table 3 reveals a significant effect of metacognitive regulation on behavioural component of public speaking anxiety among secondary school students the mean of 50.50 for pretest and 25.15 for posttest and t=13, p= .000 which is less than 0.05 level of significance. Thus, the null hypothesis is rejected.

$H0_2$: There is no significant difference in the pretest-posttest mean score of behavioural component of public speaking anxiety among Senior Secondary School students exposed to systematic desensitization treatment in Kauru, Kaduna State, Nigeria.

Table 4: **T-Test statistics on Difference between Pretest and posttest Mean Score of Behavioural Component of Public Speaking Anxiety Treatment**

Variables	N	Mean	SD	df	t	P
Pretest	20	55.25	10.04	19	8.26	.000
Posttest	20	30.25	5.78			

Table 4 shows a significant effect of systematic desensitization on behavioural component of public speaking anxiety among secondary school students. This is

revealed by the mean of 55.25 for pretest and 30.25 for posttest, t=8.26 and p= .000 which is less than 0.05 level of significance. Thus, the null hypothesis is rejected.

$H0_3$: There is no significant difference in the pretest and posttest mean score of Public Speaking Anxiety among Senior Secondary School students exposed to metacognitive regulation and systematic desensitization treatments in Kauru, Kaduna State, Nigeria.

Table 5: ANCOVA difference in the effects of metacognitive regulation and systematic desensitization on Public Speaking Anxiety

Source	Sum of Square	df	Mean Square	F	P
Corrected Model[a]	2665.79	2	1282.89	7.71	.002
Intercept	8872.92	1	7292.92	28.14	.000
Pretest Scores	322.77	1	330.77	1.73	.196
Group	1759.94	1	1982.94	8.50	.002
Error	6788.18	37	191.16		
Total	333229.00	40			
Corrected Total	9638.97	39			

Table 5 shows a significant differential effect of metacognitive regulation and Systematic Desensitization on public speaking anxiety among the participants with F= 8.50, p= .002 at .05 level of significance and 39 degree of freedom. Thus the null hypothesis is rejected. For the adjusted scores, see post hoc result in table 10 revealing the group with the higher mean score.

Table 6: Groups Descriptive Statistics for Adjusted Means

Group	Mean	Std Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Metacognitive Regulation	79.24	3.11	72.93	85.50
Systematic desensitization	93.20	3.11	86.89	99.51

Table 6 shows interactive effects of the treatment from post hoc paired comparison, revealing the mean scores of 79.24 for metacognitive regulation treatment group and 93.20 for Systematic desensitization treatment group. This shows a significant differential effect of the two treatments on the participants in favour of systematic desensitization since it has higher means score of public speaking anxiety than metacognitive regulation.

Summary of Findings

The following are the summary of finding from the test of hypotheses:

1. Significant difference exists in the pretest and posttest mean score of behavioural component of public speaking anxiety among Senior Secondary School students exposed to metacognitive regulation treatment with (t=13.56, p= .000).

2. Significant difference exists in the pretest and posttest mean score of behavioural component of public speaking anxiety among Senior Secondary School students exposed to systematic desensitization treatment with (t=8.26, p= .000).
3. Significant difference exists in the pretest and posttest mean score of Public Speaking Anxiety among Secondary School students exposed to metacognitive regulation and systematic desensitization with (F=9.90, p= .000, Mean scores of group1=79.24, group2= 93.20).

Discussion of Findings

The present study revealed that metacognitive regulation has significant effect on Behavioural Anxiety of public speaking among Senior Secondary School students. This finding is supported by a study carried out by Idris and Justman (2016) on the effect of metacognitive teaching on speaking ability of low ranking junior high school students. The study was on low junior students and the same result was found. In agreement with this study is the finding of Samah and Fahim (2016) which also reveals a significant effect of metacognitive regulation in reducing behaviour anxiety of public speaking. Theoretically, Beck in Southam Grew and Evny (2021) clarifies on the connection between cognition and behavioural actions of an individual. Therefore, since Metacognitive regulation technique trains a person to be aware of what he thinks, evaluate and regulate it, it should have effect on his actions.

This study reveals that significant effect of systematic desensitization exists on Behavioural Anxiety of public speaking among Senior Secondary School students in Kauru, Kaduna State, Nigeria with findings of Chen and Wang (2015) who examined how a 16-week classroom instruction systematic desensitization training affects public speaking anxiety for students and found it to be effective treatment of behavioural anxiety. Though Chen and Wang (2015) took long time examined as 16-week classroom in their instruction systematic desensitization training sophomores at a key university in Liaoning Province in China but the process of the treatment was the same with the present study. The research provides evidence that systematic desensitization can improve treatment effectiveness for behavioural anxiety. It is not surprising that there is significant effect of systematic desensitization on behavioural component of public speaking anxiety because a careful examination would justify the effectiveness of systematic desensitization on behavioural components of public speaking anxiety considering the nature of the gradual process of exposing a person with public speaking anxiety into a kind of public speaking until that person has his fear of public speaking associated with relaxation instead of shame or fear of failure which the person was initially conditioned to fear. In addition, Mc Groskey, Ralph, David and Barack (2016) found systematic desensitization capable of reducing high moderate speaking anxiety. Therefore, systematic desensitization is generally effective in the treatment of behavioural component of public speaking anxiety

It was found in this study that there is significant differential effect of metacognitive regulation and systematic desensitization on Public Speaking Anxiety in

the favour of systematic desensitization among Senior Secondary School students. This result is disagrees with the findings of Charles. Keaten, Sakamoto (2018), who found a differential effect of metacognitive regulation and systematic desensitization on Public Speaking Anxiety of students in favour of systematic desensitization. Nevertheless, Nordahl, Halvorsen, Hjemdah and Ternava and Wells (2016) found some difficulties with the use of systematic desensitization because the population included patients with severe trauma. To that note, the present study carefully designed the treatment to take care of such. More so, this study did not include in the population, persons with posttraumatic stress disorder as Nordahl, Halvorsen, Hjemdah and Ternava and Wells (2016) did. They used population including persons with severe post -traumatic stress disorder which made their systematic desensitization treatment to be less effective compared with metacognitive regulation in the treatment of public speaking anxiety.

Conclusion

In line with the findings of the study, the researcher concluded that metacognitive regulation is significantly effective in reducing behavioural, component of public speaking anxiety of secondary school students. It was also concluded that systematic desensitization has significant effect on behavioural component of public speaking anxiety of secondary school students. Conclusion was drawn that systematic desensitization is more effective than metacognitive regulation in the treatment of public speaking anxiety of students.

Recommendations

The following recommendations were put forward in line with the conclusions.

1. Counsellors and Educational psychologists should use metacognitive regulation to treat behavioural component of public speaking anxiety of secondary school students.
2. School authorities should train teachers on the use of systematic desensitization to reduce component of public speaking anxiety of secondary school students
3. Preference should be given to systematic desensitization than metacognitive regulation when treating public speaking anxiety.

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THE RELATIONSHIP BETWEEN MENTAL HEALTH, EDUCATIONAL SUPPORT AND ACADEMIC ACHIEVEMENT AMONG MARRIED WOMEN IN KWARA STATE COLLEGES OF EDUCATION NORTH CENTRAL, NIGERIA

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Abstract

This study examine the relationship between mental health, educational support and academic achievement among married women in Colleges of Education in Kwara State. Nigeria. Three research questions, three null hypotheses were formulated and tested at 0.05 level of significance. Survey Research design was adopted. The population of the study consists of 6 Colleges of Education in Kwara State. A total population of six thousand (6,000) students was used in the study. The sample size of the study was 361 students proportionately selected from all schools. Three instruments were used for this study. The instruments are Mental health inventory (MHI), social support and students' academic achievement result (CGPA). Pearson Product Moment Correlation PPMC(r) was used to test the study hypotheses. The hypotheses were tested at a 0.05 alpha level of significance. SPSS version 25.0 was used for the analysis. The finding of this study revealed that a significant relationship exists between mental health and academic achievement (r = 0.641, p = 0.001). Finding also revealed that a significant relationship exists between social support and academic achievement (r = 0.575, p = 0.002). (5) point scale of SA, A, UND DA SDA.

Introduction

Mental health is an integral and essential component of the entirety of human health understood as a wholeness of physical, mental, and social well-being, and not merely as the absence of disease or weakness. It enables individuals to realize their

potential, productivity, possible contribution to the community they live in and to adequately cope with everyday stressful situations. Various factors affect mental health, and there are periods of life when the risk of mental health issues is increased (Maglica, Ercegovac & Ljubetić, 2021). Mental health is a state of mental well-being that enables people to cope with the stresses of life, realizes their abilities, learn well and work well, and contribute to their community. It refers to an individual emotional, psychological, and social well-being. Mental health affects how an individual thinks, feels, and acts. It also helps to determine how we handle stress, relate to others, and make healthy choices. According to the World Health Organization (WHO, 2014), mental health is "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community". Keyes (2014) identifies three components of mental health: emotional well-being, psychological well-being and social well-being. Emotional well-being includes happiness, interest in life, and satisfaction; psychological well-being includes liking most parts of one's own personality, being good at managing the responsibilities of daily life, having good relationships with others, and being satisfied with one's own life; social well-being refers to positive functioning and involves having something to contribute to society (social contribution), feeling part of a community (social integration), believing that society is becoming a better place for all people (social actualization), and that the way society works makes sense to them (social coherence). Mental health problems can affect a student's energy level, concentration, dependability, mental ability, and optimism, hindering performance.

Mental health is an important component of the total health of person because it is both the cause and effect of other types of health (Singh & Devi, 2018). A mentally healthy person shows a homogenous organization of desirable attitudes, healthy values and righteous self-concept and the scientific perception of the world as a whole. It also presents a humanistic approach towards the understanding and assessment of the self, positive feeling and attitudes towards self and others. Mental health can be best defined as a state of continuous wellbeing, as the union of zest and peace. Mental health thus appears as an attribute of a mature human personality and as a social value to be guarded and maintained through purposeful living. Mental health may be defined as the adjustment of individual to themselves and to the world at large with a maximum of effectiveness, satisfaction, cheerfulness and socially acceptable behavior and the ability of facing and accepting the realities of life.

Educational support could be seen and regarded as positive social support in the life of an individual. Social support is important for maintaining health. Social support system provides us with emotional sustenance, tangible resources and aid for information when we are in need. When people are in social support they feel cared about, valued by others and feel a sense of self belonging to a larger extent. Positive social support helps people adjust better emotionally to stress by leading them to avoid ruminating about the stressful situation.

The benefits of social support to psychological well-being are self-evident in everyday experience. Whether from family, friends and neighbors, coworkers, counselors, teachers, coaches, or therapists, people of all ages face life challenges more successfully with the support of others, and this conclusion is confirmed by extensive empirical research (Taylor, 2011). By contrast, social isolation is associated with poorer psychological functioning. Social support is a kind of help and assistance that one gets from other people when one is there to care for you and that one is a part of the social circle where one lives and grows. The support and assistance can be in many ways like help in emotional way for example nurturance from closed ones, advice in form of the information, support in terms of finance, sense of belongingness and also on top of everything that is a personal support and advice (Kumar, Lal & Bhuchar, 2014).

The term social support can be therefore measured or valued as a source of assistance that is available and when one is helped being the part of the social group. The support that one can get includes the family, friends, neighbours, pets, and organizations, coworkers etc. (Kumar, Lal & Bhuchar, 2014). Social support is a concept that is generally understood by intuitive sense, as the help from other people in a difficult life situation. Cruza-Guet, Spokane, Caskie, Brown, and Szapocznik (2008) found that satisfaction with received social support was associated with lower levels of psychological distress. The amount of social support a person receives was found to be associated with higher levels of psychological distress, signalling that the perceived effects rather than the quantity or quality of social support is more important in deterring psychological distress. Marmot (2002) found that Social support affects health through social gradient, income, social exclusion, education, psychological status and other factors. People with lower lack of social support have lower autonomy to work, corresponding to more pressure and negative emotions.

Budd, Buschman and Esch (2016). Social support was also found to affect student adjustment during adolescence. Kim, Sherman, and Taylor (2008) found that social support is one of the most effective methods to help cope with stressful life situations. The positive effect of relationships is derived from the sating of a need for belongingness, acceptance, and caring. Social support is an important protective factor against various negative outcomes. Social support is a catch-all term for many different activities including good parenting, helping with homework, being able to talk to teachers, being allowed to attend school functions, discussing with students, being allowed to take part in school governance (Egheosase & Ugwu, 2016).

Social support is an expansive construct that describes the physical and emotional support given to individuals by their family, friends, teachers, classmates and other important persons in their lives. Social support is purported to have beneficial effects on the health and academic achievement of students and it can be generally defined as the assistance one gets through interaction with other people in the society. Broadly, social support refers to one’s social relationships as buffering life’s stressors, and thus promoting one’s general development. An important aspect of support is that a message or communicative experience does not constitute support unless the receiver

views it as such, a phenomenon the research has identified as perceived social support (Haber, Cohen, Lucas & Baltes, 2007). With regards to sources of support, this research has primarily focused on parents, teachers, friends and classmates. Akomolafe and Adesua (2016) argued that students who receive social support are expected to perform better compared to those who receive little or no social support.

Statement of Problem

As from the researcher observation, one in ten married students in most institutions of learning are facing with issue of educational support by their spouse and family. As, it is the duty of an adult in educational setting to provide a safe environment that is capable of supporting and promoting students' dignity and development. It is on this basis the researcher deems it fit to carry out study to find out the relationship between mental health, social support and academic achievement among married women in colleges of education North Central Nigeria.

Objective(s) of the Study

i To determine the relationship between mental health and educational support among married women in colleges of education Kwara State.
ii To determine the relationship between mental health and academic achievement among married women in colleges of education Kwara State.
iii To determine the relationship between educational support and academic achievement among married women in colleges of education Kwara State.

Literature Review

Mental health is an integral and essential component of the entirety of human health understood as a wholeness of physical, mental, and social well-being, and not merely as the absence of disease or weakness. It enables individuals to realize their potential, productivity, possible contribution to the community they live in and to adequately cope with everyday stressful situations. Various factors affect mental health, and there are periods of life when the risk of mental health issues is increased (Maglica, Ercegovac & Ljubetić, 2021). Mental health is a state of mental well-being that enables people to cope with the stresses of life, realizes their abilities, learn well and work well, and contribute to their community. It refers to an individual emotional, psychological, and social well-being. Mental health affects how an individual thinks, feels, and acts. It also helps to determine how we handle stress, relate to others, and make healthy choices. According to the World Health Organization (WHO, 2014), mental health is "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community". Keyes (2014) identifies three components of mental health: emotional well-being, psychological well-being and social well-being. Emotional well-being includes happiness, interest in life, and satisfaction; psychological well-being includes liking most parts of one's own personality, being good at managing

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Academic achievement of students has been an issue to many educators, parents, guardians, curriculum planners and researchers. This concern stems from the prevailing poor achievement recorded by students almost every year at the end of their school programme. Students engaged in learning context and achieved academically when they are mentally and sufficiently supported. Education through the four walls of the school enlightens the child and makes him/her to actualize the potentials that will enable the learner to cope more adaptively with daily stressors, challenges and setbacks in school system. This is because underachievement and disengagement have serious consequences, both at individual and societal levels (Bempechat & Shernoff, 2013). Academic achievement of students is influenced by so many factors such as society related and sub factors such as home related, student related, teacher related and school related. In his observation, Bhagat (2016), notified that academic achievement is multi-dimensional as it is intricately related to human growth and cognitive, emotional, social and physical development; it reflects to the whole child; it is not related to single instance but occurs across time and levels, through a students' life in school and on into post-secondary school years and working life. Academic achievement encompasses

students' ability to prove his/her level of understanding, retention or success in the acquisition of the planned outcome.

Academic achievement is the attainment obtained by a child in the lesson taught, which may include experience, knowledge, skill and the likes. The knowledge and skill are measured in student's Cumulative Grade Point Average (CGPA); the child's good or poor performance does not depend solely on attribute the child is born with, but his family background, social contacts, teachers, overall climate in his school, and assessment procedure. Academic performance may be defined as excellence in all academic disciplines, in class as well as co-curricular activities. Cohen and Garcia (2006) define academic achievement as "knowledge attaining ability or degree of competence in school. Task usually measured by standardized test and expressed in a grade or unit based on students' performance/achievement". Cohen and Apfel (2009) refer to academic performance as "the knowledge obtained or skill developed in the school subjects usually designed by the test scores or marks assigned by the teacher". Achievement of student in the classroom takes a central role in the academic development of the students. Parents, teachers and school administrators take cognizance of the academic well-being of the students. Yardsticks are set by school authorities to measure performance, the standard set by the university will determine whether a student is performing well or not. In the assessment of performance, Pekrun and Elliot (2006) argued that achievement is the behaviour of an individual that can be directly observed by another individual. Therefore, academic achievement has been seen as a term used for student based on how well they are doing in studies and classes. Academic achievement for university student is also seen as the extent to which a student has achieved his educational goals. This means that the student's academic performance is measured by the extent to which he/she has reached the educational goal he has set for himself. The university measures academic achievement in several ways which include Continuous Assessment Test (C.A.T) and a number of standardized test and examinations (Pekrun & Perry, 2007).

Methodology

Research Design

The research design adopted for this research is correlational design. Correlational design according to McMillan and Schumacher (2010), is research design in which information on at least two variables are collected in order to investigate the relationship between the variables. In the correlational research design, the researcher will not attempt to manipulate any variables. Instead, the researcher is more concerned to determine the extent to which the multiple predictors explain the outcome variable, but does not necessarily conclude that one variable causes the other variables (Schmidt & Brown, 2009). As noted, a correlational research design is used to establish the statistical association between two or more variables. The variables in this study are psychological abuse, social support and academic achievement.

Population

The population of the study consists of 6 Colleges of Education in Kwara State. A total population of six thousand (6,800) students in the population of the study. The sample size for this study will be 361 students proportionately selected from all schools. Three instruments were used for this study. The instruments are mental health inventory (MHI), social support and students' academic achievement result. Pearson Product Moment Correlation PPMC(r) was used to test the study hypotheses. The hypotheses were tested at a 0.05 alpha level of significance. SPSS version 25.0 was used for the analysis.

The instrument will be weighted on five (5) point scale of SA, A, UND DA SDA. The instrument will be validated by experts in the field of counselling from North Central Nigeria. Simple percentage and PPMC (r) will be used to analyze the hypotheses. The questionnaire will be divided into three sections (A, B and C). Section A will be for collection of information on personal data of the respondents while Section B will consist of Social support inventory (SSI) and Mental Health Inventory (MHI) that elicited responses from the respondents on the relationship between social support and mental health. Section C contains information on the relationship between social support and academic achievement among married women in the colleges of education Kwara State. The section B and C will have response options scored thus: Strongly Agree (SA) =5, Agree (A) = 4 Undecided = 3 Disagree (D) =2 and Strongly Disagree (SD) = 1. Simple percentage and PPMC(r) will be used to analyze the hypotheses.

Results

Hypothesis One: There is no significant relationship between mental health and academic achievement among married women in the colleges of education Kwara State.

Table 1: Pearson Product Moment Correlation (PPMC) statistics on relationship between mental health and academic achievement among married women in the colleges of education Kwara State

Variables	N	Mean	Standard Deviation	Df	Correlation index r	P
Mental Health	361	30.7451	5 3.516056			
		359	0.6017	1 0.001		
Academic Achievement	361	7.02216	8.97896			
Correlation is significant at the 0.05 level (2-tailed).						

Results of the Pearson Product Moment Correlation (PPMC) statistics above revealed that significant positive relationship exists between mental health and academic achievement among married women in the colleges of education Kwara State, reason being that the calculated p value of 0.001 is lower than the 0.05 alpha level of significance and the computed correlation index r value of 0.60171 at 359 df. Therefore, the null hypothesis, which states that there is no significant relationship between mental

health and academic achievement among married women in the colleges of education Kwara State., is rejected.

Hypothesis Two: There is no significant relationship between social support and academic achievement among married women in the colleges of education Kwara State.

Table 2: Pearson Product Moment Correlation (PPMC) statistics on relationship between educational support and academic achievement among married women

Variables	N	Mean	Standard Deviation	Df	Correlation index r	p
Home background	361	37.6759	3.146021			
	359	0.7774	0.000			
Academic Performance	361	67.02216	8.97896			
Correlation is significant at the 0.05 level (2-tailed).						

Results of the Pearson Product Moment Correlation (PPMC) statistics above revealed that significant positive relationship exists between social support and academic achievement among married women in the colleges of education Kwara State, reason being that the calculated p value of 0.000 is lower than the 0.05 alpha level of significance and the computed correlation index r value of 0.60171 at 359 df. Therefore, the null hypothesis which states that there is no significant relationship between educational support and academic achievement among married women in the colleges of education Kwara State is rejected.

Discussion of Findings

The finding of this study revealed that significant positive relationship exists between mental health and academic achievement among married women in the colleges of education Kwara State. The finding proved that mental predicts academic achievement. The finding of this study is in line with that of Bas (2020), mental health problems make adolescents face with a decline in academic achievement, which in turn results in school absence, poor grades, and even repeating a grade in school.

The finding of this study revealed that significant positive relationship exists between educational support and academic achievement among married women in the colleges of education Kwara State. This finding agrees with that of Okesina (2018), affirmed that academic performance of the child could be traced to the home he comes from. Finding also collaborates with that of Synder (2000), claimed that the family environment is the most powerful influence in determining the child's academic performance. It is obvious that substantial influence on a child's academic performance. Moreover, the finding tallies with that of Abiriri (2010), education is seen as an instrument per excellence for development and as such it is the engine that promotes development. Aside from the intellectual capacity of the child, the academic performance of the child is also largely determined by the family social status.

Conclusion

Based on the findings of this study, it is concluded that mental health predicts students' academic achievement. It is also established social support have a significant relationship with students' academic achievement. Although people married to different social economic background, which is why some married students have good academic achievement while some on the other hand have poor academic achievement.

Recommendations

The following are recommended based on this study:

1. Counsellors should consider the importance of good mental health in their counselling encounters and help individuals to attain it, especially married students that are lacking social support in their educational attainment.
2. Parents as a matter of importance should provide social support to the married children in school irrespective of their gender so as to influence their academic performance.
3. The state government should as a matter of urgency train more guidance counsellors who shall play the role of counselling at different spheres of life in the school or outside the school system.

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RETHINKING TEACHER EDUCATION PROGRAM IN NIGERIA

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Abstract
The paper argued that the present teacher education programmes in Nigeria are much inadequate in producing teachers of expected professional competence. Based on this premise, the paper proposed the needs to have a rethink in the present teacher education programmes. Some of such proposals include the need for all prospective candidates of teacher Education programmes to have acquired a degree in various teaching subjects and that the master's degree should be the minimum entry qualification to the teaching profession. Furthermore, the paper suggested an enrichment of the present Teacher Education curriculum with the clinical laboratory approach to instructions in addition to a three step-wise approach to teaching practicum, which is to be enriched with the internship and mentoring approaches. Proposals for a post-school professional training meant for professional certification and licensing and a programme of specialist training in teaching and other areas of education were advocated. Finally, the paper advocated for a structure of professional upgrading training of teachers to become educators.
Keywords: *Demonstration, School Internship, Teacher Education, Teachers-in-training, Teaching Practicum.*

Introduction

The value of teachers in any society cannot be over-emphasized. As asserted by Afe (2002, .306), "no meaningful social, economical and political development can

occur in any society without teachers". Likewise, the National Policy on Education, 4th edition (2004,.39) rightly affirmed that "no educational system may rise above the quality of its teachers". It thus amounts to laying emphasis on the obvious to assert that low quality teachers would lead to low quality development (Okeke, 2001, Afe, 2002). Thus, for any nation to be relevant in the stream of events in the 21st century, its educational system especially at the primary and secondary school levels need to be well developed.

In view of the vital roles that teachers play in all facets of the development of a nation, as well as the fact that "the major problem facing the nation has been that of getting teachers of quality" (Afe, 2002, P307), there is thus the need for a rethink on the process of producing teachers. This process is most often referred to as TEACHER EDUCATION. In fact, qualitative teacher education has consistently been proffered as the foundation for the development of any nation. (Fasokun, 2000, Afe, 2002, Falayajo, 2004).

Despite the obvious importance of Teacher Education program, there is no doubt that presently, Teacher Education program in Nigeria are highly deficient in the preparation of teachers for the professional tasks of teaching (Okeke, 2001, Falayajo 2004).

What then are the professional tasks of teaching that teacher education would need to adequately address? The answer lies in an analysis of the response teachers often give when asked what they do: I teach John Bull chemistry. This statement implies that the teacher must know both John Bull and chemistry. A further analysis of this statement would indicate that the professional tasks expected of teachers and of which Teacher Education would need to address include:

(i) In-depth comprehension of chemistry (the subject matter)
(ii) Adequate knowledge of John Bull (the leaner)
(iii) Ability to teach chemistry to John Bull (methodology)
(iv) Competency in being able to determine if John Bull had learnt what he is supposed to learn (evaluation).
(v) Capability to help John Bull (as an individual) to cope with the demands of learning Chemistry (professional competency).
(vi) Passionate love for John Bull, chemistry and teaching (emotional attachment).

A glimpse through these six tasks indicates that essentially, the professional competencies expected of teachers (with the exception of the first which is shared with subject specialists) are unique, distinguishing features of professional teaching. Sad to say, Teacher Education in Nigeria today is very deficient in developing these expected professional competencies in trained teachers. The very deficient nature of Teacher Education today has made Falayajo (2004, P.8) to assert that "the incorrect maxim that 'teachers are born and not made' tend to be more correct, than the reserve that should hold: that teachers are made not born".

This then calls for a complete restructuring of the education of teachers. The following prepositions are hereby put forward as means of enriching the present teacher-training program for a more utilitarian Teacher Education program in Nigeria.

Admission Criteria into Teacher Education Programmes

Teachers, first and foremost are expected to be subject specialists. There is no doubt that if a teacher is not an authority in the subject he is teaching, he has no business being in the classroom. "He can be anything but not a teacher" (Falayajo, 2004, P.5). After all, what will an individual teach in a subject that he/she is not proficient in? Such a person will only be "cheating" instead of teaching. This should be a very vital factor to be considered in admitting candidates into teacher education program.

In prescribing admission criteria for a program of teacher education, it is also to be borne in mind that the teacher's job is a very delicate and sensitive one. The vital and delicate nature of teaching may best be appreciated from the consideration of the fact that while the mistake of a doctor ends in the mortuary and that of a lawyer may end in jail, that of engineers may be collapse of building but the mistake of teachers is the peril of a generation, the doom of a society. The obvious implication of these is that Teacher Education should only be given to those that are willing to take up teaching to be what it is- a very serious business.

To ensure this, it would thus be very necessary that admissions into Teacher Education Program should focus on the following:

(a) Maturity
(b) Academic ability
(c) Interest in teaching and ability to cope with the tasks of teaching.

With respect to maturity, it needs be emphasized that although maturity comes with age, it may not be possible to spell out specific ages that one may be old and mature enough for the serious tasks of secondary school teaching. However, for the purpose of ensuring maturity and sound academic ability, this paper is of the view that prospective secondary school teachers should firstly be university graduates in their various teaching subjects. Falayajo (2004,9) had earlier made a similar submission that "anyone who sincerely wants to be a professional teacher should first pursue a B.A. or B.Sc. in the relevant teaching subject before coming to do the intensive course in education".

Such a teacher education program is expected to be a two-year intensive professional induction program. At the end of the program, it is expected that a master's degree in teacher education (M. TED.) in the teaching subject should be awarded. This thus pre-supposes that master's degree would be the minimum entry qualification into the teaching profession as against the present specification of the Nigeria Certificate in Education (NCE) (National Policy on Education 4th edition, 2004, 39). The implication of this suggestion for Colleges of Education (COEs) is thus very obvious.

The COE program is no doubt a child of circumstances (Falayajo, 1998, 2004). It seems it has outlived its usefulness. However, in view of the increasing needs for

qualitative primary school teachers, all COEs would need to be upgraded to degree awarding Colleges of Primary Education (COPEs), which should be devoted exclusively for the training of primary school teachers. These COPEs should be designed to run a six-year intensive teacher education Program that would lead to the award of M. TED. (Primary Education). Admission criteria to these COPES should be at par with what is obtainable in universities Faculties/schools of Education.

Another proposal being put forward in this paper as regards admissions to teacher education program is the need to ascertain the interest of prospective candidates in teaching. This would ensure that only candidates who are favourably disposed to teaching would be offered a course in education. However, since attitude and interest can be built and improved with time (Jegede, 2004), there is thus the need to be very wary of the use of this criterion so as not to prevent prospective good materials that may initially have poor attitude to and no interest in teaching from undergoing courses in education unwittingly. This then calls for the use of a combination of personality tests to assay the interest in and the attitude to teaching as well as the latent potentials to cope with the professional tasks of teaching. By so doing, only those who are academically sound, mature and have positive interest in teaching as well as the potentials to teach are offered admissions to teacher education program.

Curriculum of Teacher Education

If teaching is to be taken as being both academic and professional in nature and that the tasks of teaching is very vital, sensitive and demanding, then, the curriculum of teacher education must be restructured to meet up with these expectations. That teaching is academic in nature reinforces the need to have all prospective secondary schools' teachers to be subject specialists before exposure to professional training.

The professional training of teachers would need to be redesigned in such a way as to provide teachers-in-training the necessary knowledge, skills, and competencies required in their discharge of duties as professional teachers. Courses in Teacher Education should provide ample opportunities for hands-on-experience in the real world of schools, classrooms and the teaching – learning situation.

By means of comparing, no one would doubt the obvious worthlessness of a well-packaged course in medical surgery if the medical students were not exposed to the real world of hospitals, patients and diseases. It should thus be obvious the inadequacies of the current practices of running courses in curriculum studies, guidance and counselling, educational evaluation, administration, psychology, etc. in abstract without exposure to the real world where these would be applied.

To address this deficiency, it would be very necessary for teacher education Curriculum to adopt what Afe (2002, 321) referred to as the "clinical laboratory approach" to training of teachers. The use of this approach then calls for the need for every institution running program in teacher education to have a "Demonstration School" that will provide teachers-in-training with the opportunity of practical training

in education, the demonstration schools are to be structured like the teaching Hospitals of Colleges of Medicine.

Teaching Practicum (TP)

Abraham (2006, 17) describes Teaching Practice as "the practical aspect of teacher education designed to give the students an opportunity to put into practice certain learnt theories". This is akin to the clinical training of medical education. There is no doubt that the present approach to TP is far from the ideal (Afe 2002, Falayajo 2004).

The TP being proposed is one that would be more practical and professional. The TP should be structured in such a way as to allow the teachers–in–training to gradually gather experience, competency, composure and confidence to teach. Step – wise approach to TP is therefore being put forward. The suggested approach to TP is as thus:

Foundation Teaching Practicum (FTP)

This is expected to involve the teacher-in-training carrying out series of observations of some professionally qualified and experienced educators that would act as mentors. The observations are to be done with the intent of learning best pedagogical practices worth of emulation. At the end of specified times, the Mentors and the teachers-in-training are to discuss about the observed lessons as to what is done and why. The teachers-in-training would then be expected to write reports of their observations with specific comments on those best pedagogical practices of their Mentors.

At the end of the observation stage, the teachers-in-training should then be expected to put into use in a simulated environment (that is in form of a micro teaching) the various best practices observed for the purpose of learning from one another best pedagogical practices of various mentors. The foundation TP is best done in the proposed Demonstration School, which are expected to be staffed with well qualified and experienced educators. The exercise is to last for a period of an academic term.

Intermediate Teaching Practicum (ITP)

This is expected to be carried out after the foundation TP. It is to last for at least a period of one academic term. The Teacher-in-training is expected to be attached to a ***Mentor Educator as Teaching Assistants (TA).*** The TA is expected to observe and assist his/her mentor in several facets of professional teaching such as preparation for lessons, marking of scripts, setting/development of tests, keeping of records, classroom management, discipline of students and other related activities. At this stage, the tasks expected of the teacher-in-training go beyond observations to that of assistant in teaching but not up to the extent of involvement in actual classroom teaching.

Advanced Teaching Practicum (ATP)

It should be at this stage that the Teacher-in-training should have the opportunity of actual classroom teaching. This is also to be done under the guidance of professional

mentors. The roles of the supervisors at this stage would need to beyond mere awarding of grades to that of professionally guiding the development of teaching skills of the teachers-in-training.

Post School Professional Training (PSPT)

Education of teachers is a life-long education (Osuji, 1996). The post-school professional training being proposed is that which would need to be structured in such a way as to cater for advanced professional training meant for certification and licensing of teachers. This post school professional training is to be taken care of by the Teachers Registration Council of Nigeria (TRCN). Just as professional training, licensing and certification of accountants, lawyers and medical practitioners as examples are within the jurisdictions of their various professional bodies.

Preferably, the TRCN could set up a school just like the Nigerian law schools. The school should be tasked with advanced professional training of teachers for the purpose of professional certification and licensing. Such a school may be called ***National School of Pedagogy (NSP).*** It is advisable that only academically trained teachers who must have undergone the mandatory one-year internship program (National Policy on Education, 4th Edition, 2004, P.41) should attend the NSP. Completion of the school should then qualify one for a professional teaching certificate and a license to teach. The training program is expected to last for a year.

Professional Upgrading Training:

According to Majasan (1996, P.70), not all teachers are educators. The explanation being that educators are "those at the topmost level of the profession" (Majasan, 1996, P.69). This view may be compared with what is obtainable in medicine, in which not all physicians are consultants, the consultants being those at the topmost of the profession in terms of specialized professional trainings and experience.

What is thus being proposed is more of a re-echo of Ade (2006.79 & 80) earlier proposal that such training would be on the job by senior colleagues who have proved mettle on the job. They will be supervised and guided periodically…until they earn 5 to 6 good annual reports under different senior colleagues following which they would be recommended to take the educators' written examination in three papers-knowledge, practice and professional ethics. Scores in these subjects should be considered along with two other scores one based on continuous assessment from three senior colleagues and other based on observations on general character and versatility before membership of the *GUILD OF DISTINGUISHED EDUCATORS (GDE).*

Ade (2006;.100) further suggested that qualification and admission into the GDE would then qualify an individual to become an educator and attach the tittle "educator" (a title superior to teacher") to his/her name.

Specialist Training of Teachers (STT)

The emphasis so far has been on training as classroom teacher. This is because of the view of this paper that training as classroom teachers should be primary business of

any teacher education program and that all specialist fields of teaching and education must be handled by trained and qualified classroom teachers. That is, to be qualified to practice as a school guidance counsellor, psychologist, administrator, education officer, inspector, examination officer, test developer, curriculum expert etc., one must first be a trained and certified educator with some years of experience.

Two routes to specialist training in education are being proposed. One is the professional route. Those who opt for this option are expected to have qualified as educators before being admitted for the specialized areas of their choice. The specialized training program is expected to be handled by a school which may be called Specialist Postgraduate School of Educators(SPSE).This school is also expected to be under the control of the TRCN and should be saddled with the responsibilities of training high caliber specialists in education. The program is expected to last for not less than two academic sessions.

Those who opt for the academic option would need to go for postgraduate studies in universities or the proposed Colleges of Primary Education in their various fields of specialization. However, to quality for professional practice in their chosen areas of specializations, they must first qualify as educators and pass the prescribed examinations and other conditions set by the SPSE.

Irrespective of the route passed, there is also the need for at least a year of internship before one may be licensed to practice as a specialist educator. Considering the fact that it will take not less than 14 years to be trained as a Specialist Educator (based on what have been suggested so far) it would then be necessary that the curriculum of the SPSE be structured in such a way that the qualifications awarded be equivalent to a Ph.D. (which preferably may be called doctor of education D. Ed.)

Conclusion

An attempt has been made to propose a reform in the present system of Teacher Education in Nigeria. However, one may wonder that in view of the ever increasing needs for more teachers and that the teaching profession presently tends to be unattractive to students, would these suggestions not just be mere unrealistic ideas? To have a proper perspective of the issue, there is also a very great need to have a re-think of the ways the teaching profession, teachers and teacher education are viewed. It may be necessary to reflect on these: would lowering the standard of Teacher Education make it more attractive to students? Can increasing needs for lawyers, engineers and medical practitioners ever be a justification for going below the ideals in the training of these professionals? Why then should the training of teachers be different?

It is strongly felt that only a more functional teacher education Program could lead to the production of professional trained and competent teachers. Likewise, a more utilitarian Teacher Education would serve the purpose of being catalysts to the process of making teaching to attain to full professional status. The resultant effect being the production of better trained and more dedicated teachers who would have the inner satisfaction, enhanced socio-economic status?

Self-esteem and public recognition due well-trained professionals. The larger society would be the ultimate beneficiaries.

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PSYCHOLOGICAL EXPLORATION OF SINGLE PARENTING IN NIGERIA

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Abstract

In Nigeria, According to the National Commission; 23 percent of girls age 15 to 19 have started child bearing (National Bureau of Statistics, 2022). About 400,000 unplanned births occurs annually in Nigeria and half of these births are to teenage girl. The high rate of teenage pregnancy (106 adolescent birth per 1000 population (UNIVEF, 2022) is a major concern for the government, stakeholders and religious leaders and so on. Which eventually lead to forceful marriages, and these marriages usually don't stay for long term thus lead to separations which consequently result in single parenting. Death of spouse due to any illness or other cause and maternal morbidities and mortality also lead to single parenting. Single parents are unable to perform all these tasks because of their busy schedules of managing different parenting roles and due to financial or economic causes or crisis. Together with monetary and social issues child with single parent also face issues related to health. Because of no health insurance, poor standard of living and almost negligible or reduced quality of care by single working parent which increase stress in child's life. All these issues and explosive factors of single parenting also impacts child's psychological well-being and leads to feeling of violence, anxiety, depression, anger, isolation, lack of social interaction, negative perception for self and sometimes leads to suicidal ideation. Therefore, as a result child may engage in unconstructive or unacceptable behaviors such as alcohol use, smoking, substance abuse, violation, harming others and suicidal attempts to release tension or for feeling of relief from their emotional pain Based on the aforementioned issues raised it was recommended that; Firstly, before getting separated, parents should try to maintain stability in their relationship for better future of their children. If they fail to maintain

stability, then both parents should contribute or share equal responsibilities for better upbringing and to enhance intellectual and emotional development of their children, Parent teacher associations and social workers should plan sessions to train and educate single parents about how to deal with multiple challenges that come across their way. Workshops, media and seminars can be helpful to create insight in parents regarding their responsibilities and Children nurtured by single parent due to multiple reasons most commonly because of divorce, death of the spouse, unintended pregnancies, adoption that consequently leads to many problems such as psychological trauma, mental health and behavioral issue, financial hardship, low performance at school or colleges, low self-esteem, decreased social interaction and poor life style. Most important thing is to understand and respect the significance of parenting either it is single of individual.
Keywords: *Psychological Explorations and Single Parenting.*

Introduction

The family is a primary source whom young born interacts and mingled with. The family's most significant and extraordinary responsibilities is to arrange and lift the youngsters within the standards and estimations of the society. Parents facilitate their children in each step of their life and love them unconditionally. However, as a result of single parenting this love and warm heartedness is seemed to decrease that directly have an effect on child's overall health status and upbringing (Ali & Muhammad, 2019).

Parents are responsible to teach children about the norms and values of society and accountable for developing psychological and emotional well-being. In our society single parenting is not much acceptable. Societies stigmatize single parents and their offspring's (Ali & Muhammad, 2019). In Nigeria Particularly, single mothers are more stigmatized because of patriarchy (NBS, 2022). Culturally it's not acceptable to live with opposite gendered parent. A parent conjointly leaves remarkable impacts on children's behaviours, personality and health. In our context, a girl cannot share every little matter with her father as she can do easily with her mother and vice versa (UNICEF, 2022).

These all social and cultural factors influence our work to explore the underpinnings of this very common phenomenon. Single parenting is defined as a parent either father or mother alone practicing and taking responsibility of nurturing children in the absence of another parent (Ali et al, 2019). Around 40,410 cases of parent's separation have been reported in the customary court of Nigeria, which eventually led to single parenting.

In 2016, official statistics suggested that the dissolution of marriage in Nigeria was uncommon. According to the National Bureau of Statistics, just 0.2% of men and 0.3% of women had legally dissolved their marriage. However, there is no doubt that the above statistics data is inapplicable in present times. According to a report in 2018, separation rates in Nigeria recorded a 14 percent increase. The present statistics mirror a rather negative trends (NBS, 2022). In a report published in 2018, a total of 3,000 divorce cases were recorded in Badagry Lagos also, in a 2019 report title "Deciphering

the high rate of Divorce in Nigeria". Kano state alone had over 1 million registered divorces (NBS, 2022). On the hand, millions children globally, or particularly one in every seven children is living with single parent predominantly with mother.

Reasons of single parenting

There are many reasons of parent's separation that can leave all the responsibilities in the hand of single parent. One major reason of being separated in Nigeria is divorce. Estimated more than 106 cases of divorce are registered in customary courts of Nigeria on everyday basis (UNICEF, 2022). Other major cause that lead to single parenting is teenage or unintended pregnancy.

In Nigeria, According to the National Commission; 23 percent of girls age 15 to 19 have started child bearing (National Bureau of Statistics, 2022). About 400,000 unplanned births occurs annually in Nigeria and half of these births are to teenage girl. The high rate of teenage pregnancy (106 adolescent birth per 1000 population (UNIVEF, 2022) is a major concern for the government, stakeholders and religious leaders and so on. Which eventually lead to forceful marriages, and these marriages usually don't stay for long term thus lead to separations which consequently result in single parenting. Death of spouse due to any illness or other cause and maternal morbidities and mortality also lead to single parenting.

Related Theories

Albert Bandura-social learning theory

The main focus of social learning theory is to observe and imitate the behaviors, emotions and attitude of others. Hence, it focuses on learning by means of observing and modelling. Children do their initial interaction with their families, observe and learn the actions of care givers. In single parenting the child has only one parent to look at and copy its actions. It is very important and vital to have both parents so that children may not fall in Oedipus complex.

According to Bandura, children learn behaviors from their families. If parents are irresponsible in some manner the child will learn same. If parent haven't built trustworthy relationship with their children, there are higher probabilities that children will face difficulties in forming good relationship with their surroundings. Thus, a positive result can be accomplished only if parents demonstrate the kind of behavior which they want their children to learn (Santrock, 2016).

Operant conditioning theory by B.F Skinner

Operant conditioning which means changing of behavior by providing reinforcement after desirable behavior was presented by Skinner. Reinforcement and punishments are most important aspects of learning. Parents use these methods to strengthen the desired behavior and weaken the undesired one. For example, if a child is being provided with his favorite toy by his or her mother for doing assignment on time,

then there is highest probability that he will repeat this behavior because of reinforcement (Santrock, 2016).

On the other hand, if the child was scolded by her mother for not doing assignment on time then he will learn that such behavior only earns condemnation and therefore he modifies his behavior accordingly. In general, single parent focuses on earning and providing basic necessities of life to their children and tends to ignore child's unwanted behavior that can create problem for children in future. So, it is very important for parents to reward desirable behavior and punish them for undesired behavior so that they can learn which behavior is good and which is not good (Santrock, 2016).

Erik Erikson psychosocial theory

Psychosocial theory was given by famous psychologist Erik Erikson. This theory consists of eight stages that cover up all the stages of individual's life, i.e. from infancy to late adulthood. These stages are trust versus mistrust, autonomy versus shame / doubt, initiative versus guilt, industry versus inferiority, identity versus identity confusion, intimacy versus isolation, generativity versus stagnation and integrity versus despair. All these stages contain conflict that leaves positive and negative impacts on individual's personality. Erikson called these conflicts as crisis that need to be resolved before moving to next stage. There is a chance that the child of single parent experience crisis on all stages. For instance, in the initial stage of infancy, the child wants their caregiver to be approachable to feed them, relieve their anxiety and make them laugh. However, single parent cannot fulfill their needs and expose them to crisis (Santrock, 2016). All these dissatisfactions may lead to hopelessness and other psychological problems like depression.

John Bowl by attachment theory

Attachment is a basic human need for secure relationship between children and care giver. A child psychiatric John Bowl by gave theory of attachment which clearly explains that how children and parent relationship emerges and how it influences the emotional and social development of child. Four stages of attachment were designed by Bowl by. These stages begin from infancy. Theses stages are pre-attachment, attachment in making, clear cut attachment, and formation of reciprocal relationship. All these stages build a bond and this bond binds parents and children emotionally Falana. Bada & Ayodele (2012).

Another three stages were described by the colleague of John Bowlby that are experienced when children are being separated from their care givers. These stages are detachment, protest, and despair (8). In case of single parenting, parent is not able to build stronger relationship then there are higher chances that children will face some problems, they may suffer from psychological disorders, social difficulties and irretrievable developmental consequences, such as decrease intelligence, increase anger and violent Abrahiem (2014).

Consequences

Children of single parent may spend quite stressful life as compared to those children that live with two parents that is both mother and father. Many researches have been conducted that reveals that single parenting has many effects on child's academic performance, economic hardship, social interaction and it negatively influenced child's health. Financial instability or financial crisis is the main, consistent issue that is faced by most of the single parents Falana. Bada & Ayodele (2012).

Children who are nurtured by single parents are usually inattentive or pay less concentration in schools and may often quit or leave schools before certain qualification and if they complete their education then they did not show interest in works or jobs as a result they left unemployed. That again effects their emotional and behavioral development Abrahiem (2014). Quality of time is usually not provided by single parents to their children. Such as listening child's concerns, understanding their emotional and psychological needs and help them in their assignments, asking them about their studies. Single parents are unable to perform all these tasks because of their busy schedules of managing different parenting roles and due to financial or economic causes or crisis. Together with monetary and social issues child with single parent also face issues related to health. Because of no health insurance, poor standard of living and almost negligible or reduced quality of care by single working parent which increase stress in child's life. All these issues and explosive factors of single parenting also impacts child's psychological well-being and leads to feeling of violence, anxiety, depression, anger, isolation, lack of social interaction, negative perception for self and sometimes leads to suicidal ideation. Therefore, as a result child may engage in unconstructive or unacceptable behaviors such as alcohol use, smoking, substance abuse, violation, harming others and suicidal attempts to release tension or for feeling of relief from their emotional pain Falana. Bada & Ayodele (2012).

Recommendations and Conclusion

Despite of only stigmatizing the single parents and their children we all as a community should help them in fulfilling their requirements or needs to make their life valuable and provide them a platform for worth living.

1. Firstly, before getting separated, parents should try to maintain stability in their relationship for better future of their children. If they fail to maintain stability, then both parents should contribute or share equal responsibilities for better upbringing and to enhance intellectual and emotional development of their children.
2. Secondly, all the higher authorities such as Non-governmental organizations, counselors, psychologist.
3. Parent teacher associations and social workers should plan sessions to train and educate single parents about how to deal with multiple challenges that come across their way. Workshops, media and seminars can be helpful to create insight in parents regarding their responsibilities.

4. Lastly, it is suggested that government and non-governmental organizations should support financially, and in all aspects, to secure the future of children.
5. Children nurtured by single parent due to multiple reasons most commonly because of divorce, death of the spouse, unintended pregnancies, adoption that consequently leads to many problems such as psychological trauma, mental health and behavioral issue, financial hardship, low performance at school or colleges, low self-esteem, decreased social interaction and poor life style. Most important thing is to understand and respect the significance of parenting either it is single of individual.

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ECONOMICS TEACHER'S PERCEPTION OF CONTINUOUS ASSESSMENT PRACTICES IN SENIOR SECONDARY SCHOOLS IN IBADAN SOUTH WEST AND IDO LOCAL GOVERNMENT AREAS, OYO STATE NIGERIA

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Abstract
The study investigated the Economics teacher's perception of continuous assessment in senior secondary schools in Ibadan South West and Ido Local Government Areas, Oyo State, Nigeria. Descriptive survey research design was adopted for the study. Five research questions and one hypothesis guided the study and the hypothesis was tested at 0.05 level of significance. The population of the study was 130 Economics teachers from secondary schools in Ibadan South West and Ido local government. One instrument was developed by the researcher and was used for data collection. The data collected was analysed using mean, standard deviation and t-test. The findings of this study with respect to the research questions revealed that continuous assessment practices of Economics teachers in Ibadan South West and Ido local government areas of Oyo state was comprehensive, systematic, cumulative and diagnostic to a high extent while it is guidance oriented to a low extent. Also, the findings of the study with respect to the hypothesis shows that there was no significant difference between the mean scores of male and female Economics teachers' practice of continuous assessment in secondary schools. The study recommended that workshops, seminars, and in service training should be organized for teachers to update their knowledge and skills on the best practice of continuous assessment, government should recruit and post more guidance counsellors to secondary schools for proper monitoring and effective implementation of continuous assessment, curriculum planners should revisit and strengthen the provisions for continuous assessment practice, school administrators should pay more attention to the practice of continuous assessment and teachers should incorporate the use of the characteristics of continuous assessment practices while drawing information on the students.

Keywords: *Economics teachers, continuous assessment practice, and secondary school.*

Introduction

Assessment of students' progress and achievement is vital for any educational system. It is a mechanism for progressive evaluation of changes in the behaviour of individual learners and for determining the students' level of achievement in any subject such as Economics (Ehiametalor 2016). Economics is one of the subjects taught and offered at the senior secondary school (SSS) level based on the National Policy on Education Federal Ministry of Education, (2014). The guiding principle of Economics as a subject is the need to equip graduates of the Senior Secondary Schools (SSS) with the basic knowledge and skills that will enable them to better appreciate and solve the various economic problems in the society (Yusuf, 2014). The primary idea of this principle is to present Economics as a subject that has application to everyday life and the economy at large.

Conceptualizing Economics, (Khumalo 2012). Defined Economics as the study of how societies use scarce resources to produce valuable commodities and distribute them among people. It is the study of how human beings coordinate their wants and desires given the decision-making mechanisms, social customs and the political realities of the society (Colander, 2016).

Economics is a subject, though being abstract and mathematical in nature, tends to achieve objectives such as; to equip students with the basic principles of economics necessary for useful living, to prepare and encourage students to be prudent and effective in the management of scarce resources, to raise students respect for the dignity of labour, appreciation of economic, cultural, social values of society and to enable students acquire knowledge for the practical solution of the economic problems of the society (Adu & Ahmed, 2009). Measuring the achievement level of the above objectives can be achieved through assessment. Assessment can take different forms such as continuous assessment (test, quiz, debate) or examination assessment which is usually summative. The focus of this present work is on continuous assessment. In a bid to assess learners' ability in determining their level of understanding and knowledge, the continuous assessment mode was introduced (Yoloye, 2009).

Continuous assessment is regarded as a means by which the teacher obtains or ascertains relevant information about students' knowledge gains, behavioural changes and the development of learners in the cognitive, affective and the psychomotor domains of learning (Ogunneye, 2012). Osadebe 2018 viewed continuous assessment as the process of gathering and discussing learners' information from multiple and divers' sources in order to develop a deep understanding of what students know, understand, and can do with their knowledge as a result of their educational experiences. Federal Republic of Nigeria (2014) in its National Policy on Education further defined continuous assessment as a mechanism that ascertains the final grading of students with keen consideration on the cognitive, affective and psychomotor performances over a period of time.

One of the major provisions embedded in continuous assessment is to ensure that all aspects of a child is assessed for his or her total development and this is more than

giving a test; it involves every decision made by a teacher in the class to improve students' achievement (Awofala & Babajide, 2013). Continuous assessment well implemented and practiced boosts academic achievement. Also, continuous assessment serves as a monitoring tool to evaluate students' educational progress (Ukpong & Uko, 2017).

The core objectives for the introduction of continues assessment are; developing the cognitive, psychomotor and affective skills of learners, emphasising the need for thought process and de-emphasise memorization, providing a more valid assessment of the pupils' overall ability and performance (Federal Ministry of Education, 2014). Furthermore, its objectives include; improvement of students' achievement and teaching-learning strategies on the basis of regular diagnosis, enabling teachers to be more flexible, innovative and improve in their instructional methods, to give the teacher greater involvement in the overall assessment of pupils and lastly to reduce examination malpractice (Federal Ministry of Education, 2014). To achieve this, critical attention must be given to the characteristics of continuous assessment for effectiveness of the system and the economy at large. This study intends to examine continuous assessment practices of Economics teacher with respect to its characteristics which includes comprehensive, systematic, cumulative, diagnostic and guidance oriented.

Continuous assessment is comprehensive when it deliberately employs different learning strategies to ascertain complete assessment of learners' cognitive, affective and psychomotor domain (Oyekan, 2016). Akpan and Ikechukwu (2018) defined the comprehensiveness of continuous assessment as such that encompass all the aspects of learning with definite expectation of significant changes in the cognitive, affective and psychomotor behaviours of learners. Being systematic, Oyekan, (2016) explained that continuous assessment is systematic when an operational plan for effective engagement and appraisal of learners are clearly stated and executed. Akpan and Ikechukwu, (2018) were of the view that continuous assessment is systematic when a modus operandi is set up as a guide. The modus operandi could entail the type of measurement to be carried out on students, time and interval for assessment, when to take and file records and the type of instruments to be used.

Being cumulative, Faleye and Adefisoye (2016) defined the cumulative characteristics of continuous assessment as such that requires that the average continuous assessment scores of learners in each session be transferred to the next class until the last class of the learners schooling. The cumulative characteristics of continuous assessment advocates for continuity in the collection of data and assessment of learners from time to time, term to term with high sense of record keeping for usability at any point in time (Akporokah, 2017) but the practice of continuous assessment in the school system seems to be far from this. Continuous assessment is diagnostic when it involves the gathering and careful evaluation of detailed data to diagnose strengths and areas of need of students in a given learning area before introducing the lesson to learners (Federal Ministry of Education, 2014), however many teachers mostly conduct continuous assessment as just a school routine and neglect the diagnostic duty of

continuous assessment. Diagnostic characteristics of continuous assessment is employed for learning when a teacher tries to find out what the learners know or understand about what he plans to introduce to them or might have taught them peradventure there may be need to adjust his teaching and this plays a significant role in improving learning outcomes for all students (Ugodulunwa, 2008).

Likewise, being guidance oriented, continuous assessment is that segment of continuous assessment that helps to provide crucial information about learners and this serves as a guiding tool in developing and building up of learners (Akporokah, 2017). It is expected that at the end of every assessment, there must be feedback. This feedback helps learners to identify the areas they needed improvement. Information and scores gathered from the results of continuous assessment activities students engage in is used to guide the students towards further academic development (Effiong & Ekpo, 2016). This helps to ensure that students are rightly guided based on their strength and weaknesses. The characteristics of continuous assessment explained above are guidelines to ensure check and balances towards the effective practice of continuous assessment.

For the African Economy to grow to meet the competitiveness of the globe, regular feedback is needed in our educational sector. No economy can grow more than the resource personnels in the educational sector of such an economy, the orientation and understanding of teachers as it pertains to continues assessment practices in every level of education and subject with key interest on Senior Secondary Economics teachers is paramount.

Statement of the problem

The introduction of continuous assessment into the Nigerian Education system, reports from WAEC chief examiner from 2013-2019 have recorded persistent poor performance of students in Economics. Continuous assessment is highly important if the school system must record progress on the improvement of student learning of instructional practices. Several authors have noted that continuous assessment characteristics are fairly practiced by some secondary school teachers while most rarely consider its characteristics. This study therefore sought to find out the extent to which the comprehensive, systematic, cumulative, diagnostic and guidance-oriented characteristics of continuous assessment are practiced among Economics teachers in secondary schools in Ibadan Southwest and Ido LGA, Oyo state, Nigeria.

Research questions

1. To what extent are continuous assessment practices of secondary school Economics teachers comprehensive?
2. To what extent are continuous assessment practices of secondary school Economics teachers systematic?
3. To what extent are continuous assessment practices of secondary school Economics teachers cumulative?

4. To what extent are continuous assessment practices of secondary school Economics teachers diagnostic?
5. To what extent are continuous assessment practices of secondary school Economics teachers' guidance oriented?

Hypothesis

One hypothesis was formulated to guide the study and tested at 0.05 level of significance.

1. There is no significant difference in the mean score of male and female Economics teachers' continuous assessment practices in secondary school in Ibadan Southwest and Ido LGA, Oyo State.

Methodology

Descriptive survey design was adopted in carrying out this research work, in Ibadan South West and Ido Local Government Areas of Oyo State. The population comprised of one hundred and thirty (130) Economics teachers with no sample and sampling technique, because the entire population was manageable. 30 item questionnaire on Continuous Assessment Practice (CAP) was developed by the researcher and was used for data collection. The instrument was trial tested on 20 respondents other than the respondent for the study. The reliability index was 0.77 using Cronbach Alpha. Mean and standard deviation was used to answer the research questions with a benchmark of 2.5, while T-test was used to test the hypothesis at 0.05 level of significance.

Results

Research Question One: To what extent are continuous assessment practices of secondary school Economics teachers comprehensive?

Table 1: Mean and standard deviation of Economics teachers' responses on the extent to which continuous assessment practice of secondary school Economics are comprehensive

S/N	Item statement	Mean	SD	Dec
1	I measure all aspect of learning (cognitive, affective, and psychomotor)	3.27	0.61	HE
2	I use only test to measure and assess my students	2.45	0.91	LE
3	I do not give assignments to my students	3.59	0.55	HE
4	I assess students' psychomotor learning domain through project	2.13	0.77	LE
5	I give group work to my students to assess and enhance their competency in team work	2.94	0.62	HE
6	I engage my students in quiz and debate to assess their confidence level and help them out of timid nature	2.89	0.68	HE
7	I do not mark register in my class because the student chorus answer for each other	3.40	0.57	HE
	Overall Mean	**2.95**	**0.51**	**HE**

HE = High Extent

Table 1 reveals the mean and standard deviation of teachers' responses on the extent to which continuous assessment practices of secondary school Economics are comprehensive. The result revealed that items 1, 3, 5, 6, and 7 have higher mean values of 3.27, 3.59, 2.94, 2.89, 3.40 respectively which are above the benchmark of 2.50. On the other hand, the result of items 2, 4 shows a lower mean value of 2.45 and 2.13.

Research Question Two: To what extent are continuous assessment practices of secondary school Economics teachers systematic?

Table 2: Mean and standard deviation of Economics teachers' responses on the extent to which continuous assessment practices of secondary school Economics are systematic

S/N	Item Statement	Mean	SD	Dec.
1	I follow articulated assessment tools as contained in the curriculum such as homework, tests.	3.14	0.65	HE
2	I give assignments outside the context of the lesson.	1.66	0.86	LE
3	I adhere strictly to the time stipulation of continuous assessment in the scheme of work	2.70	0.73	HE
4	I follow the intervals in the administration of continuous assessment as contained in the scheme of work	2.86	0.82	HE
5	I conduct my assessment on topics taught before moving to the next topic	2.98	0.68	HE
6	I use the unified and well-structured approach to access my students.	3.13	0.73	HE
	Overall Mean	**2.74**	**0.77**	**HE**

HE = High Extent

Table 2 reveals the mean and standard deviation of teachers' responses on the extent to which continuous assessment practices of secondary school Economics are systematic. The result revealed that items 8, 10, 11, 12, and 13 have higher mean values of 3.14, 2.70, 2.86, 2.98, 3.13 respectively above the criterion mean of 2.50. However, the result of item 9 showed a low value of 1.66.

Research Question Three: To what extent are continuous assessment practices of secondary school Economics teachers cumulative?

Table 3: Mean and standard deviation of Economics teachers' responses on the extent to which continuous assessment practices of secondary school Economics are cumulative

S/N	Item Statement	Mean	SD	DEC.
1	I keep records of students' assessment from time to time	3.78	0.43	HE
2	I transfer the scores of students from term to term for final grading	3.35	0.77	HE
3	I make use of the scores of the different assessment techniques as part of students' end of term result.	3.37	0.81	HE
4	I do not always add up scores of group work and project to the final grade of students.	3.16	0.80	HE
5	My Judgment about each student is based on both previous and present performance	3.45	0.51	HE
6	I updated students' record as at when due	3.59	0.52	HE
7	I provide student's record for presentation, investigation on request	3.50	0.67	HE
	Overall Mean	**3.45**	**0.64**	**HE**

HE = High Extent

Table 3 shows the mean and standard deviation of teachers' responses on the extent to which continuous assessment practices of secondary school Economics are cumulative. The results in items 14-20, has higher mean values of 3.78, 3.35, 3.37, 3.16, 3.45, 3.59 and 3.50 respectively than the criterion mean of 2.50.

Research Question Four: To what extent are continuous assessment practice of senior secondary school Economics teachers diagnostic?

Table 4: Mean and standard deviation of Economics teachers responses on the extents to which continuous assessment practice of secondary school Economics are diagnostics

S/N	Item Statement	Mean	SD	Dec
1	I render personal assistance to students for clarity and further teaching	3.49	0.74	HE
2	The result obtained from students' assessment helps me to re-teach or adjust the instructional method used	3.18	0.76	HE
3	I always link previous knowledge with new knowledge for easy understanding by students	3.47	0.63	HE
4	I identify students' strength and device means to strengthen and encourage them the more	3.37	0.59	HE
5	I ignore my students' weakness in Economics and do not advise them.	3.47	1.02	HE
	Overall Mean	**3.39**	**0.75**	**HE**

HE = High Extent

Table 4 shows the mean and standard deviation of teachers' responses on the extent to which continuous assessment practices of secondary school Economics are diagnostic. The result shows that items 21-25, shows a higher mean scores values of 3.49, 3.18, 3.47, 3.37 and 3.47 than the criterion mean of 2.50.

Research Question Five: What are extents to which continuous assessment practice are guidance oriented.

Table 5: Mean and standard deviation of Economics teachers responses on the extents to which continuous assessment practice of secondary school Economics are guidance oriented

S/N	Item Statement	Mean	SD	Dec.
1	I counsel my students from time to time based on the outcome of their continuous assessment	2.25	0.39	LE
2	I am not concerned about my students' performance in Economics.	2.73	0.61	HE
3	I grade my students' in their final result and also write useful comments based on their result	2.10	0.35	LE
4	I do not make comments, observation after releasing the results of students	2.54	0.53	HE
5	I give my students' their test and exam scripts for personal evaluation to enhance their performance in subsequent assessment.	2.47	0.45	LE
	Overall Mean	**2.42**	**0.46**	**LE**

LE = Low Extent

Table 5: Shows the mean and standard deviation of Economics teachers responses on the extent to which continuous assessment practices of secondary school Economics are guidance oriented. The result shows that the mean ratings of Economics teachers to items 27 and 29 has higher mean values of 2.73 and 2.54 respectively than the criterion mean of 2.50. However, the mean ratings of items 26, 28 and 30 has shown lower mean values of 2.25, 2.10 and 2.47 respectively than the criterion mean of 2.50.

Hypothesis

$H0^1$ There is no significant difference in the mean score of male and female Economics teachers' continuous assessment practices in secondary school in Ibadan South West and Ido Local Government Areas of Oyo State.

Table 6: T-test analysis of the significant difference in the mean score of male and female Economics teachers' continuous assessment practices

Gender	Mean	SD	t-value	Df	Sig	Decision
Male	3.19	0.97	.790	128	.431	NS
Female	3.15	0.74				

Key NS = Not Significant

The result revealed the t-test analysis of the significant difference in the mean ratings of male and female Economics teachers' continuous assessment practices in secondary school. Result shows that a t-value of 0.790 with a degree of freedom of 128 and a significant value of 0.431 were obtained. Since the significant value of 0.431 is greater than 0.05, the result is not significant.

Discussion of findings

The result from the findings with respect to research question one shows that Economics teachers continues assessment practises is high to a great extent. Teachers measure the domains of learning, engage students in group work, quize, and debate. The findings of this study agree with the study by Alufohia and Akinlosotu (2018), that continuous assessment practices of most teachers are comprehensive to a high extent. However, findings of this study disagree with Osadebe (2015), which revealed that the extent to which university lecturers practice continuous assessment with emphasis on the cognitive, affective and psychomotor domain of students' learning is on the average and should be improved.

The result from this study with respect to research question two found out that Economics teachers' continuous assessment practices are systematic to a high extent. The study ascertained that Economics teachers follow articulated continuous assessment tools, adhere strictly to the time stipulation of continuous assessment, follow the intervals in the administration of continuous assessment as contained in the scheme of work etc. The findings of this study is in line with Osadebe and Uvietesivwi (2018), who found that teacher's implementation of continuous assessment is systematic in secondary schools. Also in agreement to this study, is Akanni and Odofin (2015), who ascertained that there was a high positive attitude of teachers towards the adoption and implementation of the systematic characteristics of continuous assessment. On the contrary, Falaye and Adefiisoye (2015) revealed that continuous assessment characteristics were fairly captured by secondary school teachers in Osun State and that this has negative consequences on students' academic performance**.**

The result from this study with respect to research question three shows that Economics teachers agreed to a high extent that continuous assessment practices of secondary school Economics are cumulative. Furthermore, the result of this findings shows to a high extent that Economics teachers keep the record of their students from time to time, they add up scores of students from different assessment technique to form a part of their end of term result, update students record timely, provide students record

for presentation or investigation on request. The findings of this study is in consonance with Onihunwa, Adigun, Irunokhai, Sada, Jeje, Adeyemi and Adesina (2018), that continuous assessment practices of teachers are cumulative and that the scores obtained in the final examination of students was a function of the scores accrued from their various continuous assessments activities However, the findings of this study negate the findings by Alufohia and Akinlosotu, (2018) that continuous assessment practices of most teachers lacks cumulativeness which made scores sent to the Ministry of Education inappropriate and do not always represent the true academic state of the students.

The result from this study with respect to research question four shows that Economics teachers agreed to a high extent that continuous assessment practices of secondary school Economics are diagnostic**.** The result of the findings further show that Economics teachers render personal assistance to their students whenever they need clarity, they make use of the results obtained from their students' assessment to re-teach difficult topics or adjust the instructional method used, they always link previous knowledge with new knowledge for easy understanding, they identify students' strength to a high extent. The findings of this study is supported by Ali, Sultana and Marwat (2010), who found out that the continuous use of weekly test and assignments helps teachers to diagnose students' weakness and strength to a high extent which when worked on enhances students' performance.

The result from this study with respect to research question five shows that Economics teachers practice of continuous assessment in secondary school Economics is guidance oriented to a low extent. Furthermore, findings show that Economics teachers agree to a low extent that they always counsel their students time to time, grade their students in their final exams and also give the students their scripts for personal evaluation to enhance their performance in subsequent assessment. The findings of this study is supported by Ajinomoh and Eze (2017), who found out that continuous assessment practices of secondary school teachers not guidance oriented and this has negative effect on the students' performance. Also, the findings of this study is in tandem with Osadebe, (2015), who revealed that the continuous assessment strategies used by Economics lecturers is averagely centred on the assessment of students' cognitive domain with little or no concern for them to be guided rightly.

The result of the findings of this study with respect to the hypothesis has revealed that there is no significant difference in the mean score of male and female Economics teachers as to their practice of continuous assessment in secondary school Economics. The findings of this study is in tandem with Osadebe (2015), that showed that there was no significant difference between male and female teachers engagement as regards the practice of continuous assessment in line with the educational policy of primary schools in Nigeria. Furthermore, the finding is in consonance with Osadebe, and Uvietesivwi (2018), who found that gender of teachers does not influence the implementation of continuous assessment practices in secondary schools. However, the findings contradict the study by Oyibe and Nnamani (2017), who found out that masculine gender of teacher have much differential effect on students' achievement meaning the male teachers seems

to maximize the effective practice of continuous assessment to further boost or strengthen the students' achievement scores.

Conclusion

Based on the findings of the study, the following conclusions were drawn:
Economics teachers' perception of' practice of continuous assessment in Ido and Ibadan South West Local government area of Oyo State, Nigeria is comprehensive, systematic, cumulative, diagnostic to a high extent and guidance oriented to a low extent. Furthermore, there is no significant difference between the mean score of male and female Economics teachers' continuous assessment practices.

Recommendations

From the findings and conclusion of the study, the following recommendations are made:

1. Workshops, seminars and in service training are essential tools for effectiveness in any organization, therefore the ministry of Education through the state universal basic education board (SUBEB) should mandate local inspectors of education (LIE) to organize workshops, seminars and in service training for teachers on regular basis to update their knowledge and skills on the best practice of continuous assessment.
2. School administrators should pay attention to the proper practice of continuous assessment based on the principles and concept of the policy to reduce the problems of comparability of standards, records and record keeping
3. Teachers should incorporate the use of the characteristics of continuous assessment practices in order to draw information on the various strength possessed by individual student.

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INFLUENCE OF GOOGLE SEARCH ENGINE ON STUDENT'S LEARNING ABILITY: A CASE STUDY OF BUSINESS EDUCATION STUDENTS, FEDERAL COLLEGE OF EDUCATION, ZARIA

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Abstract

This study titled Influence of Google search engine on student's learning ability: A case study of business education students. Federal college of education, Zaria, the study was guide with by one objective and one research question. Quantitative research approach was employed and the targeted population for this study is 692 comprising the NCE students (411) and the B.Ed. students (281) of Business Education Department, Federal College of Education, Zaria. The sample size of the study was 70 this comprises of NCE (42) and B.Ed (28) students serving as the respondents. The sampling techniques used for the study was purposive sampling techniques, taking 10%. The sampling size of each student (NCE and B.Ed) as respondents. The instrument used to collect data for this study is structured questionnaire in gathering information from the students of Business Education Department, Federal College of Education, Zaria. The study makes used of SPSS as a statistical tool and to analyze data generated from the respondents mean and standard deviation was used. The findings of the study revealed that majority of respondents do use the Google search engine for academic purpose. It was concluded that Business Education students at FCE Zaria needed to use the Google search engine for academic purpose frequently as this will help majority of them to know to use the Google search engine for academic purpose. The study recommends that College management needed to encourage each and every department not only Business Education students at FCE Zaria on the use the Google search engine for academic purpose.

Introduction

Goggle Search engine is a software system that is designed to search for information on the World Wide Web (WWW). It is an information retrieval system designed to help find information stored on computer system, such as internet, inside a corporate or proprietary network. It is a kind of information retrieval program and it has two major tasks: Searching through the billions of keywords recorded in the index to find information that match the query sent by the user and ranking retrieved records in order of importance so that the user can choose the most relevant. Search engines serve as source of information to researchers particularly students in higher institutions of learning. They are the vehicles through which researchers can access past and current

research publications and help to narrow and refine a search for tracing relevant information. Students can also access information on various courses in the institution through these search engines. This will make them have different information resources and materials for their lectures and research work. Search engines also provide easy access to some reference materials like: gazettes, journals, conference proceeding, magazines and newspapers. Search engines provide e-print in details and other types of digital works by authors in an academic department, schools or institutions which comprise of electronic thesis and dissertations and presentations by authors of different institutions.

The aim of Google search engines according to Renwick (2005) is to search and circumnavigate, meaning that a successful search engine should sustain its users in an efficient search for contents, and bring detailed information resources with ease to various students. Okiki (2012) stated that the search engines obtainable are very many but due to lack of awareness, researchers do not exploit them. Internet and the various search engines have brought information explosion, which means that there is large scale, rapid and spectacular expansion of information. The information explosion may confuse researchers on the information to use (Okella-obura & Ikoja-odogbo, 2010).

Information retrieval is a field concerned with the structure, analysis, organization, storage, searching, and retrieval of information. It is a well-established discipline in Computer Science since the 1950s. It has however recently enjoyed increased significance because of the information explosion caused by the internet WWW and its related technologies. Not only the absolute amount of information, but also new types of information formats have drawn attention to this field (Nnamdi, 2008). While information retrieval used to be a restricted field with specialized users like librarians and information professionals, today millions of people use IR every day to search the web or search their email, resulting in the need for new user interfaces and query languages (Manning, 2012; 2011; Joe, 2011).

According to Goyal (2010), information retrieval "deals with the representation, storage, organization of, and access to information items". IR is finding material (e.g. documents) of an unstructured nature (usually text) that satisfies an information need from within large collections (usually stored on computers)." The most common task in IR is informally ad hoc retrieval: a user expresses an information need by submitting a query to the system, which tries to return documents relevant to this query. Other tasks in IR include support of users in browsing or filtering document collections, text classification, text clustering, cross-language retrieval, and multimedia retrieval (Manning 2012; Cabero, 2001; Roul & Sahay, 2012).

The research is hope to measure the adequacy or otherwise the problems associated with the awareness and use of search engines for information retrieval by students in Federal College of Education, Zaria, which if successfully conducted will no doubt fill in the gap in the area of research and add to the existing body of knowledge in the area of information retrieval. It is also hope that, the study will be significant value to

the researchers, more especially the lecturers in enhancing the search engines for information retrieval and to promote their use for research and other scholarly activities.

The problem of this study is the inability of the students to use Google search engine to retrieve information. How does the frequent use of Google for academic purposes affect students' critical thinking and analytical skills, Are students becoming overly reliant on Google as a primary source of information, potentially hindering their ability to seek knowledge through alternative means. In view of those afore stated problems, Business Education students have now turned their attention to the use of internet (Google search engine for the purpose of studying, conducting research and obtaining general information. This study therefore seeks to know the impact of internet on students learning ability.

Objective of the Study

The following objectives guide the study:

1. To examine the Impact of Google Search Engine Usage on Information Retrieval and Knowledge Acquisition, critical thinking and research for Academic Purpose

Research Questions

1. What are the Impact of Google Search Engine Usage on Information Retrieval and Knowledge Acquisition, critical thinking and research for Academic Purpose?

Literature Review

This section mentions short description about the important concepts of literature sources which are relevant to Google search engine uses for student learning outcomes. The internet is an electronic system as interconnected computer networks of a global network system to share and publish of huge information resources and services, by online of the World Wide Web (www) and the infrastructure to support email.

Search Engine: This is considered a primary activity, such as email and other general activities over the internet. Hence, the search engines are considered a concierge for the digital network ecology (Dijck, 2010). The recent search engines have excellent access to colossal information. The first proto of the search engine was started in 1990 by the students of McGill of Montreal University, who have created a script-oriented content accumulating program that could download various from the FTP directory. Later, the same concept with a few more technical; advancements are being done to reach an enormous database with a huge index of web pages by the advent of technology Google, Yahoo, MSN, etc. are few majorly browsed search engines (Abiteboul & Vianu, 1997; Koster, 1993). A web search engine is designed to search for information on the World Wide Web and FTP servers. The search engine is a service that allows internet users to search for content via the World Wide Web (Dijck, 2010). A user enters keywords or key phrases into a search engine and receives a list of web content.

Internet usage has been tremendously increased in recent days with the easy-to-use search engines like Google, Bing and Yahoo search engines are classified into the following four categories based on how it works, namely crawler-based search engines, human-powered directories, hybrid search engines and other special search engines.

Use of Google Search Engines for Information Retrieval in Institutions of Higher Learning

The internet search engines have positively affected all the social and economic aspects of human development by improving work performance and productivity. According to Cabero (2001), "the flexibilization time-space accounted for by the integration of Internet search engines into teaching and research processes contributes to increase the interaction and reception of information. Such possibilities suggest changes in the communication models and the teaching and research methods used by academics, giving way to new scenarios which favour both individual and collaborative learning". The use of internet search engines in educational settings, by itself acts as a catalyst for change in this domain. Search engines by their very nature are software applications that encourage and support independent teaching and research. Lecturers using search engines for teaching and research purposes become engrossed in the process of teaching and research as more and more academics use computers as information sources and cognitive tools (Reeves & Jonassen, 1996), the influence of the internet search engines on supporting how academics come up with journals articles, conference proceedings and text books will continue to increase. Internet search engines increases the flexibility of delivery of education so that learners can access knowledge anytime and from anywhere. This in turn would better prepare the academics for lifelong research as well as to improve the quality of teaching. One of the most vital contributions of Internet search engines in the field of education is- Easy Access to Learning. With the help of search engines, academics can now browse through e-books, e-journals etc. and can also have an easy access to research resources all over the world.

ICT Infrastructures to Support the Use of Search Engines in Institutions of Higher Learning

According to Vanderlinde and Van Braak (2010), ICT infrastructure measures the perceived availability and suitability of the ICT tools such as hardware, software and peripheral equipment provided in the universities. In Pelgrum's (2001) study, ICT infrastructure refers to the availability of equipment, software, Internet access and other similar resources in the institution of higher learning. Additionally, recourses and facilities in universities are designed and enabled in the direction of supporting continuous transformation and use of various search engines to retrieve vast information that will assist lecturer in effective delivery of learning and research (Anderson & Van Weert, 2002). In the year 1998, Krysa conducted a research to determine and examine regularly occurring factors that affect the implementation of the technology among the university lecturers. A qualitative study among four university lecturers was carried out

to identify the factors. Based on the findings, it was reported by one of the lecturers that the outmoded hardware limits the use of search engines in the institution of higher learning (Krysa, 1998). The lecturer was not able to effectively use search engines to retrieve information due to the old and outdated hardware. Conversely, one of the informants stated that limited software act as one of the antecedents that prevents the use of search engines as a means of accessing information (Krysa, 1998).

Influence of Google Search Engine on Students Learning Abilities

Ngoumandjoka (2012) categorized internet users into heavy and light users. In his view, academic work is the main reason students use the internet on campus. Students who were classified as heavy users were found to use the internet more for recreational purpose than the light internet users. His study further argued that the more the internet is used for academic work the more it is perceived to exert a positive influence on academic grades. A number of authors (Torres, 2016) equally agreed that internet use has a positive impact on academic performance. They opined that students who tend to use the internet more on educational materials are less likely to fail their examinations. Therefore, the disadvantages of lack of access to internet surpass the advantages.

Internet has become a daily commodity in most people's lives. However, the addictive-like features of the internet make any individual who excessively use it a potential victim of its negative effects. Some of its negative effects include impaired sleeping patterns, social relationships break-ups, job losses, mental and physical health as well as poor academic performance.

Psychological issues ranging from mood swings to altered behavior, withdrawn attitude and loneliness have been reported by (Torres, 2016) to be the main effect of using the internet mainly for social networking and mailing. This is because they remain in some sort of virtual world of the net. (Torres, 2016) found in their study that as academic performance of students deemed successfully increases, their internet addiction average decrease. This implies that, internet addiction has an effect on the academic performance of students.

Similarly results have been obtained by Austin in Torres (2016) in their study that categorized internet users into light, moderate and intense users respectively. They discovered that students that use the internet at school and at home (moderate use) produce higher grades than those that do not use the internet. The influence of Google search engine on students' learning abilities can be both positive and negative.

1. Google search engine provides students with easy access to a vast amount of information and resources. It enables them to quickly find answers to their questions, explore different perspectives, and expand their knowledge on various subjects. This can greatly enhance their learning experience and improve their ability to gather information efficiently.

2. Google search engine allows students to explore different formats of information such as text, images, videos, and more. This can cater to different learning styles and preferences, making it easier for students to grasp concepts and understand complex ideas.
3. Google search engine can have some negative effects on students' learning abilities. It may lead to a lack of critical thinking and independent research skills. Students may become reliant on the first few search results presented to them, without critically evaluating the credibility and accuracy of the information they find.
4. The vast amount of information available through Google search engine can be overwhelming for students. They may struggle to filter through the results and identify the most relevant and reliable sources. This can result in students wasting time on irrelevant or inaccurate information.
5. Additionally, the ease of access to information may discourage deep learning and thorough understanding of concepts. Students might be tempted to settle for superficial knowledge instead of delving deeper into a subject. This surface-level understanding can hinder the development of critical thinking and analytical skills.

Challenges Facing in Accessing the Google Search Engine

1. **Technical Issues and poor internet connection:** Many students are not provided with the high bandwidth or the strong internet connection that online courses require, and thus fail to catch up with their virtual course mates: Their weak monitors make it hard to follow the Course Management System and their learning experience becomes a problem. Adaptability Struggle Switching from traditional classroom and face to face lecturing online makes the learning experience entirely different for students. While passive listening and notes taking are expected in a traditional classroom, online discussions or creating a web page demand springing into action. Students with a "traditional" mindset find it difficult to adapt Computer Literacy.

2. **Lack of computer literacy is a major issue among students today:** Many of them cannot operate basic programs such as Microsoft Word and PowerPoint and therefore are not able to handle their files. Furthermore, many students find fixing basic computer problems troublesome, as they have no information in this area.

3. **Time Management**: Time management is a difficult task for students, as online research requires a lot of time and intensive work. Students turn out to be addicted to the internet as they do their regular research on it and also the news on social media can keep students on the internet the whole day thereby causing them to decline in their learning outcomes.

4. **High cost of subscription and Self-Motivation**: The cost involved in subscribing internet packages is quiet expensive, leading to frustration in accessing the internet for learning. Though the internet allows students to learn or access education irrespective of their location however some students lack self-motivation in eLearning essential requirement. After enrolling in distance learning courses, many learners fall behind and nurture the idea of giving up, as difficulties in handling a technological medium.

Methodology

Expo-facto approach was employed and the targeted population for this study is 692 comprising the NCE students (411) and the B.Ed. students (281) of Business Education Department, Federal College of Education, Zaria. The sample size of the study was 70 this comprises of NCE (42) and B.Ed (28) students serving as the respondents. The sampling techniques used for the study was purposive sampling techniques, taking 10%. The sampling size of each student (NCE and B.Ed) as respondents. The instrument used to collect data for this study is structured questionnaire in gathering information from the students of Business Education Department, Federal College of Education, Zaria. The study makes used of SPSS as a statistical tool and to analyze data generated from the respondents mean and standard deviation was used.

Result and Discussion

Table 1: Opinion of respondent on impact of Google Search Engine Usage on Information Retrieval and Knowledge Acquisition, critical thinking and research for Academic Purpose

S/N	ITEMS	_x	Std.Dev.	Remark
1.	How frequently do you use the Google search engine for academic purpose?	3.06	1.75	**Frequently**
2.	Using the Google search engine help find relevant information for my academic assignment.	3.08	1.77	**Agreed**
3.	The Google search engine has improved my ability to acquire knowledge in my study field.	2.23	1.31	**Disagreed**
4.	Using the Google search engine encourages me to think critically when evaluating information.	2.86	1.69	**Agreed**
5.	I have developed better research skills due to my use of the Google search engine.	2.19	1.27	**Disagreed**

Table 1: shows on the Impact of Google Search Engine Usage on Information Retrieval and Knowledge Acquisition, critical thinking and research for Academic

Purpose. The table shows that majority of the respondents were of the opinion on how often do you use the Google search engine for academic purpose, this has the highest mean response of 3.06 and standard deviation of 1.75. This implies that the number of respondent do use the Google search engine for academic purpose. The table also shows that majority of the respondents were of the opinion that they use Google search engine help find relevant information for my academic assignment, as this statement attracted the highest mean response of 3.08 with 1.77 as its standard deveiation. This means that use Google search engine help find relevant information for my academic assignment. From the table also, the least number of respondents were of the opinion that Google search engine has improved my ability to acquire knowledge in my study field, the statement attracted the lowest mean response of 2.23 with 1.31 standard deviation. This implies that they use Google search engine has improved my ability to acquire knowledge in my study field. The table shows that majority of the respondents were of the opinion that they use the Google search engine encourages me to think critically when evaluating information, as this statement attracted the highest mean response of 2.86 with 1.69 as its standard deviation. From the table also, the least number of respondents were of the opinion on the developed better research skills due to my use of the Google search engine as this statement attracted the lowest mean response of 2.19 with 1.27 as its standard deviation. The result implies that despite that they developed better research skills due to my use of the Google search engine.

Summary of Findings

Research question was on the Impact of Google Search Engine Usage on Information Retrieval and Knowledge Acquisition, critical thinking and research for academic purpose, it was revealed that majority of respondents do use the Google search engine for academic purpose. it was revealed that majority of respondents agreed that use Google search engine has improved my ability to acquire knowledge in my study field. It was revealed that majority of respondents agreed that they developed better research skills due to my use of the Google search engine so also it was observed that majority of respondents encountered many challenges and drawback when relying heavily on the Google search engine for academic research and learning processes. It was also noted that these challenges and drawbacks affect their academic performance and overall learning experience.

Discussion of findings

Research question shows the Impact of Google Search Engine Usage on Information Retrieval and Knowledge Acquisition, critical thinking and research for Academic Purpose, it was revealed that majority of respondents do use the Google search engine for academic purpose. This is in line with the study of Okiki (2012) stated that the search engines obtainable are very many but due to lack of awareness, researchers do not exploit them. Internet and the various search engines have brought information explosion, which means that there is large scale, rapid and spectacular

expansion of information. It has however recently enjoyed increased significance because of the information explosion caused by the internet and its related technologies. Not only the absolute amount of information, but also new types of information formats have drawn attention to this field (Nnamdi, 2008).It was revealed that majority of respondents disagreed that use of Google search engine has improved my ability to acquire knowledge in my study field. This is according to the study of Reeves & Jonassen, 1996), the influence of the internet search engines on supporting how academics come up with journals articles, conference proceedings and text books will continue to increase. Internet search engines increases the flexibility of delivery of education so that learners can access knowledge anytime and from anywhere. This in turn would better prepare the academics for lifelong research as well as to improve the quality of teaching. One of the most vital contributions of Internet search engines in the field of education is- Easy Access to Learning. It was revealed that majority of respondents agreed that they developed better research skills due to my use of the Google search engine. This also goes in line with the review on the study of Ngoumandjoka (2012) categorized internet users into heavy and light users. In his view, academic work is the main reason students use the internet on campus. Students who were classified as heavy users were found to use the internet more for recreational purpose than the light internet users. His study further argued that the more the internet is used for academic work the more it is perceived to exert a positive influence on academic grades. A number of authors (Torres, 2016) equally agreed that internet use has a positive impact on academic performance. It was observed that majority of respondents encountered many challenges and drawback when relying heavily on the Google search engine for academic research and learning processes. It was also noted that these challenges and drawbacks affect their academic performance and overall learning experience. This is in accordance with the study of Krysa(1998), the lecturer was not able to effectively use search engines to retrieve information due to the old and outdated hardware. Conversely, one of the informants stated that limited software act as one of the antecedents that prevents the use of search engines as a means of accessing information. It is however easy to understand that in this study some of the respondents agree to the items in the table as they were taught with ICT in the lecture room while other disagreed as they understand nothing in terms of ICT.

Conclusion

The study conclude that Business Education students at FCE Zaria needed to use the Google search engine for academic purpose frequently as this will help majority of them to know to use the Google search engine for academic purpose. Google search engine be provided by the college to improve students ability to acquire knowledge, Google search engine needs to be one of the ICT programme that will make students developed better research skills. So also learning through Google search needed to be a mandatory course so as for students not to encountered challenges and drawback in learning processes.

Recommendations

The study recommends that:

- College management needed to encourage each and every department not only Business Education students at FCE Zaria on the use the Google search engine for academic purpose.
- Google search engine should be provided by the college management so as to improve student's ability to acquire more knowledge for academic pursuit.
- Department and schools should in one way or the other encourage the use of Google search engine and inclusion of ICT programme in their course outline as this will make students developed better research skills.
- Students should be encourage researching through Google search engine and it should be a mandatory course for students so as to know their way out on challenges and drawback in learning processes.

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THE IMPACT OF MULTINATIONAL JOINT TASK FORCE (MNJTF) IN FIGHTING BOKO HARAM INSURGENCY IN NORTH-EASTERN NIGERIA

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Abstract
The multinational joint task force (MNJTF) typically refers to a collaborative military effort involving forces from multiple countries working together to address a specific mission or security challenge. Generally, these task forces are formed to address shared security challenges, common aims include regional stability, deterrence, humanitarian assistance, peacekeeping, enhanced cooperation, capacity building, interoperability and counterterrorism. The insurgency in Northeastern Nigeria lasted more than a decade, it had taken a severe toll on property, economic development and political aspects of population. This paper viewed that forming regional military cooperation such as MNJTF in West African states can provide solution to the crisis in the region. The research uses qualitative method of data collection and analysis. It recommends that the relevant institutions in the Lake Chad region should channel much of their resources to human capital development capacity building, infrastructural development, girl child education, and most importantly good governance, and strict adherence to the rule of law in other to mitigate the necessary conditions that encourage the spread of terror, resentment and violent extremism, the defense headquarters of the relevant stakeholders and other affiliated agencies that engage in the counter-radicalization, de-radicalization, rehabilitation and reintegration programmes should double their efforts in building trust within the civilian populace, and expand their outreach in educating the people by teaching them the right value.
Keywords: *Security Challenges, Sustainable Development, Cooperation, insurgency and Rebellion.*

Introduction

Many third world countries face challenges of underdeveloped nature of their economy which give birth to the emergence of conditions such as poverty, unemployment and inequality in their countries. Current state of security challenges in

Africa is a manifestation of the above conditions, this in turn lead to frustration, alienation and ultimately religious fanatics group in West African States such as Nigeria. For many African countries, this dilemma is even more acute and pronounced. Faced with a growing increase in population explosion (Ogunleye-Adetona,2010), and corresponding decrease in economic productivity and political accountability, occasioned by many years of higher level of political corruption, bad governance, weak institutions and absence of the wherewithal to transform their human and material resources, these countries turned into veritable incubation centers for the emergence of violent anti-state groups whose deriving ideology, it would seem antagonism against their States(Stern & Ojendal, 2010). The above ideology is fuelled by years of the state's neglect and or failure to transform the aspirations of its people for meaningful, purposeful and qualitative life.

Moreover. Prior to 2012, the brunt of Boko Haram's campaign had been confined to the core northeastern States of Borno, Yobe and Adamawa. But thereafter, the group has significantly expanded beyond the geographical scope of its traditional territories into central and northwestern Nigeria as well as beyond Nigerian borders. It has further extended its area of operations into neighboring countries particularly along the vast and porous border region with Cameroon, Chad and Niger Republic.

It was suspected that Boko Haram uses bases in Cameroon to lunch attacks on Nigerian soul. Moreover, Cameroon has been staging ground for kidnappings of foreigners and locals. Furthermore, Chad and Niger Republic were not left behind. On the 10th of October, 2015, the Boko Haram launched a devastating suicide bombing attack in the town of Baga Sola, republic of Chad, killing 50 people with more than 100 others in a critical injured. Also, on the shores of Lake Chad in the extreme east of Diffa region, Niger Republic the Boko Haram's presence has aggravated inter-communal tensions, which have degenerated into deadly conflicts since May 2016 (Weeratne,2015, pp6-7; Oxford Research Group 2017: Karmon, 2014, Oftedal, 2013; Waddington 2013:Zenn, 2013).

Furthermore, the Boko Haram activities in Nigeria have also triggered one of the worst humanitarian crises in modern history with millions of people have been displaced. The attacks have continuously deteriorated over last ten two years with increased raids and suicide bombings targeting civilian population which has caused massive displacement of people thereby losing their jobs, widespread trauma, and lack of access to essential services, food insecurity, hunger and extreme poverty. The number of displaced people in the most affected areas has risen in one year from 1.6 million to 2.6 million. About 800, 000 people are in need of immediate food assistance. The joint UN assessment (2015) also found that without intervention, some 67,000 children aged between 6-59 months with severe acute malnutrition are likely to die in Borno, Adamawa and Yobe States. This translates to 184 deaths every day. As the lean season progresses many more people are expected to even face more severe food shortage.

Statement of Problems

As a result of Libyan civil war in 2011, there was spread of Small light weapons to West African countries Nigeria inclusive. In Nigeria where its most borders are not formally knowingly there was spreading of such weapons to the country especially in northeastern region where religious fanatics groups like Boko Haram (Western Education is forbidden) emerged. Many believed that the emergence of such insurgence is a direct consequences of bad governance, weak institutions, corruption etc that defines the present situation of the Country. Apart from Political corruption in the State there was imbalance among the regions in the country being north as backwardness in terms of level education and development.

According to a report by the National Bureau of Statistics (NBS2010) which oversees and publishes in Nigeria, 10 States are poorest in the country with an over 70% poverty rate. Most of the States, indeed nine are northern and the exception of Ebony State from South (Leadership Newspaper, 2019). States in the northern Nigeria, for many years, have lagged behind in education among the 36 states of the federation but not for the lack of funding. The data on the literacy index recently published by the National Bureau of Statistics in 2014 revealed that the huge gap in the educational development between southern and northern Nigeria is yet to close up nearly sixty years after independence (Ajibola, 2017).

From 2009, the northeastern region of the country found itself in a serious security challenges which attract international agencies to put Nigeria among the Terrorist index. The high rate of unemployment in Nigeria has deteriorated for many years as a result of the fragile economy. It is expected that about 70% of the unemployed are teenagers between the ages of 13-25 years. More than 80% of them are jobless. However, about 10% in employment are underemployed (Youth Position Paper,2007). This indicated that most of the Youth are unemployed in Nigeria and is worse In Northeastern region. In terms of Poverty the youth in Nigeria experience poverty like their counterparts in many sub-Saharan African Countries. Unemployment and the poverty condition differ by gender and regions.

These reasons and other factors are responsible for situation northern part of the country found for almost more than a decade. There are a lot of efforts to address the issues by the government of the State but still it proved abortive. The Nigerian government firstly established Joint Tasks Force (JTF) to curtail the menace. Joint Tasks Force is the combination of Military and other paramilitary such as Police, Civil defense, Federal Road Safety etc.

The situation was worse to the essence that the JTF cannot handle the matter adequately, the state must think beyond the using of internal means to the external means by forming Multinational Joint task Force (MNJTF) which comprises neighbor States: Chad, Cameroon and Niger Republic. For this, the aim of this study is to examine the impact of MNJTF in fighting insurgency in northern Nigeria and to examine the impact of the MNJTF counter-insurgency offensive/strategies on the war against insurgency.

Aims and Objectives of the study

The main objective of this study is to assess the activities of MNJTF in curtailing activities of insurgency in Northeastern Nigeria. The specific objectives of the study are:

i. Assess the formation of MNJTF among the Lake Chad basin States
ii Examine the operational activities of MNJTF in the Lake Chad basin States
iii Find out the success or failure of MNJTF in the Lake Chad basin State

Methodology

The study adopts a theoretical approach for explanation and interpretation of the paper. Thus, the qualitative method was used for data collection and analysis. Secondary data were consulted, including journal articles, policy document, books, newspapers and magazines and internet sources. The data generated were analyzed using context analysis.

Literature Review

Security and Insecurity

The concepts of security and insecurity are typical in social science concepts that appear principally in the literature of social psychology, sociology, political science and allied subjects. In the framework of Political Science, the concept security according to Bar-Tal and Jacobson (1988) denotes a situation which provides national and international conditions favorable to the protection of nation, state and its citizens against existing and potentials threats. The socio-psychological conceptual framework of security on the other hand, acknowledges military, political economic and cultural conditions which play an important role in creating situations of security. Specifically, however, the situation of security assures a survival of the state, territorial protection of economic welfare and social stability (Haftendorn, 1991).

Analysts have examined the problem of insecurity generally from various perspectives. Cameron and Mc Cormic (1954) have pointed out nine different sources of insecurity, namely; insecurity as emotional response to sudden external threats from within; and insecurity from a relatively constant threatening external situation; insecurity due to threat from within; and insecurity as a function of beliefs, especially religious; etc. these categories of insecurity are believed to be caused by “frustration and neurosis” (Cameron and Mc Cormic (1954:559)). This classification notwithstanding, Cameron and Mc Cormic’s work contains little of what can be regarded as empirical research on insecurity. This is because the work is filled with speculations without empirical evidence. Also, issue raised is not exhaustively discussed.

Bar-Tal and Jacobson (1998) have also examined issues of security and insecurity. Using security challenges in Israel as a case study, they specifically concerned themselves with approaches and methods of dealing with security situations. Thus two main approaches to security studies were identified, namely, political and socio-psychological approaches. According to the political approach, security is an essential precondition of an ordered existence for an individual and societal system.

Here, individuals and collectives must have a secured environment which allows them to pursue their goals without being subjected to threats. The argument of this approach is that, it is the role of the state to provide security to its citizens, both cultural, environmental and educational conditions with assure life to its citizens. On the level international level, the state has to defend the citizens against possible harm from external forces (Buzan, 1991). Thus, this approach is concerned with military alliances and foreign policy. Comprehensive as this approach may be, it neglects the economic, social, cultural and psychological issues which are imperative to the study of security. The socio-psychological approach on the other hand, argues that people as an individuals and/ or group members (e.g. members of the economic groups, nations) experience security, or insecurity, with regard to own personal life and/ or with regard to their collective entity and its systems. Security thus, is a psychological experience.

In recent study, Eriksen, Bal and Salemink (2010), examined security and insecurity from anthropological perspective. Here, attempts were made to conceptualize insecurity from perspective of social and human security. However, the major flow of the paper is that it did not contextualize insecurity. In other words, the study did not locate insecurity within given geographical environment or location.

With particular reference to Nigeria Okonkwo (2009) has catalogue a history of conflicts and insecurity in Nigeria since independence in 1960. Here, the conflicts which result in insecurity are traced to colonialists creating antagonistic ruling class along ethnic and religious line. Thus, the northern part of Nigeria has had a long of security challenges, communal and ethno-religious crises. For example, in Plateau state, there have been many outbreaks of bloody violence between different communities since the return to democracy in 1999. There are also been riots in urban centers of Kaduna and Kano and for several decades there has been simmering conflicts in the Tafawa Balewa district of Bauchi (Walker,2012).

According to Walker (2012) and Azizi (2012), when viewed from outside, it does seem that these conflicts boil down to religious differences, tensions between blocs of Muslim and Christian inhabitants. But on a closer consideration, one finds that politics-more precisely, control of government patronage- is the primary use of many of these conflicts. However, the Boko Haram insurgency which surfaced in 2009 with bombing attacks and killings which as at last count, have left over 16,000 Policemen, Soldiers and Civilians including Politicians dead (Nigerian Crime News, May 31,2011; UNCIRF, 2012) remains one of the terrorist-related dimensions to security challenges facing Nigeria.

Multinational Joint Tasks Force (MNJF)

Prior to the present insecurity in the Lake Chad Region there was establishment of regional cooperation to tackle the problem of porous border occasioned by human trafficking, armed banditry, proliferation of arms and border intrusions along Nigeria's border with Chad, Cameroon and Niger necessitated the establishment of a Multi-National Joint Task Force (MNJTF) in 1998. The tasks forces are aimed at to facilitate

free movement, military operation and checkmates banditry activities of member States. Following the Boko Haram activities in 2009 and Baga serving as the epicenter of its strategic activities in terms of arms procurement, planning for attacks and reception center for foreign mercenaries, the Multi-National Joint Task Force's mandate was expanded in April 2012 to include military offensive against the group. The Force comprised the Chadian, Nigerien, and Nigerian Armed Forces.

As observed by Gabrielle Reid (2015) that, Cameroon, Chad, Niger commenced multinational operations against the Boko Haram in January 2015 in response to regional encroachment of the sect to compliment unilateral effort of the Nigerian military. She contends that throughout the last quarter of 2014 the Islamist militant group had become increasingly strategic in its attacks and seizing of territory in Nigeria's northeast of Borno, Yobe and Adamawa states. These territorial gains have continued to threaten the sovereignty of Nigeria's neighbors, as Boko Haram projected force beyond Nigeria's northern borders. By November 2014, Boko Haram had begun to carry out mass casualty attacks in Cameroon's Far North Region, Niger's Diffa region as well as throughout the Lake Chad Basin. Although the regional governments were very much committed to establishing a joint task force, the Nigerian government was reluctant to allow foreign intervention forces into her territory.

The Tasks of Multinational Joint Task to Fulfull

Re-taking of local governments/areas previously occupied by Boko Haram

From 2015 to 2018, more than 29 local governments and 120 villages in Nigeria, Chad, ``Cameroon, as well as Lake Chad islands have been liberated from Boko Haram occupation. As indicated in the work of Segun Adebowale (2016); in February 2015 the armies of the MNJTF recaptured thirty-six towns across three states in the north-east of Nigeria. The joint military coalition through the operation Lafiya have totally liberated Mubi North, Mubi South, Hong, Gombi , Maiha, Ganye and Michika, and Madagali local government areas. Bara, the headquarters of Gukani local governmet area of Yobe State, Shikah, Fikayel, Tetebah, Buza, Kamla and Bumsa, and tens of little sprockets of Boko Haram enclaves have been liberated. Equally, the Operation Gama Aiki' has took in some fierce encounters with the terrorists and completely cleared the insurgent group from Doran Nairi, Yebi-Tasugia, Faide-Jimba , Yebi Tumanba, Yebi-Jemi, Alli Kanori, and Alagarno villages up to Doron Naira along Sector 3 (Nigeria) axis, and also in Littri, Madayi and some villages on the Lake Chad Island along Sector 2 axis (Chad).

Theoretical Frame Work

The study adopt failed State as the theoretical frame work. The failed state theory describes a situation of failure by a state in its performance of certain duties. Put differently, the theory explains a state that has failed in the performance of its duties (Abiodun et al, 2018). Central to the failed state theory is the definition of a state as a service provider. In this sense, a state protects the lives and properties of its citizens, creates an allowance for political participation, health, education, and maintains security

of the rule of law (Eriksen, 2011). On this premise, state failure refers to the inability of a state to provide essential services. In line with this, Englehart (2009) submits that state failure occurs when states are unable to fulfil their obligations which in this case reflects the failure to provide essential services. In essence, failed states refer to states that are no longer capable of performing their obligations.

The following are the assumptions of the failed state theory:

1. Failed states are embroiled in conflicts
2. Failed states are incapable of maintaining peace, order, security and so on within their borders
3. Failed states can be viewed in terms of the absence of governmental functions and operations
4. Failed states suffer a restriction of the free flow of information, the subjugation of women, and the inability to accept responsibility for failure and domination by a restrictive religion.

Application of the Theory

The study adopts failed state theory. A state fails when it suffers "the loss of physical control of its territory; [its] monopoly on the legitimate use of force; the erosion of [its] legitimate authority to make collective decisions; an inability to provide reasonable public services; and the inability to interact with other states as a full member of the international community". Nigeria, an oil-rich country with the largest population in Africa and top-20 economy, was ranked 17th most likely to fall on the list of 148 countries studied for the 2007 Failed State Index. As a results of its uneven economic and social development, failure to address group grievances and a perceived lack of government legitimacy. While its oil Wealth holds promise for future of its people .Failed states are by definition dysfunctional meaning their performance is suboptimal on many fronts, but suboptimal state function does not necessarily connote social disequilibrium.

Nigeria, an oil-rich with the largest population in Africa and a top-20 economy, was ranked 17th most likely to fail on the list of 148 countries studied for the 2007 Failed State Index (Sani, 2007). The areas of greatest concern for Nigeria included uneven economic and social development, a failure to address group grievances as manifested through an active insurgency, and a perceived lack of government legitimacy (Abu Bakarr 2004). While its oil wealth holds promise for the future of its people, Nigeria's potential failure holds danger for the global economy and could threaten the vital interests of many nations.

State failure refers to instances where "less than complete collapse" occurs (Doombos, 2001:5). Failed states are characterized by many of the same characteristics as collapsed states but just in a 'milder' form. Robert (2002) identifies a number of characteristics of failed states.

A government functioning in a situation characterized by the above mentioned characteristics frequently face rising attacks on its fundamental legitimacy. The entire symptoms of failed state are causally connected. Rulers increasingly work exclusively for their own benefit as the state capacity gradually weakens. Key interests group's loyalty to the state attenuate as people feel increasingly disenfranchised and marginalized. The result is that, as Robert (2002) puts it "the social contract that binds citizens and central structures is forfeit". Citizens therefore seek alternative forms of identity and transfer their allegiances to communal warlords, ethnic leaders etc which fuels domestic anarchy (Roberg, 2002).

Roberg (2002) notes that in a fail state there is a tendency for increased criminal violence which further weakens the state's authority. He further notes that fail states usually associated with tensed deeply conflicted and dangerous warring factions which most times leads to breakdown of law and order, increased humanitarian disaster, which concerns not only the people directly affected, but also others in the country as well as people directly in neighboring states. As Gros (1996) notes, ethnic genocide in Rwanda and Balkans or flight or Haitains to Florida can hardly be ignored by the international community. Torres and Anderson (2004) argue that conflicts, human right violations, constitute the global and local impact of fail states.

The state loses control over order maintenance and war making. It is no longer able to keep law and order among its citizens, nor is it able to protect its territory from external predators of whatever origin (other states, foreign terrorists, narcotics traffickers, and so on). This loss of control signals that the state has collapsed or become anarchic, meaning that there is no longer an overarching authority. However, this does not mean that life is necessarily Hobbesian. As nature abhors a vacuum, some essential public goods may be provided by sub-state actors such as traditional authorities or by non-state actors such as local and international non-governmental organizations. One plausible example of collapsed or anarchic state- the only one at the time of writing- is Somalia.

The state loses control over internal order, but maintains it over the ability to wage war. This scenario is also rare. It typically occurs in pre-collapse situation, where the state remains militarily strong enough to defend its territory against external enemies, but has lost so much of its legitimacy that it is vulnerable to collapse from within. This is the case even though, in theory, it retains considerably capacity for internal violence, as some warfare assets are of so-called dual use. Examples are the former Soviet Union from some time in the early 1970s to December 1991, the former Eastern European satellites, or Ethiopia under Mengistu Haile Mariam.

The state loses control over the capacity to wage war but maintains it over internal order. In some cases, this may be the result of a deliberate political strategy. It should be recalled that states behave like discriminating monopolists; they do not spread their assets evenly throughout the realm. They may deploy all of their coercive powers against their own citizens rather than splitting them between order maintenance and war making. There may be a standing army whose technical capacity is in waging war, but

whose true raison d'etre is repression of the population or absorption of poor and unemployed youth into the rank-and-file and elite young men into the officer corps (jobs for boys). Rulers who think they may be in danger of being overthrown, and who have scant resources to work with, will tend to project those resources into the one area that will most immediately shore up their power: maintaining internal order. International law and norms encourage authoritarian rulers in failed states to behave this way, because they remove the incentives for these rulers to build up their warfare capacity to fend off invasion by other states. Haiti under the Duvalier dynasty (1957-1986) experiences this type of failure.

The state lacks control over both internal order and war making, but this loss is neither complete nor permanent. Failure here is that "fluid halting place". Rotberg mentions. Typically, state exhibit greater capacity in maintaining order and waging war in the centre than in the periphery; the periphery may be considered the weak link in the chain leading to state failure or, to employ the earlier metaphor, the mode most likely to be severed from the power grid. Probably most failed states are in this category; they lose control in parts, perhaps significant parts, of their territory, but maintain it in some areas-typically the capital city and other urban centers and the home region of the national ruler. They are also able to perform certain functions of statecraft, albeit in perfunctory fashion.

Sudan's state has had no effective control in the south and lately in the west of the country, but Khartoum has had a government since independence that has exercised real authority in north. The volatility of the Niger Delta has not prevented Nigeria from spending billions of dollars on a new capital in Abuja, where, unlike in the economic capital of Lagos, government functions with some efficacy. Ivory Coast Congo, and (post-Duvalier) Haiti are further examples of this category. All three have nominal governments, although they have been on the brink of anarchy at different times in their history.

Failed states are not monolithic. The failed states index is problematic in part because it is not sensitive enough to important differences among failed states. Zimbabwe has strong capacity in maintaining internal order and at least residual capacity in waging war (as evidenced in its involvement in Congo in the 1990s), yet Zimbabwe ranks second after Somalia in the 2009 Failed States Index. The proximity of these two countries on the list completely misrepresents the actual distance between their conditions. An overarching theory of state failure is not easy to arrive at, because (a) failed states are not monolithic, (b) progression from one type of failure to another is not linear and (c) some variables may be impossible to operationalize and measure.

Yet, because a theory is, at its most basic a set of facts, conjectures and principles that purport to explain a given phenomenon, it is at least possible to identify contribute to the outcome. Such an effort gains in strength if its approach is historical, which allows for a larger sample to be examined under different conditions.

The theory assumes that state fail partly for internal reasons, which include geography, population growth, environmental degradation, social cleavages,

militarization and low economic growth, although not necessarily the lack of natural resources (Gros, 2002).

The study therefore adopts the failed state theory to explain the phenomena, Boko Haram and its implication on socioeconomic development in northeastern Nigeria, with particularly in three local governments in Borno, Yobe and Adamawa states. It shows the failure and weaknesses of the Nigerian state in ensuring security and practical control over her vast territories in Northeastern region which has been threatened by the Boko Haram insurgency. As well as her inability to guarantee the safety of citizens in Northeast region, which has led to increase in internally displaced people, refugee debacle and growth in narcotics (in line with Collier et al 2003). The failure of government in promptly addressing the issues at the right time fueled the violence to be irresolvable. From 2009 to 2010 was the year that Nigerian government supposes to bring the violence to end.

Conclusion

The failure of Nigerian state to provide security to its citizens is also obvious in the wake the Boko Haram attacks, which indicate that even Nigerian security apparatus is itself vulnerable to the sect's attacks. The state felt to provide conducive atmosphere for trade and investment, many youth literates and illiterates were not employed. Again the policy of government made socioeconomic difficult for instance state of emergency restrict movement from the cities. Farmers were no longer in operation because of government policy, schools were forced to reduce their time or closed. However, in other words the concept of state failure or collapse is a relative one. In this study the concept of 'state failure' as applied to the Nigerian state would be used to describe the different level of institutional and governance crises within the country that has handicapped the state to meet the aspirations of people. The study concluded that despite the fact that Nigeria is a giant in African continent in terms of military capabilities but still there is need for military collaboration to fight insurgency in the region.

Recommendations

The study examined the activities of MNJTF in Nigeria for fighting Boko Haram insurgency at the end the study found that, despite the fact that Nigeria is a giant in Africa still She felt to address the issues of security challenges in her own territory unless if she cooperates with the neighboring States. As a means of eliminating the long resurging threats of Boko Haram, the study recommends that:

1. The relevant institutions in the Lake Chad region, especially the Nigerian government should channel much of their resources to human capital development, capacity building, infrastructural development, girl child education, and most importantly good governance, and strict adherence to the rule of law in other to mitigate the necessary conditions that encourage the spread of terror, resentment and violent extremism.

2. Secondly, the defense headquarters, relevant stakeholders and other affiliated agencies that engage in the counter-radicalization, de-radicalization, rehabilitation and reintegration programmes should double their efforts in building trust within the civilian populace, and expand their outreach in educating the people by teaching them the right value. Because greater percentage of Boko Haram recruits joined the terrorists out of sympathy or ignorance. Importantly too, the *almajiri* system in Nigeria should be outlawed and proper efforts made towards re-uniting these children (*almajiri*) with their families

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TEACHERS' PERSPECTIVE ON THE INTEGRATION OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) INTO MATHEMATICS TEACHING IN SECONDARY SCHOOLS: A STUDY OF KATSINA STATE, NIGERIA

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Abstract
This research studied the perspective of teachers on the integration of ICT into the teaching and learning of mathematics in secondary schools in Katsina state. In other to identify directly the opinion of teachers, the researcher made use of a 4 Likert scale questionnaire. The researcher developed a 10 item questionnaire on teachers' perspective on the use of ICT to teach mathematics in secondary schools. The questionnaire was validated by two mathematics experts. The reliability coefficient is 0.80. The research was conducted in Katsina metropolis. 50 mathematics teachers were randomly selected for the research and these 50 served as the respondent. The findings of the research revealed that the respondent have positive responses towards the use of ICT in mathematics teaching and learning. The paper recommended that secondary school students should be introduced to the use of some learning technologies to solve mathematical problems, teachers should be trained on how to integrate ICT into mathematics lessons and mathematics laboratories in secondary schools should be equipped with computer system and internet facilities should be provided for both the student and teachers.
Keywords: *ICT, Teaching, Learning, Skills*

Introduction

Mathematics is a fundamental part of school curriculum. It is an instrument for the development of all other sciences. Mathematics is a unique subject, it is unique because it is not subjective, every question has a clear answer and when you solve it you can either be right or wrong. Mathematics helps strengthen reasoning skills and critical thinking. It helps us think analytically about the world and also reason logically. When we use mathematics, we are able to identify relationships, comprehend pattern and make future predictions. It is the basis of everything, from money, buildings, food production, hospitals and lots more. It helps us carry out a variety of important daily tasks. Aminu (2011), defined mathematics as a method or technique of acquiring knowledge and skills to solve practical problem. Odili as cited in Tali (2002) sees mathematics as a subject that helps students form the habit of clarify brevity, accuracy, precision and certainty in

expression. Mathematics makes a man systematic, it makes our life orderly and prevent chaos.

The science behind mathematics forms a fundamental part of human thought and logic. It is integral to our understanding of the world and us. Mathematics is not just about numerical values, theorems and quadratic equation. It is an effective way of mental discipline, logical reasoning and mental rigor. Mathematics is needed for students to engage in society, especially with an increase in technology and digitalization.

Teaching methods are the broader techniques used to help students achieve learning outcomes, while activities are the different ways of implementing these methods. Teaching methods help students master the content of the course, learn how to apply the content in particular contexts. Studies have shown that some teaching methods affect students' performance, motivation and attitude towards learning. The teaching of mathematics in African schools has been cited as among the worst compared to the Western and Asian countries (Muharam etal, 2010). Verbalizing the mathematical formulas and rules and presenting examples and solutions on the board have resulted in unsatisfactory performance (Jamilu & Umar, 2014)

Concept of ICT

ICT is an abbreviation for Information and Communication Technology. It is a modern way of processing and distributing data using computer hardware, software, telecommunications and digital electronics. Advanced Learners Dictionary defined Information Technology as the study or process of storing, retrieving and sending information of all kinds. ICT consists of the hardware, software, networks and media for the collection, storage, processing, transmission and presentation of information. Chinien (2001), explained that ICT deals with digital data and ways of storing, retrieving and transmitting information. Nigeria started implementing its ICT policy in April 2001, after the Federal Executive Council approved it by establishing the National Information Technology Digital Agency (NITDA). Below are the objectives of ICT as stated by the Nigeria National Policy for Information Technology (IT).

i To ensure that ICT resource are readily available to promote effective national development.
ii To guaranty that the country benefit maximally and contributes meaningfully by providing the global solutions to challenges of the information age.
iii To establish and develop ICT infrastructure and minimize its use nationwide.
iv To empower the youth with ICT skills and prepare them for global competitiveness.
v To integrate ICT into the mainstream of education and training.
vi To create ICT awareness and ensure universal access in promoting ICT diffusion in all sectors of national life.
vii To develop human capital with emphasis on creating and supporting a knowledge-based society.

viii To build a mass pool of ICT literate manpower using the NYSC, NDE and other platforms as a train the trainer scheme for capacity building. (Nigeria National Policy for Information Technology).

The use of ICT is fast gaining prominence and becoming one of the most important elements defining the basic competencies in education system (Apreala, 2013). The use of ICT has facilitated the movement from traditional pedagogical methods of teaching to innovative technological based teaching. ICT facilitates communication, it increases students' access to learning and motivate both teachers and students to learn. It has become an indispensable part of the contemporary world. ICT has impacted greatly on the quality of teaching, learning and research in traditional and distance education institutions. Through the use of ICT, schools communicate with one another, institutions organize internal and external examinations and students communicate with their teachers through E mail, Matching lists, Chat rooms and Short Messages Services (SMS).

Role of ICT in Mathematics Teaching and Learning

From time immemorial education has become a symbol of civilization and development, and providing and acquiring it is one of the characteristics that set human beings apart from other living things. For advanced knowledge people are continually improving their teaching and learning tools and strategies. ICT is an engine of innovation in education (Kaushik 2019). ICT is a tool that supports the learning process and holds the promise of new solutions to all the challenges that education is facing. The use of ICT in teaching and learning helps the learner to focus on reflection, verification, decision making and problem solving. The arrival of ICT has helped people tremendously and secondary school students are not left out. ICT affect teaching and learning in different ways, it helps the teacher in preparing good lecture notes and also facilitates students' understanding. Under the influence of ICT, teaching and learning occurs in a changed situation, it makes the lesson learner-centered. Nwalado & Obro (2014) stated that ICT is becoming increasingly important in our daily lives as well as in educational systems and there is need for educational institutions to introduce ICT in teaching some special skills and knowledge that learners need to achieve their educational goals. The constant evolution of the environment denotes a need for educational system to keep in tune with changes brought by ICT, (Modum 2001). As a result of the rapid spread of technology, expectations regarding the use of technology in the teaching environment has increased, today, the concept of teaching has shifted from classical teaching to teaching supported by modern technology, for instance in our classrooms today, we use whiteboard, projectors etc, all these are product of technology. The importance of ICT in teaching and learning process as stated by Chatterjee (2021) are:

i ICT can bring the existing educational system in alignment with the knowledge-based, information-rich society by providing services of sophisticated tools, technique and methods at its disposal.
ii Use of ICT can bring about a paradigm shift in traditional views and methods of teaching-learning process.
iii ICT prepare teachers to meet challenges of the teaching and learning task of modern age.
iv It helps teachers in proper execution of their multi-dimensional responsibilities in various areas of education.

ICT can be beneficial not only to teachers for their own education and training, but also to use it creatively for accelerating the educational growth of their students. The prospect of ICT is a promising practice in mathematics classroom, but its success depends on several issues like teachers' perception of ICT skills, teachers' attitude towards ICT contribution to mathematics teaching and teachers' perception of ICT contribution to students' achievement in mathematics. Integrating technology into the classroom has become essential to successful teaching and learning. It has rapidly changed and revolutionized the nature, content and scope of instructions at all levels of education.

The main purpose of mathematics teaching is the formation of students' knowledge, creative thinking, scientific attitude and activity, development of independent learning skills, targeted, systematic use of special pedagogical methods. For all these to be achieved, there is need for integration of ICT into mathematics teaching and learning. ICT provides great support in a mathematics classroom, it give educators the chance to take advantage of the notion that it can help students in visualizing mathematical ideas and concepts. The method used by the teacher is an important and essential factor as far as mathematics teaching is concerned. Teacher-centered teaching method that do not give room for students' involvement have been identified as a major cause of students' learning difficulties in mathematics. Integrating ICT into mathematics classroom has become essential for a successful teaching and learning.

There are many ways in which ICT can be used in mathematics teaching and learning, these include, the use of calculators to solve problem, use of search engine (Google), presentation packages (power points), drill and practice software, spreadsheet (MS Excel), databases and online interaction resources. With the introduction of ICT, doing simple mathematical calculations on computer will be easier and interesting. Integrating ICT in mathematics classroom facilitates inclusion of all the students in the learning of mathematical concepts as technology presents the information in a variety of ways according to the size of audience and the special needs of particular individuals.

The use of ICT provides teachers with opportunities to capitalize on the idea that it can help students visualize mathematical ideas and concepts. It provides both the teacher and student with the resources to help them concentrate on the learning objectives within the national curriculum and not getting bogged down with other issues. With the availability of technological instrument, teachers of mathematics will have an

ample opportunity at their disposal using ICT in the classroom teaching (Jamilu& Umar, 2014). ICT can make the school more efficient and productive, thereby engendering a variety of tools to facilitate teachers' professional activities. The use of ICT tools in the classroom plays a significant role. Technology is not only inclusive in that it can present information in a variety of ways, but also makes creating your own attractive, stimulating resources in relatively straight forward task. Das (2019), believe that using technology in mathematics classes with appropriate pedagogy will improve students' academic performance, he is of the opinion that deep conceptual learning can become a reality when mathematics is viewed as problem-solving and thoughtfully combined with technology.

When ICT's are used properly to complement a teacher's existing pedagogical philosophies, it provides knowledge based system that includes knowledge acquisition, knowledge incubation, knowledge strengthening and knowledge spreading. ICT is a key resource which permeates teaching, learning, research and publishing. Integration of ICT into mathematics teaching will increase students' motivation and performance, arouse students' interest and also facilitate positive interaction and motivation.

Review of Related Literature on Impact of ICT on Mathematics Teaching

Adewoye, Salau & Salau (2021), carried out a research on the impact of ICT on teaching and learning, the research was carried out in three universities in the southwest, questionnaire were shared to three hundred respondent out of which two hundred and thirty four were returned, the study revealed a positive relationship between ICT and teaching and learning in Nigerian universities, the researchers also found out that ICT offers a great opportunity for teaching and learning to solve teaching and learning problems.

Egenti and Obumse (2021), in a study that was carried out in Anambra state on the topic Basic information and communication technology (ICT) competencies required for occupational efficiency of guidance and counseling lecturers in tertiary institutions in southeast found out that the acquisition and the possession of the identified basic ICT competencies by lecturer will greatly improve their occupational efficiency. Chong, Sharaf & Jacob (2005), studied the use of ICT in mathematics teaching in Malaysia and found out that the use of ICT in teaching mathematics can make the teaching process more effective as well as enhance the students' capabilities in understanding basic concepts. Kaushik (2019), in his work titled 'Role of ICT for Better Mathematics Teaching' concluded that ICT integration in mathematics education has positive impact on both the teaching and learning process.

Farida, Assel, Gulzhan and Mynzhassarova (2021), evaluated teachers view on the use of learning technologies in mathematics lesson in preprimary and primary schools in Kazakhstan and found out that the rate of teachers that prefer classical methods in education is much higher than those that prefer the new methods and techniques. Areye (2022), in a research work that was carried out in Niger Delta on teachers' perspective of the drivers and constraints of ICT integration into mathematics

education, found out that ICT is hardly used in the Niger Delta due to some constraints and that the teachers indicated high knowledge about the usefulness of ICT but only used ICT for sourcing lesson materials.

This paper therefore seeks to investigate teachers' perspective on the use of ICT in mathematics teaching in Katsina State. The research work seeks to answer the following questions:

i Will the use of ICT improve students' performance in mathematics?

ii Will the use of ICT make mathematics lesson learners-centered?

Methodology

This is a survey research. The target population consists of all the secondary school teachers in Katsina State. 50 teachers were randomly selected for the purpose of this research work. A four Likert scale, ten item questionnaire was designed by the researcher to gather the information needed for the study. The instrument was validated by two mathematics experts and the reliability coefficient was 0.80. The questionnaire were in two parts, A and B. Part A contained the respondents' personal information and part B contained the ten questions to be answered by the respondent.

Table 1.0 Perception of Secondary school teachers on the integration of ICT into mathematics teaching

S/No	Item	SA	A	D	SD
1	The use of ICT will increase students' understanding of mathematics	25 (50%)	10 (20%)	10 (20%)	5 (10%)
2	The use of ICT will reduce the time of explaining mathematics concept to student	18 (36%)	10 (20%)	12 (24%)	10 (20%)
3	Students performance in test and examination will improve when ICT is used	25 (50%)	10 (20%)	10 (20%)	5 (10%)
4	Difficult task will be made simple with the use of ICT	20 (40%)	10 (20%)	5 (10%)	15 (30%)
5	Mathematics classroom will not be boring when ICT is used	20 (40%)	9 (18%)	9 (18%)	12 (24%)
6	Mathematics classroom will be more interesting when ICT is used	35 (70%)	5 (10%)	5 (10%)	5 (10%)
7	The use of ICT can help to change students' attitude towards mathematics learning	39 (78%)	10 (20%)	1 (2%)	0 (0%)
8	The use of ICT will make the lesson learners centered	30 (60%)	10 (20%)	4 (8%)	6 (12%)

9	Students taught using ICT will be independent	29 (58%)	10 (20%)	7 (14%)	4 (8%)
10	I prefer using ICT to teach mathematics	18 (36%)	14 (28%)	10 (20%)	8 (16%)

From the table above70% of the respondent agreed that the use of ICT will increase students' understanding of mathematics, while 30% disagreed. 56% of the respondent agreed that the time of explaining mathematics concept will be reduced with the use of ICT, while 44% disagreed. 70% of the respondent agreed that the use of ICT can improve students' performance in test and examination, while 30% disagreed. 60% of the respondent agreed that the use of ICT can simplify difficult task in mathematics, while 40% disagreed. 58% of the respondent agreed that mathematics classroom will not be boring when the teacher uses ICT, while 42% disagreed. 80% of the respondent agreed that the use of ICT will make mathematics classroom more interesting, while 20% disagreed. 98% of the respondent agreed that the use of ICT can change students' attitude towards the learning of mathematics, while 2% disagreed. 80% of the respondent agreed that the use of ICT can make mathematics lesson learners centered, while 20% disagreed. 78% of the respondent agreed that students taught using ICT will be independent, while 22% disagreed. 64% of the respondent preferred to use ICT in a mathematics class, while 36% are of contrary opinion.

Discussion of Result

This study was designed to investigate the perception of secondary school teachers on the integration of ICT in the teaching and learning of mathematics. The responses from items 1, 2, 3 and 4 shows that 70%, 56%, 70% & 60% were of the opinion that the use of ICT will increase students', it will reduce the time spent by the teacher in explaining mathematics concepts, use of ICT will increase students' performance in test and examination and also difficult task will be made simple when ICT is used to teach mathematics performance in mathematics, this answered the first research question on 'if the use of ICT can improve students' performance in mathematics. The responses from items 5, 6, 7, 8, 9 and 10 shows that 58%, 80%, 98%, 80% and 78% of the respondent were of the opinion that mathematics classroom will not be boring when ICT is used, the use of ICT will make the classroom more interesting, it can positively change students' attitude, it will make the lesson learners-centered and make the students independent, this answered the second research question on if the use of ICT can make the class learners-centered. The findings from this study revealed that the respondent have positive responses towards the use of ICT in mathematics teaching and learning. This is in line with the work of Areye (2022) and Chong, Sharaff and Jacob (2005).

Conclusion and Recommendations

Based on the findings of this study, it is concluded that the introduction of ICT in mathematics teaching and learning in secondary schools will make the subject learners centered, increases students understanding of mathematical concept and also improve students' performance. The study hereby makes the following recommendations.

i Secondary school students should be introduced to the use of some learning technologies to solve mathematical problems.

ii Secondary school teachers should be trained on how to integrate ICT into mathematics lessons.

iii Mathematics laboratories in secondary schools should be equipped with computer system and internet facilities should be provided for both the student and teachers.

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EFFECT OF ENABLING ENVIRONMENT ON SMALL AND MEDIUM ENTERPRISES (SMES) GROWTH FOR SUSTAINABLE NATIONAL DEVELOPMENT

By

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Abstract
The study examined the relationship between investment climate and SME growth for sustainable national development. A descriptive survey with a population of 120 SMEs was chosen as the research design for the study, and a sample size of 120 SMEs was maintained using the census sampling technique. The researcher's created and purposefully distributed questionnaire was used to gather the primary data. The Statistical Package for Social Sciences is used in the study to do regression analysis to test the hypotheses (SPSS). The study discovered a strong positive association between the expansion of SME's and the investment climate, specifically power availability and information and communication technology (ICT). By enhancing the operations of Small and Medium Businesses (SMEs) through higher productivity, this beneficial relationship influences SME growth. The productivity of SMEs is increased by a favorable investment climate. The study recommends that; the national policy on ICT should be strengthened to increase accessibility of ICT facilities by enterprises and government should carry out major power sector reform to address post privatization issues.
Keywords: *Investment Climate, Power Supply, ICT, SMEs Growth.*

Introduction

The Small and Medium Businesses (SMEs) sector is widely recognized as a significant driver of economic growth and development. This industry generates the majority of new products and processes, offers the majority of employment possibilities, and is a significant predictor of an economy's overall performance (Asaju, 2016). Globally, SME growth can be achieved in one of two ways: by increasing the top line revenue base of the company, primarily through increased market sales or income from the provision of services, also known as service income; or by improving the company's capacity to increase profitability through the reduction of product costs and other costs closely related to those costs. When a business sells more products, generate more revenue and cuts cost, then it is considered to be growing (Asaju, 2016).

A suitable enabling environment ensures the achievement of organizational goals while establishing the rights and resources of all stakeholders (individuals as well as public and private sector organizations and corporations, women as well as men, the impoverished as well as the better off). Policies, legislative frameworks, and financing

and investment structures can all be used to establish these aims (Samuel, 2017). The term "investment climate," when used broadly, refers to a nation's distinctive characteristics, or "geography" (climate, natural resource endowments, proximity to significant markets, etc.), as well as the condition of its infrastructure, institutions, economic and social policies, and governance stability (Clewett, 2015). For instance, Clewett (2015) states that "the present and prospective governmental, institutional, and behavioral environment determines the returns and risks associated with investing." This definition, in its condensed form, can be further explained to include both economic incentives, which are influenced by macroeconomic and regulatory policies and public administrative procedures, as well as incentives embodied in institutional arrangements like security of property rights, rule of law, and stability of governance (Okwelle & Wordu, 2016).

The absence of a supportive environment has a negative impact on a country's economy and, as a result, its ability to expand economically, which finally results in underdevelopment. For instance, in the late 20th and early 21st centuries, China's investment climate factor reforms through private sector driven initiatives coupled with government economic policies vigorously formulated and implemented with strict supervision made China today as one of the biggest economies with more than 80% (percent) workforce employed by the private sector. In the 19thand early 20th centuries, China was experiencing a pronounced slowdown in her economic activities.

Statement of the Problems

The absence of a friendly business enabling environment negatively affects the economy and subsequently economic growth of a nation that eventually leads to underdevelopment. For example, China was facing a pronounced slowdown in her economic activities in the 19th and early 20th century due to poor investment climate factors, however, in the late 20th and the 21st century her investment climate factor reforms through privates sector driven initiatives coupled with government economic policies vigorously formulated and implemented with strict supervision made China today as one of the biggest economy with more than 80% (percent) workforce employed by the private sector. Available evidence show that over the past years, millions of naira has been invested in improving power supply and reforming ICT in Nigeria targeted towards private sector development and investment climate reforms, often with a focus on Small and Medium Enterprises (SME) development.

However, the SME sector remains majorly challenged, hence the researchers were therefore motivated to carry out a study on the topic “investment climate and SME growth for sustainable national development”.

Objectives

1. To look at the relationship between power supply and SME growth for sustainable national development.

2. To establish the relationship between ICT and SME growth for sustainable national development.

Research Questions

1. What is the relationship between power supply and SME growth for sustainable national development?
2. To establish the relationship between ICT and SME growth for sustainable national development?

Hypothesis

Ho1: There is no significant relationship between power supply and SME growth for sustainable national development.

Ho2: There is no significant relationship between ICT and SME growth for sustainable national development.

Literature Review

The phrase "enabling environment" has no fixed definition. The definition of an enabling environment given by Hampel-Milagrosa et al. (2015) is "a country's business regulations and legal/regulatory framework to public infrastructure, national and private banks and government institutions, and support for the interrelationship and dialogue between public entities and firms, markets and entrepreneurs." According to Bowen (2012), who concurs with Hampel-Milagrosa et al. and accepts the aforementioned description, the enabling environment also "includes infrastructure, education, and health, as well as a broad concept of good governance and rule of law." The phrase is now also used to describe the worldwide framework for private sector growth, which includes the macroeconomic environment and international trade and investment regimes (ODA, 2018). The conditions required for local businesses and entrepreneurs to operate as well as the conditions that permit foreign commerce and private investment into a country are referred to as the enabling environment for the private sector, according to Lyons (2014). From the aforementioned definitions, it is clear that the enabling environment, also known as investment climate, has two main levels: the first (policy/institutional level) is delivered at the systemic or market level and involves direct enterprise support, and the second (market functioning level) is provided at the firm level. This distinction is important given the different nature of these two approaches to private sector development support, including the different types of actors likely to be involved in delivering them. In addition, the definitions seek to capture the diverse challenges that developing countries face in relation to the more systemic and market-level aspects of private sector development.

The concept of enabling environment which is also referred to as “Investment Climate has two key dimensions; the policy or regulatory framework and market functioning of firm performance. The policy or regulatory framework deals with the

business environment"(it spans international, national and sector/or industry level policies and institutions, including trade agreements and trade policy as well as domestic industrial policy reform), while the firm performance or market functioning level include areas key for the private sector to develop and operate. For example those aimed at facilitating production and distribution of goods and services, addressing market failures and imperfections and integrating all actors into markets, including small and medium-sized enterprises (SMEs). These ones are very common with developing countries and include, among others; Infrastructure - comprising physical infrastructure interventions directly related to private sector operations, such as building roads to facilitate market access and strengthening supply chains; access to finance this include support to financial intermediaries, both formal and informal, such as support to expand access to financial services for micro, small and medium-sized enterprises (MSMEs) in rural areas and Labour force - comprising social infrastructure interventions directly related to private sector development, such as vocational training or managerial and technical capacity building aimed at increasing the skills and employability of the local labour force and the health care services for the labour force.

Providing the right enabling environment is critical for private sector growth and development and enhances the capacity of the private sector to generate employment. On a general level, Bowen (2012) identify nine features that are associated with sustainable, private sector-led growth and are present in dynamic and fast-growing economies: natural capital, infrastructure, human capital, macroeconomic stability, institutional and regulatory framework, access to markets, access to capital, competitive markets and firm performance. There has been a change over time in the accepted characteristics of an enabling environment.

Concept of Power supply

Infrastructure is conceptually perceived by Social Scientists from two interrelated dimensions. These are the social and economic dimensions; the economic infrastructural sub sector embraces a group of hard-core economic activities which are related to the provision of transportation, energy and power etc. (Ayodele & Falokun, 2013). Power is indeed a strategic sector. It represents the most important infrastructure requirement for moving the SMEs sector forward. Against the backdrop of the epileptic power supply and the desire of the companies to remain in the business, some manufacturing companies have devised other alternative sources of power generation. In the recent times quite a number of multinational companies operating in Nigeria generate own power through Independent Power Project (IPP) (Udeajah, 2016). Goods produced in Nigeria are uncompetitive because of the high cost of production which is caused by interrupted supply of electricity. The main thrust has been on the cost of spare parts for maintenance of generators and the rising cost of AGO (Diesel). Energy plays an important role in economic growth as production should be seen as a function of capital, labour and energy (Stern, 2010). Traditionally it is only seen as a function of capital and labour. However, energy is required to power industrial processes and to produce goods,

equipment and services in the majority of productive sectors within an economy. The provision of energy is also strongly associated with improved human development (Bergasse, 2013).

One of the pre-requisites of increased SMEs performance is abundance of energy i.e. electricity which is mainly utilized for driving machines for the production of various items. The private sector stakeholders have always emphasized in their public policy advocacy, the need for improvement in infrastructure, particularly, electricity which is the primary energy required for production. Power is a strategic sector, which represents the most important infrastructure requirement for driving the SMEs sector. A quick review show that, Libya with a population of only 5.5 million has generating capacity of 4,600 megawatts, approximately the same as Nigeria which has a population of about 180 million (Lohor and Ezeigbo 2016; Oloja and Oretade 2016). South Africa with a population of only 60million has a generating capacity of 45,000 megawatts, almost eleven times the generation capacity in Nigeria which has over three times the population of South Africa (Agbo, 2017).

Power outages appear to be a more serious problem in Nigeria than in other countries, resulting in higher losses, and a larger proportion of firms with generators, and ultimately higher costs for electricity and fuel. The average firm in Nigeria is reported to incur losses due to power outages to about 17 percent of sales higher as compared to other countries. Only Ghana comes close, with losses equal to 15 percent of sales. Firms in China and Russia report losses of less than 0.5 percent due to power outages (World Bank, 2016). The alternative way that firms respond to frequent outages is to buy generators. Although generators reduce losses due to outages, they are expensive to purchase and operate, and therefore are an imperfect substitute for reliable infrastructure. Most of Nigerian firms use generators, as compared to other countries like Russia and China, or South Africa. The World Bank report (2016) on investment climate survey in Nigeria rank low power distribution in Nigeria as the main challenge to firms performance in the country when compared to other investment climate indicators like corruption, access to finance, transportation etc. Generally, Nigeria's power system is so inadequate that it has held back economic progress and social wellbeing.

Information Communication and Technology (ICT)

Globalization and technological change processes that have accelerated in tandem over the past years have created a new global economy that is powered by technology, fueled by information and driven by knowledge. The emergence of this new global economy has serious implications for the nature and purpose of modern business. The use of computers and technology today has become fundamental to the operation of organizations and society (Okwelle & Ayonmike, 2014). Today, information is carried at phenomenal speeds within and across various communication networks known as information and communication technology networks (ICT). ICT permeates many different industries and is responsible for the growth of production and revenue (Okwelle & Ayonmike, 2014). It is now a fact as evidenced by developments from other

countries that ICT as a sector can contribute immensely to the national GDP of a nation and that ICT, acting as an enabler, can result in improved market competitiveness of a nation's products and services. ICTs can impact positively on governance and other sectors of the economy. In turn ICT can effectively assist international economic integration, improve living standards, narrow the digital divide, and improve biodiversity utilisation and management (Okwelle & Ayonmike, 2014).

Information and Communication Technology (ICT) can therefore be regarded as any equipment or interconnected system or sub-system of equipment, which is used for automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission or reception of data or information. It is one of the forces that are responsible for changes in nations. It is also one of the great trends of the tail end of the last century. It is changing everything and will continue to change things in the present century. Furthermore, ICT enables improved business process efficiency and productivity. ICT can reduce operational costs by decreasing materials, procurement and transaction cost, resulting in lower prices for intermediate and finished goods, and they can also use more and better information to improve the value of their outputs (Shimer, 2012).

Concept of SME Growth

SME growth can be defined as the process of improving on the capacity and ability of a firm to succeed (Shimer, 2012). It can be realized by either boosting the top line revenue base of the business essentially with greater market sales or income from offer of services also known as service income. It can also be the ability of the firm to increase in profitability through minimization of product costs and others so associated therein. When a business sells more products, generate more revenue and cuts cost, then it is considered to be growing. The firm usually strategizes to achieve this since it cannot be realized by happenstance. The strategy so adopted must be aimed at winning larger market share, even at the expense of short term earnings. There are basically four strategies usually adopted; market development, market penetration, product development and business diversification (Altenburg & Von, 2016). When a firm is growing, it ensures the survival of the firm. Business survival therefore is the ability to manage and stay in business (Altenburg & Eckhardt, 2016). In other words, it is the act of continuing with day to day business activity without necessarily been overwhelmed by interruptions. Normally, a business undergoes several challenges which may include; intense competition; recession in the general economy; natural factors or even hostile government policy (Altenburg & Von, 2016). In business just like any aspect of life, you must use good times to plan for the bad day in order to stay in business. Business survival has direct correlation with the aims and objectives of setting up the business, including the expansion plan and business growth. Business survival entails not only managing to stay in business but stay and achieve the objectives of setting up the business and its plan (Adom, 2017).

Empirical Review

Page and Soderdom (2015) carried out a study on enabling environment adaptation in developing countries and semi-arid regions. The aim of the study was to address the gap in the adaptation literature by reviewing the key factors required to provide investment climate for the private sector, with a focus on adaptation by small and medium enterprises (SMEs) in the Semi-Arid Regions (SARs) of Kenya and Senegal. They focused on SMEs as they form a critical part of the economy including employment generation in the SARs of developing countries and are highly vulnerable to climate change. The study drew insights from a much larger, yet generally separate, literature on enabling environments for private sector development. The findings disaggregates the private sector and highlights key constraints to the development and growth of African SMEs, including deficient infrastructure and evidence of an African gap in access to and use of finance by SMEs. It combined both areas of scholarship to develop an assessment framework to better understand the key elements of an enabling environment for private sector adaptation and apply it to Senegal and Kenya to reveal where improvements are required to create conditions conducive to private sector and SME adaptation. This framework reveals that both Senegal and Kenya have taken action to provide an enabling environment for private sector and SME development and to strengthen the competitiveness of the private sector.

Milagrosa, Loewe and Reeg (2015) carried out a research using time series, autoregressive distributed lags (ARDL)-bound test approach and error correction model (ECM), the aim of the study was to analyze how private capital and enabling environment contribute to economic growth and employment in African countries: Cameroon, Côte d'Ivoire, Tunisia, South Africa and Zambia. The findings of the study show that in short-run there is a significant relationship between private capital, economic freedom, employment and economic growth in Cameroon, in Côte d' Ivoire, in South Africa and in Zambia. In long run, the study, established that a long term relationship exists between the variables. This implies that there is a long run co-integration relationship among the variables in some equations in Cameroon, Côte d'Ivoire, South Africa and Zambia. Employing the appropriate order of the ARDL specification and multidimensional economic freedom proxies to examine this linkage, the results obtained are not all significant.

Theoretical Framework

The study is anchored on the theory of neoclassical approach. Proponents of the neoclassical approach to the business-enabling environment assume that most factor markets work reasonably well without government intervention if property rights and competition are guaranteed. Such interventions are in most cases considered less efficient than market-based solutions, and it is stressed that many government interventions in fact hamper private sector development. Measures to improve the business-enabling environment consequently focus on deregulation and the good functioning of markets, with only a limited role assigned to the public sector in a few

areas where market failure is most obvious. Within the neoclassical approach a distinction could be drawn between "regulatory business environment" and the "investment climate. Proponents of this approach do not take characteristics and motives of the entrepreneur into account. Instead, the distinguishing attribute of informal firms is non-registration. It is assumed that the informal economy is comprised of enterprises that operate informally because the costs, time and effort of formal registration are too high (Palmade & Anayiotos, 2015).

The regulatory business environment covers regulations that immediately affect businesses through the costs of compliance. These are composed of direct costs, such as license fees, and indirect costs resulting from, often unnecessary, transactions. The latter include transaction costs arising from the time that has to be spent in obtaining a incense as well as increasing costs stemming from inappropriate government regulations that make contract enforcement or the hiring and firing of workers unnecessarily complicated and costly. The costs of the regulatory business environment are most prominently analysed in the Doing Business series published by World Bank/IFC on an annual basis since 2004. The 2017 edition (World Bank/IFC, 2017) measures the costs and time associated with complying with 10 types of regulations: starting a business, employing workers, getting credit, enforcing contracts, closing a business, registering property, dealing with licences, protecting investors, paying taxes, and trading across borders.

Methodology

The research design adopted for the study is descriptive survey with a population of 120 SMEs and a sample size of 120 SMEs within Zaria Metropolis was retained through census sampling technique and the primary data was collected via the researchers designed questionnaire. The study uses regression analysis to test the hypotheses with the aid of Statistical Package for Social Sciences (SPSS). Content and face validity test were employed. The variables used for the study are; investment climate (power supply and information and communication technology) as an independent variable and SMEs growth as a dependent variable. The specification of the model used the following functional relationship; SG = f (PS, ICT) explicitly, the relationship can be established as follows: $SG = \beta 0+\beta 1PS + \beta 2ICT2 +Ue$

Where; SG = SME growth; PS = power supply, ICT = Information Communication and Technology, $\beta 0$ = Parameter constant and Ue = Error Term

Apriori Expectation

$\beta 1>0$, $\beta 2>0$

Result and Discussion

Table 1: Pearson Correlation

		SME growth	Power Supply	ICT
Pearson Correlation	SME growth	1.000	.880	.914
	Power Supply	.914	.752	1.000
	ICT	.880	1.000	.752
	SME Growth		.000	.000
	Power Supply	.000	.002	
Sig. (1-tailed)	ICT	.000		.002
	SME Growth	85	85	85
	Power Supply	85	85	85
N	ICT	85	85	85

As shown by the correlation coefficient above, a positive relationship exists between power supply and SME growth with a high correlation coefficient of 91.4%. Also there is a positive relationship between SME growth and ICT.

Table 2: Correlation Coefficients

Model	**Unstandardized coefficients**		**Standardized Coefficients**	**T**	**Sig.**
	B	**Std. error**	**Beta**		
Constant	2.166	2.604		4.149	.003
Power Supply	.849	.282	.713	5.802	.000
ICT	.152	.009	.609	4,742	.001

Dependent Variable: SME Growth

Recall Equation Model in Methodology above.

SG = 2.166 + 0.713 Power supply + 0.609 ICT

S (ai): [0.282] [0.009]

As shown by the result of the regression analysis above, a positive relationship exists between Power supply and SME growth and the relationship is statistically significant ($p<0.05$). This means that a unit increase in power supply will lead to a 71.3% increase in SME growth.

Finally the regression analysis reveals that a positive relationship exists between ICT and SME growth and the relationship is statistically significant ($p<0.05$). This indicates that a unit increase in ICT access will result in a 60.9% increase in SME growth. The hypotheses tested reviewed that; Using the standard error test, *S* (a1) < ½ a1 above, 0.282 < 0.3565. Thus, we reject the null hypothesis. That is, we accept that the estimate a1 is statistically significant at the 5% level of significance. This implies that power supply has significant effect SME growth for sustainable national development and also using the standard error test, *S* (a3) < ½ a3 above, 0.009 < 0.3045. Thus, we

reject the null hypothesis. That is, we accept that the estimate a 3 is statistically significant at the 5% level of significance. This implies that there is significant effect of ICT on SME growth for sustainable national development.

Discussion of Findings

Research hypothesis one show by the correlation coefficient above, a positive relationship exists between power supply and SME growth with a high correlation coefficient of 91.4%. Also there is a positive relationship between SME growth and ICT, this findings agreed with the study of Clewett (2015) states that "the present and prospective governmental, institutional, and behavioral environment determines the returns and risks associated with investing. So also, Bowen (2012), who concurs with Hampel-Milagrosa et al, accepts the aforementioned description, the enabling environment also "includes infrastructure, education, and health, as well as a broad concept of good governance and rule of law."

Research hypothesis two as shown by the result of the regression analysis above, a positive relationship exists between Power supply and SME growth and the relationship is statistically significant ($p<0.05$). This means that a unit increase in power supply will lead to a 71.3% increase in SME growth. The result above is in correlation with Okwelle & Ayonmike, (2014) who posits that the use of computers and technology today has become fundamental to the operation of organizations and society and therefore today, information is carried at phenomenal speeds within and across various communication networks known as information and communication technology networks (ICT). ICT permeates many different industries and is responsible for the growth of production and revenue so therefore the use of ICT can help the SMEs grow and as at now ICT has being described as an engine room for small and medium enterprises in Nigeria.

Conclusion

The study came to the conclusion that:

a. There is a statistically significant association between power supply and SME growth based on factual facts. Certain company goals are greatly impacted by power supply and ICT, and this has a broad impact on the expansion of SMEs.
b. ICT and power supplies have a direct, considerable impact on business productivity, which can spur SME growth.

Recommendations

The paper recommends that:

- The issue of Power cannot be left as a sole duties for federal government state government together with local government in Nigeria should emulate Lagos state government that generate electricity through the independent power project (IPP) to generate and ensure stable supply of electricity to SMEs in order to

enhance national economy and government should adequately control the electricity sector following its privatization.

- Also, there is need PHCN to through intentional enlightenment campaigns make people should aware of their power supply surroundings.

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EFFECT OF MULTIMEDIA INSTRUCTIONAL STRATEGY ON SECONDARY SCHOOL STUDENTS' ACHIEVEMENT IN BIOLOGY IN OHIMI LOCAL GOVERNMENT AREA OF BENUE STATE

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Abstract

This study was carried out to investigate the effect of multimedia instructional strategy on senior secondary one students' achievement in biology in Ohimini Local Government Area in Benue State, Nigeria. Two research questions were raised and two hypotheses were formulated .The study adopted quasi-experimental research design of non-randomized pre-test, post-test control group type. The population of the study was 11,520 while a sample of 166 senior secondary one Biology students was drawn from two schools using multistage sampling technique. The sample was 83 males and 83 females. The research instruments Biology Achievement Test (BAT) was used for data collection. Kuder- Richardson 21 formula was used to determine the reliability coefficient of BAT which was 0.85. The research questions were answered using mean and standard deviation while hypotheses were tested at 0.05 level of significance using ANCOVA. The findings of the study revealed that there was a significant difference between the mean achievement scores of students taught biology using multimedia instructional strategy (MIS) and students taught using traditional teaching method. There is no statistical significant difference in the mean score of male and female students taught biology using Multimedia instructional Strategy and those taught using Traditional teaching method. The study recommends that multi-media instructional strategy should be implemented in the teaching of Biology in secondary schools.

Introduction

Biology is an important aspect in the study of science as it deals with the study of life and living organisms in relation to their environments (Satyaprakashai & Yaspal, 2014). It entails the study of the structure, function, growth, origin, evolution, distribution, and taxonomy of living things, as well as provides basic knowledge to an individual about the human body and that of other living organisms in the environment (FME, 2012).

In spite of the importance of Biology for career development of Nigerian students, the achievement of students in biology at senior secondary school level has been consistently poor over the years as reported by WAEC chief examiner, from 2011-

2016. Achievement is a measure of success exhibited by the Senior Secondary one students' in terms of the scores obtained on the test given to them in order to ascertain how much of the knowledge is learned at the end of an instruction.

Achievement implies attaining a set goal. When something is accomplished, then a goal is achieved. In this study the accomplishment is the students obtaining credit passes in biology. Achievement has to do with the entire sacrifices one undergo in order to attain success or accomplish a given task successfully (Abakpa, 2011)). Achievement is the function of urge to succeed, a desire to arrive as it is the starting point of life journey to relevance in the society (Abakpa, 2011). For this to occur, several factors may be responsible which include: students' attitude, teachers" attitude, gender, unavailability of instructional media, lack of instructional media in some schools etc. (Anyor in Akinsola,2014).

The teaching and learning of all science subjects in general and Biology in particular require a lot of multi-media instruction. In this 21st century, a motivating and captivating approach should be encouraged to help students better learn, understand, retain biology concepts and promote their future involvement. One of the promising approaches, according to Adegoke (2010) involves multimedia presentations supported in visual and verbal formats supplemented with pictures, animations, texts, and narration. Multimedia instructional strategy refers to the system used to present instruction, such as a book-based medium, video-based medium or a computer-based medium.

Statement of the Problem

Biology is very important, not only as a pre-requisite science subject but also for national development; this is because it serves as a spring board for many careers in science and technology. Biology has application nearly in every field of life. In spite of the importance of biology for national development, the persistent poor achievement of students in biology in Nigeria at the Senior Secondary school level in the past ten years has been a matter of serious concern to Educationists and other stakeholders. The WAEC Chief Examiner's annual report shows that the failure indices are on the increase. The percentage of students that passed biology at the Senior secondary School Certificate Examination (SSCE) conducted by the West African Examination Council (WAEC) at credit level in the past ten years was consistently less than 50% in Nigeria (A1-C6 =49.65% in 2010, 38.50% in 201 I, 35.66% in 2012 and 40.39% in 2013, 55.07% in 2014, 53.15% in 2015 and 74.71% in 2016. Appendix P).This may be that students are having difficulty in understanding and assimilating the Biological concepts taught theoretically without the use of multimedia instruction. Findings also shown that female students' achievement in biology is low compared to their male student counterparts (Adeleke in Sanchez 2010). It is not clear if lack of utilization of multi-media instruction by biology teachers is the contributing factor for this development. This necessitates the present study to determine the effects of Multimedia instructional strategy on achievement in biology in Senior Secondary Schools, Ohimi Local

Government of Benue State. The problem now is; would achievement of more students improve when taught biology using multimedia instructional strategy?

Purpose of the Study

The purpose of this study is to investigate the effect of multimedia instructional strategy on secondary school students' achievement in Biology in Ohimi Local Government area of Benue state, Nigeria

Research Questions

The following research questions were raised and answered.

1. What is the mean academic achievement score of students taught Biology using multimedia instructional strategy (MIS) and their counterpart taught biology using traditional method?
2. What are the mean academic achievement scores of male and female students taught biology using MIS?

Statement of Hypotheses

The following hypotheses are formulated for the study and tested at 0.05 alpha level.

1. There is no significant difference in the mean achievement score of students taught biology using Multimedia instructional strategy and those taught without multimedia instruction strategy.
2. There is no significant difference in the mean achievement scores of female and male students taught Biology using Multimedia instruction strategy.

Significance of the Study

The findings of this study will be of immense benefit to the following stakeholders of Biology education in Nigeria. The students, teachers, parents, educational administrators, curriculum planners and future researchers could benefit from this study.

Scope of the Study

The study is aimed at integrating multimedia into teaching and learning of biology in Nigerian senior secondary schools.

Methodology

The design for the study is quasi-experimental design. Specifically the study applied pre-test, post-test non-randomized control group design. The area of the study is Ohimini Local Government area of Benue state. The population of the study is 11, 520 SSI Students in public schools in Ohimini Local Government of Benue state (Benue state teaching Service Board, 2017 TSB). The sample size of this study is 166 SS 1

students. It is the combination of different sampling techniques at each level of the study. Purposive sampling techniques were used to select the schools that were involved in the study while simple random sampling was used to draw the students from each of the selected school. Biology Achievement Test (BAT) was used for the study. The BAT was remodelled from WAEC past questions on the topics that are related to the content covered in the lesson plans. The BAT was validated by three experts, one from Test and Measurement in Department Educational Foundations and General Studies, and one from the department of Science Education, University of Agriculture, Makurdi Benue State and one from GAAT International School. The corrected instruments from the validates were used by the researcher for trial-testing in a secondary school in Otukpo Local Government of Benue State, which will not participate in the study, 30 SS1 students were used for the trial-testing. This is to enable the researcher determine the internal consistency of the instruments. . The Kuder Richardson Kr 20 formula was used to analyse the results collected from the BAT which yielded the coefficient of 0.85. Treatment and control groups were used for the experiment. At the end of the treatment session BAT was administered to the students as post-test. The analysis was based on two research questions and hypotheses. The two research questions are to be answered using mean and standard deviation. The hypotheses were tested at0.05 level of significance using Analysis of Covariance (ANCOVA). The decision rule for rejection or otherwise of the hypothesis was based on the p-value and alpha value. Hypothesis of no significant difference will not be rejected for any hypothesis whose p-value is greater than alpha value of 0.05($p > 0.05$) while any hypothesis whose p-value is less than or equal to alpha value of 0.05($p < 0.05$) will be rejected.

Results

Answer to Research Questions

Research questions 1: What is the mean academic achievement score of the students taught Biology using multimedia instructional strategy (MI) and their counterpart taught biology with Conventional method? The answer to this research question is presented in the table below.

Table 1: Mean Achievement Score of Students taught Biology with Multi-media Instructional Strategy and those taught using Traditional Teaching Method

Group	**N**	**Pre-BAT**		**Post-BAT**		**Mean**
		Mean	**SD**	**Mean**	**SD**	**Gain**
Multi-media instruction	84	9.77	5.84	20.63	5.52	**10.86**
Traditional teaching method	82	7.59	2.92	12.65	3.27	**5.06**
Mean Difference		2.18		7.98		
Total	**166**					

In Table 1: The result shows the mean achievement scores of student taught Biology with Multi-media and those taught with traditional teaching method. The result shows that in the pre-test, the student taught Biology using Multi-media instructional strategy had a mean of 9.77, while those taught using traditional teaching method had a pre-test mean of 7.59, the mean difference in the pre-test score is 2.18 while the post test result show that students who are taught with multi-media had a mean of 20.63 and student who are taught with traditional teaching method had a mean of 12.65 with a mean difference of 7.98. The mean gain of the multi-media teaching method from the pre-test and post-test is 10.86, while the mean gain of the traditional teaching method from the pre-test and post-test is 5.06.

Research question 2: What is the mean academic achievement scores of male and female students taught biology using MIS?

Table 2: Mean achievement Score of Male and Female Students taught Biology using Multi-media Instructional Strategy and those taught using Traditional Teaching Method.

Group	**N**	**Pre-Test**		**Retention test**		**Mean Gain**
		Mean	**SD**	**Mean**	**SD**	
MALE	46	10.45	3.82	13.58	8.48	3.13
FEMALE	39	9.70	4.15	13.03	8.09	3.33
Mean Difference		0.75		0.55		0.2
Total	**85**					

The result in table 2 shows the mean achievement scores of male and female students taught Biology using Multi-media Instructional strategy. The result shows the pre-test and post-test of male student taught Biology with Multi-media instruction had a mean of 10.45, while those taught with traditional teaching method had a pre-test mean of 9.70, the mean difference in the pre-test score is 0.75 while the post test result show that student who are taught with multi-media had a mean of 13.58 and student who are taught with traditional teaching method had a mean of 13.03 with a mean difference of 0.2.

Test of Hypotheses

There is no significant difference in the mean achievement score of students taught biology using Multimedia instructional strategy and those taught with traditional teaching method.

Table 3: Analysis of Covariance of Academic Achievement Scores of Students taught biology using Multimedia Instructional Strategy and those taught using Traditional Teaching Method

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	22.975[a]	22	1.044	8.064	.000
Intercept	65.917	1	65.917	508.94	.000
Pre Test	.949	1	.949	7.331	.008
Groups	20.784	21	.990	7.642	.000
Error	18.519	143	.130		
Total	412.000	166			
Corrected Total	41.494	165			

Source: Field work (2019).

The result of the Analysis of Covariance in Table 5 shows that the P-value of 0.00 is less than the 0.05 level of significant at 21 degree of freedom. This shows that the test is significant. This implies that there is a statistical significant difference in the mean achievement scores of student taught biology using Multimedia instructional strategy and those taught with traditional teaching method. Therefore the null hypothesis of no significant difference is rejected.

Research Hypothesis 2

There is no significant difference in the mean achievement scores of female and male students taught Biology using Multimedia instructional strategy.

Table 7: Analysis of Covariance of mean achievement Scores of female and male Students taught Biology with Multi Media Instruction and those taught with Traditional Method

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	8.963[a]	28	.320	1.348	.133
Intercept	23.702	1	23.702	99.797	.000
PreTest	.168	1	.168	.708	.402
Gender	8.872	27	.329	1.384	.117
Error	32.537	137	.237		
Total	415.000	166			
Corrected Total	41.500	165			

Source: Field work (2019).

The result of the Analysis of covariance in table 7 shows that the P-value of 0.117 is greater than the 0.05 level of significant at 27 degree of freedom. This shows that the test is not significant. This implies that there is no statistical significant difference in the mean score of male and female students taught biology using Multimedia instructional strategy and those taught with traditional teaching method. Therefore the null hypothesis of no significant difference is not rejected.

Discussion of Findings

The discussion of findings is done on the variables examined in the study which were guided by the research questions raised and hypotheses formulated.

The finding of the study revealed that a significant change was found in the academic achievement scores of students taught using multimedia instruction. The students taught using multimedia instructional strategy performed better in achievement than those taught using traditional teaching methods. This implies that teaching biology using multimedia is more efficient than the traditional teaching method. The finding of the study support the study by Gambari, Yaki, Gana and Ughovwa (2014) who recommended the use of video-based multimedia instructional strategy during biology lesson to attract students' attention and motivate for greater achievement in biology.

Conclusion

The finding of the study shows that the male students had high achievement score than their female counter part. Given male and female students equal exposure to multimedia instructional strategy enable students retain better regardless of their sex.(Oluwatosin & Josiah,2017) in support of this study found that there was no significant difference between male and female stoichiometry' students in their academic performance.

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REVITALIZATION OF EDUCATIONAL ADMINISTRATION AND MANAGEMENT FOR SUSTAINABLE ECONOMIC DEVELOPMENT IN NIGERIA

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Abstract

This paper scrutinizes the revitalization of Education Administration and Management to aid Sustainable Economic Development. It hinged on the concepts of Administration and Management of Education, such as greater emphasis on collaboration between stakeholders, engaging cutting edge technologies. Some concluding comments are provided about the role of Education in supporting Sustainable Economic Development. The aim of revitalizing Education Administration and Management for Sustainable Economic Development is to guarantee long-term Economic Sustainability. To accomplish this, changes in knowledge, skills, values and attitude are motivated. Such changes can be executed through comprehensive Administrative improvement Plans which focus on developing policies, techniques, and systems. These includes; Cultivating access to quality education chances for all students regardless of socio-economic status, implementing solid academic and financial accountability mechanisms, improving teacher retention plans, proposing alternative education options, including technology into learning environments, developing comprehensive and inventive curricula and extracurricular activities. Furthermore, educational guidance and governance should also be enriched, so that educational bodies can serve as influential instruments of economic progress and development. This can be done by aiding better collaboration among stakeholders, promoting and supporting universal change initiative, establishing strong academic principles, supporting data-driven assessment, developing sustainable

funding mechanisms, and developing innovative models for teacher employment and retention.
Keywords: *Administration, Management, Revitalizations, Sustainable Economic Development.*

Introduction

Education is the greatest weapon for fighting ignorance, want and poverty; and combating hunger, diseases and squalor, as well as for strategically charting a country's emancipation, global competitiveness and sustainable development, and to ensure that higher education is the epicenter of nation building processes and nurturing of democratic citizenship in Nigeria (Trust Africa, 2016). Ofor-Douglas (2022) asserts that education, as succinctly put in the National Policy on Education (2014), is the greatest force that can be used to bring out redress as well the greatest investment that a nation can make for the quick development of its economic, political, social, and human resources. It as well connotes the process of helping an individual learn and develop intellectual faculty to the full through the acquisition of skills needed to make him/her useful to humanity in general. This is done by transmitting knowledge through teaching, training, conditioning, indoctrination, and drilling. Ariguzo and Nwaneri in Ofor-Douglas (2022) noted that education is the fulcrum for the realisation, full promotion, and improvement of a nation. It empowers people to harness their potentials and fulfill their roles as members of the society. Ofor-Douglas (2022) also quoting Asaju and Sunday (2014) posited that education is a process of teaching and training in schools for the development of knowledge and skills, preparing the individual for functional living in the society. In fact, Ofojebe (2014) emphasised that at any given time, education is important for any country's socio-economic, cultural, and political development. Education in it general sense includes equipping human resources with the rightful skills, understanding, qualities and competences that will enable them to participate effectively in the development of their environment for wholesome development (Ofor-Douglas, 2022). Ofogbor and Emekedou (2017) quoted UNESCO's definition of education as the total process of developing human ability and behaviour. They maintained that education is an organized and sustained instruction designed to communicate a combination of knowledge, skill and understanding values for all activities of life.

The above assertions are apt and commendable in view of the growing need for growth and development of the Nigerian state in all ramifications. Educational Administration and Management are crucial in the delivery of the mandate of coordinating, directing, planning, regulating and controlling of all spheres of policies and programmes of government in respect of academics; this is from the pre-primary, primary, secondary to the tertiary levels. Kashyap (undated) averred that Educational Administration is regarded as the process of integrating the appropriate human and material resources that are made available and made effective for achieving the purposes of a programme of an educational institution. The term "Administration" does not refer to any single process or act, it is like a broad umbrella encompassing a number of

processes such as: planning, organising, directing, coordinating, controlling and evaluating the performance (Kashyap). On the other hand, Management is often described as a ubiquitous concept, which is present in every aspect of human endeavor (National Open University of Nigeria – NOUN, 2008). Whether in business, hospital, religion, or even at home, management is indispensable. Hence, management is not only necessary, it is also compulsory, because every organisation needs to be controlled, ruled or governed. The absence of management in any organisation may not only lead to derailment of objectives of the organisation, it may also lead to breakdown of law and order (NOUN, 2008). NOUN (2008) further states that the term management means many things to many people and in modern general saying, the term management implies the process by which a cooperative group directs actions towards common goals. But to a modern industrialist, management means getting things done through other people. To the economist, management is just one of the factors of production; to the sociologist, management is a class or status system. However, in the modern organised context, management is viewed as a social process which is designed to ensure the cooperation, participation and involvement in the effective achievement of a given objectives (NOUN, 2008) in this instance, educational objectives.

Worthy of note is that Management is seen in three main frames: function, productivity and general application (NOUN, 2008). Based on function, management implies that managers have the functions to perform within organisations. Even though such functions may vary from one organisation to another, the process involved is likely to be the same. Several authors, for instance, Henri Fayol, Elton Mayo identified the five basic functions performed by management of all organisations as planning, organising, directing, coordinating and controlling. Some scholars have added budgeting, leading, communicating and educating as other functions of the manager. In productivity: management deals with the essence of production. It is interesting to note that most of enterprises whether private companies, government agencies, or educational institutions (either profit or non-profit oriented) are set up to produce goods, product, people or services. The ultimate objective of a manager is to create surplus. In raw economic term, this is referred to as profit maximisation. Management therefore, would want to use people and materials efficiently to achieve this goal. In the aspect of General Application: Management applies to all kinds of organisations owing to the wide distribution of the enterprise which includes all kinds of organisations' goal which might vary, materials used could be different and people within the organisation may differ in age, sex, qualifications. Whatever and however the differences, the essence of management is to put them into efficient and effective use. Therefore, management as an organised body of knowledge provides clear insight on how to apply management techniques to achieve organizational goals.

Revitalization as a term is used in various meanings depending on the perspective being viewed; be it in education, economics, sociology, psychology, to mention a few. Contemporarily, revitalization is seen in multi-faceted views such as revalorization, restoration, reconstruction, modernization, and actions aimed at revival of

an individual, building, district or a town devastated in various aspects, as well as in economics and social spheres (Pawlowska & Swaryczewska 2002). Skalski (1996) averred that the factors determining revitalization include: society, local and state authorities, and other institutions which can initiate and shape the developmental processes of a given area. However, all these definitions stress the special importance of social participation - also as a distinctive element of revitalization, and not of other forms of activity related to conservation or renovation - as indispensable tool to carrying out the process, which is often decisive of its final success (Iggue, 2021).

Additionally, Iggue (2021) posited that sustainable development is the idea that human societies must live and meet their needs without compromising the ability of future generations to meet their own needs. Accordingly, the “official” definition of sustainable development was developed for the first time in the Brundtland Report in 1987 (Iggue, 2021). The Brundtland report averred that sustainable development is the way of organizing society so that it can exist in the long term; taking into account both the imperatives present and those of the future, such as the preservation of the environment and natural resources or social and economic equity (Brundtl & Commission, 2018). Iggue (2021) stated that the Brundtland Report, also known as "Our Common Future", established the most recognized and widely accepted definition of the term "sustainable development" in 1987, which is, “ the human ability to ensure that current development meets the needs of the present without compromising the ability of future generations to meet their own needs” (Youmatter, 2020).

Moreover, Iggue (2021) asserted that Education for Sustainable Development is designed at empowering and equipping of current and future generations in order for them to meet their needs using a balanced and integrated approach to the economic, social and environmental dimensions of sustainable development. In fact, Education for Sustainable Development is the most used term internationally by the United Nations, (United Nations, 2017) this is because, Agenda 21 of the United Nations’ Resolution was the first international document that identified education as an essential tool for achieving sustainable development and highlighted areas of action for education, (Bernad-Cavero; Olga; Llevot-Calvet; Núria, 2018). Iggue (2021) further asserted that In December 2002, the United Nations’ General Assembly adopted Resolution 57/254 to put in place a ten-year United Nations Education for sustainable Development agenda, spanning the years 2005 to 2014, with the United Nations Educational Scientific and Cultural Organization (UNESCO) as the lead agency for the years (Ilechukwu, 2014).

Economic Development on the other hand, can be termed as a process whereby simple, low-income national economies are transformed into modern industrial economies. Although the term is sometimes used as a synonym for economic growth, generally it is employed to describe a change in a country's economy involving qualitative as well as quantitative improvements. The theory of economic development—how primitive and poor economies can evolve into sophisticated and relatively prosperous ones—is of critical importance to underdeveloped countries, and it is usually in this context that the issues of economic development are discussed. It is

worthy of note therefore to stress that a country whose administrators or managers of education do not strive to make plans, coordinate those plans and direct the plans in line with specific laid down goal(s) and objectives, it is apparent that woes will be in the development of such a nation.

From the above premise, this study aims at achieving the following:

1. To explore the contribution of administration and management in revitalizing education in Nigeria and
2. To x-ray the fundamentals and contributions of revitalizing education in the sustainability of economic development of the Nigerian educational system.

Education and Human Capital in Development

The apparent physical accumulation of capital is not by itself the key to development this is because many analysts have turned to a lack of education and skills among the population as being a crucial factor in underdevelopment. If education and skills are defined as everything that is required to raise the productivity of the people in developing countries, Nigeria inclusive, by improving their skills, enterprise, initiative, adaptability, and attitudes, this proposition is true but it is an empty redundancy (Britannica encyclopedia, 2012). However, the need for skills and training was first formulated in terms of specific skills and educational qualifications that could be supplied by crash programs in formal education. The usual method of manpower planning, which is a function of administration and management, started from a target rate of expansion in output and tried to estimate the numbers of various types of skilled personnel that would be required to sustain this target rate of economic growth on the basis of an assumed fixed relationship between inputs of skill and national output.

This approach was plausible enough in many developing countries immediately after their political independence, when there were obvious gaps in various branches of the administrative and technical services. But most countries passed through this phase rather quickly. In the meantime, as the result of programs in education expansion, their schools and colleges began producing large numbers of fresh graduates at much faster rates than their general rate of economic growth could supply suitable new jobs for. This created a growing problem of educated unemployment. An important factor behind the rapid educational expansion was the expectation that after graduation students would be able to obtain well-paying white-collar jobs at salary levels many times the prevailing per capita income of their countries. Thus, the underdeveloped countries' inability to create jobs to absorb their growing armies of graduates created an explosive element in what came to be called the revolution of expectations.

Economic Development as an Objective of Policy

Motives for Development

The field of development economics is concerned with the causes of underdevelopment and with policies that may accelerate the rate of growth of per capita income. While these two concerns are related to each other, it is possible to devise

policies through the instrumentality of education by the administrators and managers of schools, that are likely to accelerate growth (through, for example, an analysis of the experiences of other developing countries) without fully understanding the causes of underdevelopment.

Studies of both the causes of underdevelopment and of policies and actions that may accelerate development are undertaken for a variety of reasons. There are those who are concerned with the developing countries on humanitarian grounds. That is, with the problem of helping the people of these countries to attain certain minimum material standards of living in terms of such factors as food, clothing, shelter, and nutrition. For them, low per capita income is the measure of the problem of poverty in a material sense. The aim of economic development is to improve the material standards of living by raising the absolute level of per capita incomes. Raising per capita incomes is also a stated objective of policy of the governments of all developing countries. For policymakers and economists attempting to achieve their governments' objectives, therefore, an understanding of economic development, especially in its policy dimensions, is important. Finally, there are those who are concerned with economic development either because they believe it is what people in developing countries want or because they believe that political stability can be assured only with satisfactory rates of economic growth.

Sustainable Development Conceptualizations

Torutein (2013) in Ofor-Douglas (2022) maintained that “sustainable” in clear term is that development that meets the needs of the present generation without even compromising the ability of future generation to meet their needs. Ofor-Douglas (2022) quoted Oyeshola (2012) who posited that sustainable development is a form of development perspectives, which integrates production process with resources conservation and environmental enhancement to tackle the need of the present without compromising the ability of future generation to meet their own needs. Ololube in Ofor-Douglas (2022) also asserted that Nigerian children need to be taught by quality teachers who could apply various innovations that would help the students acquire live skills that will help them be their own masters in harsh economy, that is, being security conscious, self-employed and even employer of labour. In another way, Aliwa in Ofor-Douglas (2022) submitted that sustainable development is as lasting socio-economic, political technological advancement capable of bringing qualitative education, gainful employment, maximum security, free, fair, credible transparent elections, provision of social amenities, good governance, rule of law, and respect for gender equality. Furthermore, Onyido and Odum in Ofor-Douglas (2022) were of the view that sustainable development implies a new concept of economic growth, one that provides fairness and opportunities for the entire world finite natural resources. To them sustainable implies improvement in the quality of human lives that meets the needs of the present generation without compromising the needs of future generations. Akintoye and Opeyemi (2014) rightly put it in Ofor-Douglas (2022) that sustainable development

is a process of responding to global environmental issues in terms of equity, fairness, biophysical and equal distribution.

Educational Administration and Management

The Nature of Administration and Management

In order to achieve the objectives of educational administration and management in revitalizing education, the head of the educational organization plans carefully, various programs and activities. He/ She motivates and coordinates the efforts of teachers as well as directs and exercises control over them. He/ She evaluates performance and progress in achieving the purposes of the programme. He/she also provides feedback and brings modification, if required in the plans and programs of the school or college or university. Hence, the administration process encompasses the following:

1. It does not refer to any single process rather different processes or aspects which constitute administration. These are planning, organizing, directing, coordinating and evaluation.
2. Educational administration is a non-profit making task.
3. Educational administration is primarily a social enterprise because it is more concerned with human resources than with material resources.
4. Educational administration is more an art than a science. The reason is that human relationship prevailed here and cannot be maintained by any set of formulae.
5. Educational administration is similar to general administration in many ways, but it is also dissimilar to general administration in many more ways.

Importance of Revitalising Education for Sustainable Economic Development

Revitalizing education is an essential tool for achieving a more sustainable world (Iggue, 2021). The United Nations' World Summit in Johannesburg in 2002 stressed this when it posited that there is the need for the reorientation of the current education systems which is key to sustainable development (Iggue, 2021). Education for sustainable development (ESD) according to (Iggue (2021) promotes the development of the knowledge, skills, understanding, values and actions required to create a sustainable world, thus ensuring environmental protection and conservation and promoting social equity and encouragement of economic sustainability (United Nations, 2002). Iggue (2021) citing Stephen Sterling (2014) asserted that graduates leaving universities now are entering a very different world pronounced by uncertainty, complexity and rapid change, manifested through a bewildering array of global issues relating to economic instability, climate change, inequity, loss of biodiversity, security challenge and migration, to mention a few. While sustainable development can be promoted through policy instruments, these tend to be effective only if they are applied. Education can enhance the effectiveness of each of these instruments through developing informed engagement, agency and empowerment among all affected stakeholders.

From the above standpoints, it can be said that the need for revitalization of the educational sector by administrators and managers of the system can be said to be paramount based on the following as averred by Iggue (2021):

a. An improved education package is paramount when trying to enable a change in values and attitudes towards sustainability. This is premised on the report of the United Nation World Commission on Environment and Development (1987) which recognized that "sustainable development requires changes in values and attitudes towards environment and development" and that education plays a central role in achieving those changes in values and attitudes (Sims & Falkenberg, 2013).
b. Education for sustainable economic development involves learning how to make decisions that considers the long-term future of the economy, ecology and equity of all communities. United Nations Educational, Scientific and Cultural Organization argues that education has a special responsibility to generate the knowledge needed as well as communicate this knowledge to decision makers and the public at large (UNESCO, 2003). As a result, the body calls on all relevant stakeholders to review the programs and curricula of schools and universities, in order to better address the challenges and opportunities of sustainable development.
c. Education empowers people for their roles in society. Formal education cannot implement education for sustainable development alone, because education for sustainable development is a life-long process, the formal, non-formal and informal education sectors should work together to accomplish education for sustainable development goals and objectives (Ilechukwu, 2014).
d. Education for sustainable economic and security development functions to educate, train and undertake research to contribute to the sustainable development of the society, for example, the training of people in monitoring of targets and detection of sustainable concerns and graduates with skills, knowledge and attitudes to make sustainability contribution (Bedawy, 2014).
e. To enhance learning about sustainable economic and security development different teaching methodologies should be adopted throughout all levels of the educational strata. Methods that will help disseminate information quickly and easily to learners should be applied and should be combined with other methods for effectiveness.
f. Educational institutions play a leading role in building more sustainable societies and creating new paradigms as they have the mission to promote development through both teaching and research. Therefore, teacher education is seen as an important actor or agent of change in promoting the social, security, economic and environmental values of sustainable development in the society (Johnson, 2007).

Furthermore, the following measures when taken seriously will revitalize Nigeria's educational system thereby enhance economic growth and development. These include among others:

Investment in E-Learning: This has become crucially important and relevant because according to Ofor-Douglas (2021) citing Horton (2011) asserted that e-learning as a set of instructions delivered via electronic media such as internet, intranets, and extranets will aid in the revitalisation of university education and by extension, all levels of education in Nigeria for sustainable security and economic development; in that it will provide an efficient and effective learning method that would enable students to catch up with global trends in the ever-growing technological age and would also enable them to compete with their peers globally. This became evident and important during the Covid-19 Pandemic where lockdowns prevented physical schooling activities as well as led to the disruptions of so many economic activities and by extension the subsisting economic woes being faced in the global space. A country like Nigeria with a growing youth population and when this population is educated in line with the versed technological knowhow, it would no doubt have a sustainable economic development and compete globally. Hence, it is hoped that administrators and managers of the educational system of Nigeria will continually and deliberately make effort in investing heavily in this sector so as to leverage on its economic gains.Investment in Entrepreneurship Education: Biko (2016) citing Fayolle, Gaily and Lassas-Cler, (2006) posited that Entrepreneurship Education is the pivot of achieving sustainable development goals; and that it has become globally acknowledged as the bedrock for achieving rapid economic growth development and modernization of every nation (Ofor-Douglas, 2021). Hence, with this standpoint, when administrators and managers of the educational system deliberately make plans towards the teaching and learning of this, it is bound to according to Ofor-Douglas (2021) promote human empowerment, which is an aspect of nation building and sustainability. Riskatu and Abdulfatah (2010) in Ofor-Douglas (2021) posed that empowerment is removing obstacle for an individual and others. It also seeks to prepare people, especially youths to responsible, enterprising individuals who became entrepreneurs, entrepreneurial thinkers and who contribute to economic development and sustainable communities (Jimah & Unigbokhai) in (Ofor-Douglas, 2021).

The above postulations will be achieved when administrators and managers adopt the Inclusion of all School Components and Institution Approaches (Iggue, 2021). Iggue (2021) stated that the whole-school approach requires active and participatory learning because the entire school (students, teachers, administrators etc) is expected or expected to be actively engaged in working toward a sustainable school that can sustainably utilize resources available to it with little environmental impact, hence, leading to sustainable societies. This is because the administrator is the first among equals; he/she has a major role in the implementation of whole-school approach (Iggue, 2021). Furthermore, Iggue (2021) posited that;

> *The administrator or manager is expected to organize the proper implementation of the established curriculum. The whole school approach for education for sustainable development is the incorporation of teaching and learning for sustainable development in the formal education sector, not only through the aspects of the curriculum, but also through practical sustainable school operations such as integrated governance, stakeholder and community involvement, long-term planning, as well as sustainability monitoring, evaluation and continual development. Through community involvement, schools and communities will both benefit from the skills and learning opportunities available within their specific environments (Ministry of Education, Guyana, 2016).*

In conclusion, it is the firm viewpoint of the writers of this paper that all administrators and managers in the educational system should firmly work at demanding from government across boards to implement the Charter of Action Plan for Revitalizing the Nigerian Higher Education System detailed in 2016. The charter proposed seven points as underlined below according to Trust Africa (2016) and designed by Committee of Vice Chancellors of Nigerian Universities and National Universities Commission.

1. Promotion of diversification and differentiation in the Nigerian higher education system by providing proper conceptual administrative guidelines, and a harmonized legal framework for Higher Education Institutions (HEIs) and the sector, to engender strict compliance with extant statutes to prevent mission creep and distortion of national development plans;
2. Revision of laws and statutes of HEIs and the Nigerian higher education system in relation to the regulatory and quality assurance powers of NUC, NBTE and NCCE, and the operational powers of JAMB and TETFund, which, in particular, would enable all HEIs have unfettered access to its funding interventions in favour of quality education;
3. Leverage ICT as an enabler of the relevance of HEIs and driver of national transformation and sustainable development. When combined with some other high-level convergent technologies, such as genomics and biotechnology, nanotechnology, cognitive science and GIS, ICT can enable, accentuate and multiply overall impact in a transformative manner;
4. Nurture and sustain Centres of Excellence as game changers and anchors/catalysts of national innovation value chain through their unique commitment to research and innovation excellence and promotion of global scholarship;
5. Promotion of HEI's partnership and synergy with industry, civil society and the natural environment for a better world, through commitment to the SDGs as a core mission, and enabler of a new paradigm of entrepreneurial empowerment of their products for better uptake and transfer of the output of their research;

6. Widen access to HEIs and Strengthen institutional/programme accreditation and quality assurance/quality control mechanisms and procedures in order to restore confidence and acceptability to the output/products (graduates, research output and technology transfer/civic engagement) of Nigerian universities and other tertiary institutions and enhance their local and global relevance and competitiveness; and
7. Lastly, ensure sustainable funding of education, especially higher education, through determined increased investment by governments at all levels, enhancing the capacity of institutions at fund internal generation and shared burden by all stakeholders.

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ROLES OF RESTRICTION ENZYMES IN BIOTECHNOLOGY

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Abstract
The collection of simple restriction enzymes termed Type II restriction endonucleases, made by microbes to ward off viral infections, have transformed molecular biology, spawned the multi-billion dollar Biotechnology industry, and yielded fundamental insights into the biochemistry of life, health and disease. In this article we describe how these enzymes were discovered, and we review their properties, organizations and genetics. The current ideas about the mechanism underlying their remarkable ability to recognize and bind to specific base pair sequences of DNA in biotechnology.
Keywords: *DNA, specificity, recognition, discrimination, restriction, modification, Endonuclease, methyltransferase, hydrogen bond, steric clash, electrostatic attraction, repulsion.*

Introduction

Enzyme are biological organic catalyst that stimulate, alter or even change the rate of chemicals reaction but itself remain quantitatively unchanged at the end of the chemical reactions. Enzymes are known to catalyze over 5000 biochemical reactions most of the enzymes are protein which act on catalytic RNA and DNA molecules. Enzymes generally increase the date of reaction by lowering the activation energy. Also many enzymes consist of protein and non – protein called cofactors. But the protein enzymes are usually globular. Generally enzymes are substances that accelerates and retardate the rate of claims of reactions within the living organism. They can be of different kinds and functions. Some of these enzymes include restriction enzymes which comprise exonucleases and endonucleases and found to function in cleavaging of DNA sequences at a random or specific recognition site known as restriction site (Callahan, 2007).

However, DNA recombination involve the reaction new combination of DNA segment that are not found together in nature, is different energy screening, inspectional inactivation, restriction enzymes and complementation of DNA molecules.

Restriction of Enzymes

A restriction enzyme is a nucleases enzyme that cleaves DNA sequence at random or specific recognition site known as restriction site. In bacteria restriction enzymes form a combined system (restriction + modification system), with the

modification enzymes that methylate the bacterial DNA. Methylation of bacterial DNA at the recognition sequence typically protects the own DNA of bacteria from being cleave by restriction enzymes (Bayer, 1981). The restriction enzymes bind to the recognition site and check for the methylation (Presence of methyl group on the DNA at a specific nucleotide). These enzymes are found in bacteria and archae and provide defense mechanism against invading virus (Hamilton, 1970). The restriction enzyme recognized a specific sequence of nucleotide. Ina comprehensive term restriction enzyme are the one produce chiefly by certain bacteria, having the property of cleaving DNA and RNA molecules at near specific sequence bases (Hamilton, 1970).

Types of Restriction Enzyme.

There are two types of restriction enzymes as follows:

1) Exonucleases
2) Endonucleases

1) **Exonucleases**: These are enzyme catalyses hydrolysis of terminal nucleotide from the end of the DNA and RNA molecules either 5 to 3 directions or 3' to 5' direction. These are also enzymes that work by cleaving nucleotide one at a time form the end (exo) of a polynucleotide chain. A hydrolyzing reaction that breaks phosphodiester bond at either 3' to 5' exonucleases chain. Eukaryotic and prokaryotic have three type of type exo nucleases, involve in the normal dependents decamping protein 3' to 5' exonucleases and independent protein (Nathans, 1978). E.g. exonuleases I and exonuclease II.

2) **Endonucleases**: these are an enzyme that can recognized specific base sequence (restriction site) with DNA or RNA molecules and cleaves the internal phosphodiester bonds within DNA molecule. Some such as deoxyribonuclease I cut DNA relatively specifically (without regard to sequence). While many typically called restriction endonucleases or restriction enzyme, cleave only at very specific nucleotide. Endonucleotide of restriction enzymes from eubacteria and areole that recognized a specific DNA sequences (Gilbert, 2010). Endonucleases may be found that cleave standard as DNA (double – standard DNA) or SSDNA (single – standard DNA), or even RNA.

Nomenclature of Restriction Enzyme

As a large number of restriction enzymes have been discovered, a uniform nomenclature, system is adopted to avoid confusion. This nomenclature was first prospered by (Smith and Nathans, 1973).

Every enzyme would have a specific name which would identify it uniquely. The first three letters, in italic, indicate the biological source of the enzyme, the first letter being the two letters of the species name. Thus restriction enzymes from Escherichia coli

are called Eco; Haemophilus influenza become Hin: diplococcus pnuemoniae DPn and so on. Then come a later that identifies the strain of bacteria; EcoR1 for strain R. finally there is a roman numeral for the particular enzymes if there are one in the strain in question; ECoREI for the first enzymes from E. coli R, EcoRII for the second (Smith, 1973).

This discussion is restricted to SsDNA; however, the discussion can be extended to the following:

1. Standard DNA
2. Non Standard DNA

Classification of restriction enzymes

There are three major classes of restriction endonucleases based on the types of sequence recognized the nature of cut made in the DNA, and enzyme structure. Below are some classifications of restriction enzymes.

Type I restriction enzyme:

These enzymes have both restriction and modification activities. Restriction enzymes depend upon the methylation stat us of the target DNA. Cleavage occur approximately 1000bp away from the recognition site, the recognition site is a asymmetrical and is composed of two specific protein in which one protein contain 3 – 4 nucleotide while another portion contain 4 - 5 nucleotide (Gerstein, 2004).

Properties of Type I Restriction Enzyme

- They are abundance in the nucleotide sequence
- They recognized site cut both strand at a non-specific location greater than 1000bp away from recognition site.
- They are single malfunction enzymes.
- They nucleases sub-unit structure is hetero-tridimer.
- DNA cleavage requirement recognition site in any two orientations.

Mechanism of Type I Restriction Enzyme:

The enzymes have no specific contact with DNA and initially bind to DNA as dimmers. The target site is then located by a combination of linear diffusion of enzyme along the DNA over shot distance, and lumping over longer distance, on the target restriction sites is located, the recognition process (coupling) triggers large conformation changes of the enzymes and the DNA, which led to activation of the catalytic center. The catalyst results in hydrolysis of phosphodiester bond and product release.

Type II restriction enzymes:

These enzyme, the restriction and modifications are mediated by separate enzymes, so it is possible to clave DNA in the absence of modification although the two

enzymes recognize the same target sequence. They can be purified separately, form each other. Cleavage of nucleotide sequence occur a t the restriction site. The enzymes are used to recognized rationality symmetrical sequence which is often referred as palindromic sequence. And these palindromic binding site may either be interrupted (e.g. Bst II recognize t eh sequence 5' – GGTNACC – 3, where N can be any nucleotide) or continuous (e.g. KPnL recognized the sequence 5' – GGTACC – 3') they required only mg^{2+} as a cofactor and ATP is not needed of their activity. Generally type II enzyme endonucleases are widely used for mapping and reconstructing DNA in vitro because they recognized specific site and subsequently cleave just at the be site (Gerstein, 2004).

Properties of Type II Restriction Enzyme:

- They are mostly abundance in the nucleotide sequence.
- They recognized site cut both strand and non-specific location greater than 1000bp.
- They are the most common in the nucleotide sequence.
- They recognize site and separate nuclease, and as thus methylase.
- The cofactor is usually mg^{2+}
- DNA cleave requirement is single recognition site.

Mechanism of Type II Restriction Enzyme:

The type Ii restriction enzyme are component of restriction modification system that protect bacteria and archea against invading foreign DNA, Most tare homodimeris or tetramic enzymes that clave the DNA at defined site of 4 – 8 bp in length and it mostly required Mg^{2+} and it always recognize a specific site of sequence nucleotide and provide ad double stranded cut in the number.

ECoRI digestion produces "sticky and

G A A T T C
C T T A A G

Sma I restriction enzyme cleaves product blund' end

C C C G G G
G G G C C C

Finally the recognition site of palindromic recognition site read the same stand as I t does on the forward stand when both are read in the same orientation.

5' - - - GAT ATC - - - 3'
3' - - - CTA TAG - - - 5'

Other includes

Bamt1i i.e. Bacillus, amyloliquefalinut with

5' G G A T C C
3' C C T A G G

Hind III i.e. Haemophilus influenzae with

5’	A	A	G	C	T	T
3’	T	T	C	G	A	A

Type III Restriction Enzymes:

These enzymes recognized and methylase the same DNA sequence but cleave 24 – 26 – bp away. They have two different sub-units, in which one subunit (M) is responsible for recognition and modification of DNA sequence and other subunit ®, has nuclease action. Mg^{2+} ions, ATP are need for DNA cleavage and process. Ac cleavage is stimulated by SAM. They cleave only one strand. The two recognition sites in opposite orientation are necessary to break the DNA duplex. Also recognize recognition site but the DNA I kbp away from restriction site., these enzyme are made up of two peptides or subunit – these enzymes also required ATP, Mg^{++} and s – adenosyl methionine for action (Williams, 2003).

Properties of Type III Restriction Enzymes:

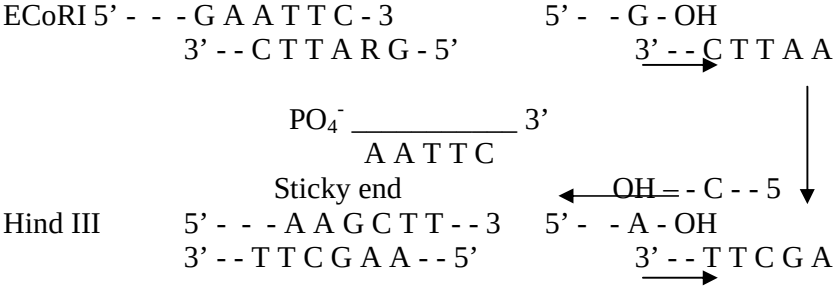
- They are very rare in the nucleotide sequence.
- Cleave of one strand, only 24 – 26 BP downstream of 3’ recognition site.
- Restriction and modification are mostly separate enzymes, sharing a common sub-unit.
- The cofactor is Mg^{2+} (SAM).
- They required DNA cleavage of two recognition site in a head to head orientation.
- Heterodimer with subunit of 70 and 100k dal
- Asymmetric, uninterrupted, 5 – 6 nucleotide long with raw rational symmetry.

Mechanism of Type III Restriction Enzyme

The recantation and cleavage patter of Hind III, small, ECoRI and BamHI are shown. Cleavage by an end nuclease create DNA sequence with either a sticky, end or even blunt ends the blunt ended fragment can be joined to any other DNA fragment with blunt end using a linkers/adapter, making these enzyme useful for certain type of DNA cloning experiment.

Enzyme recognition (Gerstein, 2004)

Cleavage site



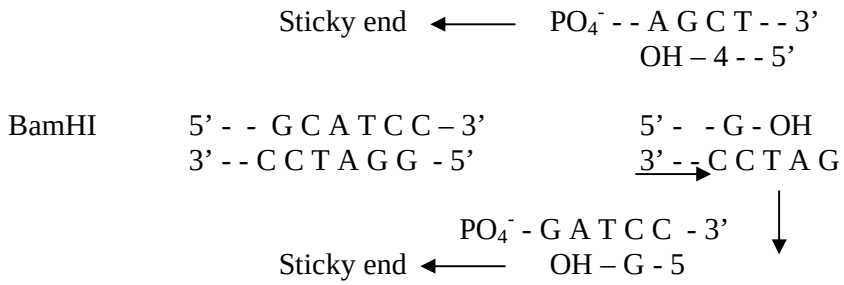


FIG. 2.4.9 Cleavage pattern of HindII, ECoRI and BamHI

Modification of Restriction Enzyme

Enzyme are generally bioorganic catalyst that change, alter or speed up or slow down the rate of chemical reactions but itself remain chemically unchanged (quantitatively and qualitatively) at the end of the reaction. The ability to manipulate DNA in vitro depends entirely on the ability of purified enzymes that can cleave, modified and joined the DNA molecules in specific way (Holmes, 2003).

The following are some of the restriction enzyme modification:

- Deoxyribonucelases (DNase)
- Poly nucleotide phospahatases
- Prophetesses
- Ligases
- Methylases
- Polynucleotide kinase
- Ribonucleases (RNase)

Deoxyribonucelases (DNase)

Nuclease enzymes that can be catalysing the hydrolytic cleavage of phosphodiester bond in the DNA backbone are known as deoxyribonuclease (DNase). Base on the position of action, these enzymes are broadly classified as edodeoxyriboneuleases (cleave the terminal nucleotide. The DNase does not have any specific recognition or restriction site cleave DNA sequence at random location (terminal deoxynucleotide transferase is a polymerase which add at 3' – OH end (Warshel, 2006).

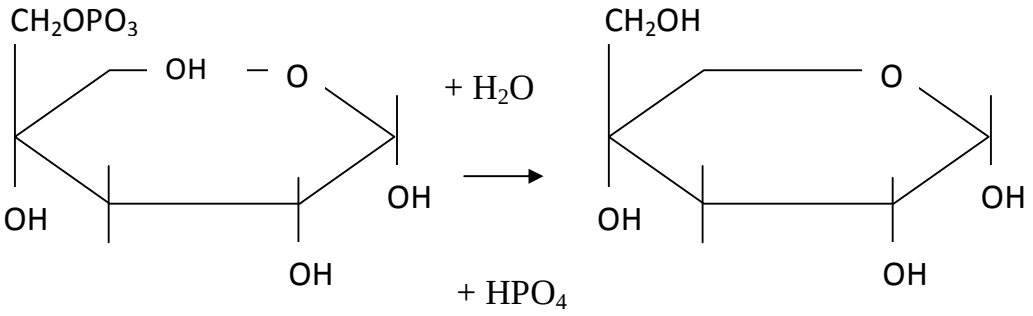
Polynucleotide Phosphorylasis

Polynucleotide kinase (PNK) is a homotetramer with phosphate activity at 3' end and kinase activity at 5' end with a tunnel like activity site. The active site has side chain which interacts with NTP diner's beta – phospho0se and 3' phosphate of acceptor with an acid which acidized 5' – OH. Lys – 15 and se – 16 are important for the kinases activity of interact with negatively change phosphate of the DNA polynucleotide (PNK) catalyze the transfer of phosphate group (PO^{-2}_4) from r position at ATP to the 5' end of either DNA or RNA and nucleotide mono phosphate – the PNK can convert 3' PO_4/5'

OH end into 3' PO_4/5' PO_4 end which block further, ligation by enzyme. Also it is used to label the end of DNA and RNA with a radioactive phosphase group. T_4 polynucleotide kinases are the most widely used PNK in molecular cloning experiments which were isolate from T_4bacteriophage. Infected the E. coli. PNK is used for radio labeling oligonucleotide, generally with ^{32}P for the preparing hybridization probes. It is inhibited by ammonium lens, 50 ammonium acetate cannot be used to precipitate nucleic acid before the phosphorylation. Sometime phosphate ion or NaCl of greater than 50mM concentration can also inhibit some of the enzyme (Williams and Wyckoff, 1991).

Prophatasis

Prophatasis catalyses the cleavage of a phosphate (PO^{-2}_4) group from substrate by using a water molecules (hydrolytic cleavage and reaction is always not reversible, this shows totally opposite activity from enzymes like kinases and Phosphorylasis that added a phosphate group to their substrate in both for the alkaline phospahatases are most common. Specific class of phosphate that removes a phosphate group form protein called phosphor protein Prophatasis (Stout, 1997).



These enzymes, Prophatases can either be:

- Acidic prosphatases which has pH 3 and 6 e.g. lysosomal enzyme that Hydrolases organic phosphate librating one or more phosphate group and they are mostly found in epithelia cell and euthrocyte etc.
- Alkaline phosphatases, homodimeris enzymes which catalyse reaction like hydrolysis and tansphosphorylation of phosphate monester. They also show their optimal activity at pH of about 10 (Stout, 1997).

Ligases

The DNA Ligases catalysis the formation of phosphodiester bond between two deoxynucleotide residues of two DNA strands. DNA Ligases enzyme requires a free hydroxyl group at the 3' – end of one DNA chain and a phosphate group 5' end of the other and requires energy in the precise. The role of DNA Ligases is to seal nick in the backbone of double stranded DNA after lagging strand formation to join the okazaki

fragment. The joining process is essential for the normal synthesis of DNA and for repairing damage DNA. It has been exploited by generic engineers to join DNA chain to form recombinant DNA molecules. Usually single stranded break are repaired using complementary strand as the template but repaired with the help of DNA ligases (iv). The most widely DNA ligases is isolated form T4 bacteriophage. T4 DNA Ligases needs ATP as a cofactor. The enzymes from *E. coli* use cofactor NAD. Except this, the catalysis mechanism is somewhat similar for both the ligases. The role of cofactor with further aid in formation of phosphodiester bound between hydroxyl and phosphate group by exposing them (Tymoczko, 2002).

Methylases:

Methyl transferase catalyze the transfer of methyl group ($-CH_3$) to it substrate. The process of transfer of methyl group to its substrate is called Methtylation. Methtylation is common phenomenon in DNA and protein structure, and use reactive methyl group that is bound to sulfur in S - adenosyl methionine (SAM) which act as the methyl doner. Methtylation normally occur on cytosine (C) residue in DNA sequence. In protein Methtylation occur on nitrogen atom either on N - terminus or on the side chain of protein. The DNA Methtylation regulate gene or silence gene without chaining the DNA sequence as a part of epigenetic regulation. Finally in bacteria Methtylation plays a major role in preventing the genome from degradation by restriction enzyme. It is part of restriction modification system in bacteria (Warshel, 2006).

Polynucleotide Kinase:

Kinase polynucleotide is the enzyme which ad a free pyrophosphate (PO_4) to a wide verifying of substrates like protein, DNA and RNA. It uses ATP as cofactor and add a phosphate by breaking the ATPO into ADP and phosphophate. It's widely used in molecular biology and genetic engineering to add radiolabeled phosphates.

Ribonucleases (RNases):

Nucleus than can catalyze hydrolysis of ribonucleotide from either single stranded or double stranded RNA sequences are called ribonucleotide (RNase)., the RNase are of classified in to two type depending on position of cleavage i.e. endoribonuclease (Cleave internal bond and exoribonuclease (Cleave terminal bond) - RNase is important for RNA maturation and processing RNasesA and RNassesH play important role in initial defense mechanism against RNA viral infection. The RNaseA is 60^oC having the pH of 7.6 (Smith, 1994).

Recombinant DNA in Biotechnology

Recombinant DNA refers to the creation of new combination of DNA segment that are not found together in nature, the isolation and manipulation of genes allow for

more precise genetic analysis as well s practical application in medicine, agriculture and industry.

The isolate DNA cut with restriction enzymes, Ligases into cloning vector that transform recombinant DNA molecule into host cell, each transformed cell will deride many, many time to form a colony of millions of cell of which carries the recombinant DNA molecules (DNA clone).

Cutting of DNA

DNA can be cut into large fragment by the mechanical shearing, the restriction enzymes are the scissors of molecular genetics. Restriction enzymes (RE) are endonucleases that will recognize specific nucleotide sequence in the DNA and break the DNA chain at those points. Recognize specific nucleotide sequence isolated and are commercially available. Most cut at specific palindrome site in the DNA (sequence that is the same on both antiparallel DNA strands). These DNA cut can be staged which generate "sticky or overhanging end" or a blunt which generate flush ends.

5' – G A A T C – 3' 5' – G A A T C – 3'
3' – C T T A A G – 5' 3' – C T T A A G – 5'

The Process of Generating Recombinant DNA

- Production of desired DNA fragments
- Insertion of the DNA fragment cut by molecular scissors into a suitable factor such as plasmid introduction of the vector into an appropriate host usually a straint of *E. coli.*

Detection of Recombinant DNA Molecules

Four methods are used to identify bacterial colonies that contain recombinant plasmids.

- Screening by colony hybridization.
- Insertion inactivation of plasmid gene (often for antibiotic resistance).
- Analysis of plasmid, DNA by restriction enzymes
- α - complementation carries the segment of regulatory sequences and caddying for the first 146 amino acid of lacZ gene.
- The combatant (DNA, regardless of the organism from which it I s isolated, thus gene from diverse Speers can be recombined to construct novel gene, or in certain instance, even new organism.

Application of Restriction Enzyme.

- Facilitating production of useful protein.
- Creating bacteria capable of synthesizing economically important molecules.
- Supplying DNA and RNA sequences as research tools.
- Altering genotype of organism (both plant and animals).
- Potentially correcting genetic defection gene therapy.

- They are used in the process of insertion of gene into plasmid vector during gene cloning and protein expression experiment.
- Restriction enzyme can also be used to distinguished alleles ion specifically recognizing single base change in DNA known as single nucleotide polymorphism (SNPs). This only possible if a mutation alter the restriction site present in the allele.
- Restriction enzymes are used for fragment polymorphism (RELP) analysis for identifying individuals or strains of a particular species.

Some Restriction Endonucleases and their Recognition Site

S/No.	Enzyme	Recognition Site
1.	4 – base cutters	
	Mbol, Dpnl, Sau3Al	GATC
	Mspl, Hpall	C/CGG
	Alul	AG/CT
	Hae III	GG/CC
	Tail	AC/GT
2.	6 – base cutter	
	BgII	A/GATCT
	c/al	AT/CGAT
	pvu II	CAG/CTG
	pvu I	CGAT/CG
3.	8 – base cutters	
	Notl	GC/GGCCCC
	Sbfl	CCTGCA/GG

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ROBERT MERTON KING THEORY OF PRESCRIBED GOALS AND MEANS LIMITED AND INCIDENCE OF SOME DEVIANT BEHAVIOURS AMONG SENIOR SECONDARY SCHOOL STUDENTS IN KATAGUM BAUCHI STATE, NIGERIA

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Abstract
This study focused on Robert Merton King's theory of prescribed goals and means limited and incidence of deviant behavior among Senior Secondary School Students in Katagum *Local Government Area, Bauchi State. The objective of the study is to determine how inability to meet the societal prescribed means and goal can promote deviancy among students in the area. The study adopted qualitative and quantitative method of data collection. From the population of 6752 Senior Secondary School students in* Katagum *LGA. The sample of 200 student's teachers were selected. The instrument for data collection was a close-ended questionnaire with 15 items developed from four research questions. Data collected was analyzed using mean and standard deviation on SPSS version 26. And the results of findings indicated that due to unequal access to society's institutionalized means of achieving success, Senior Secondary school students may reject the institutionalized means of achieving success and resort to deviant means of it. Some recommendations were proffered among which is that the society should not discriminate in the distribution of society's institutionalized means of achieving success such as education.*

Introduction

Societies exert some level of pressure on individuals through motivating them to aspire towards the attainment of its prescribed goals. As a result, most individuals end up

with the strong desire to reach the cultural goals such as wealth, high status or to achieve whatever other objectives the society holds for them. But not everyone has equal access to the society's institutionalized means, and in attempt to actualize these goals where the means are readily not available, strain and frustration set in with every possibility of deviating from the norms of the society. In this case, it may trigger behaviours that are so much disapproved to the extent that the society finds it difficult to tolerate.

According to Haralambos and Holborn (2013) deviance can only be defined in relation to a particular standard, and no standard are fixed or absolute. Hence what is refers to as deviance varies from place to place and from time to time. Thus, in the context of a school system, there are certain illegitimate behaviors that the school does not accept which still raise their ugly heads among students such as; immoral or offensive conduct, associating with immoral persons, visiting of liquor shops, roaming the streets at night, violation of school rules and regulation, habitual truancy from school, running away from home without permission, examination malpractices and smoking are evidences of deviant behaviours among adolescents and youths. These acts have assumed a national concern prompting the building of remand homes and provision of social services to those affected as a means of addressing it.

These are associated with many social problems that the society is facing, to the extent that the goal of education seems threatened. The prevalence of these deviant acts appears to be gateway to adult crime. This is because deviants may grow up with such habit unattended to, leading to more challenging personal relationship with the family, the school and the society at large.

Obviously, deviants have the habit of absconding from lesson and worse of it drop out of school. Delinquent peer association may be a consequence of school failure among many deviants. Their behaviour is undoubtedly a leading cause of most anti-academic behaviours such as examination malpractice, rape, teenage prostitution, and vandalism of school properties, sexual assault, truancy, stealing and other violent crimes. There is a significant link between deviancy and poor academic performance. The aggressive behaviour tendency of deviants easily triggers learning difficulties. Eliot (1997) observed that poor school performance, truancy, and leaving school at young age are connected to deviant behaviours. In fact, many deviants grow up not attending their future dreams due to difficulty in academic breakthrough.

Common Deviant Behaviours among Students

Truancy

Truancy is an indicative delinquent act among students which if not properly checked can lead to bigger social ill. Sekuk & Rimfat (2010) maintained that due to poor physical home condition, poor parents-child relationship, hostility, lack of affection, harshness, the children may resort to truancy. Henry (2007) stated that truancy among deviants have an extensive consequence on the society. It can predict maladjustment, poor academic performance, school dropout, substance abuse and teen

pregnancy in the long run, evidences revealed truancy as a predictor of poor adult outcome, including violence, marital instability, adult criminality and incarceration.

Delinquent theft and stealing

Rhode (2019) affirmed that high percentage of deviants engages in theft and that theft is a developing criminal lifestyle. Juvenile theft is usually an early indicator of other deviant behaviours. It could be a representative or a form of symbolic behaviour through which deviants often displays their unhappiness and insecurity from the family and the society at large. It should be noted here that deviant bahaviours among students can grow from insecurity from the family and the society at large. Most deviants know that stealing is wrong, but they steal as a way of expressing their confusion and discontentment with the society and to meet the prescribed goals of the society.

Most families failed to give priority to moral decision making behavioural and emotional warning signs of juvenile theft, as a result of poor family condition. Sekuk & Rimfat (2010) postulated that parental negligence can lead to stealing among deviants. Family dysfunction can lead to other deviant variables such as parental indifference, inadequate supervision by mothers, poor economic condition, pursuit for material wealth, poverty and many other conditions can force children into stealing.

Jardine (2017) claimed that the legal consequences of juvenile theft can break a minor's life and turn it upside down. Property crime like theft, burglary, car theft, and shoplifting are among the most crimes that juveniles get charged with committing. Brown (2014) stated that for majority of juveniles, theft is merely an isolated incident, without early intervention, these deviants may continue to steal or commit other illegal acts as adults. He further stated that theft is often the first deviant act young people commits. Young people that steal tend to begin with stealing at home or near home by taking object or money from the family, friends, neighbourhood or local stores.

Violent crime

Violent crime is a crime which an offender or perpetrator threatens to use force upon a victim. This crime includes murder, rape as well as crime when violence is used in the form of coercion. Lack of love and affection at home caused by family variables like large family size can fabricates violent act among delinquents. This may result into deviant acts like murder, rape, assault, robbery and lots more.

Various causes of violent crime suggest dysfunction within the family, leading to breakdown of social norms. Dashe (1997) claimed that deviant act has prompted youth to carry assault on each other and even teachers. Violent crime can traumatize other students and even teachers. Rasendfeld (2017) suggested that violent crime is violation of criminal law that involves the intentional use of violent by one person against another. Bureau of Justice Statistics (2018) identifies violation of crime perpetrated by young people to include murder, rape and sexual assault. Today, incidence of violent crime act such as gang violence, hate crime, alcohol-related violence and gun and knife crime are on the increase among adolescents.

Underage smoking / drinking

As children move from adolescents to young adulthood, they encounter dramatic physical, emotional, and lifestyle changes. Such changes depend on certain family variables such as size, and economic status among others. The National Institute on Alcoholic Abuse and Alcoholism (2006) stated that many young people are experiencing the consequences of drinking too much at too early age. This ugly situation is caused by dysfunctional societal system.

According to Galbicsek (2020) in most countries, alcoholism at the age fewer than 21 is considered an underage drinking and is strictly against the law. This implies that drinking by underage comes with legal consequences including fines and potential in jail. Underage alcohol is a risky teen deviant behaviour that can be termed as delinquency which can also lead to host of social problems. Frequent and excessive juvenile drinking can take a toll on person's criminal life, relationships, school, work and possibly professional goal down the road. Galbicsek (2020) further opined that juvenile or underage drinking can lead to problems such as problems in schools, social issues, health concerns, physical or sexual assaults, unwanted or unplanned pregnancy, sexually transmitted diseases, high risk of suicide attempt, legal trouble and abuse of other substance.

According to report from The Substance Abuse and Mental Health Service Administration (2018) there were an estimated 10 million underage drinkers in 2016. The report maintained that among 10 million underage drinkers, 6.5 million are binge drinkers and 2 million were heavy drinkers. Young people are vulnerable to binge drinking because their impulse control has not yet matured. They do not have the mental capacity to understand the negative consequences such as brain damage and indirect health issues. Underage drinking affects not only the individual but the entire society. In another report, Drug Rehab by Advanced Recovery System (2020) revealed that 2.3 million people age 12 to 17 drink alcohols, each month, and 6.7 million deviants said they have tried alcohol at least during their lifetime, and that 45% of the 12-grade said they have drink at least once in their lifetime. The above statistics show that underage drinking has eaten deep into fabrics of the society.

Sexual delinquency

Sexual delinquency is a very real problem that can lead to devastating results to perpetrators, victim, family members and other loves ones. Many sexually deviant juveniles have the history of sexual abuse themselves. Children who engage sexual abuse have problems of impulse control right from the family. Sexual delinquency is another family violence. For example, Huang (2016) found that sexual delinquency of rape committed during juvenile age is a vital indicator for predicting the propensity for committing rape in adulthood. Again, Denise & Finkehor (2008) said less attention has been paid by families to some forcible relationships between juvenile and adult leading to assault.

Robert Merton King's Theory of Goals Prescribed and Means Limited.

Robert Merton King a famous American sociologist was born in 1910. As one of the leading functionalist interpreters of the society, he saw the dichotomy between manifest (intended) and latent (unintended) function of the society. This theory was developed in 1938 and the crux of the theory is that the society puts pressure on individuals to achieve socially acceptable goals even though they lack the means to do so. The theory faulted the society for arousing discontent, making people feel dissatisfied with what they have so they will try to better themselves through other means, whether acceptable by the society or not. Merton claimed that many people end up with a strong desire to reach cultural goals such as wealth or high status or to achieve whatever objective the society holds out for them (Haralambus & Holborn, 2013). However, not everyone has equal access to society's legitimized means of achieving success. Some people according to Merton will resort to deviant way of achieving success if they feel their legitimate way of achieving success is blocked. To him, individuals resort to different means of achieving success when there are differences between what defines success and the proper means to achieving these goals. Members of the society are either forced to work within the system or deviate in order to achieve the desired goals. This occurs when individuals are faced with a gap between their goal (usually finances/ money-related) and their current status.

According to Haralambos and Holborn (2013) Merton argues that crime and deviant acts resulted from the cultural and structures of the society itself. He blames the society for motivating members to strive towards success without providing the legitimate means to achieve it. The society does this by arousing discontent- making people feel dissatisfied with what they have so they try to better themselves.

Merton theorized that people who experience strain are likely to feel anomie (a sense of normlessness). Because mainstream norms such as (work or education) don't seem to be getting them anywhere, they find it difficult to identify with these norms. They may feel wronged by the system, and its rules may seem illegitimate to them (Henslin 2003).

According to Merton, there are four basic deviant paths which individuals adopt;

Firstly: He refers to those who accept the goals of the society but use illegitimate means to try to reach them. For example, drug dealers accept the goal of achieving wealth but they reject the legitimate means for doing so.

Secondly: He describes another group as people who become discouraged and give –up on achieving cultural goals, yet they still cling to conventional rule of conduct. Merton call this response retreatism.

Thirdly: Group according to Merton are those who choose the path of retreatism, they reject both the cultural goal and the institutionalized means for achieving them. Common examples are those who dropped out of pursuing success as a result of alcoholism and students who dropped out of school as a result of deviant behavior are retreatists.

The fourth group according to Merton are the rebellious group. This group are convinced that the society is corrupt, rebellious and so reject both institutional goals and the means of achieving them. They adopt revolution to change the statusquo.

According to Henslin (2003) this theory underscores the main sociological point about deviance, that there could be deviancy when there is a difference between what defines success and the proper means of achieving the said goal. Success according to him is valued above the actual means to achieving it. In essence, Merton postulates that minority group had a harder time acquiring good education and if they, could they had a harder time acquiring a respectable living yet, the same standard for success is enforced for everyone regardless if they had the means to satisfy such standard. Individuals are forced to work within the system or become members of a "deviant sub-cultures" in order to achieve socially prescribed goals.

Shading light on the theory, Ijioma (2008) observed that when the joy of social life shifts to economic success, people try to beat socially approved means of getting wealth by doing many illegal and dubious things to make money. The regulatory structure is stretched to a breaking point.

Statement of the Problem

Deviant behaviors like rape and assaults, truancy, theft and many other breaches of conventions are indicators of an acute breakdown of the societal norms. It is disheartening to note that society prescribes goals for its members without providing equal means to achieving such goals. Today, students who find it difficult to attend life aspiration have resorted to different deviant behaviours with dire consequences on their future. The attainment of our educational objectives appears to be impossible due to frequent threat to societal goals and aspiration by students who are supposed to be leaders of tomorrow.

So many deviant behaviours such as examination malpractice, under-age drinking, theft and violence crime among others are currently confronting schools in Katagum Local Government Area, Bauchi State.

In order to curb this dastard acts among young people, government through state and Local Governments established remand homes, renders social and welfares services to delinquent children through the social service department of each Local Government Area. Also, most schools and religious bodies like churches and mosques have effective counseling centres/ services where deviants are offered professional services in order to re-unite them well into the society. But despite these concomitant efforts, deviancy has continued to raise its ugly head among children, with serious consequences on schools and the society such as examination malpractice, drug and alcoholism, school dropout, unwanted pregnancy, prevalent of many social ills.

It is on this backdrop that this study seeks to investigate Robert Merton King theory of goals prescribed and means limited and incidents of deviant behaviours among senior secondary school students in Katagum Local Government Area, Bauchi State.

Research questions

The following research questions were posed to guide the study:

1. To what extent do the societal prescribed goals and inability to achieve them exert pressure on senior secondary school students in Katagum Local Government Area of Bauchi State?
2. What are the common deviant behaviours prevalent among senior secondary students in Katagum Local Government Area of Bauchi State?
3. What are the efforts of the government and private organization in curbing deviant behavior.

Methodology

The objective of this study is to find out how Robert Merton King theory of goals and means prescribed connects to deviant behavior among Senior Secondary School students. It adopted a survey design. It focused on all senior secondary schools in Katagum LGA of Bauchi State both public and private. The population of the study comprised of 6752 senior secondary school students and teachers. Out of this population a number of 180 senior secondary students and 20 teachers were selected through simple random sampling technique bringing the sample size of 200 respondents. Questionnaire method was used as source of data collection. The instrument which comprised of two sections A and B was drawn from the content of the study, where section A consisted of respondents' basic information such as gender, age-range, status, and class, section B consisted of 15 items drawn from the content of the study and relating to participants' opinion on Robert Merton King's theory of goals prescribed and means limited and incidence of deviant behaviours among students. The instrument was validated by two experts; one from Sociology of Education and Test and Measurement Evaluation both from University of Jos. To determine the reliability of the instrument, a pilot study was conducted on 80 senior secondary school students and 10 teachers in Jos North Local Government Area of Plateau State using test re-test method of estimating reliability of instrument and arrived at 0.69 co-efficient.

Data collected from the 200 respondents was analyzed using Statistical Package for Social Sciences (SPSS, 26) computer software. The statistical procedure was done by descriptive statistic to provide answers to research questions, using Standard Deviation. The response to the items of the questionnaire for positive worded were weighed Strongly Agree (4), Agree (3) Disagree (2) and Strongly Disagree (1) and Undecided (0). The boundaries of each response in the 4-point Linkert Scale from 0-4 were calculated by dividing the serial number with 4 by the number of responses (5) and were found to be 0.8. This value was used to interpret the mean value which indicated the accepted boundaries for each response as presented below:

0.00 – 0.80 - Undecided
0.80 – 1.60 - Strongly Disagree
1.61 – 2.40 - Disagree
2.41 – 3.20 - Agree
3.31 – 4.0 - Strongly Agree.

Result of Findings

The value of 2.4 is the decision rule (Topkaya, 2010). Hence, the mean score below 2.4 is rejected while those above from 2.5 and above are accepted because they indicate agreement.

Research question one

To what extent do the societal prescribed goals and inability to achieve them exert pressure on senior secondary school students in Katagum Local Government Area of Bauchi State?

Table 1: Mean Rating and Standard Deviation on societal prescribed goals and means limited.
N = 200, Cut off point = 2.50

S/N	Item Statement Decision	Mean (X)	Standard Deviation
1.	Students cannot attain full potentials due to limited means for achievement. Accept	2.95	0.90
2.	Students do not enjoy equal access to to the institutionalized means of success. Accept	2.92	0.92
3.	The society is responsible for deviancy. Accept	3.19	0.93
4.	Deviants do so to make ends meet. Accept	3.93	0.29
5.	Most deviancies are caused by frustration. Accept	3.76	0.46
	Grand mean	**3.35**	

Source: Field survey, 2023.

Table 1 above shows the means score for items 1-5 on the extent to which societal prescribed goals and the inability to achieve them exert pressure on senior secondary school students. The table has mean score of 2.95, 2.92, 3.19, 3.93, and 3.76 respectively and corresponding standard deviation of 0.90, 0.92, 0.93, 0.29, and 0.46 with a grand mean of 3.35 which is above the cut-off point of 2.50. This implies that due to limited means, students cannot achieve the prescribed goals of the society and that students do not enjoy equal access to institutionalized means of success. It further rejected the assertion that the society is not responsible for deviancy among students, but deviancy is rather caused frustration.

Research question two

What are the common deviant behaviours prevalent among senior secondary students in Katagum Local Government Area of Bauchi State?

Table 2: Mean Rating and Standard Deviation on common deviant behaviours in Katagum LGA.

N = 200, Cut off point = 2.50

S/N	Item Statement Decision	Mean (X)	Standard Deviation	
6.	Under-age smoking and drinking is prevalent in our school.	3.35	0.47	Accept
7.	Due to prescribed goal of success I cheat during examination.	3.34	0.66	Accept
8.	Delinquent theft stealing is common.	3.42	0.63	Accept
9.	Sexual harassment is common in our school.	1.69	0.73	Reject
10.	Violent crime is common in our school.	3.27	0.74	Accept
	Grand mean	**3.01**		

Source: Field survey, 2023.

Table 2 indicates mean and standard deviation for of students and teachers on common deviant behaviours among senior secondary school students in Katagum Local Government Area of Bauchi State. The table has mean score of 3.35, 3.34, 3.42, 1.69, and 3.27 respective with corresponding standard deviation of 0.47, 0.66, 0.63, 0.73 and 0.74 and a grand mean of 3.01 which is above the cut – off point of 2.50. This implies that respondents agree that some deviant behaviours in the area includes under-age smoking and drinking, examination malpractice, delinquent theft and stealing and violent crime.

Research question three

What are the efforts of the government and private organization in curbing deviant behavior.

Table 3: Mean Rating and Standard Deviation on efforts to curb deviant behaviours in Katagum LGA

S/N	Item Statement Decision	Mean (X)	Standard Deviation
1.	School authority have done well in curbing deviant behaviours.	3.11	0.70
2	LGA social welfare is effective.	3.40	1.03

3.	There is wide gap between individuals in achieving prescribed goals of the society.	2.95	0.90
4.	Our school counseling service is effective.	2.71	0.49
5.	Government have not done well in providing means to attain institutionalized goals.	3.31	0.68
	Grand mean	**3.10**	

Source: Field survey, 2023.
N = 200, Cut off point = 2.50

Table 3 indicates mean and standard deviation on measures to curb deviant deviant behaviours among senior secondary school students in Katagum Local Government Area of Bauchi State. The table has mean score of 3.11, 3.40, 2,95, 2.71, and 3.31 respective with corresponding standard deviation of 0.70, 1.03, 0.90, 0.49 and 0.68 and a grand mean of 3.10 which is above the cut – off point of 2.50. This implies that school authorities in the area have done well in curbing deviant behaviors among students and that the Local Government have an effective welfare center. The table further indicated that government has not done well in providing the individuals with institutionalized means to success.

Discussion of Findings

The results of finding on research question one indicates that due to the failure of the society to provide the institutionalized means to achieve the prescribed goals of the society, individuals tend to deviate in observing the norms of the society. This finding agrees with Ijioma (2008) who affirms that when the joy of social life is shifted to economic success, people try to beat socially approved means to achieve success. It also aligns with the crux of the theory.

The findings also agree that truancy, juvenile theft and stealing, underage smoking and drinking are some common behaviors exhibited by deviants in the area. This assertion goes in tendon with Eliot (1997) who argues that truancy is connected to deviancy. It also aligns with Rhode (2019) who claim that deviants easily engage in theft and stealing and that of Jardine (2017) who affirms that juvenile theft is capable of breaking entire life of an individual. Similarly, the finding agrees with that of Dashe (1997) who claim that deviancy can prompt young people into assault. Also, the results of the findings agrees with Rivers (2010) who contends that truancy among deviants affects the overall school achievement.

Conclusion

No society can achieve its prescribed goals in the midst of deviancy. Where there is unequal accessibility to institutionalized means of achieving success, strain is likely going to set in. Where individuals feel dissatisfied with the society, they may resort to other deviant ways of pursuing success and or may decide to reject both the prescribed goals and the means. The society exerts untold pressure on the individuals to thrive to

achieve higher without making the means to attaining such success available. This may results in some deviant behaviours such as under-age drinking/ smoking, juvenile theft and stealing, examination malpractices, violent crime, and other social deviance.

Recommendations

This study commends that:

i. That prescribed society goals and aspiration should be backed up with available equal access to the institutionalized of achieving success.
ii. Efforts should be made to curb deviant behaviours among students through effective counseling services in homes and schools.
iii. Discrimination in accessing institutionalized means of achieving success should be discouraged.
iv. In as much as it good to pursue dreams, the society should not exert pressure on individuals aim above their available means.

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DEVELOPMENTAL DRIVEN POLICY TOWARDS TRANSFORMATION OF TEACHER'S EMOTIONAL INTELLIGENT AND EQUIPMENT MAINTENANCE SKILLS OF ELECTRICAL AND ELECTRONICS TECHNOLOGY FOR EFFECTIVE TEACHING AND LEARNING IN KWARA STATE, NIGERIA

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Abstract

The study sought to identify the relationship between teacher's emotional intelligent and equipment maintenance skills of electrical and electronics technology for effective teaching and learning in Kwara State. Two research questions were answered. Teacher's Emotional Intelligence scale (TEIS), Equipment Maintenance Scale (EMS), and Teacher Rating Scale (TRS), were administered to measure the teacher's emotional intelligence, self-reported Skill Performance and student rated Skill Performance of the teachers respectively. All the teachers and students of electrical and electronics technology and equipment maintenance skills in Kwara state comprising 250 respondents were used for the study. Data obtained was analyzed using statistical software (SPSS, 23.00 version). Mean, standard deviation, pearson correlation and t-test were used to determine the relationship, predictive values and differences in the variables under study. A positive correlation between TEIS and Skill Performance on both self-reported and students rated scales was discovered. Among the ten components of TEIS considered in the study; emotional stability, self-motivation, managing relations, self-awareness and integrity emerged as the best predictors of Instructional Performance. Gender differences on the scores of TEIS and Skill Performance was insignificant. In line with the findings of this study therefore, it was recommended among others that government of Kwara State should come up with TEI intervention programmes aimed at developing the emotional intelligence of the teachers of electrical and electronics technology and equipment maintenance work as well as other related fields so as to improve their instructional performances. Index Terms- Development, Electrical and Electronics Technology, Empathy, Emotional Intelligence, Gender, Instructional Performance, Equipment, Maintenance Work, and Social Skills.

Introduction

Development is the act of get things done in an improved manner for effective outcome of the expected result for efficient teaching and learning outcome of the pupils by the emotional intelligent of the teacher handling them. According to oxford dictionary is a gradual growth of something so that it becomes more advanced, and stronger for effective outcome which metamorphose to internal led down rule or policy. Ayodele (2017), stated that development has some tools to work with in other to attain a level of development. 1. Quality of basic education must be improved and these can be possible if teacher's emotional intelligent is geared toward actualizing the objective

Policy is a plan of action agreed between the members of a particular organization or system for smoothing ruling of events in the transformation of activities guiding the system for effective outcome. Transformation is the changing from old ideals to new ideals for smooth ruling of the activities in teaching and learning for effective outcome.

Whatever work done is been motivated by persons emotion ability. (Raymond & Hassan.2015), stated that everything done by human beings involves emotions. This includes every action, decision and judgment. Emotionally intelligent people recognize this and use their thinking to manage their emotions to come out successful in any situation they find themselves. Different literatures defined emotional intelligence (EI) in different ways. According to (Sparrow & Knight, 2006), emotional intelligence is the habitual practice of: using emotional information from ourselves and other people; integrating this with our thinking; using these to inform our decision making to help us get what we want from the immediate situation and from life in general.

(Solvey & Mayer, 1989) originally used the term "emotional intelligence" in their published work and defined it as: A form of intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions. According to (Bar-on, 1997), EI is an array of emotional and social abilities. It includes five components: intrapersonal, interpersonal, adaptability, stress management, and general mood. Goleman, 19880's model outlines four main constructs of EI: self awareness, self-management, social awareness and relationship management. Within different constructs of EI, there are a set of emotional competencies like emotional self-awareness, accurate self-assessment, self-confidence, trustworthiness, conscientiousness, adaptability, achievement drive, initiative, empathy, service orientation, organizational awareness, developing others, influence, communication, conflict management, leadership, change catalyst, building bonds, teamwork and collaboration.

Unlike IQ, which is unchanging from childhood on, emotional intelligence can be developed. In fact, it usually does become greater with age and maturity. The importance of developing one's emotional intelligence is essential to success in the workplace. Utilizing the power and energy of one's emotions leads to high motivation, and improves problem-solving and decision-making (Sparrow & Knight 2006). Developing your emotional intelligence (EI) will improve your performance. Although it

will take time, developing emotional intelligence will lead to sustainable behavior changes that will improve the way you manage yourself and the way you work with others and this leads to good working performance. Some of the advantages of developing your emotional intelligence are: improved relationships; improved communication with others; beer empathy skills; acting with integrity; respect from others; improved career prospects; managing change more confidently; fewer power games at work; feeling confident and positive; reduced stress levels; increased creativity; learning from mistakes.

According to (Arvind et al, 2013), emotional Intelligence plays a vital role in social sciences; it has direct impact on the teacher's behavior working in an organization and it is important for the success of their profession. Teachers are considered as the main pillar in the educational system. They are the moderators through which knowledge can be transferred to the students who represent the foundation of the society. However, teachers cannot be the effective source of knowledge unless they possessed the essential skills, knowledge and talents. In the recent years, the concept of the emotional intelligence among teachers has gotten attention in the educational institutions due to its great importance. This is because emotional intelligence is really required to make the teachers perform effectively thereby improving their equipment maintenance skill.

Equipment maintenance skill means how 'good' or 'bad' something is done. Equipment maintenance skill of electrical/electronic technology and maintenance work teachers is therefore the measurement of how good or bad is the activity of accomplishing the task of teaching the content of electrical/electronic skills and maintenance work. It is the measure of teaching effectiveness. The definition of equipment maintenance skills is however subjective. Different literatures on equipment maintenance skills or teaching effectiveness used variety of concepts. It has been explained by some researchers as teachers' characteristics (Strong et al, 2003). Others were more concerned with the teaching process or the outcome (Flander & Simon, 1969). Recently, (Ajeya & Indoo, 2012) defined equipment maintenance skills of a teacher as having a good academic and professional knowledge with a clear concept of a subject matter, good preparation of the lesson with clear objectives, organized and systemic presentation of the concept with proper learning materials, ability to communicate his/her knowledge to the students successfully, classroom management, positive attitude towards students and colleagues, result feedback, accountability and ability to understand and motivate students irrespective of their gender.

Gender refers to the socially structured roles, behaviors, activities and attributes that a given society considers appropriate for men and women (World Health Organization, 2015). While a large body of researches focus on the gender of teachers and their instructional performances, fewer researches explore the relationship between emotional intelligence and gender. Studies have revealed that early experience, biological factors, educational policy and cultural context in complex ways are contributing to gender differences in science and mathematics achievement and ability (Halpern et al, 2007). In line with gender stereotypes, males are expected to achieve in

math, science and technology, whereas females are reared to be interested in the arts and humanities (Ceci & Williams, 2010). This means that the expected success of a female in a given technological task is generally lower than that of her male counterpart. This societal belief however has not been supported much in the research community with regards to published literatures. With changing societal perception, differences in performance between males and females have shrunk to nearly insignificant levels in most standardized tests hence most researchers therefore do not support the notion of innate superiority of males in math, science and technology (Johnston). Despite these research findings, the gender stereotype about science and technology related subjects still exists.

Science and technology courses, such as electrical/electronic technology and equipment maintenance work are said to be more demanding in terms of mathematical manipulations and abstract thinking compared to humanities (Foster & Spencer, 2003). The argument here therefore, is that, student in this field of study, especially the beginners (at technical college level) who are just entering the world of technology need to be handled with care and by teachers who possess high level of emotional intelligence. This is because studies have revealed that, students of engineering, technology and other related courses are often seen to be more anxious, excited and more difficult to handle emotionally (Schneider, 2022). They therefore need effective teachers who can attend to their emotional requirements.

Efficient teaching and good learning are two most important factors of success in the academia. Conventionally, in technical collages, a teacher brings two things to the classroom that are valuable to the learners. One is the subject expertise; the other is the knowledge of teaching method (a teacher's pedagogy, such as how to structure and explain the content being presented, uses materials and so on). Emotional intelligence is the third unrecognized component of 'good' equipment maintenance skills of what the teacher has to offer to the learners (Mortiboys, 2005). This is because learning of technologically inclined subjects involves struggle, frustration and thrill or excitement. A good teacher of electrical/electronic technology and equipment maintenance work needs to understand individual teachers/students and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement and motivation to learn. A study conducted at Cornell's College of Engineering also revealed that 62% of teachers/students of engineering and other related courses felt extremely anxious about their teaching/learning performances (Schneider, 2022).

Furthermore, according to neuroscience, the neural connection between the thinking and emotional center of the brain can either enhance or inhibit person's ability to learn (Cacioppo & Bernston, 2009). Studies have also shown that emotions can activate and stimulate the brain for better recall and are crucial to sensory development because this facilitates the storage of information (1988). This therefore helps in creating a positive learning environment and motivates teachers of electrical/electronic technology and equipment maintenance skills (work) for better performance because

how person teaches is as important as what he/she teaches. Hence, the problem of this study, put in form of a question is: What is the relationship between teacher's emotional intelligence and equipment maintenance skills of electrical/electronic technology and maintenance work teachers?

Theoretical Framework

Theories are set of interrelated constructs, definitions and prepositions that present a rational view of phenomena by explaining or predicting relationships among those elements. Theoretical framework therefore, is a set of theoretical assumptions that explain the relationships among a set of phenomena (Camp, 2022). Consequently, the following theories of intelligence are reviewed.

Multiple Intelligence Theory: The proponent of this theory was (Gardner, 1975). The theory states that every person has eight intelligences and most people can develop each intelligence to a level of competency. The intelligences tend to work together in complex way and there are many ways to be smart within each type of intelligence. These forms of intelligence according to Gardner are verbal/linguistic, logical/mathematics, musical/rhythmic, bodily/kinesthetic, visual/spatial, intrapersonal/ interpersonal and naturalistic (Gardner, 1975). The intelligences are essential in the teaching of electrical installation and maintenance work. For instance, a teacher who possesses high level listening competency can be able to discern different pitches, rhythms and tones in the course of radio maintenance work. The same thing goes for logical/mathematics skills which the teacher required to analyze abstract and complex electrical and electronics concepts into logical patterns that students can understand. By exploring the prospects of developing many of the eight intelligences therefore, teachers of electrical installation and maintenance work will be equipped to face their task which requires multiple skills.

Emotional Intelligence Theory: Goleman, (1988) postulated this theory. It states that the emotional intelligence of individuals is made up of five characteristics. These include: Self Awareness, which is the ability of an individual to recognize and understand his moods, emotions and drives as well as their effect on others; Self-Regulation, which is the ability of an individual to control or redirect disruptive impulses and moods and the propensity to suspend judgments - to think before acting; Motivation, which is individual's passion to work for reasons that go beyond money or status and propensity to pursue goals with energy and persistence; Empathy – ability to understand the emotional makeup of others and skills in treating people according to their emotional reactions; Social skill – ability to manage relationships and build networks with other colleagues. However, (Goleman, 1988) revealed that individuals are born with a general EI that determines their potentials for learning emotional competences. These competences are not innate talents, but rather learned capabilities that must be worked on and developed to achieve outstanding performance. Emotional intelligence by itself is probably not a predictor of instructional performance; instead, it provides a foundation for emotional competences which are very strong predictors of instructional performance

as different jobs require different competencies. Haskett, (2003) found a significant link between specific EI competencies and effective teaching. For instance, a teacher of electrical installation and maintenance work needs to be competent in knowing his weakness and strengths (Self-awareness), build positive relationships with students and teachers, think before acting and have passion about the work of teaching. These competencies will enhance his ability to deliver effectively. The theory of emotional intelligence therefore is relevant to the instructional performance of the teachers of electrical installation and maintenance work; hence, it is adopted for this study.

Purpose of the Study

This study sought to; 1. Determine the relationship between emotional intelligence and instructional performance of electrical/electronic technology and maintenance work teachers in Kwara State; 2. Determine the relationship between emotional intelligence and gender of electrical/electronic technology and maintenance work teachers in Kwara State.

Research Questions

1. What is the relationship between emotional intelligence and instructional performance of electrical/electronic technology and maintenance work teachers in Kwara State?
2. What is the relationship between emotional intelligence and gender of electrical/electronic technology and maintenance work teachers in Kwara State?

Methodology

The research was a correlation survey study in which standardized tools were used. The investigation examined the relationship between a predictor variable Emotional Intelligence with a criterion variable Instructional Performance. The population consists of all the teachers and students of electrical/electronic technology and maintenance work in the six technical collages in Kwara State. This comprises of 50 teachers (42 males and 8 females) and 200 students (176 males and 24 females). Thus, a total number of 218 males and 32 females making a grand total of 250 respondents were used for this study. A pilot study was carried out at Government Technical collage Funtua, Katsina State. Thirty (30) respondents, who were not part of the main study, were used to ascertain the validity and reliability of all the instruments used for this study. Emotional Intelligence scale (EIS) by (Hyde, et al), was used to measure the EI of the teachers and it is in line with Goleman's view of emotional intelligence. The split half reliability coefficient of the scale is 0.88 and its content validity is 0.93. The scale has a total of 34 items with responses of Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (DA) and Strongly Disagree (SD). It measures ten components of emotional intelligence: Self awareness, empathy, self-motivation, emotional stability, managing relations, integrity, self-development, value orientation, commitment and altruistic behavior. Instructional Performance Scale (IPS), developed by (Puri, &

Ghakar, 2010), was administered to measure the instructional performance of the teachers. The test-retest reliability coefficient of the scale is 0.76 and its content validity is 0.91. The scale consists of a total of 68 items with response options of Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (DA) and Strongly Disagree (SD). The areas of teaching measured by the items are: Academic and professional knowledge, preparation and presentation of lesson, class management, attitude towards students, parent, colleagues and head of collage, use of motivation, reward and punishment, result feedback, accountability and personal qualities. Teacher Rating Scale (TRS), developed by (Deva, 2003) was used for the rating of teachers' instructional performances by students. The scale consists of 17 dimensions, grouped under three categories, which are: Personal qualities, professional competence and classroom performance of the teachers. The inter-rater reliability coefficient of the scale is 0.91 and the content validity is 0.85. Approval for the investigation was obtained from the principals of each of the six technical collages in the state. All the teachers/students of electrical installation and maintenance work were contacted personally by the research assistant and after a general introduction, both tools were administered. The confidentiality of information obtained from the respondents was guaranteed. Completed questionnaires were collected after few days. Data analysis was done using statistical software (SPSS, 23.00 version). Mean, standard deviation, pearson (r) correlation and t-test were used to determine the relationship, predictive value and differences in the variables under study. According to (Ozuagulu, 2011) Pearson r correlation can be used to determine the relationship between two variables in any circumstance. Correlation coefficient can take on values from -1.00, which is a strong negative relationship (indicating high scores on one variable go with low score on the second variable), through 0.00 (indicating no relationship at all), to +1.00, which on the other hand, is a strong positive relationship (indicating high score on one variable go with high score on the second variable).

Result

Table 1: EI, Self-Reported Instructional Performance (IPS) and Student-Rated Instructional Performance (TRS)

Items	N	Mean	Std Error of Mean	SD
EI	250	127.58	0.572	9.100
IPS	250	278.43	1.337	21.210
TRS	250	85.63	0.900	14.300

TRS 250 85.63 0.900 14.300

Key: SD=Standard Deviation, N=250

The table shows the descriptive statistics regarding the scores of the teachers on EI, Instructional Performance Scale (IPS) and Teacher Rating Scale for the entire population. The respective means of EI, IPS and TRS scores are 127.58 (SD=9.1), 278.43 (SD=21.21) and 85.63 (SD=14.3). The analysis revealed the normal distribution of data. IPS scores were obtained through self-reported teachers' instructional

performance, whereas, TRS scores were obtained through student-rated instructional performance.

Table 2: Inter-Items correlation of variables under study

S/N	Items	1	2	3	4	5	6	7	8	9	10	11	12
1	SA	-											
2	EMP	0.464	-										
3	SM	0.621	0.393	-									
4	ES	0.573	0.584	0.557	-								
5	MR	0.574	0.587	0.456	0.656	-							
6	INT	0.479	0.333	0.471	0.513	0.483	-						
7	SD	0.368	0.204	0.300	0.429	0.343	0.415	-					
8	VO	0.425	0.392	0.425	0.387	0.279	0.206	0.165	-				
9	COM	0.496	0.357	0.461	0.368	0.473	0.430	0.253*	0.450	-			
10	AIT	0.324	0.370	0.451	0.420	0.389	0.386	0.312	0.267*	0.396	-		
11	EI	0.326	0.457	0.526	0.367	0.421	0.517	0.584	0.560	0.659	0.507	-	
12	IPS	0.567	0.499	0.568	0.661	0.596	0.519	0.393	0.307	0.474	0.304	0.750	-
13	TRS	0.533	0.422	0.564	0.612	0.560	0.434	0.377	0.204	0.382	0.367	0.672	0.550

Key: *N=250, SA=Self- Awareness, EMP= Empathy, SM= Self-Motivation, ES=Emotional-Stability, MR=Managing Relations, INT=Integrity, SD=Self-Development, VO= Value Orientation, COM=Commitment, ALT=Altruism, IPS=Self-Reported instructional Performance, TRS=Student Rated Instructional Performance*

**P<0.05. All correlations except those marked with asterisks are significant at 0.01 level, values less than 0.2249 is insignificant*

It was predicted that there would be a positive relationship between EI, IPS and TRS. This was supported in the study as a strong relationship ($r = 0.750$, $p < 0.01$) was found between EI and IPS. The correlation between IPS and TRS ($r = 0.550$, $p < 0.01$) indicates that, although there is a positive relationship between teachers' self-perception and students perception about their teachers' instructional performance, the relation is not very strong. This is because some of the teachers had reported their performances lower than how students rated them while other teachers reported higher than the students. Data shown in table 2 also indicated that emotional stability had the highest correlation ($r = 0.550$) with IPS, followed by managing relations ($r = 0.596$), self-motivation ($r = 0.568$), self awareness ($r = 567$), integrity ($r = 0.529$), empathy ($r = 0$ 499), value orientation ($r = 0.307$), altruism ($r = 0.304$) and self-development ($r = 0.393$). With TRS also, emotional stability had the highest correlation ($r = 0.612$), followed by managing relations ($r = 0.560$), self-motivation ($r = 0.564$), self-awareness ($r = 0.533$),

integrity (r = 0.434), empathy (r = 0.422), commitment (r = 0.382), self-development (r = 0.377), altruism (r = 0.367) and value orientation (r = 0.204).

Table 3: Difference in EI, IPS, and TRS of Male and Female Teachers

	Gender	N	Mean	SD	t-test
EI	M	218	140.06	9.18	0.334
	F	32	139.16	9.15	
IPS	M	218	290.45	21.37	0.880 (N.S)
	F	32	290.41	21.10	
TRS	M	218	76.92	14.00	0.105 (N.S)
	F	32	77.35	14.57	

Key: N.S= Non Significant, SD= Standard Deviation

Table 3 indicates group statistics for EI, IPS and TRS in the case of male and female teachers. The mean of the male teachers EI was 140.06 (SD = 9.18), and that of the female teachers was 139.16 (SD = 9.15). The value of t for the two groups (0.334) indicated that there is no significant difference found in the EI of male and female teachers. The mean respective scores of IPS and TRS for male respondents were 290.45 (SD = 21.37) and 76.92 (SD = 14.00) whereas for female members it was 290.41 (SD = 21.10) and 76.35 (SD = 14.57). The value of t on IPS (0.880) and on TRS (0.105) indicates that there were no significant difference in the instructional performance of male and female teachers, although the mean of teachers' instructional performance rated by students was higher than that of female teachers, the difference was not significant at 0.05 level.

Discussion

The result of the study emerging from table 1 indicates a normal distribution of both IPS scores obtained through self-reported teachers' instructional performance and TRS scores obtained through student-rated instructional performance. This shows a relationship between emotional intelligence and instructional performance of the teachers leading to students' ability to freely rate the performance of their teachers in class. This implies that, learners' perception may be influenced by their teacher's emotional intelligence. If learners perceive the teacher as showing care and respect towards them, they are likely to interpret the strictness of the teacher in a positive manner and try to follow the instructions given by him/her (Mortiboys, 2005).

Table 2 revealed a positive relationship between EI, IPS and TRS. This indicates that, the EI of electrical installation and maintenance work teachers in Kwara State technical collages has a significant positive relationship with their instructional performance. This means, the higher the EI, the better the teaching effectiveness, because emotionally intelligent teachers seek to have more confidence not just in the subject content and materials but also in their ability to manage their own emotions and

that of other colleague teachers and students. They also put energy in to planning for better performance by preparing to meet the learners' expectations (Jensen, 1988). This is proved as emotional stability had the highest correlation with IPS, followed by managing relations, self-motivation, self-awareness, integrity, empathy, value-orientation, altruism and self-development. On TRS also, emotional stability had the highest correlation, followed by managing relations, self-motivation, self-awareness, integrity, empathy, commitment, self-development, altruism and value orientation. There is also a significant correlation between self-awareness, emotional stability and managing relations. This is because, if teachers cannot interpret their own emotions, they may not be able to do same for others (Carver, 2003).

It is worthy of notice that, according to students' ratings, empathy was not a very strong predictor of instructional performance. This was probably because a teacher may be high on empathy but he/she may not have acquired the skills, based on empathy, that lead to students' satisfaction in teaching, the ability to monitor their progress, or to resolve conflict. Teachers' self-reported empathy had a better predictive value for of instructional performance as it helps in understanding the emotions of others which leads to better interpersonal relations and also helps to deal effectively with conflicts (Welch, 2003). This is supported in the study as empathy had a significantly high correlation with emotional stability and managing relations. Empathy also revealed significant correlations with altruism and commitment. This may be because empathy helps teachers in understanding the needs and expectations of the students, thus motivating them to be committed to improve their instructional performance. Value orientation and altruism did not prove to be significant predictors as their correlation with of instructional performance was not very strong. But their correlation with self-motivation and overall EI was significant which shows that probably value orientation and altruism do not have a direct impact on of instructional performance but they are relevant in developing the overall EI of a teacher and motivate him/her for better performance. Table 3 indicates group statistics for EI, IPS and TRS in the case of male and female teachers, where no significant difference could be seen between the EI and gender of electrical installation and maintenance work teachers. Research findings on gender differences in the EI of teachers are not very consistent and there are different views in that regard. Some studies like that by (Mayer & Geher, 1996) have found significant difference in EI of teacher in private and public settings. (Goleman 1988), asserted that no gender difference in EI exist, admitting that while men and women may have different profiles of strength and weaknesses in different areas of emotional intelligence, their overall level of EI is equivalent.

Conclusion and Recommendations

The present study has revealed that complex jobs like the teaching of electrical/electronic technology and equipment maintenance work for technical college level students (beginners) require a teacher who possesses not just subject expertise and pedagogical abilities but also high level of emotional intelligence. This is because the

students who are just being introduced to the world of technology tend to be anxious and more difficult to handle. Deficiencies in the components of EI in such type teachers can hinder the use of whatever technical and intellectual abilities the teacher may have. Gender differences in EI was not significant, hence it is concluded that, with changing societal perceptions, gender stereotype is also changing and female are starting to be seen as competent teachers of electrical/electronic technology and equipment maintenance work in technical collages. From the findings of this study therefore, it is recommended that:

1. Awareness among teachers about the significance of improving their emotional intelligences towards effective teaching of electrical/electronic technology and equipment maintenance work should be created.
2. The curriculum for technical teachers training should also be amended to include emotional intelligence developmental courses.
3. EI intervention programmes for the existing teachers of electrical/electronic technology and equipment maintenance work and other related areas should be introduced in the state to develop the IE of her teachers as this will enhance their instructional performance.
4. More female technical teachers should be employed to teach electrical/electronic technology and equipment maintenance work so as to boost the teaching manpower and discourage gender stereotyping. This is especially as this study revealed no significant difference between EI and gender of teachers of electrical/electronic technology and equipment maintenance work teachers.

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THE ROLE OF EDUCATION IN EFFECTIVE MANAGEMENT OF COMMUNAL CONFLICTS INVOLVING NOMADIC PASTORALISTS IN NIGERIA

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Abstract
The paper examines communal conflicts involving nomadic pastoralists and the role that education can play in effective management of these conflicts. From the conflict perspective, the paper views communal conflict involving nomadic pastoralists as emanating from group struggle with nomads, who believe to be oppressed, marginalized and alienated. The concepts of conflict, communal conflicts and conflict management were clarified from scholarly view points in the paper. Also, the role of education towards effective conflict management were highlighted. The paper however concluded that many programs introduced to educate nomadic pastoralists are associated with challenges which make access to education for them still difficult and illiteracy rate very high. Therefore, the paper suggested among other things the need for adequate funding of education because underfunding has been identified as the major reason why the laudable objectives of nomadic education are not achieved as well as adequate and continuous mobilization and sensitization programs.
Keywords: *Nomadic Pastoralist, RUGA, Conflict, Conflict Management, Nomadic Education*

Introduction

Since Nigeria's attainment of independence in 1960, efforts towards building a united, strong and economically self-reliant nation has been hampered by different obstacles; prominent among these are conflicts and violence of different dimension. These conflicts which include electoral conflict, ethnic conflict, religious conflict,

herdsman-farmer conflict, communal conflict, and indigene/settler conflict have become brazen characteristics of developments in Nigeria especially in democratic dispensations. Among these conflicts, communal conflict involving pastoralists in northern Nigeria have persisted for decades. While farmers accuse pastoralists illegal encroachment into their farmlands, the pastoralists are angered by the decision to turn Grazing Reserves into farmlands therefore the major causes of conflicts involving nomadic pastoralists and farmers include disputes over land use and competition over resource.

It is pertinent to note that government had employed diversified strategies to cushion the effect of clashes between herdsmen and farmers, but because of certain leakages in those strategies, the target has not been achieved. For instance, the formation of the National Commission for Nomadic Education that began its activities in 1990 introduced mobile schools for the children of nomads as well as the system of 'Radio and Television Education'. But despite the huge amount expended for the program (NCNE had spent over 72,930,000 to produce text books for only one session in 1991), no laudable achievement was recorded. Iro, (2004). According to him, although the government has spent millions of naira in nomadic education program, the measure of educational attainment among the Fulani remains low. The quality of education among them is mediocre at best. The nomadic education is, therefore, yet to lift the literacy and standard of living of the Fulani. Iro, (2004).

There is yet the issue of the establishment of Rural Grazing Areas (RUGA) by virtually all the northern states to avail the nomadic pastoralists adequate grazing reserves (Burtali) for their animals. This was carved out of the grazing reserve act of 1964 to suppress the continuous conflict involving nomads. But when it was introduced into national policy, it faced criticisms from various angles especially in the southern part of Nigeria. Alugbele, (2021) believed that the major reason for the total rejection of the Federal Government proposal to implement the Grazing Reserves Law of 1964, by way of establishing Rural Grazing Area (RUGA) is that it was an attempt to grant unmerited right to the Fulani herdsmen over the indigenous people and host communities across the various states of the Federation. Both farmers and herdsmen are in private business and none of the parties must be given preferential treatment. Alugbele, (2021).

Whatever the causes, it is the belief of the paper that functional education to pastoralists can prove effective in efforts to manage conflicts involving pastoralists. This is endorsed by Babatunde (2006) the integration of the ethnic nationalities in Nigeria requires a transformation of attitudes and values. Indeed, education ensures promotion of desirable attitudes that can pave way for effective management of communal conflicts.

Conceptual Clarification

The concept of conflict has been defined in different ways by different scholars. According to Brosché and Elfversson in Torbjonsson (2016), Conflict refers to "A social situation in which a minimum of two actors strive to acquire at the same moment in time an available set of scarce resources". Here, the actors may be farmers, herders, villagers

or self-defense militias, but the common factor remains that they are organized through common identity.

Communal conflict is a social conflict that relates to a group or groups in a society. Oboh and Hyande (2006) described communal conflict as involving two or more communities engaging themselves in disagreement or act of violence over issues such as claims for land ownership, religious and political difference leading to loss of lives and destruction of properties. This was also supported by Brosche and Elfversson in Torbjornsson (2016) who argued that communal conflict is a social situation in which a minimum of two actors strive to acquire at the same moment in time an available set of scarce resources. Communal conflicts involving pastoralists are reported from virtually all the states in Nigeria. According to Tuki, (2023), over 2,000 conflicts (eighty three percent of them were categorized as violent conflicts) were reported across the 36 states and FCT in Nigeria from 1997 to 2021 as postulated by Armed Conflicts Location and Events Data (ACLED).Although some states had lesser conflicts in the previous years as stated in the table below:

Distribution of pastoral conflicts across Nigeria's States (1997-2021)

State	Frequency	Percent	Cumulative
Abia	6	0.27	0.27
Adamawa	93	4.23	4.51
Akwa Ibom	5	0.23	4.74
Anambra	20	0.91	5.65
Bauchi	8	0.36	6.01
Bayelsa	3	0.14	6.15
Benue	352	16.03	22.18
Borno	19	0.87	23.04
Cross River	4	0.18	23.22
Delta	87	3.96	27.19
Ebonyi	12	0.55	27.73
Edo	24	1.09	28.83
Ekiti	13	0.59	29.42
Enugu	36	1.64	31.06
Federal Capital Territory	21	0.96	32.01
Gombe	4	0.18	32.19
Imo	11	0.50	32.70
Jigawa	27	1.23	33.93
Kaduna	257	11.70	45.63
Kano	3	0.14	45.77
Katsina	55	2.50	48.27
Kebbi	10	0.46	48.72

Kogi	48	2.19	50.91
Kwara	23	1.05	51.96
Lagos	7	0.32	52.28
Nassarawa	133	6.06	58.33
Niger	46	2.09	60.43
Ogun	40	1.82	62.25
Ondo	38	1.73	63.98
Osun	12	0.55	64.53
Oyo	49	2.23	66.76
Plateau	365	16.62	83.38
Rivers	7	0.32	83.70
Sokoto	17	0.77	84.47
Taraba	146	6.65	91.12
Zamfara	195	8.88	100.00
Total	**2,196**	**100.00**	

Note: ***Based on ACLED data Raleigh et al. in Tuki (2023).***

On the basis of these definitions, the conflict over grazing lands between farmers and nomadic pastoralists that is common in many communities in Nigeria as clearly shown in the above table can be considered as communal conflict hence, the need to design strategic plans of managing those conflicts.

Conflict management can be referred to as the strategies employed in identifying, addressing and amicably resolving conflicts in the society. It is a situation where two conflicting parties reach a certain agreeable decision through internal or external intervention. This is in line with Tuki (2023), who posited that if intergroup trust is to be fostered, policymakers first need to be aware of how perceptions vary across cultural groups. In the short term, the government could take concrete steps towards improving the security situation in the state because “when culprits are not brought to book, it erodes institutional trust, prompting people to take the law into their own hands”. Tuki (2023). In Nigeria, approaches to conflict management and peace building involve institutions and structures established by government either on its own or in collaboration with other peace actors such as community leaders and non-governmental organizations NGOs. Community leaders are probably the most important such are local mechanisms that bring together different stakeholders to work with government agencies, including those in charge of law enforcement and security to spearhead conflict management and peace-building initiatives through elaborate networks at the community level that provide a basis for early warning and rapid response. However, in managing the pastoral conflict, leaders of nomadic pastoralists should be part and parcel of the decision-making process, dialogue, relevant policy formulation and policy implementation.

Education is considered by different scholars as an essential agent for conflict management. Education can be defined as the acquisition of knowledge and skills in order to be useful in the society. It places people into acquisition of right type of values which enables them to live in harmony with one another within the society. According to Koenig in Julia, (2015), education is the process whereby society seeks to transmit its traditions, its customs and its skills to its young members. Similarly, Durkheim in Julia, (2015) also defined education as "the influence exercised by adult generations on those that are not yet ready for social life. Its object is to arouse and to develop in the child a certain number of physical, intellectual and moral states which are demanded of him by both the political society as a whole and special milieu for which he is specially destined".

Consequently, some conflicts between pastoralists and farmers can be managed effectively through inculcation of the right type of values which is among the purpose of education.

Theoretical frame work

The paper lends support on conflict theory whose major exponent is Karl Marx. The central theme of the theory is that society is in continuum struggle leading to conflict among the different strata based on differential positions they occupy in the productive hierarchy and the cause of conflict in the society is embedded in the economic system, that the economic system in society is the most fundamental institution. Thus, when the economic institution is affected all other super-structures like family, political organization, legal systems would be affected as a matter of fact. According to Julia (2015), Marx believes that economy is the primary foundation or infrastructure and that the exploitation of one party over the other would lead to conflict and struggle between the two parties ending in a bloody fight and violent overthrow…. Julia, (2015)

The theory can however be used to explain the topic under investigation This class division and use of power by the dominant class is not without consequences to the human society because the exploitation, alienation and oppression of the lower class sometimes let them with no alternative other than to conflict as means of struggle to change the status quo for their betterment. On the basis of this, the decision to turn grazing lands into farmlands, the denial of quality basic education to the school aged children of the nomads, the rustling of cattle and the lacking of most basic amenities associated with pastoralists can be considered in this discussion as part of the marginalization and alienation which pastoralists suffer in the society and is the reason behind their involvement in some conflicts.

The Plight of Nomadic Pastoralists and its implication

For time immemorial, there were established routes, grazing reserves, and watering points for animals however, a challenge is posed to herding in the contemporary times. With urbanization and increase in population, the resultant demand

for residential and business spaces have pushed development to the outskirt of cities, taking over grazing areas and turning them to expanses of concrete and metal structures. Animals now compete with human beings and vehicles on the roads which most often than not, exposes animals vulnerable to road accidents. Such development explains why some Fulani accept nomadic life as inevitabilities of fate. Jibrin (2000) lamented that "the insidious nature of their settlement has regrettably robbed them into contiguous homelands. In the meantime, population explosion, violent crime and greater pressure on pastures make nomads a difficult life. In addition, this lifestyle makes them at the disadvantage lacking in most basic amenities such as education, portable drinking water, and electricity among others in spite of their immense contribution to the national development.

In recent times, the rising cases of cattle rustling are threatening herding in northern Nigeria. For instance, in an interview with BBC radio Hausa service the then Governor of Katsina State, Aminu Bello Masari decried that in 2015 alone (between January to August) about 3000 pastoralists' cows were reported stolen in the state. Similarly, as cited in the Leadership Newspaper, the Adamawa state factional scribe of the state chapter of Miyetti Allah Cattle Breeders Association (MACBAN) Mallam Usman Liman Demsa lamented that no fewer than 1,500 cattle have been lost to thieves in the last one year alone, costing millions of naira.

The alienation and marginalization or absence of basic necessities of life to nomadic pastoralists as Adeniran, Olugbuyi and Balogun (2013) pointed out can also make them to cause violence in the society or may lead to conflict or war that can destroy lives and properties. This is because violence is often a response when grievances are not adequately addressed by a stakeholder concerned. Consequently, without serious commitment by the government to protect their animals and their grazing areas, nomadic pastoralists decide to engage in to taking laws into their hands in many different ways among which are:

Table 2: Communal Conflicts Suspected to Involve Nomadic Pastoralists

Date	Nature of Attacks and the aftermath
29th December, 2018:	Armed bandits and cattle-rustlers attack communities of Malikawa, Gidan Haliliu, and Gidan Kaka in Maradun and Birnin Magaji LGAs, Zamfara State where 64 community members were killed and hundreds of cattle rustled.
9th July, 2015:	A large group of suspected well- armed cattle rustlers numbering about 50 attacked Cigama and Kokiya communities of Birnin Magaji LGA, Zamfara State
3rd Nov, 2014:	Unknown gunmen suspected to be cattle rustlers launched coordinated attacks against three Local Governments areas. First, they allegedly destroyed about 30,000 hectares of farmland in Gurbin Baure, Farara, Shinfida and Garin Maiwuya among others all along Zamfara/Katsina neighboring forest reserve.

The Role of Education in Effective Management of Communal Conflicts Involving Pastoralists

Education is any type of training aimed at balanced growth of the total personality of man. Aside from imparting of knowledge and skills, education also inculcates in an individual, fundamental dispositions such as attitudes, values and norms of the society. This encompasses values of unity, tolerance, honesty and cooperation. By reaching out to and injecting these in nomadic pastoralists, education is facilitating effective management of communal conflicts.

In line with this, Jibril, (2000) observes that Education equips the nomadic pastoralists with the necessary attitudes and the skills that helps to increase their productivity. Greater productivity by nomadic herdsmen means for highly food for the country (p 71).

This therefore means that provision of education to the nomads will change their attitude towards accepting the right types of values which the society cherishes and by so doing increase their productivity for their own benefit and the nation in general. It will also equip the necessary knowledge on how to properly channel their grievances in an appropriate manner.

In view of the value attached to education in transformation of individual and society for the better, commitment was shown by government to give nomads access to education through the establishment of National Commission for Nomadic Education (NCNE) which was established by the decree 41 of 12 December, 1989. The objectives of commission are as follows:

1. Formulate policies and issue guidelines in all matters relating to nomadic education in Nigeria.
2. Provide fund for:
    - i- Research and personal development for the improvement of the nomadic education in Nigeria,
    - ii- The development of programs on nomadic education,
    - iii- Equipment, other instructional materials (including teaching aids and amenities), construction of classrooms and other facilities relating to nomadic education.
3. Arrange effective monitoring and evaluation of the activities of agencies concerned with nomadic education.
4. Establish, manage and maintain primary schools for nomadic children.
5. Determine standards of skills to be attained in nomadic education.
6. Collate, analyze and publish information relating to nomadic education in Nigeria.
7. Prepare reliable statistics of nomads and their children of school aged.
8. Act as agency for channeling all external aids to nomadic schools in Nigeria

Since its establishment and subsequent formation of these objectives, the commission introduced various programs and policies in order to provide basic education to nomadic pastoralists; children and adults through provision of adult

extension education. In view of their unique lifestyle of nomadic, special education programs contrary to conventional were introduced to suit their lifestyle. Some of these strategies include mobile school system, radio programs, and distance learning strategies through the use of advance technologies among others. To achieve that, government allocated funds for the execution of those program. For instance, it was reported that the commission in 1990 only, expended N72,930,000 in the production of textbooks for the nomadic education, and millions were expended in producing mobile schools. Iro, (1994).

However, in spite of the huge resources said to have been invested in the implementation, these and other programs introduced, access to education among both nomadic pastoralist adults and their children is not forthcoming and thus illiteracy rates remain very high. Part of the reasons according to Jibrin (2000)the distance learning strategy of teaching in nomadic education is faulty because it uses advance technology which is very difficult for the nomadic children who live in very remotest villages or ***Rugga***. Similarly, Finding teachers who can adapt to mobile lifestyle become difficult and therefore employing adequate teachers remain out of the question, let alone securing the services of qualified teachers which even the conventional schools are lacking.

Conclusion

Effective management of communal conflicts involving nomadic pastoralists is of paramount importance because apart from loss of lives of both farmers and herdsmen, national food security in particular and national economy at large are at great risk as foodstuff and livestock supplies are negatively affected due to cattle rustling and grazing of agricultural products. Conflict begets conflict, and crime begets crime when not controlled. It was observed that the current situation of banditry suffered in some parts of northern Nigeria emanated from communal conflicts involving herdsmen and farmers which was undermanaged or, to some extent being neglected. This is in line with Marxist theory that postulates that the exploitation of one party over the other would lead to conflict and struggle between the two parties ending in a bloody fight and violent overthrow. Julia, (2015)

Functional education is a means of inculcating desirable values, attitudes and skills that can discourage individual from engaging into any act of violence. However, access to education to both nomadic pastoralists adults and their children is not adequate due to ineffectiveness of various programs introduced to educate them.

Suggestions

From what was discussed on the communal conflicts involving nomadic pastoralists, the following recommendations were put forward:

i. There is need for more proactive measures in tackling challenges facing some of the strategies and programs initially introduced to educate nomadic pastoralists such as mobile school systems, radio programs among others. The gatekeepers of

the nomadic pastoralists like MACBAN should be carried along in the decision making.

ii. Similarly, the programs and strategies introduced to educate nomadic pastoralists need to be made more suitable to their lifestyle for them to acquire education. This is because it is believed that education inculcates the right type of values and attitudes for the survival of individual and the society; an educated person is never expected to take laws in his own hand.

iii. There is need for adequate sensitization campaigns on value of education as well as need for peaceful co-existence between the nomadic pastoralists and other communities. This should be carried out by stakeholders that must include their representatives.

iv. Government should make sure that all the identified stakeholders are brought together under a common forum and included in the decision making and allowed to participate actively in the planning process. The adoption of a participatory planning process that involves all stakeholders (herdsmen and crop growers) in the dispute resolution mechanism will help to promote consensus instead of conflict.

v. There should be adequate funding of education. This is because underfunding has been identified as the major reason why most laudable objectives of nomadic education are not achieved.

vi. There is need for Pastoralists to be ready to respect the laws of the land. To do this, the issue of cattle tax (Jangali) needs to be revisited. This however, can only be possible when the pastoralists avail themselves to be known, registered and their movement monitored before any reasonable planning for the livestock sector would be possible.

vii. Nomadic Education Delivery has to be forged not necessarily for Nomads but WITH them. When the program initiated is community-based and community-owned, nomadic pastoralists education can be sustained and make do with even little financial contribution from the federal and states governments.

viii. Another vital area of integral concern to Nigeria policy makers concerning nomadic pastoralists education delivery for conflict management has to do with the use of land. A comprehensive approach and viable solution should be adopted to deal with the question over rights to grazing areas, cattle paths, and routes which have been a major source of herders-farmers conflict leading to destruction of nomadic structures. Similarly, the re-thinking process has to take into cognizance the need to revitalize the grazing reserves established by previous governments by bringing back life to their moribund facilities as well as provide the much-needed social amenities like schools and clinics for pastoralists.

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