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The College of Education Gidan Waya Academic Staff Union Multidisciplinary Journal of Education show-cases research articles on contemporary issues using seasoned diverse research techniques and global perspectives couched on national and international best practices.

It is a broad spectrummed forum where submitted articles are initially checked and assigned by the editorial board to a blind pair of reviewers whose independent views are subsequently juxtaposed and averaged by the editorial crew. The outcome is used to adjudge an article as publishable or otherwise.

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The Journal accommodates erudite, established and striving academics to show-case research articles on contemporary issues while ensuring as contributors that:

Article(s) must be original and must not have been published or under consideration for publication in any other journal.

The title page should bear a clear title of the article, name, department, institution, rank, qualification and phone number of the contributor.

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The article should be based on Empirical Research: analytical, descriptive and research reports on any educational disciplines geared towards solving educational problems.

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All citation and referencing must follow the current APA style in addition to other designated recommendations.

Tables and figures must be kept to the bearest minimum.

Quoted passages of more than three lines should be indented 5 spaces and typed single spaced. While shorter quotations should be enclosed in either single or double inverted commas.

EDITORIAL COMMENT

The *Gidan Waya Journal of Education (GIJOE)* is a Multidisciplinary Journal that publishes articles, research findings, and position papers. This year, the publication is the 3rd edition.

The Editorial Board received over seventy (70) potential articles from our subscribers both from within and outside the College community. After subjecting the articles to external and internal peer review sixty six articles met the requirements needed for publication. On the basis of this development, the Editorial Board resolved to publish the articles in two volumes concurrently, that's Volume 3 No. 1 and Volume 3 No. 2.

I wish to inform our numerous subscribers that the Editorial Board intends to create a website for the Journal to be in conformity with international best practices. I'm trusting God that all the necessary requirements to actualize this desired dream would be met before the next edition. I want to specially thank all the contributors for making the publication of this edition possible and worthwhile. Similarly, to our consultants, I appreciate and thank you for being very thorough in vetting the articles. I equally want to thank members of the Editorial Board for their efforts in making sure this edition is successful. The COEASU officials are also acknowledged and appreciated for the support and the confidence reposed on us to carry-out this onerous responsibility.

We crave the indulgence of our contributors and readers to pardon any observable lapses or errors for which we take responsibility while we strive towards improvement in subsequent editions.

Dr. Y. M. Abeku
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TABLE OF CONTENTS

Cover page	
Editorial Adviser	
Policy Statement and Guide to Authors	
Editorial Comment	
Use of Questioning and Reinforcement Teaching Skills by Secondary School Teachers During Classroom Teaching In Kaduna State, Nigeria <i>Hannatu Jacob (Ph.D), Yohanna Livingstone Peter & Joseph Ereje</i>	1
Bioconcretes: A Review of Biological Process of Self-healing Bacteria <i>Kefas Natsa Victor, Joel Margret & Loveth Sanda</i>	12
Role of Tales by Moonlight in Children's Theatre of Nigeria's Television Authority in Education <i>Veronica Joseph Dabo</i>	21
Assessing the Impact of Farmer-herder Conflict on Food Security in Some Local Government Areas of Southern Kaduna, Kaduna State Nigeria <i>Marcus, Nathan, David, Donald & Nahor, Alanzi Samaila</i>	31
Impact of Universal Basic Education (UBE) Curriculum Implementation On Community Development in Gomiše State <i>Dr. Jummai Andil Garba, Dr. Dawaki, Jummai Habu & Dr. Ephraim Francis Rikichi</i>	45
Effects of Graphic Organizers on English as Second Language (ESL) Reading Comprehension <i>Abroks Dauda Ubale, Leonard Ibrahim & Ishaya Ibrahim</i>	56
Effects of Jigsaw Teaching Strategy on Academic Performance of Jss3 Basic Science and Technology Students' in Kaura Local Government Kaduna, Nigeria. <i>Simon Garba, Jonathan Ayuba & Dauda Yohanna Hai</i>	68

Examination Malpractice in Nigeria: A Bane for National Development <i>David Sarkinnoma Madami & Stephen Victor Dutse</i>	79
Gender Bias in Construction Sites and its Implication on Girl-child Education <i>Oderinde, Oluwadamilola Christiana</i>	92
Effects of Farmers and Herders Conflicts on the Educational Development of the Nigerian Child <i>Justina Nwokocha, Martha Barnabas & Josiah Daniel</i>	104
Relevance of Biology Education on the Development of Modern Day Society <i>Nathaniel Joseph, Abagai Rose Takai & Sanda Loveth</i>	120
Techniques for Reducing Tomato (<i>Solanum Lycopersicum</i>) Post Harvest Losses: Imperative Steps towards Food Security in Nigeria. <i>Marajos Alkali</i>	132
Teaching Writing Skills on Pupils with Dysgraphia <i>Susana James</i>	141
Causes and Effects of Examination Malpractice in Nigeria <i>Ishaya, Kefas Monday, Gabriel Gladys Murna, Salisu Abdulsalam</i>	153
Religious Violence, Terrorism and the Peace of Christ in Southern Kaduna <i>Amboson David Sixtus, Waziri Reuben & Matthew Williams Barde</i>	160
Perceptions of Teachers and Instructors on the Applicable Competency Needs of Students in Cabinet Making Required for improved Practicals Skills in Technical Colleges in Kaduna State <i>Christopher Nuhu Yerima, Anthony Yakubu</i>	170
Quality Education as a Panacea for Achieving National Security <i>Simon Mallam, Mohammed Ibrahim & Bala Rita</i>	184

Radicalism in East African Theatre: A Critical Analysis of Ngugi's "The Trial of Dedan Kimathi" and "I Will Marry When I Want" <i>Victor Yunana Bowman, Emmanuel Nomshi Fabian & Bala Rita</i>	197
Declining Usage of Library and the increasing use of Internet by Students of Kaduna State College of Education Gidan-way <i>Haruna Abubakar Sadiq, Sarki Catherine Sim & Yohanna Livingstone Peter</i>	208
Media and Information Literacy (MIL): Its Benefits and Challenges in Colleges of Education in Nigeria <i>Sabo Douglas Garba</i>	218
Assessment of Construct Validity of Teacher-made English Tests in Sabon-Tasha Inspectorate Division of Kaduna State Ministry of Education Kaduna <i>Noah Dado Habu & Danladi Tasha</i>	225
Vertical Farming System: A Sustainable Agricultural Technology for Enhancing Food Security <i>Owoeye Ayodele Olusegun</i>	237
Diplomacy as an alternative Instrument for Peace in International Relations <i>Natsa Yorks James</i>	248
Challenging Issues in Teaching and Learning of Mathematics in Secondary Schools in Nigeria <i>Fidelis D. Ambrose, Jonah A. Anzah & Linus. S. Pitto</i>	265
A Comparative Study of Sacrifice in Christianity and African Traditional Religion in Kagoma Land, Kaduna State <i>Emmanuel Ishaku Ashafa</i>	283
Perceived Knowledge and Attitudes of Students towards participating in Recreational Activities in Kaduna State College of Education Gidan Waya <i>Lawal Ibrahim, Moses Emmanuel Musa</i>	293

Quality Da'wah by Nigerian Women: Hampering factors and Redemptive Strategies for Enhancement <i>Gambo Bala, Musa Abdullahi Badembo & Umar Jibrin Abubakar,</i>	301
Perceived Importance and Knowledge of Health Workers on Sexual Health Issues of Patients With End- Stage Renal Disease in Federal Medical Centre Bida, Niger State. <i>Rebecca Dashe Rimbut, & Dr. Yakubu Musa Abeku</i>	314
Abundance, Room-density, Biting- Rate and Gonotrophic Stages of Mosquitoes from Sabon Tasha, Kaduna State, Nigeria <i>Sanda Loveth, Mohammed Nura & Abagai Takai Rose</i>	328
Entrepreneurship and Creativity in Education: A Tool for Youths Employment and Job Creation in Nigeria <i>Abigail Ayuba, Dowyaro Abednego John, Josiah Daniel</i>	338
Teaching Methods as Determinants for the Implementation of Physical Education Curriculum in Public and Private Secondary Schools in Kaduna State, Nigeria <i>Aboh Yakubu</i>	349
Quality Assurance: A Panacea for Effective Primary Education Delivery in Kaduna State. <i>Iliya Dedan, Esther Danlami & Friday Iyah</i>	360
Effect of Covid-19 Pandemic on Academic Activities in Kaduna State, Nigeria <i>Audu Christopher, Jummai Adamu Waziri & Vincent Romanus</i>	369
Relationship between School Environment and Performance among Adolescents in Godogodo Educational Zone, Kaduna State <i>Alexander Yohanna, Yohanna Jamaa Bok & Jonathan Ayuba</i>	378

USE OF QUESTIONING AND REINFORCEMENT TEACHING SKILLS BY SECONDARY SCHOOL TEACHERS DURING CLASSROOM TEACHING IN KADUNA STATE, NIGERIA

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Abstract

The paper focuses on the use of questioning and reinforcement teaching skills by secondary teachers in Kaduna State. Two specific objectives, two research questions were raised and two null hypotheses were formulated to guide the study. The population of the study was 9,982 public secondary school teachers while the sample size was 375 teachers which was arrived at through the use of Krejcie Morgan's table of determining sample size. Random sampling technique was used to arrive at the sampled schools used for the study. The instrument for data collection was Lesson Observation Assessment Checklist (LOAC). The research questions were answered using mean and standard deviation and the hypotheses were tested using t-test of independent samples at 0.05 alpha level of significance. Results of the study showed that to a moderate extent secondary school teachers were skillful in their use of both questioning and reinforcement skills during teaching and learning process. The hypotheses indicated that there was no significant difference in the mean score of male and female teachers in their use of questioning and reinforcement skills. Based on the findings the paper concludes that teachers be encouraged to go on further training or studies to improve on their skills of teaching. It equally recommended that organizers of workshops and seminars for teachers should focus more on the use of various teaching skills to help teachers cope with current trends in teaching and learning process.

KEYWORDS: Questioning, Reinforcement, Teaching Skill and Classroom

Introduction

Education is a process of generating knowledge and developing human potentials. It includes being seen as a preparation for life and its ultimate goal is to achieve social, moral and economic wellbeing of the possessor (Onuoha, 2010). Similarly, Education is a means of self development, skills and habits are imparted across generations. It is a fundamental human right and primary means of human capital development (Mageka and Mahonge, 2013). Therefore, the purpose of education is not just making students literate but to enable them develop rational thinking ability and self sufficiency. In other words, if education is not properly delivered to individuals at the various levels, then the desire for the achievement of national development will be unrealistic especially in the face of global competitiveness. However, going to school is the best public policy tool available to develop skills and potentials; also school time can be fun and being in school increases a child's ability to become a useful, functional and acceptable member of the society. Even though, it is not enough to be in school because the most important thing that occurs in school is teaching and learning which if not properly handled will render the purpose of attending school meaningless and subsequently the aims of education will not be achieved. This explains why classroom teachers need to appropriately use the various teaching skills for successful teaching and learning to take place.

The art of teaching does not merely involve a simple transfer of knowledge from one person to another, rather, it is a complex process that facilitates and influences the process of learning, hence, the quality of a teacher is estimated on how much the students understand from his/her teaching (Aliyu, 2018). This study became necessary as the year 2020 pandemic disrupted every aspect of human life especially education which invariably means that teaching and learning were affected due to the lock-down. Consequently, a good number of students lost interest in school activities and learning as a whole. Reinforcement and questioning skills are relevant in motivating, activating the interest and also enhancing the learning of secondary school students.

Teaching Skill

Teaching is a rational and organised process of transmitting the acquired knowledge and skills in accordance to the professional principles and practice. Teaching involves the use of wide body of knowledge about the subject being taught. Tosin (2014) also asserted that teaching “is a social function that aims at necessary growth in others. It is an art of guiding and imparting knowledge which can only be done professionally by qualified and trained teachers”. Similarly, Umasankar and Pranab (2016) described teaching as “a process of imparting knowledge, skills, and attitude in order to bring about a desirable change in learners”. This means that, teaching as an activity, is not

aimless, but rather, it is an activity which is aimed at transforming the learner who is the target of any teaching and learning situation to become functional and useful to himself as an individual and the society as a whole.

Therefore, teachers at all levels of the educational system are very important in the educational system and very important in the overall development of any nation (Hyattractions, 2016). Going by the above definitions, it can be deduced that, the concern of teaching is to help others to acquire knowledge, skills and values which is not easily done except with the adequate training to do so. However, teaching young people need careful planning to grasp their attention throughout the lesson. Freddie (2018) argued that, instructing a classroom of energetic young people requires patience, dedication and engaging lesson plan to hold their attention. Also, to make this happen, teachers need a variety of skills, education and training to become proficient in their careers (Freddie, 2018). This explains why this study was carried out to ascertain the extent to which secondary school teachers in Kaduna state are using the various teaching skills in their classrooms.

Questioning Skill

The use of questions by classroom teachers daily as they interact with their students enables them to get the attention of learners. The point at which questions are asked is not important, the most important thing is for teachers to know why questions are asked in the classroom, the right type of questions to ask, how to ask them in order to promote students' learning and also knowing the right responses to give to students when they answer questions rightly or wrongly.

However, Ajibade in Aliyu (2018) asserts that questioning is “a skill used to elicit feedback to stimulate thinking and reasoning and to develop understanding. It is used to determine students' entry behaviour, personal behaviour, personal characteristics and understanding achievement and finding out if the set objectives of a lesson have been achieved or not”. In another vein, Kanno (2013) also described questioning as a means through which teachers can organise their teaching to achieve certain objectives. That is, as a device or skill, if questioning is properly used by teachers, lesson objectives will be achieved. Questioning is also, part of the activity that enhances participation and teacher - learner interaction in the classroom. In fact, it is the main part of classroom teaching and learning process. This makes the skill very important for every classroom teacher to use during classroom teaching and learning situation.

Reinforcement Skill

Reinforcement as a teaching skill has to do with the teacher's ability to respond to

students' actions as they occur within or outside the classroom. This skill is used in order to encourage or discourage students' behaviour by using either positive or negative reinforcement. Positive reinforcement can be in form of praise like, 'good', 'well done', 'keep it up', 'correct' and so on. While negative reinforcement can be used when a student is reprimanded over a bad behaviour, by giving him or her sharp and unpleasant look. In any case, when using reinforcement, teachers need to ensure that it is following an action or behaviour so that it would not lose its purpose.

Reinforcement can take many different forms including giving tangible items such as small prizes and tangible motivations such as social activities, sensory activities or special privileges (Laura, 2010). This implies that, ways of enhancing or encouraging behaviour of learners vary so reinforcement as a whole can either be positive or negative. However, positive reinforcement is teachers' response to learners to encourage re-occurrence of an approved behaviour at subsequent times. When used, it is the reward that motivates the students to learn better. In another vein, Ughamadu in Audu (2010) states that positive reinforcement is a variable in teaching and learning situation that motivates students' learning and contribution in classroom discussion. He added that, it captures students' attention and have them highly motivated, increases their verbal responses, increases their participation in classroom discussion as well as improves the students' general attitude towards the teacher and the school subjects.

In any case, the essence of reinforcement is to either encourage positive behaviour or discourage any attitude found capable of retarding learning. AFIRM Team (2015) also pointed out that, “positive reinforcement is the delivery of a reinforcer to increase appropriate behaviours whereas negative reinforcement is the removal of an aversive event or condition which also increases appropriate behaviour”. This means that, both reinforcements are relevant especially when applied appropriately as the need arises.

There is no doubt that the interference of the covid-19 pandemic has caused so many challenges on the Nigerian educational system. Education plays a particularly significant role in the children and adolescents' health and well being and has a lasting impact on their lives as adults (Hamad et al 2018). In many ways adapting to the covid-19 pandemic has become a challenge as a result of the lockdown which has not only caused loss of learning but also can be expected to diminish educational opportunities in the long term (Jandric, 2020).

However, teachers on return to schools enhanced learning and to an extent worked towards remedying the loss time through the use of questioning and reinforcement skills during teaching. Similarly, quality education implies that the needs of learners

are considered and addressed, through developing and delivering good lessons. This can be achieved by teachers' use of variety of teaching skills. As these will help motivate and enhance participation of learners after being away from school for a long period of time, also the appropriate use of the skills increases the comprehension of concepts taught during the teaching and learning process. Thereby the objectives of education as a whole would be achieved because if classroom teachers are doing well it is always reflected in their students' learning outcomes. It is against this backdrop therefore the researchers sought to find out the extent of the use of questioning and reinforcement teaching skills by teachers in Kaduna State.

Objectives of the Study

Specifically the study was out to;

1. determine the extent to which secondary school teachers use questioning skill during teaching;
2. ascertain the extent to which secondary school teachers use of reinforcement skill during teaching.

Research Questions

The following research questions were raised to guide the study

1. To what extent do secondary school teachers use questioning skill during teaching?
2. To what extent do secondary school teachers use reinforcement skill during teaching?

Research Hypotheses

The researchers formulated and tested the following hypotheses at 0.05 level of significance:

- Ho1 There is no significant difference in the mean score of male and female secondary school teachers in the use of questioning skill during teaching.
- Ho2 There is no significant difference in the mean score of male and female secondary school teachers in the use of reinforcement skill during teaching.

Methodology

For the study, the researchers used descriptive survey design which was to determine the teachers' use of both questioning and reinforcement skills. The design was used to explain and describe the extent to which teachers used the skills in teaching. The population used for the study was all secondary school teachers in Kaduna state, public schools who are 9,982. The sample for the study was 375 public secondary school teachers based on Krejcie and Morgan's table of determining sample size in

Nabukenya (2010). However, random sampling technique was used to arrive at the schools selected and stratification was also used to select the respondents based on gender. 215 male and 160 female teachers were sampled for the study.

A Lesson Observation Assessment Checklist (LOAC) was used to collect relevant data. Scoring or awarding of marks was in accordance to the level of expertise shown or exhibited by the teachers in the use of the two skills during teaching and learning situation. The instrument for data collection was scrutinized and appraised by experts and adjudged appropriate. For data analysis, mean and Standard Deviation were used to answer the research questions while t-test of independent samples was used to test the hypotheses. However, decision was taken on the basis that, if the P-value was less than 0.05 alpha level of significance the null hypothesis was accepted.

Results

RQ One: To what extent do teachers use questioning skill during teaching and learning process?

Table 1: Mean and SD of Teachers' Observation on Use of Questioning Skill

Qualification	N	Mean	Std. Deviation
NCE	118	8.68	2.229
BEd	220	9.66	1.504
MEd	37	11.65	1.567
Total	375	9.53	1.955

From table 1 on the use of questioning skills by teachers during teaching and learning process, NCE teachers had mean score of 8.64 and Standard Deviation of 2.229, B. Ed had mean of 9.66 and Standard Deviation was 1.504 while M. Ed had mean of 11.65 and Standard Deviation was 1.567 respectively on the use of questioning skill during teaching and learning situation. The overall mean score of 9.53 shows that teachers are at a moderate extent in the use of questioning skill during teaching and learning.

RQ Two: To what extent do teachers use reinforcement skill during teaching and learning situations in their classrooms?

Table 2: Mean and Standard Deviation of Teachers' Observation on Use Reinforcement Skill

Qualification	N	Mean	Stad. Deviation
NCE	118	8.42	1.702
BEd	220	9.81	1.733
MEd	37	11.16	1.259
Total	375	9.51	1.874

Findings on table 2 showed that teachers who had NCE had mean score of 8.42 and Standard Deviation of 1.702 and those with B. Ed had 9.81 and Standard Deviation of 1.733 while M. Ed holders had mean of 11.16 and Standard Deviation of 259 respectively on the use of reinforcement during teaching and learning process. The overall mean score of 9.51 shows that teachers are at a moderate extent in the use of reinforcement skill during teaching and learning process in their classrooms.

Ho1: There is no significant difference in the mean score of male and female teachers in the use of questioning skills during teaching and learning process.

Table3: t-test Summary Result on the Use of Questioning Skill by Male and Female Teachers.

Gender	N	Mean	SD	df	t	Sig.
Male	215	9.51	2.041	373	-.249	0.804
Female	160	9.56	1.838			

Table 3 shows the t-test summary result of male and female teachers on the use of questioning skill during teaching and learning. The result shows that male teachers had a mean score of 9.51 and SD of 2.041 while female teachers had mean of 9.56 and SD of 1.838 respectively; $t = -.249$ $df = 373$ and Sig. of $.804 > \alpha = 0.05$ this means that the null hypothesis was accepted, it was concluded that significant difference does not exist between male and female teachers in the use of questioning school during teaching and learning process. **HO2:** There is no significant difference in the mean

score of male and female teachers in the use of reinforcement skill during teaching and learning process.

Table 4: Summary of t-test Result on the Use of Reinforcement Skill by Male and Female Teachers

Gender	N	Mean	SD	df	T	Sig.
Male	215	9.58	1.835	373	.839	.402
Female	160	9.41	1.928			

4Table 4 reveals the t-test result of male and female teachers on the use of reinforcement skill during classroom instruction. The result yielded showed that the mean score of male teachers was 9.58 and SD was 1.835 while female teachers had the mean of 9.41 and SD of 1.928. Also, $t(373) = -.070$ and $p\text{-value} = 0.402$. Since the $p\text{-value}$ of 0.402 is less than 0.05, the null hypothesis is therefore accepted. This indicates that there is no significant difference in the mean score of male and female teachers in the use of reinforcement skill during teaching and learning activities in their classrooms.

Discussion of Findings

Data on tables 1 and 3 revealed that teachers' use of the questioning skill during teaching and learning situation was at a moderate extent because the total mean score was 9.53. It was discovered too based on t-test analysis that there is no significant difference in the mean score of male and female teachers in the use of questioning skill during teaching and learning activities because $p\text{-value}$ was 0.804 which is greater than 0.05 level of significance. In this case, the hypothesis was accepted. The study concurred with the one of Mohammed and Nanges (2015) which reported that teachers' use of the skill of questioning during teaching enhanced learning. This equally implies that once questioning is not properly used in the classroom by teachers learning would not be properly carried out. It is in view of this that the use of questioning skill during teaching and learning be encouraged so as to enhance learning as it is the purpose of education.

In another vein, data on tables 2 and 4 on the use of reinforcement skill equally revealed that teachers are at a moderate extent in the use of reinforcement skill during teaching and learning process. In another vein, t-test analysis result indicated that $p\text{-value}$ is 0.402 which is greater than 0.05 significance level. Therefore, the null

hypothesis is accepted as there is no significant difference in the mean score of male and female teachers in the use of reinforcement skill. The present study is in agreement with that of Ofoha (2017) which discovered that there is no significant difference found in teachers' use of reinforcement at both the primary and junior secondary school teachers in the use of reinforcement skill during teaching and learning activities. This is to also say that, useful as it is, the use of reinforcement be made compulsory for every teacher during teaching as interest of learners is aroused when the skill is used properly by classroom teachers.

Conclusion

In view of the findings of this study, the following conclusions were drawn: teacher qualification has a significant influence on their use of both questioning and reinforcement teaching skills during teaching and learning process. Also there is no significant difference in the mean score of male and female teachers on their use of questioning, and reinforcement skill during teaching and learning activities and teachers were at a moderate extent in their use of the two teaching skills.

Recommendations

Based on the findings of the study, the following recommendations were put forward:

1. Classroom teachers should be encouraged to go on further studies as teachers' qualification has significant influence on the use of the various teaching skills during classroom teaching and learning process.
2. Organizers of trainings; workshops and seminars for teachers should focus more on the use of questioning and reinforcement skills as they are paramount for effective classroom teaching and learning process in our classrooms.
3. Teacher trainers should intensify efforts in acquainting student teachers with every teaching skill they need in the classroom as they will need them in the discharge of their responsibilities (teaching).
4. The Ministry of Education Science and Technology should strengthen, equip and support the quality assurance and the monitoring and evaluation unit so that they will be able to carry out their task effectively especially ensuring that all teachers are effective in their use of the various teaching skills.

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BIOCONCRETES: A REVIEW OF BIOLOGICAL PROCESS OF SELF-HEALING BACTERIA

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Abstract

Concrete is one of the most commonly used building materials, and it is prone to cracking. These cracks reduce the service life of the concrete and increase the cost of replacement. Although it is impossible to prevent the formation of cracks, various techniques are in place to heal the cracks. Some current concrete treatment methods, such as the use of chemicals and polymers, have been shown to pose health and environmental risks, and are also only effective in the short term. A microbial self-healing approach is distinguished by its ability to repair cracks in a long-lasting, rapid, and active manner while remaining environmentally friendly. Furthermore, due to its efficient bonding capacity and compatibility with concrete compositions, the microbial self-healing approach outperforms the other treatment techniques. This review provides overview of microbial methods for producing calcium carbonate in concrete making in place of using chemicals and polymers.

Keywords: Bioconcrete; Microbial Induced Calcite Precipitated; Dissolve Inorganic Carbon; Autogenous; Biomineralization,

Introduction

Concrete is the preferred construction material today due to its strength and low cost. It

has high tensile strength and can withstand a variety of environmental changes.

Strength, permeability, fractured formation, and corrosion resistance all contribute to the overall quality of concrete. It is made up of aggregates of varying sizes associated with hydration products created by combining cement and water, cracks can occur at any point during its service life due to volume instabilities such as autogenous shrinkage. When fractures from anywhere in a reinforced concrete component, not only does the structure's rigidity weaken, but rainwater and oxidizing elements also cause corrosion of the supporting iron bars (Mihashi & Nishiwaki, 2012).

Copulation of cracks with epoxy-based fillers and latex binding agents such as acrylic, polyvinyl acetate, butadiene styrene, and others is a traditional crack repair treatment. However, these popular repair solutions have a number of drawbacks, including different thermal expansion coefficients, weak bonding, environmental and health risks, and the high cost of the chemicals (Sisomphon et al., 2012). Various crack repair solutions have been investigated to reduce the cost of repairing and rehabilitating large-scale civil infrastructure that has deteriorated due to cracks. Organic and inorganic filling materials have been extensively studied in order to cure cracked concrete structures (Yuan, Rong, Zhang, Chen, Yang & Li, 2008). The application of biotechnology to concrete has recently resulted in the emergence of a new industry known as "microbial concrete" or "bio-concrete." It is a microbial-based method that employs microorganisms to treat concrete structures in order to precipitate calcium carbonate (Achal and Mukherjee, 2010).

In general, bio-cement/concrete or microbes cement research is an approach to developing "living" biomaterials for long-term building constructions. The biological approach to self-healing materials is based on the natural process of bone regeneration, which is also referred to as bio-calcification. At the meso/micro scale, precipitated calcium carbonate products act as a natural glue to close cracks in the matrix of hydrated cementitious materials. Researchers from all over the world have recently become interested in self-healing concrete materials based on bacteria metabolism promising candidates to improve the longevity of concrete structures. In terms of effectiveness and environmental friendliness, the bio-inspired approach outperforms alternative strategies based on chemical and natural reactions (Talaiekhazan, Keyvanfar, Shafaghat, Andalib, Majid, Fulazzaky, Zin, Lee, Hussin, Hamzah & Marwa, 2014). The bio-mineralization process of bacteria metabolism would be gradually activated while three components of live microbe, the humidity of water penetration, and nutrition exist in an empty space of microporous hardened cement. Current research trends involve studying various types of bacteria in the laboratory

and developing technologies to apply this lab-proven concept in real-world situations (Talaiekhozan et al., 2014). Bacterial number, growth media, and ambient conditions can all influence how these microbial organisms manufacture calcite pH ((Achal, & Mukherjee, 2010.; Achal, Mukherjee, and Reddy, 2011) the presence of a nucleation site (Zhong and Yao, 2008), dissolved inorganic carbon (Talaiekhozan et al., 2014), and calcium ions concentration (Li, and Yang, 2007). In reality, temperature and carbon dioxide partial pressure among other factors influence the concentration of dissolved inorganic carbon (Joshi, Goyal, Mukherjee, and Reddy, 2017; Hammes, and Verstraete, 2002). However, there are numerous microorganism groups that can be used to create or manufacture self-healing concrete. The two types of microorganisms used to heal cracks in concrete are mesophilic and thermophilic.

Natural Self Healing Process Involving Autogenous Healing

In autogenous healing, the self-healing process involves the use of products produced in the presence of carbon monoxide dihydrate and water. Calcium carbonate (Sisomphon, et al., 2012) or hydration products such as calcium-silica-hydrate (Huang, Ye, and Damidot, 2013) are produced to cause crack healing. Furthermore, cracks with an initial width of 0.18 mm can be effectively sealed using immediately applied to expand measures such as magnesium oxide and bentonite (Qureshi, et al., 2018).

Autonomous Self-healing Process

The autonomous self-healing concrete is fully dependent on a manual process is based on the usage of microbes, organic chemicals, and pozzolan-encapsulated materials (Jonkers, Thijssen, Muyzer, Oguzhan and Schlangen (2010).; Reeksting, Hoffmann, Tan, Paine and Gebhard, 2019.; Siddique, and Chahal, (2011). Chemical factors like calcium lactate are differentiated from biological factors like microorganisms in this treatment and their collaboration allows for better end results (Akadiri, Chinyio and Olomolaiye, 2012).

Biom mineralization Technique

Biom mineralization is one of the most environmentally friendly methods for addressing the problem of cracks in concrete structures. Concrete can be biom mineralized on the outside or inside. The inside approach entails injecting specific concentrations of calcite (calcium carbonate) precipitating microorganisms into concrete. A biological mineralization process is microbiologically induced calcite precipitation. The basic idea behind this process is that microbial ureases hydrolyze urea to produce ammonia and carbon dioxide, which are then released into the environment, raising the pH. When carbon dioxide is released, it reacts with calcium ions to form calcium carbonate, which is insoluble (Akadiri et al., 2012). When cracks and defects appear

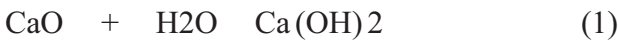
on the structure's surface, biomineralization is used first in the exterior technique. When the biological mixture is applied to the surface, calcium carbonate crystals form a precipitate that seals the crevices. Biomineralization is classified into two types:

Biological Control Mineralization

Mineralization that is biologically controlled is genetically controlled or regulated by organisms. Minerals are deposited on/in organic matrices or bubbles in a cell during biologically controlled mineralization. This enables the body to control mineral nucleation and growth, as well as the composition, size, habit, and location of intracellular minerals. Mineral particles from biologically controlled mineralization are well structured. They have a narrow size distribution and a consistent, species-specific crystal habit. The body regulates the internal bubble conditions, such as pH (Sisomphon, Copuroglu and Koenders, 2012). Minerals formed as a result of biologically induced mineralization are a byproduct of the reaction between organism activity and the environment. Bacteria can adapt to environmental conditions through metabolic activity. Biologically induced Calcium carbonate mineralization does not include organisms directly controlling the biomineralization process.

Biological Induce Mineralization

Mineralization can occur passively as a result of metabolic changes in bulk solution chemistry or in the vicinity of living organisms, or act as a result of the organism and/or its metabolic by-products providing nucleation sites for mineralization. Calcium carbonate mineralization is most commonly observed in the presence of single-cell organisms such as bacteria. The technology for calcium carbonate deposition or microbial concrete is known as "Microbially Induced Carbonate Precipitation" (Dhami Reddy & Mukherjee, 2010).



(Ramakrishnan, Ramesh, & Bang, S. S. 2001)

The mechanism of biologically induced self-healing calcium carbonate precipitation is governed by four critical elements:

- (I) Calcium (Ca^{2+}) concentration,
- (ii) Dissolved inorganic carbon concentration,
- (iii) pH, and

Nucleation site availability (Ariyanti, Handayani, & Hadiyanto (2011); Muynck, 2010 & De Belie, 2010).

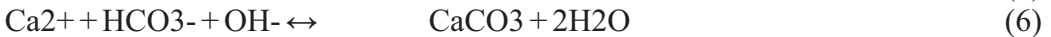
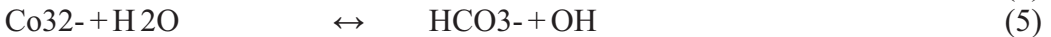
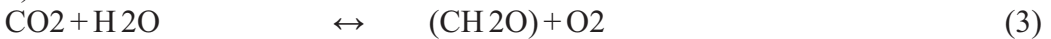
Because of their ability to create an alkaline environment (high pH and increased

dissolved inorganic carbon) through a variety of physiological activities, microorganisms play an important role in carbonate precipitation (Hammes & Verstraete, 2002).

The following are the four major groups of microorganisms that can cause calcium precipitation.

- (i) Photosynthetic microorganisms include cyanobacteria and microalgae.
- (ii) Sulfate-reducing bacteria
- (iii) Some nitrogen cycle species and
- (iv) Lactate metabolism (Akadiri et al., 2012).

Microbially induced carbonate precipitation in aquatic environments is caused by photosynthetic microorganisms. Carbodioxide is used by photosynthetic microorganisms in their metabolic process, as shown in (eqn. 3) below, and it is balanced with 2HCO_3^- and CO_3^{2-} as shown in (eqn. 4) below. When photosynthetic bacteria consume carbon dioxide the equilibrium shifts, causing the pH to rise (eqn. 5). (Arianti et al., 2011) When this reaction occurs in the presence of calcium ion in the system, calcium carbonate is produced, as described in the chemical reaction in (eqn. 6).

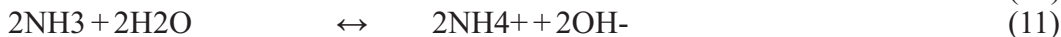


Sulphur reducing microorganisms and sulphur reducing bacteria are used in another route. A sulphate and calcium-rich environment, results from the abiotic dissolution of gypsum ($\text{CaSO}_4 \cdot \text{H}_2\text{O}$) (eqn. 7). In the presence of organic matter and in the absence of oxygen, sulphur reducing bacteria convert sulphate to H_2S and HCO_3^- as shown in (eqn. 8) below. When H_2S is released into the environment, the pH of the system rises, resulting in the precipitation of calcium carbonate (Ariyanti et al., 2011).

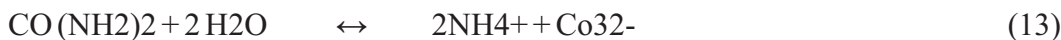


The activity of the urease enzyme in microorganism has been used to precipitate calcium carbonate (McConnaughey, 2000). In heterotrophic microorganisms, the urease enzyme hydrolyzes urea to produce carbonate ions and ammonium. This process results in increased pH and carbonate ion enrichment (Hammes and Verstraete, 2002). One mole of urea is hydrolyzed intracellular to one mole of ammonia and one mole of carbamate (eqn. 9), which spontaneously hydrolyzes to one

mole of ammonia and one mole carbonic acid (eqn. 10). Ammonia and carbamate equilibrate in water to produce bicarbonate and 2 moles of ammonium and hydroxide ions, as described in (eqns. 11 and 12).



Overall reaction:



Calcium carbonate precipitates due to the presence of calcium ions in the system once a certain level of super-saturation is reached (Hammes and Verstrate, 2002)

Conclusion

Integrating bacteria into concrete is extremely beneficial because it improves the quality of the concrete, making it superior to standard concrete. Bacteria help to repair concrete cracks by supplying calcium carbonate crystals that block and seal the cracks. However, if concrete could detect and cure itself, there would be significant financial savings and a lot environmental, as concrete production accounts for a significant portion of global carbon dioxide emission.

Self-healing concrete reduces the amount of carbon dioxide emitted into the atmosphere as a result of concrete production. This is due to the fact that, when transportation, mining, and concrete plants are all considered, concrete production is energy intensive to varying degrees. However, industries are the primary source of carbon dioxide emissions, accounting for roughly 10% of total emissions. Self-healing concrete will undoubtedly reduce the creation of surplus concrete, lowering carbon dioxide emissions in our environment while increasing the lifespan of concrete and reducing maintenance and repairs. It is hoped that in future, people will recognised the value of self-healing bioconcrete and begin to use it extensively as a replacement for conventional concrete which will lower carbon dioxide emissions from cement production.

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ROLE OF TALES BY MOONLIGHT IN CHILDREN'S THEATRE OF NIGERIA'S TELEVISION AUTHORITY IN EDUCATION

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Abstract

Children's theatre is a child-centered programme, designed towards promoting meaningful learning in children. In other words it has educational impute targeted towards children. Children learn faster through dance, plays, stories and games, therefore Children's Theatre forms the right channel for meaningful learning. This paper explains some achievements derived from Children's Theatre, as well as the influence tradition has in moulding and developing character among children by means of folklores, dance etc. which is transmitted into children's theatre to facilitate learning.

Keywords: Tales, Moonlight, Children's Theatre, Nigerian Television Authority, Education.

Introduction

Children's Theatre serves intellectual and social development functions. It aims at the development of the child to his or her fullest capacity. A child cannot be categorized as a social being until he or she goes through the process of socialization that is, being taught everything that would make him or her function as part and parcel of a specific community. Children's Theatre therefore provides this socializing process.

The term theatre is used in this study, to mean an extension of children's natural play. The main focus of this paper is using theatre and story telling as educational potentials to children. Children's Theatre is a valuable tool, which must be understood. The raw material of this type of theatre is the personality. Children's Theatre is the personality. Children's Theatre exists for the sake of the participants as well as the child's audience. Theatre helps the children conditions during pressure through play, which they are supposed to recall and re-interpret past experiences and apply them to the realities. By doing this, they develop resources and internalize positive values which influence their adult behaviour. Children's Theatre has been in existence before the advent of Tales by Moonlight in NTA Dr. Mrs. Victoria only re-educated what has been happening traditionally from the immemorial where parents and grandparents tell stories to

children after evening meals especially when there is moonlight.

Children will first play under the moonlight after which they will gather around whoever is going to tell them a story. The main thrust of Tales by Moonlight as Children's Theatre is educative because children naturally learn by imitation. They are encouraged to imitate and emulate characters they see around them as heroes or heroines. Through these influences, their value judgments and perceptions will start to form and take definite shapes. This kind of development is rooted in the kind of information and knowledge they have access to. Children's Theatre becomes necessary in inculcating the norms and values which are daily promoted by our education. Tales by Moonlight as Children's Theatre, serves as the means of contact with the environment. It builds a bridge between the child's consciousness and his or her emotional experience. Also, Children's Theatre serves to the child as an enjoyment, entertainment and information outlet.

Children's Theatre can be used as rites of passage from immaturity to emotional maturity. That is to say, when a child adopts a hero, it creates room for imitation, maturity, age notwithstanding. When such a thing happens, a child acts with an emotional, mature mind like the hero. Story-telling is the highest expression of human development in childhood. Tales by Moonlight as a Children's Theatre becomes very necessary in inculcating in the child moral values, ideas and behavioural patterns of the society.

This obviously makes for vivid rewarding impressions in the minds of the children. So it logically follows that every programme meant for them must contain action and variety. The educational materials and items used are clear, simple and direct to the point. It is very important in Children's Theatre for the child to get full meaning of what is being done. By so doing, the child is not only taught morals but also speak, associate, move, and be aware of social responsibilities and obligations.

Children's Theatre is a horizontal style of education because it gives the children focus and a particular pattern to follow as they grow. This authoritarian approach is an obstacle to the process of building the spirit of freedom among the children. Therefore, interest and motivation are the key-words to the success of Tales by Moonlight, a Children's Theatre.

History of "Tales By Moonlight"

"Tales by Moonlight" was introduced by Dr. Mrs. Victoria Ezeokoli in the year 1983. She organized a workshop at Oguta in Imo state, where the idea of dramatizing

Nigerian Folktales for children programme was discussed. Later in the year, there was a workshop in Lagos, which she organized in partnership with British Company owned by the Director, David Spencer, project manager, Victor Perbertion and Executive producer, Dr. Mrs. Ezeokoli. That was where the format as it is known today was designed.

Format

The programme is in parts; the aunty opens the story surrounded by children under the moonlight in an open air set-up. The setting creates a communicable relationship between the aunty and the kids, because right down in the village, it is the elders who tell the stories and by so doing transmit out history and cultural values and cultural values down to the younger generation.

The narrator either starts the story or asks any kids, if anyone has a story to tell. The narrator who could be the aunty or a child tells the story to a point where the dramatization starts since the major objectives of these stories is to inculcate moral lesson.

All stories on “Tales by Moonlight” end with a moral lesson and have educational relevance which the presenter or the aunty explains to the kids, it could be: love for one another, respect for elders, be your brother's keeper etc. there is always a commercial break in between the two segments of the story-telling process.

The Language

The language is in simple English and at times local dialect is interjected where and when necessary. The English is simple, because of the age range; words above their standards are not used.

Setting

The stories cut across ethnic groups in Nigeria. The setting of each story reflects the ethics origin of the story. Therefore, if the story is taken from Hausa land the setting will definitely reflect a Hausa background, and their customs or if from Yoruba, it will reflect a Yoruba setting and background and customs etc. Enahoro (1995) also says that;

The role of Children's Theatre is continually gaining importance as a source of influence on children – both from the aspect of cognitive acquisition of presented suitable moral and cultural examples. Children's Theatre is very helpful in stimulating the child's mental development and it exerts a considerable influence on the child's behaviour. Although the element of play dominates Children's Theatre, no one should

underestimate their role in the ideological educational; and aesthetic processes.

Children's Theatre for schools can be adapted to the abilities of the average pupils. Its approach must meet with the child's mentality and its representation of realities, both familiar and more remote to the child's experience. Teachers and parents as well, must indicate their roles in the process of education.

The foreign culture which the Nigerian child is variously exposed to through literary materials, video tapes and other screen materials (television and films) has found a place in the children to determine of their own traditional cultural values. We must take the bull by the horns by developing relevant Children's Theatre programme that would surpass or redeem the status quo. Children's Theatre of our dream can contribute significantly to the fulfillment of nation's education goals which should include the development of individual potential as much as possible, the transmission of the cultural values, the improvement and sustenance of order, the education of ethnic pride and the development of a solid national image.

The Educational Message Contained in the Play Texts

Explored to a large extent Nigeria's cultural heritage for children's educational development, as well as children's artistic growth, we shall take a look at three episodes of the programme or three play texts in order to bring out the educational messages contained in the play text, for instance, the themes of the tales: episode one is the "stubborn child," episode two "vegetable child," and episode three "the proud beauty."

The "Tales by Moonlight" presents children's programme model which in essence could serve as an effective method of teaching our children the cultural heritage and moral lessons of the Nigerian societies.

The educational messages contained in the play texts are bound on moral lessons, meant to educate children on different aspects and challenges of life. The three episodes are analyzed in order to bring out the themes of moral to the children. For example, story one "the stubborn child."

Theme:	-	"it is not good to be stubborn"
-		"It is good to take advice from others"

For example, the big birth said

Big birth: stubborn child, when will you learn that for the wise, one word is enough?

26The Aunty: Oh poor misguided Tunde. If only you could have foreseen your destiny, you would have learnt that obedience to those who know better, is second only to God alone.

Story two “the vegetable child”

Theme: - “it is not good to be wicked”
- “it is not good to be angry”

For example, the aunty advices the children

Aunty: Ah! Now that is truly a sad story. For when Akpan realized how his first wife had treated Mini, he put her to death.

The aunty added that,

Aunty: Yes, children! Anger can sometimes make us to do some very careless things. But then – pride may often lead us into more serious trouble...

Story three “the proud beauty”

Theme: - “it is not good to be proud”
- “It is good to have respect for elders”

The old women said;

Old women: where there is good no evil survives. Aunty also said;

Aunty: a wise man once said “where there is pride, there will always be a fall!

So it was in the tale of the proud beauty.

“Tales by Moonlight as a children's programme has cut across all educational backgrounds that is to say that all “Tales by Moonlight” stories at the end, teach moral lessons. For example, love for one another, it is not good to tell lies, respect for elders, it is not good to be greedy, be your brother's keeper, be a good citizen of your country, be of good behaviour, it is not good to be disobedient, do not pay evil for evil, it is good to show love to strangers, it is not good to be wicked, it is good to take advice from others, learn to tolerate others, it is not good to hate one another, it is not good to be jealous, love your neighbour as yourself etc. the educational message contained I the play text serves as a vital approach to educate children through “Tales by Moonlight” as medium of development.

Oral interview were conducted with children between ages of 6 – 12, questions on what moral lesson they have learnt from watching the programme. An overall answer

was that it teaches moral lesson, inform and entertain them. It is an opportunity for the children to know certain moral values, for instance how to behave in the public and to relate with people generally.

Respondents agreed that foreign culture has done a lot of damage to Nigerian children; as such the programme “Tales by Moonlight” became necessary to bring the children back on the right path. The programme has gained prominence and recognition over the years as a source of positive influence on children both from the aspect of cognitive acquisition and also as a medium for portraying suitable moral and cultural lessons to children.

“Tales by Moonlight” has really contributed in helping a child to learn more about morality, traditions, customs, human relationship, geography, history, religion, language, model mode of dressing, social life without a word of instruction being given but with the aid of watching the programme, the cultural orientations, in the play text such as discipline, dedication, respect, love, honesty, etiquette, use of language and any other subject matter can be content of the story.

Themes of the story: - “it is not good to be stubborn”
- “it is good to take advice from others”

Episode story two

Title of story: “the vegetable
child” Plot of story:

The story is about a child from the green vegetable plant whose parents have wanted a child. At the end they got a child from the plant which warned them never to call her a vegetable child. The step-mother (Mini) insisted, called her (Mini) vegetable child because she refused to pound pepper Mini cried out and disappeared into the melon plant where she was borne from.

Theme of the story: - “it is not good to be wicked”
- “it is not good to be angry”

Episode: story three

Title of the story - the proud
beauty Plot of the story:

The proud beauty is about a beautiful girl called Doku, who was not proud of her beauty. But unfortunately for her she got married to a monster. Doku was rescued by an

old woman whom she obeyed and trusted.

Theme of the story: - “it is not good to be proud”
- “it is good to have respect for elders”

According to Chuks Agu (1997)

The themes of “Tales by Moonlight” “is all on moral, it has effects on our Nigerian children as expanding the knowledge of the children, because many children learn quickly from it.

Arguing further, Agu (1997) says,

This type of education makes the children protagonists in their educational and cultural development.

In “Tales by Moonlight” any story without a theme of moral value is, according to Mrs. Victoria Eze Okoli “like a society without a cultural programme, or an intellectualized house built upon hypocrisy, it is a dream land polluted by the culturally dead.

The Social Benefit of “Tales by Moonlight” to the Children

“Tales by Moonlight” has some social benefits to children. These benefits are:

1. It develops team spirit
2. Helps to diminish self-consciousness
3. Improves listening skills of children
4. It teaches awareness of the existence of others
5. It develops tolerance and cooperation
6. It comes, to terms with group, and society to accept discipline
7. It gives an understanding of one's emotions, hopes, fears and joys
8. It develops creative movement.

In traditional African societies before the advent of colonialism and even during colonialism, it was the practice for adults to tell folktales to children in an organized form. The story telling was usually done under moonlight. Usually, the stories contain bits of cultural education. By these stories, the children learnt the dos and don'ts of their society. The story-tellers in this context are the dramatists.

Under the Tales by Moonlight Television programme, children learn to create something new from a given folktale. Some take part in acting, others constitute a chorus; learn together as in a classroom situation. At the end of each story dramatization, the story-teller asks the children (audience) questions like: what is the result of being selfish or wicked? Answers are then given by the children. These

questions and answers session serve as an evaluation of the entire theatre production and children's understanding.

The social/cultural benefit of education is that children in schools and homes create opportunities for them to develop collectively, i.e. encouraging them to act together or achieve common goals.

The socio-cultural aspect of the programme also helps to improve children's listening skills, rural comprehension, increase poise and agility and physical coordination. Culturally, storytelling in Africa has a meaningful understanding which sustains the children's interest and makes long lasting impressions in them. Children know how and when to adopt an environment and the world they live. This presupposes that stories help children determine for themselves the sort of world they wish to live in the above ideas are social aspects of story-telling.

Participation in the story-telling and dramatization in the programme can affect children's perceptions of social reality. The reaction can help them become more aware and conscious of a wider range of people and their behavioural patterns. They learn through the programme, stories that teach them to work as a team and how to make or take decisions during difficulties. As the children participants contribute ideas towards building the story, they soon learn that they can create some ideas about life that is meaningful. They are encouraged to ask questions and evaluation of the story-telling activity to find out how they have understood the story.

It also helps children to learn both social and cultural life of other ethnic backgrounds in the vast country of Nigeria. The stories are drawn from ethnic backgrounds throughout the country.

Conclusion/Recommendations

The programme is highly educative. As a Theatre Artist, and a Care Giver, it is recommendable for the Nigerian child not only to educate them but also help them to know their cultures and other peoples culture in Nigeria. It is a medium through which we can inculcate and sustain in the children moral values, ideas, behavioural patterns of the society and educate them. The need for children to grow up with the necessary moral values and good standards of behaviour cannot be overemphasized.

Folktales are well selected. They cut across cultures. It seeks to accomplish in its own way the search for a unified country forested in love and unity. Through stories that blend the multi-ethnic arrangement into one indivisible country notwithstanding the different tribes of the country, this should be encouraged and also focus on stories

whose themes are: love for one another, patriotism, unity of purpose, detribalization, cooperation, hard work, obedience, cultural identity, staging war against indiscipline, corruption is bad etc.

That is to say, stories that help to explain the values above to children should be encouraged and recommended in the programme, particularly now that the country needs to impact these values to children whose very existence as future leaders of this country is continuously threatened by an avalanche of foreign values, culture and norms.

We look forward to a time when the country will achieve reasonable unity and oneness of purpose. Only this can help us to progress and develop in a proper direction. Preparing the children to imbibe the above listed values is a good way of achieving a united Nigeria where love, peace, patriotism and hard work become part of our national character.

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ASSESSING THE IMPACT OF FARMER-HERDER CONFLICT ON FOOD SECURITY IN SOME LOCAL GOVERNMENT AREAS OF SOUTHERN KADUNA, KADUNA STATE NIGERIA

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Abstract

Food security has become an issue of concern in Nigeria today, particularly Southern part of Kaduna State due to the issue of Farmer-Herder conflict. A multi stage sampling procedure was used to draw the sample; three local government areas (LGAs) Kaura, Jema'a and Zangon Kataf, were purposively selected, while three villages were selected from each LGA. 210 questionnaires were duly filled to illicit information. Data were analyzed using descriptive and inferential statistics. The result shows that the study rejects the null hypotheses H_0 and accepts the alternative hypotheses H_1 with the following p -values for Hypothesis 1, 2, and 3 respectively: ($p=0.001$, $p=0.008$, $p=0.006$). Which states that: there is significant relationship between farmer-herder conflict, productivity as well as food security in Kaura, Jema'a and Zangon Kataf LGAs of Southern Kaduna. Finally, the study recommends among others that Government should urgently declare a state of emergency on the issue of farmer-herders clash in southern part of Kaduna State.

Keywords: Food Security, Farmer-herders conflict, productivity, Southern Kaduna.

Introduction

Global warming has increasingly affected the temperature and climatic conditions of the globalized world. Human activities, notably, the burning of fossils (oil, gas, and coal) have primarily impacted the environment. Consequently, burning fossil fuels generates greenhouse gas emissions that act like a blanket wrapped around the Earth, trapping the sun's heat and rising temperatures and climatic conditions. The shift in these conditions has resulted in environmental challenges, some of which are drought, desert encroachment, deforestation, changes in sea level, and a host of others. This

considerably is projecting an increase in extreme climatic events, as well as more changes in the weather patterns, which further threaten the environment in the face of inaction (Olaniyi, Ojekunle, and Amujo, 2013).

As pastorals struggle to grapple with the challenges of fending for and feeding their cattle, migration to areas with greener pastures and access to clean water becomes imminent. Reduced pasture and sheer lack of clear demarcation of grazing lands and water resources for livestock, expanding agricultural and fishing activities by communities along the migrated routes, have created a fertile and hostile ground that incubates discord, which culminates in hostilities among pastoral Fulani and farming communities. Despite living harmoniously for decades, the relationship between Fulani herders and farmers has tragically deteriorated. There have been attacks and reprisals attacks between farmers and herders. Competition for resources is primarily the cause of violence involving farmers and herders in Nigeria. The farmer-herder conflicts centers around Nigeria's middle belt; and as much grazing land is sought, violence has expanded to the South-East and South West region. The worst affected areas include Kaduna, Benue, Plateau, Taraba and Kwara (European Asylum Support Office, 2019). In a report by Amnesty International (2018), titled *Nigeria: The Harvest of Death-Three Years of Bloody Clashes Between Farmers and Herders in Nigeria* between January 2016 to October, 2018, there were incidents of attacks and reprisal attacks in 22 states and Abuja; where an estimated 3641 people may have been killed, 406 injured, 5000 houses burnt down, and 182,530 people displaced. In recent years, these figures keep skyrocketing in a staggering proportion.

According to Ogele, Egobueze and Owabie (2020), farming communities have been made to forego their farmlands, and abandon the agricultural products of the farms which are the mainstay of the host communities, for the safety of their lives, whenever the marauders strike. This is because when the communities try to resist them and request their exit, the Fulani herdsman will become violent and attack the community sometimes with the aid of some alleged mercenaries from the neighboring countries like Chad, Niger, Mali, and Cameroon. The most unfortunate aspect of the entire saga is the alleged complicity of the security agencies in Nigeria in protecting the killer herdsman against the defenseless communities who have been attacked.

Andreas (2018), argues that the violence involving farmers and herders has had many other devastating impacts. The farmers-herder conflict is costing the Nigerian economy \$10.5 billion per year. The study found that affected states have lost up to 47% in tax and revenue and that in 2018, Benue, Nasarawa, and Taraba State food production decreased by 33-66%. Fundamentally, the violence has exacerbated poverty and food shortages in Southern Kaduna. Availability, accessibility, and

utilization of food and cash crops have been grossly undermined by the violent attacks on the rural communities, whose major preoccupation is farming. Survivors of herdsmen attacks, sadly, have to grapple with many issues such as homelessness, lack of means of livelihood, as well as inadequate provision of humanitarian support for internally displaced persons.

Essentially, in the face of the current herdsmen farmer conflict, insecurity challenges, and the resonating national discourse on food security, the study explores the impact of the conflict between herdsmen and farmers, and its corresponding impact on food security in southern Kaduna.

Food Security is a concept with multidimensional meanings. It entails access to good and sufficient food for healthy living. Food Security is the condition in which all has access to adequate food to live healthy and be productive (World Bank, 1986). According to Food and Agricultural Organization (2008), four dimensions of food security have been identified. Notably, food availability, accessibility, affordability, and utilization. Firstly, Availability of food produced locally and imported from abroad entails that food that will satisfy the cultural heritage and appetite of the household should be readily available, without any form of barrier to its usage. Secondly, food accessibility: the food can reach the consumer and the consumer has sufficient money for the purchase. To such physical and economic accessibility, added here is socio-cultural access to ensure that the food is culturally acceptable and that social protection nets exist to help the less fortunate. Thirdly, food utilization: the household must be able to eat sufficient ration both in quantity and quality to live a healthy and full life to attain their full potential. Food and water must be safe and clean, and thus, adequate water and sanitary measures are deployed at this level. A person must also be healthy, physically, to be able to digest and utilize the food consumed. Fourthly, stability: deals with the ability of the household or persons to withstand shocks to the food chain production system whether caused by natural disasters or those that are caused by the misfortune of men. Thus, it may be seen that food security exists at several levels. Availability - National; Accessibility – Household; Utilization – Individual; Stability – may be considered as a time dimension that affects all the levels. All these four dimensions must be intact for full food security (Peng and Berry, 2019).

Farmer-Herder Conflict

As posited by the theory, access to resources, or lack of ownership and utilization, has, directly and indirectly, defined the dimensions of most economic-induced conflicts. However, of all resources, land has remained an overwhelming source of conflicts

among various user groups as well as individuals at varying thresholds or degrees. This framework of analysis has sufficiently provided a better understanding of the recurrent dynamics of the herders and farmers' crisis in Nigeria. This aptly explains the resolve to deploy violence, which recently, is transforming into a grinding war of attrition that portends months of more human carnage, which transmits shockwaves to other communities who dare challenge the herdsman's quest for free access to grazing ground and clean water. The horror unfolding is a vicious circle of barbarity brought to light by almost a decade of the reign of terror of the attacks by herdsman and reprisals. The conflict, largely in part, is truncating food availability, accessibility, affordability, utilization, and stability, which invariably, trigger poverty, unemployment, and inflation of food and cash crops around the areas under review.

Climate change in Nigeria has increasingly led to growing shifts in temperature, rainfall, storms, and sea level. Consequently, because of the arid and semi-arid climates in Northern Nigerian, herders are pushed into the hinterland, migrating beyond their usual grazing routes and seasons.

Farming communities bring more land under cultivation in response to weather-related shocks, resulting in land-use changes and pressure on land. Imminently, desperate guests (herders) and unwilling hosts (farmers) are logged in a competition for land, which set the footing for confrontation. Tellingly, it creates intolerable effects of losses like the destruction of crops by cattle for farmers on one hand and cattle raids for herders on the other hand. Across middle belt states in Nigeria and specifically in some local government areas in Southern Kaduna, the migration and subsequent competition for arable grazing land and water resources have depressingly led to conflict between Fulani herdsman and farmers. A gruesome tale of murder, burnt towns, and properties are left to tell the tale. Along this destructive path, herdsman have constantly destroyed farmlands, creating a huge food security crisis that ultimately affects the fortune and the economic survival of the people. Well-armed, well trained and well equipped herdsman create an atmosphere of fear among local farming communities in the study area which lowers the zeal and enthusiasm of young men who desire to indulge in farming activities.

Along this trajectory, fundamentally, this paper generally seeks to assess the impact of herder-farmer conflict on food security in selected local governments in Southern Kaduna. Specifically, the paper looks at the nature of the herdsman farmer conflict, food security in Southern Kaduna, how the conflict has impacted food security in Southern Kaduna, and suggestions were made on ways to tackle the conflict.

Research Objective

Generally, the overall objective of the study is to assess the impact of farmer-herder conflict on food security in some local government areas in Southern Kaduna. With the following specific objectives:

- I. To determine the socio-economic characteristics of the local government areas in Southern Kaduna.
- ii. To investigate how the drivers of farmer-herder conflict affects crop productivity in the local governments areas in Southern Kaduna.
- iii. To examine how farmer-herder conflict affects food security in some selected local government areas in Southern Kaduna.

Research Hypotheses

H01: There is no significant relationship between the socio-economic characteristics of the people and food security status of the people in the selected local government areas of southern Kaduna;

H02: There is no significant relationship between farmer-herder conflict and productivity in the selected local government areas of Southern Kaduna;

H03: There is no significant relationship between farmer-herder conflict and food security in the selected local government areas of Southern Kaduna.

Methodology

The study covers the Jema'a, Kaura, and Zango Kataf local government areas in the Southern part of Kaduna State. The choice of these local government areas is justified because, in scope, scale, and frequency, these areas have seen devastating attacks from Fulani herdsmen. Kaduna State is located on the Southern end of the High Plains of Northern Nigeria, bounded by parallels $9^{\circ}03'N$ and $11^{\circ}32'N$, and extends from the upper River Mariga on $6^{\circ}05'E$ to $8^{\circ}48'E$ on the foot slopes of the scarp of Jos. Kaduna State has a semi-arid climate with natural resource potentials that are grouped into agriculture/forestry, livestock, and minerals (Olagunju, Ariyo, Emeghara and Olagunju, 2020).

The agriculture and forest resources are enormous with large agricultural production potential which enables farmers to produce a wide variety of arable crops such as maize, millet, cowpea, groundnut, sorghum, wheat, rice, pepper, and leafy vegetables.

The study used multi stage sampling procedure. Random sampling was used to purposively select three LGAs from the twenty-three LGAs; this is done as a result of them mostly affected by the conflict, three villages each were randomly selected from

the three LGAs to give a total of nine villages. (Kukum Daji, Madamai and Zankan of Kaura LGA), (Bakin Kogi, Kaninkon Village and Zikpak of Jema'a LGA), (Atak Mawai, Zaman Dabo and Kurmin Masara villages of Zangon Kataf LGA).

The research adopted the Glenn (1992) in Singh & Masuku (2014) procedure of determining sampling size. In this light, Sudman (1976) suggest that for each subgroup, a sample of 20 to 50 elements is necessary or adequate for a population with similar attribute. Therefore, 25 persons were randomly selected from each village to give a total number of 225 respondents, out of which 215 questionnaires were returned and 210 were duly filled, which was properly structured to generate adequate and valid information from respondents. The analysis therefore is based on the duly filled questionnaire

The dependent variable of this study is food security in the selected communities of southern Kaduna. This is determined by impact of farmer-herders conflict on agricultural production, measured by five items on a 3-point scale, which were food secure, mildly insecure, and severely food insecure. The food security status maximum obtainable impact score include: Food Secure Households: - these are households that show zero or minimal evidence of food insecurity. The group's value ranges between 0 – 2.32 on the food security scale. Food Insecure without Hunger Households: - these groups show concern about the adequacy of the household food supply. They therefore, show adjustments in their daily food management. This group's value ranges from 2.33 – 4.56 on the food security scale.

Food Insecure with Hunger (Moderate) Households: - these groups of households have their food intake reduced such that the household adults have repeatedly experienced the physical sensation of hunger. This group's value ranges from between 4.57- 6.53 on the scale. Food insecurity with hunger (Severe) Household: - Households in this group have their children's food intake reduced to an extent that the children have experienced hunger. The group's value on the food security scale ranges from 6.54 – 10.0. This was obtained by the summation of the scores of the four items. The independent variable of this study is the factor which impact on the farmers' productivity, leading to food insecurity, which is farmer-herders conflict. Descriptive statistics such as frequency counts and percentages were used, while inferential statistics using correlation analysis was used to determine the type of relationships between the variables in the stated hypothesis. The decision rule on the postulated hypotheses stated that, if p-value is less than alpha ($p\text{-value} < \alpha$), we reject the null hypothesis, while if p-value is greater than alpha ($p\text{-value} > \alpha$), we accept the null hypothesis. For purpose of this study, alpha is taken at 5% level of significance.

Results and Discussion

Table 1: Respondents Socio-economic Characteristics

Guide	Various Items	Frequency	Percentages
Gender	Male	148	70.5
	Female	62	29.5
Age	Total	210	100
	18 – 25 years	32	15.2
	26 – 35 years	48	22.9
	36 – 45 years	84	40
	46 – 55 years	39	18.6
	56 years and above	7	3.3
MaritalStatus	Total	210	100
	Single	29	13.8
	Married	152	72.4
	Separated	7	3.3
	Divorced	2	0.9
	Widowed	20	9.5
EducationalStatus	Total	210	100
	Postgraduate	3	1.4
	Degree/HND	7	3.3
	NCE/ND/OD	101	48.0
	WAEC/GCE/NECO/NABTE	48	22.9
	Primary School	51	24.3
MembershipofOrg	Total	210	100
	No Group	2	0.9
	Cooperative Society	82	39.0
	Religious Group	123	58.6
	Occupational Group	3	1.4
PrimaryOccupatio	Not Applicable	1	0.5
	Farming	192	91.4
	Trading/ Selling	12	5.7
	Processing	1	0.5
	Tailoring	2	0.9
		Civil servant	
	Total	210	100

Source: Field Survey (2022)

As shown in Table 1, Gender is an important factor to consider in farming activities. Out of all the respondents sampled, 70.5 % were male while 29.5% were female. Results revealed that there were more men in the usual domination of males in farm enterprise. The age distribution of respondents indicates that majority (78.1%) of the respondents are within the age of 18-45, while the least groups (3.3%), comprised of respondents whose age range is between 56 and above. This implies that majority of the respondent (96.7%) are in their active age (18- 55years) and therefore actively involved in farming for Food Security. This finding is in line with the research findings of Akinbile (2007) and Taiwo & Omifolaji (2015) that population within this age group is productive, energetic and constitutes active work force in any community engagement. Marital status covers about 72.4 % are married, 13.8% are single, 3.3% are separated, which could be as a result of incessant attacks in the communities, 0.9 were divorced and 9.5 widowed, by natural deaths and as a result of been victims of attacks. Most of the respondents are educated ranging from Primary, 24.3%, SSCE 22.9%, NCE and Diplomas 48.0%, degrees 3.3% and postgraduates 1.4% respectively. About 91.4% of the respondents engage in farming, 58.6% belong to religious organizations majorly Christianity, while 39.0% engage in cooperative societies and unions to better their lots and have a voice in the rural communities.

Table 2: Distribution of respondents' based on household food insecurity

Food insecurity sc	Frequency N = 2	Percentages (%)
Food Secure	90	42.9
Mildly Insecure	109	51.9
Severely Food Inse	11	5.2

Source: Field Survey (2022)

Based on the responses above, 42.9% of the respondents show that they are food secure, 51.9% indicated that they are mildly insecure, while 5.2% indicates a severely food insecure condition, in all the three LGAs (Kaura, Jema'a and Zangon-Kataf). It is observed thus, that some of the respondents who are severely insecure are those who came back from the various Internally Displaced Persons Camps (IDPs). This is known as a result of the additional responses from the respondents in the communities

**Table 3
Farmer-Herder Conflict and Productivity**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	19	9.0	9.0
	Neutral	6	2.9	11.9
	Disagree	3	1.4	13.3
	Strongly agree	182	86.7	100.0
Total	210	100.0	100.0	

Source: Field Survey (2022)

As shown in Table 1, Gender is an important factor to consider in farming activities. Out of all the respondents sampled, 70.5 % were male while 29.5% were female. Results revealed that there were more men in the usual domination of males in farm enterprise. The age distribution of respondents indicates that majority (78.1%) of the respondents are within the age of 18-45, while the least groups (3.3%), comprised of respondents whose age range is between 56 and above. This implies that majority of the respondent (96.7%) are in their active age (18- 55years) and therefore actively involved in farming for Food Security. This finding is in line with the research findings of Akinbile (2007) and Taiwo & Omifolaji (2015) that population within this age group is productive, energetic and constitutes active work force in any community engagement. Marital status covers about 72.4 % are married, 13.8% are single, 3.3% are separated, which could be as a result of incessant attacks in the communities, 0.9 were divorced and 9.5 widowed, by natural deaths and as a result of been victims of attacks. Most of the respondents are educated ranging from Primary, 24.3%, SSCE 22.9%, NCE and Diplomas 48.0%, degrees 3.3% and postgraduates 1.4% respectively. About 91.4% of the respondents engage in farming, 58.6% belong to religious organizations majorly Christianity, while 39.0% engage in cooperative societies and unions to better their lots and have a voice in the rural communities.

Table 2
Distribution of respondents' based on household food insecurity

Food insecurity sc	Frequency	N = 21	Percentages (%)
Food Secure	9	0	42.9
Mildly Insecure	10	9	51.9
Severely Food Inse	1	1	5.2

Source: Field Survey (2022)

Based on the responses above, 42.9% of the respondents show that they are food secure, 51.9% indicated that they are mildly insecure, while 5.2% indicates a severely food insecure condition, in all the three LGAs (Kaura, Jema'a and Zangon-Kataf). It is observed thus, that some of the respondents who are severely insecure are those who came back from the various Internally Displaced Persons Camps (IDPs). This is known as a result of the additional responses from the respondents in the communities.

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	Disagree	3	1.4	1.4	13.3
	Strongly agree	182	86.7	86.7	100.0
	Total	210	100.0	100.0	

Source: Field Survey (2022)

Table 3 above depicts responses on the issues of the reduction in farming activities due to the conflict and fallen productivity of farm produce. 86.7% of the respondents strongly agree on the saying that the conflict between farmers and herders has frustrated farming activities and causes a drastic slope in the reduction of food production in the affected areas. 9.0% agree, 2.9% were neutral, 1.4 % disagree. It can be noted that 95.7% of the respondents are on the affirmative.

Test of Hypotheses

H01: There is no significant relationship between the socio-economic characteristics of the people and food security status of the people in some selected local government area of southern Kaduna.

Table 4: Correlation Analysis of Socio-economic characteristics and food security status of people

Variables	Items	Values
Socio -economic characteristics/food security status	Pearson Correlation (r)	-0.228
	p-value (sig)	0.001**
	N	210

** . Correlation is significant at the 0.01 level (2-tailed).

The value of r indicates that there is a weak negative relationship between Socio-economic characteristics and food security status of the people (i.e $r = -0.228$). The p-value which is less than 0.05 (i.e $p = 0.001$) indicates that the relationship is statistically highly significant and therefore the null hypothesis which states that there is no relationship between Socio-economic characteristics and food security status is rejected. The p-value which is not just less than 0.05 but even less than 0.01 indicates the null hypothesis can still be rejected at 99% confidence level (i.e 1% level of significance) and the alternative hypothesis be accepted. This indicates that there is a great relationship between socio-economic characteristics and food security status of the respondents.

H02: There is no significant relationship between farmer-herder conflict and Productivity in some selected local governments in Southern Kaduna:

Table 5: Correlation Analysis of farmer-herder conflict and productivity

Variables	Items	Values
Farmer/herder conflict and productivity	Pearson Correlation (r)	-0.196
	p-value (sig)	0.008**
	N	210

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

Source: SPSS Output, (2022)

The value of r above indicates that there is a weak negative relationship between farmer-herder conflict and productivity (i.e $r = -0.196$). The p-value which is less than 0.05 (i.e $p = 0.008$) indicates that the relationship is statistically highly significant and therefore the null hypothesis which states that there is no relationship between farmer- herder conflict and productivity is rejected. The p-value which is less than 0.05. We therefore accept the alternate hypothesis which states that there is a significant relationship. This shows the more conflict, the lesser productivity.

H03: There is no significant relationship between farmer-herder conflict and food security in some selected local government areas in Southern Kaduna.

Table 6: Correlation analysis of farmer-herder conflict and food security

Variables	Items	Values
Farmer -herder conflict and food security	Pearson Correlation (r)	-0.023
	p-value (sig)	0.006
	N	210

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

Source: SPSS Output, (2022)

The value of r indicates that there is a very weak negative relationship between farmer- herder conflict and food security (i.e $r = -0.023$). The p-value which is lesser than 0.05 (i.e $p = 0.006$) indicates the relationship is statistically highly significant and therefore the null hypothesis which states that there is no relationship between farmer-herder conflict and food security is rejected. We therefore accept the alternative hypothesis, which states that there is a significant relationship between farmer-herder conflict and food security. This is in line with the findings of Nwozor, Olanrewaju & Ake (2019), that increased conflict in form of insecurity poses great danger to farming activities, which in turn impact negatively on the food security due to decline in production.

Conclusion

The findings of the study indicated that the deficit of food production in the Southern Kaduna Area, especially communities that have witnessed incessant attacks is as a result of the conflict between farmers and herders. It is no doubt that such conflict has caused serious disruptions in the agricultural activities of the communities. While farmers in their numbers in these communities have been uprooted and displaced from their ancestral farming communities, leading to untimely deaths of some of them, others are having unending fear for their lives and as such cannot engage in farming activities to the fullest. The direct implication is decline in food production with attendant shortages, which further deepen the contradictions surrounding agricultural production in the southern Kaduna area and the prospects of food security in general.

Recommendations

We therefore make the following recommendations based on the findings that:

1. Government should as a matter of urgency declare a state of emergency on the issue of farmer-herders clash in southern Kaduna region of Kaduna State;
2. The government should adopt the practice of the cattle ranch system, to prevent herders trespassing into farm lands with their cows, which is a major cause of the incessant conflict;
3. Government should make available farm inputs and implements to willing farmers to enhance greater productivity.

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**IMPACT OF UNIVERSAL BASIC EDUCATION (UBE)
CURRICULUM IMPLEMENTATION ON COMMUNITY
DEVELOPMENT IN GOMBE STATE, NIGERIA**

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Abstract

This paper sought to look at the extent of Universal Basic Education (UBE) curriculum implementation and its impact on community development in Gombe state. The objectives of the study are to determine the extent to which the UBE curriculum is being implemented in Gombe state and to assess the impact of UBE curriculum implementation on community development in Gombe State, Two research questions and two hypotheses were raised in line with the objectives. The descriptive survey design was used with a total population of 12,701 primary school teachers and 3,215 junior secondary school teachers, totalling 15,916 out of which 223 participants (Universal Basic Education teachers) made up of 127 Primary School Teachers and 96 Junior Secondary School Teachers were selected from the three senatorial zones in Gombe state using Stratified random sampling technique. Data were collected using a questionnaire with the title Universal Basic Education Implementation on Community Development (UBEICD). To answer the research questions, mean and standard deviation were used while chi-square was used to test the hypotheses at 0.05 level of significance. The result indicated that: the UBE Curriculum is not adequately implemented in Gombe State; the UBE Curriculum has impact on the people of Gombe State. The study recommended that the Government should employ teachers with the minimum required qualification, Nigerian Certificate in Education and those with

Education at degree level; the Government through the Ministry of Education should give priority to supervision of schools to ensure conformity in the implementation of UBE Curriculum. There is need for Government collaborating with the community not only in terms of structural development bitt also on imparting the desired knowledge.

Keywords: UBE Curriculum, Implementation, Community Development.

Introduction

The Universal Basic Education (UBE) is the basic learning that encompasses all learning required by human beings to survive and be functional members of the society. The Universal Basic Education (UBE) Curriculum was particularly developed for the attainment of Education for All (EFA). This was as a result of the World Conference on Education held at Jomtein (Thailand) in 1990 and Dakar in 2000 where 164 countries signed an agreement to provide quality basic education for all children, youths and adults (Awhen, 2015). The Federal Government of Nigeria (2012), in the National Policy on Education stated that Basic education shall be of 9-year duration comprising 6 years of primary education and 3 years of junior secondary education. It shall be free and compulsory. It shall also include adult and non- formal education programme at primary and junior secondary education levels for the adults and out-of-school youths. Nakpodia (2011), states that for any meaningful development of the country, education is needed as a panacea to eradicate all forms of ignorance likely to hinder effective National and Community development.

Despite government efforts over the years in promoting access to Education for All (EFA), through the UBE, there are still high occurrences of out of school children and also Adults and Youth non- involvement in any form of education. Iweala and Rufii (2013), reviewed UNESCO (2012), and reported that the out of school children are estimated to be 10.5 million mostly in Northern Nigeria. Where North East has the highest number with 52.5% and Gombe State has 38.6% of primary age children that are out of school. These challenges might be the possible problems in the implementation of the UBE curriculum and as a result affect community development. The major aim of the Universal Basic Education Curriculum is to ensure that learners, having successfully completed the Six (6) years of Primary Education will all proceed to Junior Secondary level one (1) and at the end of Junior Secondary School 3, the students should have acquired basic numeracy, literacy and life-long skills: acquire the basic skills in Science, and technology: acquire the basic rudiments of creative thinking; and develop the foundation for technical, vocational and entrepreneurship culture; and imbibe high moral values and positive ethical standards. This might only turn to reality when children of school age are enrolled, retained and complete the UBE. The 9-Year Basic Education Curriculum emphasizes on value re-orientation, poverty eradication and employment generation capabilities in learners. In these

curriculum reform initiatives, science, technology, mathematics, and vocational education and training are specifically designed to provide the contents, learning experiences and skills for the socio-economic transformation of the Nigerian nation (Federal Ministry of Education, 2012).

The Federal Ministry of Education 9-Year Basic Education Curriculum as developed by Nigerian Educational Research and Development Council (NERDC, 2012), have laid out ten subjects namely: English Studies: Mathematics: Basic Science and Technology: Religion and National Values; Cultural and Creative Arts; Business Studies; Nigerian Languages; Pre-vocational Studies; French and Arabic. The reviewed curriculum specifically, address amongst other things, the issues of value re-orientation, poverty eradication, environmental education, family life/ 1-11V and AIDS education, and critical thinking, entrepreneurship and life skills.

The UBE curriculum is a dynamic and open document that is constantly changing to meet the needs, challenges and aspirations of the society. Yusuf (2012), defined curriculum as the totality of all planned and unplanned, guided and unguided learning experiences that all learners must be expose to the content, performance objectives, activities for both teachers and learners. Teaching and learning materials and evaluation guide are provided for attaining the educational goals. However, the non-involvement of teachers (curriculum implementers) in this constant changing curriculum might hinder effective curriculum implementation, thereby negatively affecting community development.

United Nations (2022) defines community development as “a process where community members come together to take collective action and generate solutions to common problems.” Community development is a process where community members are supported by agencies to identify and take collective action on issues which are important to them. Community development therefore reflects any effort designed to improve the economy, socio-political, or environmental wellbeing of the community, such as electrification of the community, construction of roads, building of classrooms and health centers. Others that are part of the curriculum such as forestation to combat deforestation, erosions, service rendering, creation of awareness, and advocacy, which should be implemented in the curriculum to bring about community development.

The government has been making efforts to actualize its dream of adequate enrolment of school age children and youth as well as retaining them to complete the Universal Basic Education that will lead to social, cultural, healthy well-being and political development of the community. It seems there are still challenges such as: low

enrolment and retention of primary school pupils especially in the remote villages of the state, and the low quality of teachers to implement the curriculum, thereby translating into low levels of learning achievement.

A survey conducted by “United Nations Children Fund” (UNICEF) in 2011, revealed that Nigeria had the highest number of out-of-school children in the world. The survey revealed that one out of every three school age children was out of school. The problem was observed to be more in the North with 51.5% out-of-school children. It was reported that 38.6% and 41.3% of Gombe State primary schools and junior secondary schools are out of school respectively. This constitutes a great threat to the society, as these children may not actively be involved in community development, hence, Gombe state ability to grow socially, economically and maintain competitive advantage nationally as well as healthy well-being of the community is stunted. Therefore, the study investigates the impact of UBE curriculum implementation on community development in Gombe State.

Objectives of the Study

The study was carried out with the objectives to:

1. determine the extent to which the UBE curriculum is being implemented in Gombe state.
2. assess the impact of UBE curriculum implementation of UBE Curriculum for community development in Gombe State.

Research Questions

The following research questions guided the study:

1. To what extent is the UBE curriculum being implemented in Gombe state?
2. What impact does UBE curriculum implementation have on community development in Gombe State?

Research Hypotheses

The following hypotheses were formulated for the study:

HO1: There is no significant association in the response of teachers on the extent to which the UBE curriculum is being implemented in Gombe state.

HO2: UBE curriculum implementation has no significant impact on community development in Gombe State.

Method

The research method adopted for this study is descriptive survey method. According to Nworgu in Mohammed, Hamza, and Hussaini (2014), descriptive survey seeks to find

out the condition or opinion held by collecting and analyzing data from people who are considered to be representative of the entire group. The method was chosen in order to collect data for the research from a large population of fifteen thousand nine hundred and sixteen (15,916), of all the UBE teachers in Gombe State. The State has one thousand, three hundred and forty one primary schools (1341), with twelve thousand seven hundred and one (12,701) primary school teachers and three hundred and three junior secondary schools (303), with three thousand, two hundred and fifteen teachers (3,215), (Gombe State School Census, 2018/2019 SUPEP). The school teachers are from the three senatorial zones which are Gombe Central which comprised Yamaltu/Deba and Akko Local Government Area (LGA); Gombe North with Dukku, Funakaye, Gombe, Kwarni and Nafada LGA and Gombe South which consists of Balanga, Billiri, Shogum, and Kaltungo LOA. A sample size of one hundred and twenty seven (127) primary schools' teachers and ninety six (96) junior secondary schools' teachers, totaling two hundred and twenty three (223) teachers selected from the zones using stratified random sampling technique.

The researcher developed an instrument named “Universal Basic Curriculum Education Implementation on Community Development Questionnaire (UBECICDQ)” for data collection in the study. The instrument was a four point questionnaires rated as follows: Strongly Agree (SA)_4, Agree (A)_3, Disagree (D)_2 and Strongly Disagree (SD)_1. The instrument was validated by two experts in the Department of Educational Foundations and Curriculum, Faculty of Education, Ahmadu Bello University, Zaria. The questionnaire was tried and tested using 30 teachers who were not part of the sample selected for the study. The data collected were analyzed using Cronbach Alpha statistics and a reliability index of 0.82 was obtained.

The coefficient indicated high internal consistency. The questionnaire was administered using direct delivery technique (DDT). To answer the research questions, mean and standard deviation were used while chi-square was used to test the hypotheses at 0.05 level of significance.

Results

This section presents the analysis of data collected through the questionnaires administered on the respondents.

Research Question One: To what extent is the UBE curriculum being implemented in Gombe state?

Table 1: Mean rating on the extent to which the UBE curriculum is being implemented in Gombe state.

S/N	Item	SA	A	DA	SDA		SD
1	The UBE curriculum content is to be adequately implemented.	87	16	56	64	2.56	1.26
2	The number of teachers implementing UBE curriculum are not enough to adequately cover the curriculum.	56	27	14	136	2.13	1.21
3	Teachers assist pupils/students in academic, difficulties outside classroom activities.	175	31	9	8	2.62	0.720
4	The periods for lesson delivery time table are not enough to guarantee adequate coverage of UBE curriculum contents.	164	30	14	15	3.53	0.883
5	Some teachers in UBE schools do not have the prerequisite qualifications to effectively implement the curriculum.	64	32	79	48	1.63	1.23

Table 1 showed the extent to which the UBE curriculum is being implemented in Gombe state. The table showed the average response mean of 2.49 which is approximately the same as the decision mean of 2.5. However judging from the Respondent's responses of those with strongly agreed and agreed being 672 higher than the respondent with Strongly disagreed and Disagreed which are 443. (This indicated that the respondents were of the opinion that the UBE curriculum is not adequately implemented in Gombe state.) This is evident as the table revealed that the number of teachers implementing the UBE curriculum though enough to adequately cover the curriculum with mean of 2.13. But some teachers in UBE schools do not but are not adequately qualified to effectively implement the UBE curriculum with the lowest mean of 1.63.

Research Question Two: What impact does UBE curriculum implementation have on community development in Gombe State?

Table 2: Mean rating on the impact of UBE curriculum implementation on community development in Gombe State

S/N	Item	SA	A	DA	SDA		SD
1	Students acquire entrepreneurial knowledge attitudes and skills through various, prescribed activities from prevocational studies of UBE Curriculum	94	66	1	62	2.56	1.28
2	The UBE curriculum is more theoretical thereby limit students participation in community development	90	60	17	56	2.62	1.23
3	UBE Curriculum imparts acceptable societal norms and values to students such as hard work and diligence.	112	67	35	9	3.26	0.868
4	Soil erosion can be prevented with students are, taught or exposed to environmental education in the UBE curriculum.	100	24	9	90	2.66	1.40
5	The UBE curriculum exposes students to the awareness of the campaign about HIV/AIDS in their communities.	113	62	44	4	3.27	0.83
6	UBE curriculum enables children to know their rights and prevent hazardous labour and sexual exploitation.	80	80	54	9	2.71	0.691

Table 2 showed that the UBE curriculum implementation has impact on community development in Gombe State. The table showed the average response mean of 2.84 which is higher than the decision mean of 2.5. This indicated that the respondents agreed and accepted the items stated on the table that UBE curriculum implementation has impact on community development in Gombe State.

Hypothesis One: There is no significant association in the response of teachers on the extent to which the UBE curriculum is being implemented in Gombe state.

Table 3: Summary of Chi-square (x2) statistics on the extent to which the UBE curriculum is being implemented in Gombe state

N	X ² cal.	α	Df	X ² crit.	P-value	Decision
224	46.16	0.05	12	55.8	.061	Retained

Table 3 revealed that there is no significant association in the response of teachers on the extent to which the UBE curriculum is being implemented in Gombe state. The result showed that the z2 calculated value of 46.16 is less than the critical value of 55.8 at $\alpha = 0.05$ and at 12 degrees of freedom. Since the p-value of 0.061 is greater than 0.05 level of significance, the null hypothesis which states that there is no significant association in the response of teachers on the extent to which the UBE curriculum is being implemented in Gombe state was retained.

Hypothesis Two: UBE curriculum implementation has no significant impact on community development in Gombe State.

Table 4:

N	X ² cal.	α	Df	X ² crit.	P-value	Decision
224	113.44	0.05	15	55.8	.003	Rejected

Summary of Chi-square (x2) statistics on the impact of UBE implementation has significance impact on community development in Gomber State. The result showed that the x2 calculated value of 113.44 is greater that the critical value of 55.8 at $\alpha = 0.05$ and at 15 degree of freedom. Since the p-value of 0.003 is less than 0.05 level of significance, the null hypothesis which states that UBE curriculum implementation has no significant impact on community development in Gombe State was rejected.

Discussion of Findings Based on Research Questions

- I. To what extent is the UBE curriculum being implemented in Gombe State?
- ii. Result in Table I reveals that the UBE Curriculum is not adequately implemented in Gombe State. This is evident as the table I showed the average response mean of 2.49 which is approximately the same with the decision mean of 2.5. However judging from the Respondent's responses of those who strongly agreed are 546 higher than the respondents who Strongly disagreed which are 271. This indicates that the respondents were of the opinion that the UBE curriculum is not adequately implemented in Gombe state. This is evident as the table revealed that the number of teachers implementing the UBE curriculum are not enough to adequately cover the curriculum with respondent's mean response of 2.13 as details showed that 56 strongly agreed, 27 agreed, while 14 disagree and 136 strongly disagree. The highest number who strongly disagree with the fact that there are enough teachers however the table I showed some teachers in UBE schools do not have the prerequisite qualification to effectively implement the UBE curriculum with mean response of 1.63 with details of responses showing that 64 strongly agree, 32 agree, 79 disagree and 48 strongly disagree. This is in agreement to the Federal Republic of Nigeria (2012), which stated in their Policy on Education that the minimum qualification for teaching should be Nigeria Certificate on Education. (NCE)

Research Question II

- iii. What impact does UBE curriculum implementation have on community development in Gombe State?
Results in Table 2 showed that the UBE Curriculum implementation has impact on Community Development in Gombe State. The table II showed the average response mean of 2.84 which is higher than the decision mean of 2.5. This indicated that the respondents agreed and accepted the items stated on the table II that UBE curriculum implementation has impact on community development in Gombe State.

Discussion of findings based on hypotheses

Ho1: There is no significant association in the response of teachers on the extent to which the UBE curriculum is being implemented in Gombe state. Table 3 revealed that there is no significant association in the response of teachers on the extent to which the UBE curriculum is being implemented in Gombe state. The result showed that the χ^2 calculated value of 46.16 is less than the critical value of 55.8 at $\alpha = 0.05$ and at 12 degrees of freedom. Since the p-value of 0.061 is greater than 0.05 level of significance, the null hypothesis which states that there is no significant association in

the response of teachers on the extent to which the UBE curriculum is being implemented in Gombe State was retained.

Ho2: UBE curriculum implementation has no significant impact on community development in Gombe State.

Table 4 revealed that UBE curriculum implementation has significant impact on community development in Gombe State. The result showed that the z^2 calculated value of 113.44 is greater than the critical value of 55.8 at a 0.05 and at 15 degrees of freedom. Since the p -value of 0.003 is less than 0.05 level of significance, the null hypothesis which states that UBE curriculum implementation has no significant impact on community development in Gombe State was rejected.

Conclusion

The Universal Basic Education curriculum implementation will go along way at developing the community, as the study showed that there is significant impact of UBE Curriculum on Community development. However, there is no significant association with the extent to which the UBE Curriculum is being implemented as such the Government should through the UBEC give proper monitoring and supervision for maximum achievement.

Recommendations

- i. The Government should employ teachers with the minimum required qualification Nigeria Certificate in Education.
- ii. The Government through the Ministry Of Education should give priority to supervision of the schools to ensure conformity to implementation the UBE Curriculum.
- iii. There is need for Government collaborating with the community not only in terms of structural development but also imparting the desired knowledge.

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EFFECTS OF GRAPHIC ORGANIZERS ON ENGLISH AS SECOND LANGUAGE (ESL) READING COMPREHENSION

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Abstract

This study employed experimental design. It was aimed at investigating whether or not graphic organizers (GOs) use affects ESL students' reading comprehension. The subjects were 60 JSS II students of Government Secondary School (GSS) Fadan Kamantan, Kaduna State. These students were divided into two groups: experimental and control; each group comprised of 30 students. Both groups were taught reading comprehension in eight sessions via the same learning materials. But, the control groups were taught reading comprehension in the conventional method. While the experimental group was taught using GOs technique; the same pre-test and post-test were administered to the two groups to collect the data. The obtained data were analyzed using SPSS21. The results indicated that the post-test mean score of the experimental group was 84.66 and the post-test mean score of the control group was 56.33. The hypothesis test showed that there is a significant effect of GOs use. The value of significant of equality variance (0.043) was less than the significant alpha (0.05) therefore, it was concluded that there is a significant effect of GOs in JSS II students reading comprehension.

Keywords: Graphic Organizers, Reading Comprehension, English Second Language.

Introduction

Reading is very essential for ESL students because it is not only a subject, but also a service skill that is use even after school. It is also the key and main source for a second

language input when students have learned reading effectively. They will be able to explore in some other subject areas. The students too will be able to learn the other language skills (listening, speaking and writing) and components of grammar, discourse and vocabulary effectively through reading. Krashen and Brown (2007) opined that reading is the most important skill among the four language skills as it can improve overall language proficiency and performance.

Most ESL students find it difficult to master reading, an essential part of language learning. Deporter and Hernacki (1999) echoed that students find reading very difficult, so, they are anxious to read, despite their realization of the high importance of reading. According to Olaofe (2006), some Nigerian students are not interested to read texts due to their inadequate prior knowledge, inability to comprehend the reading texts and complex structure of the textbooks. For many students at the secondary school level, reading classes are considered boring and stressful because of over long reading of texts, unfamiliar vocabulary, lack of pre-reading activities, activating the students' prior knowledge and repetitive teaching (Firmanto, 2005). Since reading comprehension is very crucial, it is very important to find strategies to help their reading comprehension to be beneficial. This study is an attempt to meet that challenge that has lingered for a long time, by investigating whether or not GOs use has a positive effect on students' reading comprehension. GOs was selected for use in the investigation because some previous studies (Fisher, 2002; Parker, 2007; Mcknight, 2010; Roa, 2011; Jiang, 2012; Biria and Sharifi 2013; Abroks, 2022) have claimed its effectiveness to help students understand reading comprehension at various levels of education.

Statement of the Problem

Evidence abounds to show that there has been persistent low performance and poor reading comprehension ability among Junior Secondary School students particularly in Kaduna state (Olaofe, 2013). Literature is replaced with evidence that teachers use teaching strategies that are ineffective in teaching reading comprehension.

This among other factors have contributed greatly to students poor reading performance especially ESL the learners. Available literatures on methods of teaching in English Education suggest the need to employ newer and innovative teaching strategies like graphic organizers. Several studies have been done on various dimensions of effectiveness: This situation therefore, calls for exploration and investigation of graphic organizers on the performance of ESL learners in reading comprehension at the JSS.

Teachers have expressed concern about the poor level of teaching reading

comprehension at the JSS. This could be due to the fact that Graphic organizers strategy is not given the suitable weight of importance in teaching reading comprehension by the language teachers. Majority of the ESL learners are failing to read due to inadequate preparation of the language teachers as well as poor methodology of teaching comprehension. Reading comprehension is either ignored or very poorly taught within the English method course for ESL learners. It is against this backdrop that this study investigated the effect of graphic organizers strategies on JSS students ESL reading comprehension performance.

Reading comprehension is the process of understanding and interpreting texts/passages to get (some) specific information. According to Klingner & Geisler (2018), that reading comprehension is a process of constructing meaning from a passage which involves the complex coordination of several processes, such as decoding, word reading, fluency, background knowledge and prior knowledge of the learner. This is confirmed by Grabe & Stoller (2002) who see reading as the ability to draw meaning from the written text and interpret it appropriately. They argued that the process of reading involves a number of skills, such as; word recognition and syntactic processing, and how these skills enable the reader to anticipate text/passage information, select key information, mentally organize it, summarize it, monitor comprehension, repair comprehension breakdown and match comprehension output to readers' goals. For that, reading is an active, not a passive process. This study is in tone with the above claims because reading is an active process that must involve the students at all levels.

These definitions show that while reading, a reader should not only receive the message or meaning embedded by the author, but should also construct meaning from the information provided in the text. Smith, as cited in Pardede (2016) posited that reading is not just extracting meaning from a text, but rather, it is a process of connecting information in the text with the knowledge the reader brings to the act of reading. This is supported by Olafe & Masembe (2006) who suggested that reading is a holistic process of constructing meaning from a written text. This is done through interaction of the knowledge the reader brings to the text and the reader's interpretation of the language that the writer used in the text. Thus, to make sure that students can read effectively, Brown (2004) recommended the teacher to include their understanding of the basic ideas, expressions, idioms, phrases in context, grammar, supporting ideas and vocabulary in the evaluation of reading skills.

According to Heilman et al (1988), reading comprehension is classified into four levels of; literal, interpreting, critical and creative. Literal reading refers to direct stated information in a text. Thus, in literal reading, one aims only to understand the

explicitly stated information and the reader's understanding could be checked by examining his ability to recognize and recall facts; identify the main idea and supporting details, categorize, outline and summarize the information. Interpretative reading deals with what the author means by what is said. It, therefore, necessitates the ability to read between the lines and draw inferences about things implicitly stated. Interpretative reading could also include the skills to interpret figurative language, draw conclusions, predict outcomes, determine the mood and judge the writer's point of view. Critical reading is an active and purposeful process of comprehending, questioning and evaluating printed text, in order to react intelligently to the author's ideas (Pardede, 2007), deals with why the writer says what he says. In critical reading, the reader needs to use some external standard from his own experience; so as to evaluate and judge the quality of the information, the values of the writer's use of language and his reasoning. In other words, the reader should react emotionally and intellectually to the texts. While creative comprehension involves the information and rethinking of ideas. It means, the reader should be involve with what he reads and rethink ideas of his own to implied and inferred meanings and to evaluate and appreciate reactions.

Furthermore, Rumiris (2012) echoed that there are seven strategies for improving comprehension reading as thus; monitoring comprehension; metacognition; graphic and semantic organizers; answering questions; generating questions; recognizing story structure and summarizing. Monitoring comprehension could be done by students when instructions are given clearly. Clear instructions guide the learners to be aware and understand the problem when reading the text. Metacognition could be defined as thinking about thinking. An efficient reader uses metacognition strategies to think and has control over their reading. In line with this Block et al (2002) opined that metacognition is an awareness of knowledge for planning, monitoring and controlling one's learning. Graphic and semantic organizers mean a relationship between concepts in a text via diagrams. GOs can help a reader to focus on a particulars concept and how they are related to other concepts in a text.

The fourth strategy, answering questions is effective because it gives students a purpose for reading. Focusing son what the students are learning, it helps them to think actively as they read, encourages them to monitor their comprehension and help them review the contents as well as relate what they have learned to what they already know. The fifth strategy, generating questions, makes students to ask themselves questions to combine information from different angles of the text. Recognizing story structure enables students identify the contents, which includes characters, setting, events, problem and resolution whichbis the sixth strategy. While the seventh, summarizing, requires the students to determine what is important in the text and to

generate some words by themselves.

Graphic Organizers

GOs are visual devices that show information in variety of ways. They employ lines, boxes and circles to form images which depict four ways of information which are: cause / effect, hierarchy, compare/contrast, cycle or linear sequences. These images serve as visual guide to facilitate understanding of the reading text by showing how essential information in a text are organized (Ellis & Howard, 2015). This is in conformity with Parker (2007) and Mcknight (2010) that GOs are visual representatives that sort information in a text.

In the context of learning, GOs are visual frames used to represent knowledge and understanding of a subject matter by organizing vital aspects of a concept into a logical pattern through labels. They have various patterns which are maps, graphs, charts, diagrams or clusters. Mcknight (2010) claimed there are about 100 reproducible GOs that could be used in reading, writing and content area. But this study is only concern with the aspect of reading comprehension not writing. In reading comprehension context, GOs can be effectively used in all lessons for students of all educational levels to motivate and improve their thinking skills. According to Krasnic (2011), students will be able to organize and link key concepts based on what they are reading to have clear thoughts and refine thinking among themselves.

Different studies have been conducted on the effectiveness of GOs as a reading strategy to enhance ESL learners' reading comprehension. Fisher (2002), for instance, did an extensive study on the effect of GOs on students, reading comprehension and found that GOs are the most helpful strategy employed by students the experimental group to improve their reading tasks. In the same vein, Roa (2011) investigated GOs impact in reading comprehension of students in a bilingual school. Based on the use of GOs as a reading strategy showed that it enhanced reading comprehension of students in almost any level and age and provided opportunities to practice memory strategies.

Furthermore, Ruminis (2012) conducted an action research to improve students' reading comprehension through GOs strategy in Jakarta, Indonesia. The findings revealed that GOs was successful in improving reading comprehension of the students. Jiang (2012) also, studied the effects of a reading instruction with GOs on the development of students' ESL English reading comprehension. The results showed that GOs strategy significantly improved their reading performance and the learned information was retained after the instructional treatment. Additionally, Bira

and Sharifi (2013) studied the impact of GOs on reading comprehension ability of students.

The results indicated that compared to other post reading strategies, GOs were statistically more significant and effective for the low-skilled readers. Abroks (2022), studied the effects of GOs on student's reading comprehension at the JSS II level of Kaduna State Nigeria. Findings showed that GOs strategy has significant effects on the subjects' reading comprehension on literal, inferential, evaluative and critical reading; when compared to the conventional method of teaching reading.

The objectives of this study is to investigate the effects of GOs on JSS II ESL students' reading comprehension in GSS Fadan Kamantan, Kaduna State, based on this objective, the question of this study is stated as thus. Is there a significant effect of GOs on JSS II ESL students' reading comprehension? Based on this research question, the hypotheses to be tested in this study were formulated as follow;

The 21st century requires students who can move easily between genres. Think critically about new reading tasks, exercise audience awareness and be able to identify and improve their areas of weaknesses. Consequently, the need for a new approach that needs proper attention by both the teachers and students alike is required. Hence, this study highlights the benefits that can gain when graphic organizers strategy is employed in teaching reading comprehension.

Teachers and employers of labour are of the opinion that most of the JSS students could not read and respond to questions raised on what they have read. For this reason, teachers find it difficult to teach because the learners lack comprehension ability. Several methods of teaching reading comprehension have been used, but to no avail. Hence, this study employed the use of graphic organizers strategy to teach reading comprehension for ESL learners to improve their reading performance.

Purpose of the Study

The purpose of this study is to: investigate the significant effect of graphic organizers on JSS II ESL studnets on reading comprehension. Examine whether there is no significant effect on graphic organizers on JSS II ESL students' reading comprehension.

Research Questions

1. What is the effect of graphic organizers on JSS II ESL students' reading comprehension?

2. Is there no effect of graphic organizers on JSS II ESL students' reading comprehension?

Hypotheses

HO 1: There is no significant effect of graphic organizers on JSS II ESL students' reading comprehension.

HO 2: There is a significant effects of graphic organizers on JSS II ESL students' reading comprehension.

Methodology

This study is quasi-experimental research design investigating the effects of GOs on ESL students' reading comprehension. The variables of the study are use of GOs-independent variable and reading comprehension performance-dependent variable. The study was conducted in GSS Fadan Kamantan, Kaduna State in February to March, 2022. The participants were 60 JSS II students, selected through convenience sampling. They were also grouped into experimental and control, and each group comprised of 30 students.

The two groups were taught reading comprehension in six sessions using the same learning materials. But the control group was taught using the conventional method and the experimental group was taught via GOs strategy.

The data of this study was collected using pre-test and post-test. The pre-test was to test the homogeneity of the initial condition of the two groups. Whereas, the post-test was used to measure the students' performance by comparing it with the pre-test results. After getting approval that test was valid and reliable, the researcher distributed the test to the students. The SPSS was employed to analyze the data. Independent t-test analysis was used to determine whether there was significant difference between critical reading skills of the students in the experimental group and that of the control group.

Findings of the Study

Students' initial reading comprehension findings that emanated from the pre-test results, which was administered to see the students' performance of the control group and experimental group was relatively similar. The mean score of the control was a little higher than that of the experimental group. However, the difference was not significant as shown in table 1.

Table 1: Students' pretest results

Group	Number of student	Mean	Min	Max
Control	30	56.50	25.00	80.00
Experimental	30	49.83	25.00	80.00

Students' performance in reading comprehension as shown in table 2, despite the increase of maximum score (80.00 pre-test to 85.00 post-test), the mean score declined to 0.17. This showed that the conventional method of teaching, reading comprehension employed in the control group did not improve students reading performance.

Table 2: The Control Group's Pre-test vs Post-test Results The control Group's Pre-test vs Post-test Result

Group	Scores	Mean	Min	Max
Control	Pre-test	56.50	25.00	80.00
	Post-test	56.53	25.00	85.00

Table 3 reveals the significant effectiveness of reading comprehension performance in the experimental group; from the mean scores change. The experimental group scored 32.83 increase. This indicated that the use of GOs significantly enhanced the students' comprehension performance.

Table 3: The Experimental Group's Pre-test vs Post-test Results The Experimental Group's Pre-test vs Post-test Results

Group	Scores	Mean	Min	Max
Experimental	Pre-test	49.83	25.00	80.00
	Post-test	84.66	65.00	100.00

Hypotheses Test Results

To test the hypotheses proposed to answer the research question; the independent t-test was used and the results are shown in table 4.

Table 4: The Results of independent T-test

Levine's Test for Equality Variance					T-test	Equality	Means	
	F	sig	t	df	sig (2 tailed)	Mean	St Error diff	95% confidence Internal diff.
Equal Variance assumed	.785	.379	-3.252	62	0.002	-7.167	2.203	-11.572 -2.76
Equal Variance Not assumed			-3.252	59.93	0.002	-7.167	2.203	-11.572 -2.75

62As shown in table 4, the results obtained from the independent t-test revealed that there was a significant difference in the scores for the use of GOs strategy (M=84.66) and the use of the conventional method (M=56.53) on conditions $t(58) = -10.840$, $p = 0.000$ and $t(-0.840)$ was lower than sig alpha (0.05). This suggested that HO1 was rejected and HO2 was accepted. Hence, it was concluded that there is significant effect of graphic organizers on JSS II students' reading comprehension in Fadan Kamantan, Kaduna State. Specifically the results suggest that the GOs strategy used in reading comprehension shown higher development in students' reading performance than the control method.

Discussion

This study examined the effects of GOs on reading comprehension performance of JSS II students as ESL learners. The data analysis indicated that GOs strategy has significant effects on the reading comprehension performance of students more than the conventional method. Hence, this study provides empirical evidence which is in accordance with the findings of Fisher (2002), Roa (2011), Rumiris (2012), Biria & Sharifi (2013) and Abroks (2022) concerning the effects of using GOs on students' reading comprehension performance at different levels of learners of ESL situations.

As shown in table 2, despite the increase of the maximum scores (from 80.00 pre-test to 85.00 post-test), the mean score decreased to 0.17. This score decrease might be due

to how students are tired and not interested in the reading tasks given to them using the conventional method. Based on the findings of several studies. Abroks (2022) noted that reading interest and engagement of the students are the major factors that determine effective reading performance. This also verified Miranda et al (2011) and Crosby's (2013) findings that readers with more positive attitude toward reading also had better comprehension scores.

The findings revealed that this study is in support of the use of GOs in facilitating the reading comprehension of the ESL students'. Majority of the students have experienced that questions assist them to activate their prior knowledge, whereby making an association between the new information and the existing knowledge. Thus, when ESL students are given GOs prior to reading comprehension activities, they would read more effectively and achieve higher scores in comprehension tasks. Consequently, this study supports the use of GOs as a potent means that promotes students' reading comprehension and learning from various texts.

Conclusion

This paper concludes by suggesting that graphic organizers strategy can be used as an alternative instructional strategy for teaching ESL students' effective reading comprehension. This will in turn improve their performance in reading.

Recommendations

1. English as a second language teachers are recommended to employ graphic organizers strategy in their classrooms to enhance students' reading performance.
2. The government should provide courses for ESL teachers to update their knowledge on how to design graphic organizers for teaching reading comprehension.
3. Teaching reading comprehension should be made fun by engaging the learners to be actively involved in designing their own graphic organizers on the passages they have read.

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EFFECTS OF JIGSAW TEACHING STRATEGY ON ACADEMIC PERFORMANCE OF JSS3 BASIC SCIENCE AND TECHNOLOGY STUDENTS' IN KAURA LOCAL GOVERNMENT AREA OF KADUNA STATE, NIGERIA.

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Abstract

The study investigated the effects of Jigsaw Teaching Strategy on Academic Performance of Junior Secondary School (JSS3) Basic Science and Technology students' in Kaura Local Government Area of Kaduna State, Nigeria. Three research questions were posed and two hypotheses were formulated to guide the study. Quasi-experimental research design was adopted to guide the study. The population of the study is made of 6,342 JSS3 students in Kaura Local Government Kaduna State. Multistage sampling procedure was used to compose the sample which involved simple random sampling and purposive sampling techniques. 84 students were selected as a sample size for the study. The instrument for data collection was Basic Science and Technology Performance Test (BSTPT). Descriptive statistics of mean and standard deviation was used to answer research questions. Inferential statistics of T- test of independence sample was used to test the hypotheses at 0.05 level of significant. The reliability index of 0.7 was obtained during the pilot testing of the BSTPT. Findings of the study revealed that JTS strategy significantly improve students' performance in BST more than the lecture method of teaching. This study, amongst others recommends that Kaduna state government should organize seminars and workshops for teachers of BST on how to use JST in teaching students BST subject.

Keywords: Jigsaw, Strategy, Students Academic Performance

Introduction

Science and technology hold the key to the progress and development of any Nation. These can be seen in wealth creation, improvement of quality of life and real economic growth and transformation in any society. Science and technology have made it easier for people to communicate with other people across the world. They also helped to the development in Agricultural sector, Education sector, Industrial sector, Medical sector, to mention but few. Science and Technology is the backbone of every nation, this is because no Nation can afford to neglect Science and Technology at any level and hope to progress in field of human Endeavour (Olatoye, 2017).

Basic Science and Technology is the science that is taught at lower, middle and upper basic level of education otherwise known as Junior Secondary School (JSS) (FRN, 2014). Basic Science and Technology principally refers to the scientific discipline of physics, chemistry, biology and mathematics (Jorge, 2017). The subject prepared students at the junior secondary school level for the study of core science subjects at the senior secondary school (SSS) level. Basic Science and technology provides students at the upper basic education level with the initial theoretical and practical frameworks which are inevitable prerequisites for their future study of science (Jorge, 2017).

Since, Science and Technology at JSS level is a foundation of the child's formal education development to SS level, the need for quality teaching at the JSS level is necessary because it influence the learner rate of learning process that will help to determine the quality and direction of his academic and future career in life. This underscores the need to make teaching and learning meaningful to the learners. Thus one of the ways of achieving this is by proper learning strategies used by teachers. Learning strategy refers to method that teachers employed in teaching and learning process in order to achieve the set objectives. Learning strategies are methods which assists teacher to make their lesson explicit to students. They are used to transfer knowledge, ideas and lesson note to students (Gregory, 2013). There is clear need for the strategy that will help the learners to be conversant with subject content of instructions to increase their interest, empower them with sufficient knowledge of Basic Science and Technology proficiency and enhance their active participation in the classroom interaction. One of such learning strategy is the Jigsaw learning strategies.

Jigsaw strategy of learning is a cooperative learning strategy in which learners work in a small groups of four to six (Lestik & Plous, 2012, Arosen (n.d)). It is used to develop the skill of learners so that learners can participate effectively in group activities. Jigsaw strategy can be use for learners by giving them different instructional materials and content to match different level of their neediness (Gregory, 2013). The Jigsaw

strategy is a method of organizing classroom activities that make students dependent on each other to succeed. It breaks classes into groups that each assemble a piece of an assignment and synthesize their work when finished. This was designed by social psychologist Elliot Aronson to help weaken racial cliques in forcibly integrated school. The strategy splits classes into mixed groups to work on small problems that the groups collate into a final outcome. For example, an in-class assignment is divided into topics, Students are then split into group with one member assigned to each topic. Working individually, each student learned about their topic and presented it to their group. Next, students gather into group divided by topic. Each member of the group present again to the topic group in the same topic groups, students reconcile points of view and synthesize information. The students create a final report. Finally the original groups reconvene and listen to presentation from each member of the group. The final presentations provide all group members with an understanding of their own material as well as the finding that have emerged from topic-specific group discussion.

The qualities of instructions received by the students depend largely on the knowledge of a teacher used of teaching strategies. There is a relationship between teaching instructional strategy and students' academic performance. For any subject to be taught to students effectively there is clear need for trained and qualified teacher to employed appropriate instructional strategy. This implies that for effective learning of Basic Science and Technology, teachers have to arouse students' interest through the use of effective instructional strategy that will promote students academic performance. Students' academic performance is the extent to which a student has attained their short or long term educational goals or objectives. According to Narath & Abdullah (2016), academic performance is the knowledge gained which is assessed by marks by a teacher and/or educational goals set by students and teachers to be achieved over a specific period of time. The authors alluded that these goals are measured by using continuous assessment or examination result. The world is changing and advancing day by day, so teachers need to be technological in using teaching strategies to promote students academic performance that will enable them to meet new global emerging demands. Great emphasis has been laid on the teachers to use effective teaching strategies to improved students academic performance.

The Academic performance of students had been declining particularly in Kaura Local Government in Kaduna state as evident from JSSE result in Kaduna State from 2014-2018 showed low academic performance (ERC, 2018). Many authors attribute this poor academic performance by teachers teaching strategies, for example Narath & Abdullah, 2016, Malik & Sigh, 2016). Other authors have also found that age, gender and parents level of education affect academic performance (Khan, Iqbal & Tasneem, 2015; Josiah, Enermarite, & Ajay, i 2019). It should be noted that these findings differ

among environment, different academic levels and the subject involved. This current study focuses on effect of Jigsaw strategy on academic performance of JSS 3 students in Kaura Local Government Kaduna state.

The major goal of Basic Science and Technology programme as derived from National policy on education (FRN, 2014) is to give the students opportunity for developing skills in science and technology the skill that will enable them function effectively. One of the factor in learning basic science and technology is teacher factor. Most Teacher of Basic Science and Technology tend to teach using lecture method which is mainly teacher centered method of instruction. The implication of using such type of teaching method is the poor academic performance of students in Basic Science and Technology.

Several instructional strategies have been introduced in teaching Basic Science and Technology one of such is the used of Jigsaw teaching strategy. These strategies have been used with positive result (Nwankwo, Ebele, 2021). Continues use of teacher centered strategy in teaching Basic Science and Technology is not good for the students. The problem of this study is the non utilization of an appropriate teaching strategy that could improve students' performance in Basic Science and Technology in Kaura Local Government of Kaduna State, Nigeria.

Research Questions

1. What is the performance level of Basic Science and Technology JSS3 students before the treatment in Kaura, Kaduna State?
2. What is the post-test performance level of Basic science and Technology JSS3 students in Kaura, Kaduna State?
3. What are the pre-test and post-test mean performance score of Basic Science and Technology students whose teachers were exposed to Jigsaw teaching strategy in Kaura, Kaduna State?

Hypotheses

1. There is no significant difference between the pre-test performance mean score of Basic Science and Technology JSS3 students in the experimental and control group in Kaura, Kaduna State.
2. There is no significant difference between the post-test mean performance score of student taught by the teacher whose teacher were exposed to Jigsaw strategy and those taught by the teacher who have not been exposed to Jigsaw teaching in Kaura, Kaduna State

Methodology

The research design for this study was quasi- experimental research design, specifically the non randomized pre-test, post-test control group design. In this design, there are two groups which are not composed on the basis of randomization but on the basis of using intact group. Quasi experimental design is considered worthwhile because it permits the research to reach reasonable conclusion even though full control is not possible. The population of the study consisted of all the 6,342 JSS3 students in Kaura Local Government of Kaduna. The sample for the study was 83 JSS3 Basic Science and Technology students. Multistage sampling procedure was used to compose the sample which involves simple random sampling and purposive sampling techniques. From the experimental school, 45 students in their intact class were used and from the control school an intact class of 40 students was used. JSS3A was purposive used in the experimental school and JSS3B was also purposive used in the control school.

The instrument use for data collection is Basic Science and Technology Performance Test (BSTPT). There was two section in this instrument namely section A and B. Section A is students' bio-data while Section B consisted of 50 multiple choice items each item having a four-option response mode of A,B,C and D. these questions was drowned from topics covered during the period of the training. A marking scheme which presented a standardized format for scoring the students performance on the test was constructed and used for grading students scripts. The researchers used the questions during the pre-test and the post-test. The BSTPT was validated by two experts in integrated science and one from test measurement and evaluation.

Reliability of BSTPT was established by administering it on an intact class of 25 JSS3 students in GSS Zikpak and GSS Gwaska in Jema'a Local Government of Kaduna State. GSS Zikpak and Gwaska are outside the study area but had a homogenous attribute with sample of research area. The scores obtained from trail testing exercise were used to estimate the reliability coefficient of BSTPT using Kuder Richardson formula (KR20) which yielded a reliability index of 0.75. Data obtained were analyzed using mean and standard deviation to ascertain the homogeneity or otherwise of the respondents of performance score. T-test of independents sample was used to test the null hypothesis at 0.05 level of significant.

Result and Discussion Research question one:

What is the performance level of Basic Science and Technology JSS3 students before the treatment in Kaura, Kaduna State?

To ascertain the performance level of Basic Science and Technology JSS3 students

before the treatment. Basic Science and Technology performance test was administered to the students in experimental and control group respectively. Descriptive statistic that is mean and standard deviation was employed to obtain the performance level of the two groups as presented in table 1.

Table 1 Performance level of Basic Science and Technology students in the experimental and control group before their exposure to teaching.

Group	N	–	SD	-diff
Experimental	45	21.22	4.97	0.36
Control	40	21.58	4.16	

Table 1 reveals the mean and standard deviation of pre-test performance mean BST students in the experimental and control groups. The result for experimental group yielded a mean score ($\bar{x}=21.22, SD=4.97$) and control group had a mean score of 32.58 and standard deviation of 4.16 before treatment. It means that the control group performance is insignificant than the experimental group with a mean different of 0.36.

Research question 2

What is the post-test performance level of Basic Science and Technology JSS3 students in Kaura, Kaduna State?

This research question was answered using mean and standard deviation of score obtained from students taught with Jigsaw teaching strategy (experimental) and those using lecture method (control) Table 2 presents the post-test mean performance level and standard deviation of experimental and control group.

Group	N	–	SD	-diff
Experimental	45	71.13	13.66	27.23
Control	40	43.90	4.50	

Table 2

Post-test performance mean score of BST students in experimental and control groups

Group	N	–	SD	-diff
Experimental	45	71.13	13.66	27.23
Control	40	43.90	4.50	

Table 2 reveals the post-test performance mean score of students in Basic Science and Technology in the experimental and control groups. The result for experimental group yielded a mean score of 71.13 and standard deviation of 9.15 while the control group had a mean score of 43.90 and the standard deviation of 4.0. It show that the experimental group performed better than the control group with a mean difference of 27.23. It then means that jigsaw teaching strategy has helped in improving the performance of BST students in Kaura, Kaduna State.

Research question 3

What are pre-test and post-test performance level of Basic Science and Technology student whose teachers were exposed to Jigsaw teaching strategy in Kaura, Kaduna State?

This research question was answered by comparing the mean performance score of students in experimental group before the teaching using Jigsaw strategy and after the teaching using the teaching strategy.

Table 3

Result of Analysis between pre-test and post-test Mean Performance score in the experimental group

Group	N	Mean	SD	Different
Pre-test	45	21.22	4.97	
Post-test	40	71.13	13.66	49.91

Table 3 reveals the pre-test and post-test mean performance score of BST students in experimental group. The results indicates that the pre-test means score (mean= 21.22, SD 4.97) was lower than the post-test mean score (mean= 71.13, SD= 13.66). It mean that students performance mean scores increase after expose on Jigsaw teaching strategy.

Test of Hypothesis Hypothesis one

There is no significant different between the pre-test performance mean score of Basic Science and Technology students in the experimental and control group in Kaura L.G.A, Kaduna State.

To test the null hypothesis one, the pre-test mean performance score of Basic Science and Technology JSS3 students in the experimental and control group were compared

to ascertain any significant difference between the mean score of the two group. T-test statistics was employed in testing the null hypothesis and the result is presented in table 4.

Table 4: Difference between Pre-test performance of the experimental and control

Group	N	–	SD	Df	t-cal	p-value	Decision
Experimental	45	21.22	4.97	83	0.09	1.67	Not Significant
Control	40	21.58	4.16				

Table 4 reveals the result of t-test of the pre-test performance mean score of Basic Science and Technology students in the experimental and control groups. In the experimental group, the pre-test mean score was 21.22 with SD= 4.97 while the control group had a mean score of 21.58 with the standard deviation of 4.16. The result also yielded $t(83) = 0.9$, $p < 0.05$. Since the p-value of 1.67 is higher than 0.05 level of significant the null hypothesis was accepted. It was concluded that there was no significant difference between pre-test mean performance score of the experimental and control group.

Hypothesis two

There is no significant different between the post-test mean performance score of students taught by the teacher whose teacher were exposed to Jigsaw strategy and those taught by the teacher who have not been exposed to Jigsaw teaching strategy in Kaura, Kaduna State.

To test the null hypothesis three, the post-test mean performance score of students were compared to ascertain any significant different between the mean of the two group. T-test was employed and the result was presented in table five.

Table five

Result of t-test Analysis between post-test mean performance score of experimental and control group.

Group	N	–	SD	Df	t-cal	p-value	Decision
Experimental	45	71.13	13.66	83	26.80	1.67	Significant
Control	40	43.90	4.50				

The t-test for independent sample was used to determine if any significant different exist between the post-test mean performance score of the experimental and control group. Table five reveal that post-test mean performance score of experimental was 71.13 with SD= 13.66 and the post-test mean performance score of control group was 43.90 with the SD= 4.50. The result also yielded $t_{cal} = 26.80$, $p < 0.05$. Since the p-value of 1.67 is less than the 0.05 level of significant the null hypothesis was rejected. It was concluded that there is a significant difference between post-test of experimental and control group in favour of experimental group. It show that students performance mean scores increased after exposure to Jigsaw teaching strategy.

Discussion of Findings

The findings from the research question one revealed that the mean performance score of the students in the experimental and control school was not significant. This may be attributed to type of teaching strategy used by the teachers in teaching Basic Science and Technology. The findings of research questions two and three revealed that the mean performance scores of the students taught with Jigsaw teaching strategy achieved higher with the performance score of 71. 13, than those taught using conventional Lecture method, with the mean performance score of 43.90. This findings agreed with that Uche & Chinelo,(2021) that Jigsaw instructional teaching strategy significantly improved students academic achievement in Chemistry in Government secondary schools. The findings of this study also agreed with the findings of Sophia,(2016) that the used of Cooperative Learning strategy has significant positive effects in improving students performance. Also the findings of this study was in support with the finding of Adejoh (2015) that Jigsaw Instructional Strategy has more positive effects on students' academic achievement and transfer ability in economics, than the group discussion teaching strategy.

The difference in the mean was further tested for the any significant difference. The result from the hypothesis one showed no significance difference in the mean performance of students in the two groups. Result from hypothesis two testing revealed that there is significant difference in the mean performance; score of JSS 3 students taught Basic Science and Technology using Jigsaw teaching strategy with those taught using lecture method. This finding was in line with Uche & Chinelo (2021), Danladi (2010) that there is a significant difference in mean achievement score of students in Chemistry and Biology students taught using Jigsaw instructional strategy and those taught using conventional teaching method. Also finding from the study of Khan, Igbal & Tasneem, (2015) revealed that parents' level of education also affects student's academic performance in secondary school.

Conclusion

The study showed that Jigsaw teaching strategy improves student's academic performance in Basic Science and Technology. The students taught by Jigsaw Instructional Strategy improve in their mean performance effectively than students taught using lecture method. Jigsaw teaching strategy has demonstrated its effectiveness in improving student mean performance score in Basic science and technology in Kaura Local Government of Kaduna state. Jigsaw strategy is an activity-oriented method which involved assessing individual academics performance.

Recommendations

The following recommendation was made:-

1. Teacher should adopt Jigsaw instructional strategy in teaching and learning in all level of education.
2. Teacher should use Jigsaw strategy to arouse student's readiness in the classroom.
3. Government should organized seminars, workshop to Re-training teacher in the used of Jigsaw strategy.

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EXAMINATION MALPRACTICE IN NIGERIA: A BANE FOR NATIONAL DEVELOPMENT

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Abstract

For the development of both the individual and society, there is a compelling need to assess students' academic performance using examination among several other test instruments in schools, in order to determine the extent of their knowledge and expertise before they enter society. It serves as feedback to instructors, who are also able to evaluate their work in terms of development, as the goals of education in Nigeria, is unambiguously centered on development. It is nonetheless distressing to declare that test fraud in our schools has become a hindrance to these efforts, notwithstanding the enormous gains that education has made in society. This paper examined the forms, causes/factors, and consequences of examination malpractice in Nigeria using a phenomenological research approach. The paper continues by proposing that examination standards and regulations be properly adhered to, and that both the government and school owners maintain suitable learning facilities in schools.

Keywords: Education, Examination Malpractice, National Development.

Introduction

The purpose of education in every nation is to cultivate individuals who will contribute to the nation's progress. In Nigeria, education is the most effective instrument for national development. According to Fafunwa, (1974) stated in Victor and Cecilia (2016), "education is the sum of all procedures by which a kid or young adult acquires the skills, attitudes, and other types of behavior that bring good qualities to the society in which he lives." In light of this, formal, informal, and non-formal education in Nigeria is focused toward fulfilling the following goals:

- a) The fostering of national consciousness and cohesion.
- b) The inculcation of the correct forms of value attitudes for the individual's and Nigeria's existence.
- c) The transformation of the mind to comprehend the surrounding reality, and
- d) The acquisition of relevant skills and the development of mental, physical,

and social competencies as equipment for an individual to live and contribute to the growth of society (National Policy on Education, 2004).

The learners are examined to determine their level of comprehension and mastery of the acquired knowledge's content based on the transmission, verification, and testing of the aforementioned objectives. Examination is widely acknowledged as the most effective method of evaluation. It is a formal examination of knowledge or skill. In a school context, examinations are used to evaluate the quality of knowledge a student has received during a specified period. The examination, according to Adenkule (2003), is a tool used to evaluate the individual's skills and knowledge in both general and specialized fields of study. Teaching and learning become more effective when students are subjected to an examination procedure to discover the amount to which they have assimilated the content of the instruction provided, and the instructor can assess his own performance based on the students' performance.

Unfortunately, this crucial method of evaluating students has been ineffective due to the introduction of all types of malpractice into the system. Adesina (2000) traced the origins of examination fraud in Nigeria to the year 1914. Cheating became rampant in schools when the Cambridge Examination was leaked, thus in 1967 the Alexander Committee was established as a special commission of inquiry to investigate instances of malpractice in Nigeria. In 1977, the West African School Certificate Examination questions were widely leaked. Government viewed addressing the problem as a big challenge. In 1986, a special meeting was convened in Ibadan on this topic. In an effort to combat misconduct, decrees were issued, schools were sanctioned, results were canceled, and invigilators were detained.

The irony of the situation is that despite the numerous efforts of school administrators, government agencies, parents, and religious leaders to educate Nigerian children on the horrors of exam cheating, this problem is on the rise in our institutions. It is necessary to determine the causes of malpractice in Nigerian schools.

Conceptual Clarifications

This paper is incomplete without knowledge of the central idea, "examination malpractice and national development."

Examination Malpractice:

This is any illegal conduct undertaken by a student alone or in coordination with others such as fellow students, parents, teachers, supervisors, invigilators, printers, and any other individual or group before, during, or after an examination to get undeserved mark grades. Exam malpractice has multiple repercussions, including cheating,

leaking, impersonation, and conspiracy. (Zaggi et al, 2015).

Denga (1993), cited in Zaggi et al. (2015), asserts that cheating occurs in three distinct ways: in the examination room, candidates may bring in materials, copy from peers, exchange answer sheets, share formulas, arrange to sit with a brighter student, copy answers on handkerchiefs, desks, or toilet paper, etc. Leakage is believed to occur when candidates obtain access to actual examination questions prior to examination day. Thus, such a candidate can prepare by consulting pertinent materials, notes, or perhaps a resource person, etc. Impersonation is the fraudulent proclamation of another person's identity. In some cases, a candidate is substituted with a more intelligent individual or one with a higher academic standing in exchange for monetary or material compensation. Collusion occurs when two or more candidates agree to collaborate with morally reprehensible examination agencies or school authorities, between candidates and invigilators, between supervisors and invigilators and school authorities, or between parents of candidates and invigilators, etc., with the intention of gaining an unfair advantage on an examination.

National Development

According to Adeola (2006), cited in Joseph and Victor (2013), development means different things to different individuals. In terms of economic, social, or political issues, it generally refers to more efficient ways of doing things than previously existed. Development has numerous facets. It encompasses a vast array of issues and procedures; it has numerous constituents and facets. Development entails the study of human life. Industrialization, modernization, and urbanization are challenges that are ultimately associated with development (Njoku, 2011).

Education is the foundation for the growth of any community. People learn the society's trade, commerce, culture, religion, customs, and values, which impact its evolution. Africa is the cradle of civilization. But the historical reality that confronted Africa during the eras of slavery, colonialism, and neocolonialism shattered African value systems and reversed the continent's course of progress and transformation. Nevertheless, the fundamental developmental difficulties plaguing us as a nation today, such as poverty, inequality, political instability, ethno-religious disputes, insecurity, etc., can only be reversed via the influence of adequate education (Rodney, (1972), as cited in Joseph and Victor, (2013).

Forms of Examination Malpractice

Before, during, and after an examination, malpractice can take on a variety of distinct forms. The following therefore are examples of examination malpractice:

- I. Giving out questions before examination.

- ii. Employing students to administer an examination.
- iii. Assisting students during examinations.
- iv. Student smuggling of examination papers.
- v. Students exchanging examination-related materials during an examination.
- vi. Coming to the hall with concealed items.
- vii. Copying from peers during examinations is prohibited.
- viii. Copying with or without authorization.
- ix. Theft or purchase of examination question papers prior to an examination.
- x. Subject instructors assisting students during examinations.
- xi. Instructors altering grades for various reasons.
- xii. Randomly assigning grades to students.
- xiii. When corrupt proctors administer an examination.
- xiv. When corrupt supervisors supervise examination.
- xv. Mass cheating or examination hall collaboration.
- xvi. Infiltrating the test room with answers to leaked questions already written down.
- xvii. Writing answers to examination questions on pieces of paper, on the examination question paper, or on any item or even on the body, and handing these papers or objects to other applicants is prohibited.
- xviii. Writing an exam for another candidate who may or may not be taking the same exam (impersonation).
- xix. Refusing to comply with examiners' instructions or creating a commotion during the exam.
- xx. False results reported to students (Zaggi, et al 2015).

Factors/Causes Responsible for Examination Misconduct

There are numerous causes and variables that contribute to Examination Misconduct. Certain agencies or stakeholders in the educational sector perpetuate these elements and causes. These agents/interested parties include the student, teachers, parents and guardians, school administrators, the government, law enforcement agencies, examination bodies/inspectors, etc. The following causes and factors are responsible for examination misconduct.

The Desire to Succeed at any Cost

Paul (2012) concurred that modern students are no longer diligent and committed to their academic achievements. They are characterized by a drive for success and fortune without a comparable emphasis on legitimate means and beneficial routes to achieve success. The ambition to pass at any cost is accountable for exam malpractice. (Ajibola, 2006)

Emphasis on Certificate

The Nigerian educational system emphasizes certification and good grades. Students, parents, school administration, and others tend to exert greater pressure on students to obtain the certificate and good marks by whatever means necessary. Consequently, certificates are valued and emphasized over knowledge, abilities, and competence. Numerous school dropouts and school leavers possess diplomas but lack the necessary knowledge, skills, and attitude. This is because students are in a rush to obtain paper qualifications for jobs they already have or good grades to secure employment (Petters and Okon, 2013, as cited in Onyibe et al., 2015).

Social Factor

According to Itedjere (2006), from a moral standpoint of the society, it is a fact that school, like any other social institution, does not exist in a vacuum, but rather exists within a geopolitical and socio-milieu. As a result, it is expected that behavior conforms to and reflects accepted societal standards and ethos with relation to the execution of various functional responsibilities and services. Also, Okafor (1991) attributed examination malpractice to society dishonesty. In a culture where dishonesty is worshipped as a god, he added, youngsters must steal with impunity; examination malpractice (in all its forms and hues) has become the norm at every level of our educational system. People in Nigeria now value money more than anything else, reminding one of the adage "the aim justifies the means."

Teacher Factor

The instructor is the primary agent of transformation and the fulcrum of the teaching-learning process. Paul, (2012) observed that teachers should engage pupils in dynamic learning that is active, participatory, and creative on a morally and academically sound foundation. Teachers seek to cultivate pupils who are relevant, efficient, productive, and competitive, and who positively flourish in all aspects of life. When teachers forsake their responsibilities in the academic sector and fail to apply the required school curriculum, students engage in exam malpractice in order to pass. Many teachers encourage exam malpractice because they lack the will to work but need recognition for unfinished work.

Psychological Factor

This includes the stress that is frequently produced by parents, peer groups, and students; as a result, they feel a great deal of stress and anxiety while attempting to achieve the requirements of numerous topics. That tension and anxiety experienced by students during examinations are evident; as a result of stress, students tend to adopt unfavorable behaviors that lead them to inadequately prepare for examinations and expose them to examination malpractice and misconduct. It should also be

highlighted that psychological fear of failure or receiving poor grades motivates their participation in exam malpractice and misconduct.

Environmental Factors

Oluyeba and Daramola, (1993) as cited in Olabisi and Abiola (2014), opined that poor schooling environment lead students to examination malpractice and misconduct. The environmental factors include the crowded nature of our classrooms, theatres as well as examination halls with few invigilators during examination. Teacher's or lecturer's inability to cover up the stipulated syllabus, for the period before an internal examination, like promotional examination, obsolete instructional materials which are inadequate in the schools; may force some students to cheat even if they do not want during an examination.

Intelligence Factors

Ajibola (2006) asserts that the concept of individual uniqueness must be considered when comparing students' academic competence, ability, and comprehension. The failure of students to comprehend that IQ (Intellectual Quotient) varies and cannot be compared is another aspect; as a result, academically inferior students will sometimes attempt to compare themselves to naturally bright, smart children. When academically poor pupils are unable to meet the hurdles, they rely on missing links with snacks or outside assistance to pass their exams. These missing linkages are related to misunderstandings and misconduct. Again on the psychological point: intelligent and smart are distinct ideas from scholastic ability. Being sly and able to handle a situation with what is physically available within a limited amount of time is synonymous with being smart, whereas intelligence involves your cognition and response to stimulus... a smart student may not be intelligent, but is more likely to pass an examination than an intelligent student.

The Student and their Acquired Knowledge and Abilities

Students' participation in examination malpractice is determined by their level of acquired knowledge and skills. Moreover, the inferiority complex to which any kid who fails an exam is exposed in school, at home, and in society would motivate the student to go to any lengths to pass the exam (Olabisi and Abiola, 2014)

Teachers and Institutional Procedures

The quality and standard of an educational system are largely determined by the caliber of its teachers. No nation can surpass the quality of its teachers. It would be exceedingly difficult for the school system to aid society in achieving its developmental objectives in the absence of competent and effective teachers (Ajayi, 2005). It is also true that highly-motivated teachers tend to be more productive than

their less-motivated counterparts (Ejiogu, 2017; Omemu, 2015; cited in Ejiogu, 2017). Therefore, the teacher plays a vital part in determining the success or failure of any educational institution. In fact, the quality of the teacher is perhaps the most influential factor in determining educational standards. Effective instruction increases the significance, interest, and comprehension of learning. Sadly, the Nigerian teacher has been marginalized and ignored by the government and society. As a result, teachers appear casual and kind. In this situation, the teacher promotes absenteeism and demonstrates inadequate teaching skills to the pupils, causing them to resort to exam fraud in order to pass. Also, the educator is susceptible to money temptation and bribery. In a materialistic and capitalist society such as ours, the Nigerian teacher's poor economic and social standing makes it even more challenging for him to maintain his professional integrity.

The Infrastructure and Setting of the School

The amount and caliber of physical amenities in the majority of our educational institutions leaves much to be desired. In the majority of our communities, the primary and secondary school environments and structures are frequently the most impoverished and unattractive. Most frequently, we encounter classrooms without roofs and without furnishings for children and teachers. As a result, there is always a great deal of strain on the limited available buildings, classrooms, facilities equipment, and other essential infrastructure. As a result, students are packed into classrooms during normal teaching hours and tests. The bad school atmosphere and facilities greatly contribute to poor instruction, poor academic performance, and a high incidence of examination malpractice (CWO Voice, 2010 quoted in Onyibe et al., 2015)

The Role of Government Agencies

Government officials and agencies responsible for education, such as the Ministry of Education, WEAC, supervisors and invigilators, as well as law enforcement agencies, contribute to examination malpractice in a variety of ways. By omission or commission, these agencies and organizations conspire, aid, and abet examination malpractice while feigning opposition to the practice (Omemu, 2015).

The Society's Value System

According to Omemu, the Nigerian value system and the haste to amass wealth and get everything with relative ease have also contributed significantly to examination malpractice (2015). The nation's economic and social affairs are structured to encourage ruthless capitalism, materialism, and commercialism. In Nigeria, the current value system is the accumulation of wealth, to the point where money has become the most essential status symbol. There is a "rat race" to gain money because

the majority of Nigerians believe that money is everything. Unfortunately, sincerity and diligence are no longer seen as indicators of success and accomplishment. Thus, the Machiavellian maxim "the aim justifies the means" has become the driving philosophy (Omemu, 2015). In this situation, corrupt practices become the norm, and schools, as micro-societies, reflect the greater society's corruption. Jibril (1991) suggested that examination malpractice is the result of a culture that promotes cheaters and the mediocre and turns them into celebrities. It is a sign of our nation's moral decline.

Rising Cost of Education

Education, like other consumer items, is getting increasingly expensive, even at institutions that do not charge tuition. The cost of textbooks, upkeep, and other incidental expenses is increasing, especially with the emergence of private schools and inflation. Students and even parents will want their child to pass at any costs because the financial repercussions of failing are so severe (Omemu, 2015).

School Administration's Supervisory Role

By and large, school administrators lack the motivation to inspire instructors and pupils. Infrequently do school administrators and the Ministry of Education's inspectorate division use their oversight responsibilities. Omemu, (2015) noted that inspectors frequently visit schools primarily to collect "envelopes" and "kola" as opposed to carrying out their core responsibilities. In a similar vein, school administrators devote a significant portion of each school day to collecting various types of levies. Provision of essential learning or teaching supplies, such as chalk; marking of lesson notes; and supervision of students and teachers become secondary responsibilities that may be delegated to dissatisfied subordinates. Teachers and pupils are absent from school because school administrators and supervisors lack sufficient oversight. This culminates in examination malpractice.

Political Undertone and Government Insensitivity to Educational Needs

Since its independence, the Nigerian state as well as its political system has been marked by inconsistency, instability, and economic corruption. Nigeria's government has been plagued by corruption. Due to their ill-gotten naira power, it has produced a situation in which insignificant individuals are pushed into prominent positions in society. Regard and honor are automatically bestowed upon members of society who undoubtedly do not merit respect. Under these conditions, the tenets of diligence and perfection are terminated. Like the government's education policy, society tends to view examination as one of the useless regular exercises in the educational system, which has no influence on the nations or child's future progress and development. As a result, examinations should be rigorously

conducted to verify their validity and reliability, as the culture does not appear to appreciate the importance of examinations to the educational and economic destiny of the child. Not knowledge is emphasized, but rather the oil economy (Olabisi and Abiola, 2014).

Strike/Closure of Institution

Frequent strike actions and indiscriminate institution closures facilitate examination malpractice when institutions are shuttered and the semester and course load are compressed. Students are frantic as they investigate "the best way" to pass their exam. This is due to the fact that the professors will want to cover the curriculum, and because the remaining time is limited, the students will have a great deal of work to complete. Consequently, pupils are compelled to utilize whatever means available to pass the examination (Omemu, 2015).

General Economic Condition or Earnings

In a country like ours, where there is a high inflationary trend due to an already deteriorating economy, individuals take advantage of every opportunity to make ends meet. People assume they cannot survive without financial resources. The personnel of examination bodies is not an exception. Several of them, for instance, utilize their position to generate income by selling life examination question papers (Akaranga and Ongon, 2013).

Admission Requirements

There are various admission policy standards for each and every academic institution. In order to be considered for admission, prospective applicants must meet certain minimal requirements. In order to fulfill these requirements, students are aware that they must possess the necessary disciplines for the program. Therefore, some of them believe that something must be done to prevent failure in such examinations in order to assure the success of their career goals. As a result, many of them resort to cheating in order to attain their academic goals, particularly in essential subjects such as mathematics, English, physics, chemistry, biology, and economics (Omemu, 2015).

Employment Requirements

Employment or the filling of openings in businesses on the labor market is primarily based on qualifications. Consequently, obtaining the certificate is the most significant objective for the majority of prospective applicants. In addition to acquiring a certificate securing a job is contingent upon having the necessary connections. The consequence of this is that obtaining a decent job in Nigeria requires a good certificate; as a result, students who seek such employment but are academically poor

resort to any means necessary, including exam cheating (Oduwaiye, 2004, quoted in Olabisi and Abiola, 2014).

Effects of Examination Malpractice

According to Anwarbor (2006), cited in Zaggi et al (2015), the following are the consequences of examination misconduct:

- I. Discourages good candidates from studying diligently; good candidates are inclined to believe the adage "If you can't beat them, join them" when they observe dishonest candidates getting away with their unscrupulous actions.
- ii. Deprives innocent students of the opportunity to be admitted; a large number of good students have been denied admission due to exam cheating by dishonest students with higher test results.
- iii. Delays the processing of examination scores and marks; each year, numerous students are caught engaged in a variety of exam malpractices, which must be investigated prior to the release of results.
- iv. Decrease job efficiency; this has major implications for the gross domestic product of the nation. It also influences the overall quality and standard
- v. Poor productivity and inefficiency when released into the labor market, which can do tremendous harm to society.

Conclusion

Examination Malpractice has become a cankerworm that has gnawed deeply through Nigeria's educational system and national growth. In addition to educating students to avoid all forms of unethical behavior, teachers play a significant role in preventing misconduct. If the teacher is committed to eradicating exam malpractice, there will be no sign of it in Nigerian schools. The teacher continues to play a vital role in preventing exam malpractice. If lessons are delivered effectively and efficiently, the student is adequately prepared for the examination, the teacher ensures that the assessment is administered properly, there is no form of assistance, and students are adequately monitored by the teacher during examinations, then the problem of examination malpractices is partially resolved. It may be necessary for the government, parents, and religious leaders, etc. to play just supplementary roles. The gospel against examination malpractices should be preached more to teachers than to students. Students in any public examination turn to the teachers or school for aid, and in the absence of such assistance, cheating will be reduced.

Recommendations

- I. Consequently, the following recommendations are made based on the analysis presented above.
- ii. Commitment, sincerity, and devotion to study; teachers should organize their

classes and improve the quality of their instruction by employing the appropriate methodologies and resources. Lessons must at all times be adequately planned and presented with proficiency.

- iii. The development of good self-concepts in students and serving as an example in work and deed. Students should be instilled with values such as honesty, hard work, and fairness, and they should be encouraged to develop good study habits.
- iv. Continues Assessments should be conducted, and exam scores should be incorporated.
- v. During the conduct and invigilation of examinations, invigilators and supervisors should take examination supervisions seriously.
- vi. Examination regulations must be adhered to stringently.
- vii. The teacher's awarding grades should do that objectively.
- viii. It appears that legislation pertaining to exam offenses are never properly implemented. Therefore, it is recommended that government and school authorities implement these regulations without regard for who might be injured.
- ix. Exam facilities and rooms at a number of educational institutions are inadequate. To alleviate congestion in examination rooms, it is recommended that colleges provide big examination rooms as a requirement.
- x. Institutions may implement oral tests to determine the veracity of credentials possessed by candidates. Additionally, before admission or employment, students should be required to defend their outcomes.
- xi. At all levels of education in Nigeria, a curriculum addressing the problems of examination fraud should be implemented.
- xii. Question papers and other exam-related documents must be stored in a secure location that is inaccessible to unauthorized individuals.
- xiii. Anyone convicted of exam cheating shall be dealt with by the institution's examination ethics committee or reassigned to a non-examination area of the institution. Otherwise, legal action will be taken against the person.

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GENDER BIAS IN CONSTRUCTION SITES AND ITS IMPLICATION ON THE GIRL-CHILD EDUCATION

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Abstract

Relationship between workers at informal building construction sites are marred by power imbalances due to gender. Power relations that operate at sites continue to exhibit strong male dominated features as men occupy positions of power and existence of unequal power distribution. In light of the above, this paper examined gender and power dynamics in relationship among bricklayers and men and women labourers at the informal building construction sites in Ibadan metropolis, Nigeria. Socialist Feminism provided the theoretical framework. The study adopted descriptive research technique. Purely qualitative method of data collection was adopted. Qualitative data were collected through eight IDIs, four KIIs and two FGDs. Qualitative data were content analysed. Findings revealed that gender bias and discrimination persist at construction sites. Certain dynamics of power existed between men labourers, bricklayers and women labourers as a result of gender. Despite women participation in male dominated occupation, women are still restricted to traditional roles at sites. Gender bias at construction sites has great implication on girl-child education as they are discouraged from studying technical related courses. Policies targeted at improving women's status and eradicating all forms of girl-child discriminatory practices should be postulated and implemented.

Keywords: Gender bias; construction sites; girl-child education.

Introduction

The concept of power dynamics is a crucial issue in modern sociology because it is present in almost every human social interaction – between managers and workers, parents and children as well as among friends. In other words, it determines the tone at various levels of human interaction. Power dynamics can further be explained to mean interaction and control of people. That is, how group of people are able to interact and also control some other group thus creating a division of power. It explains unequal distribution of power among genders. The informal building construction comprises mainly of low-skilled and casual labourers and also characterized by mobility of labour workers (Fisher, 2007; Watt, 2009; Fagbenle, Ogunde and Owolabi, 2011).

Majority of building construction sites under this category are temporary in nature and makes for seasonality (Fisher, 2007).

Although women are rapidly entering the construction workforce, they however encounter varying experiences and challenges. These women, who constitute majorly labourers at sites, are subjected to forms of discrimination as a result of the unequal distribution of power between men and women at the building construction sites. Men, who majorly occupy positions of authority control women and enforce various rules to their advantage. Power is unequally distributed between men and women workers thus creating discrimination and numerous challenges. Hence, power relations that operate on construction sites continue to exhibit strong male dominated features (Watt, 2007; Fagbenle, et al., 2011) thereby making women remain vulnerable to cheap labour and absolute control by men. Regrettably, women's different treatment at construction sites due to gender bias have implications on the girl-child education as they are discouraged from studying technical related courses. Psychologically, women are valued lower than men by the society and as such, boys more superior. This ultimately affects girl-child educational orientation and also determines their choice of educational path.

Power relations can be symmetrical or asymmetrical (Brey, 2007). Symmetrical power relations describe a situation where agents have equal strength, relative to potentially conflicting interests, and also resolve conflicts of interest through dialogue (mutual persuasion) or bargaining while asymmetrical power relations is that where one agent is more powerful than the other (Brey, 2007). This results in an asymmetrical exercise of influence or control, i.e. the ability to impose one's will on others (Brey, 2007). Relations of power — the capacity to control or influence others — are key elements in the social construction of gender. Asymmetrical relations of power between men and women exist because of prevailing gender norms and practices. However, the asymmetries are also embedded in societal institutions, ranging from the family and the educational system to the political and economic systems and the legal system. They are associated with unequal access to resources, diminished social and economic status, vulnerability to abuse and violence, and reduced life chances.

The Socialist Feminism theory explains power dynamics among the various workgroup at building construction sites. The theory is a paradigm of both Marxism and Feminism. It is a two-pronged theory which describes how the socialist and feminist view the world. This theory enables one to understand power dynamics at the building construction in a new way. This is because both Marxian and Feminist view inequality from different angles and also gave a detailed understanding of the world and the system in a dynamic way. Marxism explains class dynamics of capitalist

society. It explains that inequality arises from developments central to capitalism as an economic system. The capitalist class owes its very existence to the continued exploitation of the working class. What maintains this system of class rule is, in the last analysis, force. From the above, this Marxian approach reveals a system of class rule which rests on forcible exploitation. Thus, capitalism and male dominance are seen as major factors in women's oppression.

Feminism discusses another familiar inequality. Through history, the human society is marked by some degree of inequality between the sexes. These degrees of inequalities are characterized by the subjugation of women to male authority, women being viewed as a form of property; a sexual division of labour such that women are confined to roles such as child raising and bearing, performing personal services for adult males, and other specified (usually low prestige) forms of productive labour. Summation of both Marxism and Feminism may then be referred to as Socialist Feminism which analyses and explains forms of inequality, segregation, oppression and exploitation within human society. With this theory, we are closer to understanding class, capitalism and male domination, than we were a few years ago because aspects of class domination and male domination are evident at construction site. Socialist feminism focuses on how women are denied power because of their class positions. Evident at the building construction site is power play. A scenario where its ruling class are the bricklayers and supervisors who hold positions of power and control women at sites while women are those who are ruled.

Methodology

The study adopted descriptive research technique. Purely qualitative method of data collection was adopted. The study area is Ibadan. Ibadan South West was purposively selected for the study. Four communities -Gbekuba, Oke alaro, Oluyole extension and Orita challenge- were purposively selected from the local government based on preponderance of construction sites. The study population comprised of bricklayers, men and women labourers who were purposively selected and interviewed from the selected four communities for the study. Non-probability sampling techniques were used to select the population and study areas respectively. Respondents were purposively selected through accidental sampling technique. It utilized in depth interviews (IDIs), key informant interview (KII) and focus group discussions (FGDs) to elicit information from respondents in the selected communities.

Qualitative data were collected through eight in-depth interviews (men and women and labourers), four key informant interview (bricklayer) and two focus group discussions (male and female labourers). Two (2) IDIs were conducted in each community of the local government area, two (2) KIIs each was conducted in two

purposely selected communities and one (1) FGD each also conducted in two purposely selected communities in the LGA. The focus group (FGD) sessions comprised of only the same sex per each group. The FGDs were conducted based on age. Men and women labourers who were below age 18 years were excluded from the focus discussion group. Qualitative data were content analysed. Digital tape recorder was used in recording information and this was later transcribed verbatim for the purpose of analysis. For compliance with research ethical standards, rights, dignity and privacy of respondents were ensured.

Findings

At building construction sites, there is a clear scenario of power dynamics at play. Men, to a large extent control the behavior and activities of women. These men are the bricklayers at construction site and/or supervisors where available. This is because, in some cases, bricklayers also act as site supervisors. Men hold positions of power thereby controlling women work and activities. This was reflected through men's power in decision making. For instance, bricklayers determine when workers leave site when work for the day wasn't accomplish, they determine whether labourers would be paid wages for the day if labourers do not accomplish the given task for the day. Aside this decision making by bricklayers at site, they also use their positions to make happen what they want irrespective of obstacles or resistance by women. In such cases, men use abusive words and threat on the other group which is mainly women labourers. This situation is only peculiar to women labourers as men are less patient with men than women at site.

Socio-demographic profile of respondents

On sex, indicated that majority (8 out of 12) of the study population were male. This result is a reflection of male dominance because there was an unequal proportion of men and women found at building construction sites. Men workforce was more than women and this accounted for the ratio 2:1 (male: female) respectively. Thus work in the construction industry is characterized by gender and is a contributory factor responsible for this result because roles being performed at building construction sites are seen majorly as that of men than women; hence men dominating the sites. This finding also confirms the position of Fagbenle, et al., (2011) that construction work is a largely male dominated profession.

As regards age, most of the respondents (10 out of 12) were 43 years and above. This age group accounted for majority of the workforce. Most of these respondents can be said to be in their middle ages who are of the productive, skillful, energetic and of experienced group whose economical contributions to the society cannot be ignored. These respondents constitute the workforce concerned and affected with the issue of

power relations at the construction sites. These respondents can therefore serve as effective reservoirs of ideas and opinions on the issue of power dynamics and relations among work group at building construction sites. However, deterrents to young people joining the construction workforce is an unfavourable image of the industry as being dirty, non- technical, non-professional and lacks career path (Tucker, Haas, Glover, Alemany, Carley, Rodriguez and Shields, 1999).

Marital status distribution of respondents reveals that majority of participants were married (9 out of 12). Family socio-economic demands may be responsible for the larger size of married respondents compared to the other category of respondents. Religion of the majority of the respondents revealed that majority of both male and female (11 out of 12) were Muslims. Respondents' religion is not surprising as the area of the study is a Muslim populated city (Oladiti, 2014). On ethnicity, majority (11 out of 12) of respondents were Yoruba. This reveals that the respondents are largely constituted by indigenous Yoruba people which the study area represents. Educational level of the respondents also revealed that the majority of respondents (8 out of 12) had no formal education, the remaining four (4) had primary school education. The little level of education by most men afforded them the little knowledge and ability to be trained as bricklayers and also attend apprenticeship programmes. The composition of the construction workforce with no formal and some with primary school education is a reflection of the informality of the system (secondary sector) which requires little or no level of education in its engagement as posited by the dual labour market theory. One may then not be surprised to find these respondents in building construction sites because of their low level of education which is also characterized by low wages. Little education possessed by men which makes them to occupy positions of power such as bricklayer is accountable for the power relations among the workgroup.

Power dynamics at building construction sites

From the study, different reasons were given for power dynamics at sites. Respondents expressed that men exert power over women in decision making in relation to work at sites, power dynamics are as a result of the positions they occupy and their physiological make up and also as a result of men's less patience with men than women. Consequently, this power play that is evident at building construction sites goes a long way in determining the jobs to be performed by women, the wages to be paid and the allocation of tasks at sites. All these are indications that men exercise power over women at building construction sites. The reflection of patriarchal dominance which privileges men over women could be responsible for this power imbalance between men and women as evident at the building construction sites. In the process of exercising power, men use hard tactics by being harsh and forceful on women labourers. Bricklayers especially exercise this power tactic. This was reflected

in the statement and experience of a woman labourer who said that:

...because men especially bricklayers hold supervisory positions at site, and also they are the ones that take women labourers to site, they always like to enforce women to complete particular task assigned to them even when such tasks cannot be completed by the women engaged. When such situation occurs, bricklayers threaten to deny women their wages.

IDI/Oluyole Extension/Woman Labourer

Another respondent corroborated men's exercise of power on women at site. According to her:

It is the bricklayers that control us and our activities at site. Because sometimes we get labourer work through them, they command us (even if are not willing) that we must complete tasks given; even when these tasks to be done is more than the available labourers. We do not have choice but to comply with their directives because our families await financial provision by us at the end of the day...anyone who rejects was told to leave the site.

IDI/Gbekuba/Woman Labourer

Confirming the above women's responses on the existence of power imbalance between men and women at site, and the fact that men control women activities, a supervisor during a key informant interview explained that:

...men are more than women on most building construction sites in Ibadan. Men perform most work here. Apart from this, men are in charge of daily work activities. We determine what to be done on site and also occupy key positions like bricklayer and supervisor. Therefore, we control women and their activities and women do not control us...moreso, women are on the site to work through us...

KII/Oke Alaro/Bricklayer

Another respondent corroborated men's exercise of power on women at site. According to her:

It is the bricklayers that control us and our activities at site. Because sometimes we get labourer work through them, they command us (even if are not willing) that we must complete tasks given; even when these tasks to be done is more than the available labourers. We do not have choice but to comply with their directives because our families await financial provision by us at the end of the

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KII/Oke Alaro/Bricklayer

Investigating further on power relations between men and women at sites, findings revealed that bricklayers threaten not to give women wages when women complain that a particular task assigned was much. With this threat of denial of wages, they tend to control women activities by ensuring that work assigned was completed; even if it meant women labourers over staying at site.

This finding was revealed through focus group discussion thus: *Many a times we get construction labour that when we get there is when we will realize that the work to be done was more than the earlier discussed with bricklayer. Whenever we realize such situation, bricklayers sometime agree to add token to the earlier discussed wage. But the problem there is that, the work must be completed the same day or else we won't be paid wages...we would not be allowed to complete the work the following day so we sometimes stay late night...any woman who refuses to stay behind to complete the work would be denied wages irrespective of the fact that the person has been working since morning...they do this most times because bricklayers too want to have extra money from the work for instance, work that was supposed to be completed within seven days, they will want to complete it within five days so as to keep the remaining money...* **FGD/Gbekuba/Women Labourer**

Men also prove their superiority and that they hold positions of power by refusing to receive the same wages with women when a particular work was completed. In explaining this, male respondents during a focus group discussion explained that:

Men most times want to prove that they are superior and powerful

than women. This is because sometimes, men labourers refuse to collect the same wages with women when work is completed. What we say is that we are men and therefore there should be at least a little difference in our wages...

FGD/Oke Alaro/Men Labourer

This finding was also confirmed by a male labourer who said that:

...sometimes we refuse to receive the same wages with women when job is completed. This we already bargain with the bricklayer which he agrees to. We are men now, there must be a difference in the wages we receive; even if it is five naira difference...

IDI/Orita Challenge/Man Labourer

Furthermore, power relations at play by men at site revealed that men use various tactics of abuse on women (both physically and verbally) in order to maintain their work control over them. Investigations revealed that men use abusive languages at women when their work pace is slow. This is evident in the responses from a focus group discussion where women labourers expressed that:

There are good bricklayers and we also have the bad ones. In the sense that some are heartless and do not treat us well while we have some good ones. When we don't work to their expectations, they shout at us and rain abusive words as if we are their children...some of them do not even know what words are not to be spoken in public.

FGD/Gbekuba/Women Labourer

Another female respondent expressed that:

...some bricklayers do not have courtesy because they talk to women anyhow as if they are relating to their wives. They rain abusive words at women at the slightest mistake...

IDI/Oke Alaro/Woman Labourer

The use of abusive languages by men at sites from the above is an indication of a form of use of power by men in order to control women work activities. This use of various tactics of abuse by men especially the bricklayers was also observed during participant observation conducted. It was witnessed that men use vulgar and abusive languages, especially, when women are not working up to expectation at the site.

Another respondent expressed her experience on how a bricklayer exerted power over her to cheat her of her wages due to his position. She said during an in-depth interview that:

I experienced a situation where a bricklayer deducted some amount from my wages and then gave me the remaining because he was the person who secured the job for me.

IDI/Oluyole Extension/Woman Labourer

This finding revealed that contrary to the pre-agreement of the *oga* (i.e. boss) with the woman labourer, the boss uses his position to reduce the wages expected to be received by the woman.

Although men hold positions of power thus having more power than women in relation to work activities at the construction site, it is important to note that there are some women who do not have power over men, but exercise power over other women at site when it comes to men's influence on their wages. Findings revealed that some women labourers are outspoken and fight the course of other women by challenging bricklayer's exercise of power forcing them to accomplish a task which ordinarily cannot be performed within the stipulated time. A bricklayer attested to this thus:

There are some women labourers who are active, thus fight and stand for their own course but don't for the other women when bricklayers want to exercise negative power on them.

KII/Gbekuba/Bricklayer

On a similar note, key in-depth interview also confirmed that there are exceptional women at site who challenge men control. According to the bricklayer, such women fight for the interest of others while others support her and comply with her orders.

We have some women who challenge men at site. For instance, when bricklayers want to force them to complete a particular job that cannot be finished in a day, such women challenge bricklayers control by telling them that they should have brought their wives and children to perform the work...with such women's challenge, at times bricklayers become soft and then the work would be done...if the bricklayer disagrees, then the women leave the site...these type of women also direct other women to do such work or not to do it.

KII/Oluyole Extension/Bricklayer

In order to have a better understanding of gender relations and bias at the informal

building construction site, attention was drawn to the unequal distribution of power between men and women at sites. This is because power dynamics are characterised by unequal power distribution among genders. Evident from the findings above was power dynamics at the informal building construction sites because there existed a division and imbalanced power between men and women. Men (mostly bricklayers) hold positions of power while women's positions are subservient. Hitherto, men use their positions to exert power over women especially in decision making. Although men exert power over women in diverse areas, there are also women who challenge men's authority and power. Such women fight for their own course and in other cases resist such power over other women at site. These power dynamics at site reflects the socialist feminism ideology which depicts a power relation between categories of social actors and also another area of familiar inequality between gender at the building construction site. This degree of inequality and oppression was reflected in the discrimination of women at site. For instance, a situation where bricklayers prefer to engage services of men labourers than women labourer. In another case, a situation when men labourer was more paid than a woman labourer after the day's job despite the two performing similar task.

Theoretically, the findings present a social class dichotomy which Karl Marx described as the bourgeoisie and the proletariat; ruling and the ruled. These groups comprise of the bricklayer and the women labourers respectively. Male supremacy and dominance is present at site and also inequalities of power existed between men and women. Men determine women wages and women to be assigned tasks at site while women depend on men for their wages at the end of the day's job. This is also an indication of men exercise of power and a dominant-subordinate relationship. Men (dominant party) dominate women (subordinates) at will. Furthermore, the theory captures knowledge of oppression under capitalism and patriarchy as Capitalist Patriarchy from a standpoint of women's experiences which the study reflected. The findings give credence to Agapiou (2002) study who found that the industry is one which requires a good tolerance for outdoor conditions, inclement weather and bad language.

Consequently, women who find themselves in the construction industry may not possess natural strength and also unable to handle direct criticism or straight talking. Men hitherto feared trouble in the form of distraction at the job, sexual harassment litigation, and the potential for women to overreact. It also corroborates Arslan and Kivrak (2004) who found that the image of the industry for women is one which is dirty, dangerous and lacking in equal opportunities. He stated further that women in this industry generally encounter difficulties which include men's attitude toward women, the male-dominated culture, and a general environment of sex discrimination.

From the foregoing, gender bias and women discriminatory experiences at construction sites have great implications for girl-child choice of educational path as they can be discouraged from studying technical related courses based on the following:

1. Patriarchal nature of the society: the belief that women's place ends in the kitchen and that men are stronger than women still manifests at construction sites. This is because roles performed are based on gender. Women at sites perform traditional roles such as fetching water, sand and carrying blocks while men are bricklayers and foreman. These roles determine men and women wages where men are paid higher than women.
2. Power dynamics at construction sites: power imbalance persists among workers at construction sites. Men exert power over women based on the position that men occupy, use abusive language on women and dominate women at sites.

Conclusion

This paper concludes that gender bias at construction sites have great implication for girl-child choice of education in technical related courses. Given the construction work as a male dominated profession despite women involvement, power dynamics between men and women still persist. Men continue to exert power over women as reflected in the decision making of men as a result of the positions they occupy. Male dominance persists as women become subservient. Furthermore, women's activities and behavior at site are controlled by men. Girl-child who intends to pursue technical courses can be easily discouraged based on the various discriminatory practices evident at construction sites.

Recommendations

The paper therefore recommends the following:

1. Power of decision making of men on women at building construction sites as a result of authority wielded by men in certain positions needs to be more flexible in order to create a more conducive working environment.
2. Policies targeted at improving women's status and eradicating all forms of discriminatory practices should be postulated and implemented in order to promote women involvement in occupations tagged to be men's and encourage girl-child education in technical related courses.

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EFFECTS OF FARMERS AND HERDERS CONFLICTS ON THE EDUCATIONAL DEVELOPMENT OF THE NIGERIAN CHILD

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Abstract

This paper focuses on conflicts between farmers and herdsmen and its effects on educational development of the Nigerian child. The paper adopts the social conflict theory. The theory sees social life as a competition and focuses on the distribution of resources and power which are not evenly endowed by nature. The Causes of farmers/herders conflict include climate and environmental change, depleting space for farming, urbanization, negligence among others. It was found that the menace of herdsmen in Nigeria has resulted in the following: barrier to educational development, displacement of persons, decrease in school enrolment among others and in order to help remedy the ugly situation, particularly as it concerns educational development, some strategies were outlined that will help in resolving the problems on ground. Vital recommendations have been put in place such as Government should create state and community police to help in identifying and tackling crimes in the rural areas, Government should create more awareness campaign on social media, mass media and communities to educate the farmers and herders on the need for peace coexistence among them and if effectively implemented will not only enhance peace and order but will give rise to accelerated educational development in Nigeria.

Key wards: Famers, herders, conflict, education, development.

Introduction

The herdsmen and farmers conflict did not start today. It dates back to the pre-colonial and colonial eras. The origin of the conflict would be traced to early Fulani migration, trade and other economic activities. The nomadic Fulanis moved from one place to another in search of pastures, their movements (migrations) and other trading activities extended beyond their ancestral roots to other parts of the world, Nigeria inclusive. The Nigerian people accommodated the migration but started to object when the migrants changed their behaviours as well as the purpose. The change of their purpose and character (behaviour) did not just occur but was occasioned by factors such as climate change and desertification. Climate change, for instance, gave rise to drought that led to the death of many cows (Jibonoh, 2018). Again, the Savannah has been eaten up by desert encroachment while the conflict has not only been politicized but now has religious and ethnic cleansing coloration (Odoghoh, 2018). These narratives and profiles have aided aggressive encroachment and reprisal aggression between the parties leading to mutual hostility and reverse-violent attacks.

It is observed that herdsmen have tactically seized several states and use them as grazing reserve for their cattle. Such seizure, no doubt, has dire consequences for the educational development in Nigeria. This is because the intensification of the conflict has paralysed academic activities in the country. Primary schools, secondary schools, as well as tertiary institutions are greatly affected. From January to April 2019, for example, about 30,000 primary school children in the Southern senatorial district of Nasarawa State were forced out of school (Oota, 2018). Again, within December 2016 to December 2018, a number of public schools in Agatu, Logo and Guma Local Government Areas of Benue State were brutally attacked by suspected killer herdsmen, leaving the pupils either completely out of school or learning in deplorable conditions (Duru 2018). Sometime in February, 2018, the Vice Chancellor of the University of Ilorin, Prof. Sulyman Abdulkareem, accused herdsmen of poisoning the University's dam with chemicals (New-Telegraph Editorial, 2018).

In many places, herders have clashed with farmers and their host communities over cattle destruction of crops, farmers' encroachment on grazing reserves and indiscriminate bush burning by nomads which normally leads to loss of crops (Adeoye, 2017; Ofem & Inyang, 2014; Olaleye, Odutola, Ojo, Umar & Ndanitsa, 2010). The seeming boldness of the perpetrators and mystery surrounding the real cause has continued to attract mixed perceptions. While many perceived it as mere farming, grazing land and water dispute. In recent times, there have been prevalent cases of herders-farmers conflict in Nigeria. Ofuoku and Isife (2009) noted that in Densina, Adamawa State, 28 people were killed; while about 2,500 farmers were displaced and rendered homeless in a clash between them. Similarly, the resultant

effects are usually loss of lives and crops, destruction of properties, displacement of persons which affect their academic activities, decline in income/savings; as well as threat to educational development and national security.

Up until today, the killings and destruction of educational institutions continue with no hope of abating. There appears to be no solution in sight. The government which has the constitutional duty to solve the problem has not found an appropriate solution so as to restore confidence in the people as well as normalcy in the education sector. The Nigerian government response to the conflict has been to deploy security agents to the affected areas. The strategy is reactionary and has yielded minimal results. In 2019, following a surge in violent incidents, the Federal Government adopted the 10-year National Livestock Transformation Plan to alter these deadly patterns. Beyond government interventions, several civil society organisations and international development actors implement programmes to build peace in the affected communities. However, these measures are mostly community-level conflict management initiatives that, while welcome, do not address the fundamental factors that triggered the conflict.

This work anchors on social conflict theory, the lead proponent of this theory is Karl Marx (1818-1883). He was a victim of marginalization due to his revolutionary ideas and the misery of his alienation was seen through his two radical most famous works: *The Capital and Communist Manifesto* (Charles, 2005). Marx's conflict ideology is an analysis of inequality under capitalism and how to change it through confrontation (Ritzer & Stepnisky, 2014:43). They argued that in capitalism, there is an inherent conflict of interests between two opposing classes. The theory sees social life as a competition and focuses on the distribution of resources and power which are not evenly endowed by nature. Proponents of the theory view society as a gathering of people of diverse needs and interests with limited resources to meet their needs. This creates inequality that generates social conflict and social change. Social conflict theory basically looks at struggles for power and control in society as a major causal factor of conflict. Conflict occurs when two or more actors oppose each other in social interaction, reciprocally exerting social powers in an effort to attain scarce or incompatible goals and prevent the opponent from attaining them. The quest for dominance and power becomes the currency rather than consensus.

The land resources (such as farm lands, crops, grass/pasture, fresh water etc.) are scarce in Nigeria and needed by both farmers and herdsman for sustenance of their various sources of livelihood. Conflict, however, would not only occur between herders and farmers as both strive with another in pursuit of these resources, but as either of the groups tries to intrude or exploit another's already secured and long

acquired resources. Again, as the herders who usually trake miles without their wives or certain about grazing fields in the various communities they visit, could possibly obtain sexual gratification forcefully or have their cattle fed in farm crops and would normally face confrontation for violation and destruction of crops. Similarly, conflict would likely arise when farmers who are in need of arable farm lands encroach into grazing reserves or criminals in the host communities try to steal cattle for economic gains. This is in tandem with Gbehe in Ofem and Inyang (2014) who pointed out that the pursuit of access to a variety of limited resources such as grasslands and water spots for animals gives rise to conflicts.

Concept of Conflict and Education

Conflict is the act of coming into collision, clash or being in opposition with one another. It is the tension that is experienced when a group of people feels that their needs or desires are likely to be denied. Conflict according to Robert (2006) is a turning point that distinguishes the outcome of an event unfavourably between life and death, violence or non-violence and resolution or protracted conflicts. Koeb and Eilson (2016), states that conflict is a disjoined process that results in the disruption or destruction of all bonds of unity that previously existed between two disputants. Thus, conflicts arise when ever two or more groups seek to possess the same item, occupy the same space or an exclusive position plays an incompatible role, maintains incompatible goals or undertakes mutually incompatible means of achieving certain purpose.

Education on the other hand is seen more as a process (i.e. the means and procedures through which one thing is transformed into something else). As a process, emphasis is on the quality of education and this refers to the change in behaviour and never on the quantity of knowledge gained (Anibueze, 1998). Education as a process, lays emphasis on development, enculturation as well as the knowledge we gain and the changes that occur as a result of being exposed to new experiences. The purpose of education was to inculcate positive and right values of selfless duty towards all. Therefore education is the key to the realization of a new social order and a powerful driver of development and one of the strongest instruments for reducing poverty and improving health, peace, and stability. Its continuous growth depends on a number of factors. Some of these factors are the provision of infrastructural facilities, quality of teachers, prompt payment of teachers' emoluments, provision and constant revision of the curriculum (Ogbonnaya, 2013). The factors mentioned above are paramount and can bring the desired growth in the education sector. On the other hand, there are some factors that can slows down the educational growth. These factors are incidental factors identified by authors and in the context of this article the authors will look at the factor emanating from crisis among farmers and herders otherwise termed

farmers/herders conflict.

Development according to Okoli and Onah (2002), involves progression, movement and advancement towards something better. To Mclean and Macmillan (2015) development is a normative concept referring to a multi-dimensional process. It could be educational, social, economic, political, cultural, and intellectual, among others. For the purpose of this paper, development can be seen as the process in which the educational system or institutions are transformed into more effective stronger, more sufficient and more organized form and prove to be more satisfying in terms of human aspirations.

Farmers/herders Conflict

Farmers and headers conflict is one of the security challenges that Nigeria is facing, Nigeria is an agrarian state with an estimated majority population living in rural area surviving on peasant farming for substance. Besides, Nigeria has a significant population of nomadic and herders spread across the variance parts of the country, some of these nomads are indigenous cattle herders who move from one state or region of the country to another in search of pastoral and grazing land for their animals (Amnesty international, 2018). Today, the herdsmen have tactically seized many places as grazing reserve for their cattle. Such seizure, no doubt, has consequences on educational development. This is because the intensification of the conflict has paralysed academic activities in the country.

Causes of Herders and Farmers Conflict

Empirically, evidences have revealed various causes for the continued conflict between herdsmen and farmers in Nigeria. Some of the causes of the conflict include;

- a. Climate and environmental changes: Global warming and desert encroachment from the Sahara desert region have continue to affects the livelihood of herders and forces herders to move in search for greener pasture which often result to clash with farmers. The encroaching desert to the traditional abode of the pastoralists in the Sahel region has been identified as a factor for the continued conflict as herders migrate southward where the grass

is much lusher and often intrude into spaces long claimed or cultivated by settled farmers (Olaniyan, Francis and Okeke-Uzodike 2015). In Nasarawa State, the situation has been exacerbated by the phenomenon of climate change which dynamics tend to have been aggravating natural resource conflicts across the region (Okoli & Atelhe, 2014). Climate change and desert encroachment have made southward movements even more inevitable and confrontations with southern farming communities more frequent (Nwosu,

2017).

- b. Depleting space for farming or grazing fields: Lack of adequate space which is cause by constant urbanization and desertification for farming and cattle rearing activities often result to competition for the small available space. For example Benue state is the food basket of the nation but desertification and banditry activities pushes a lots of herders from core North to move to Benue state due to availability of pasture which leads to grazing on peoples farm and always results to conflict which leads to the killings of hundreds of people and affects the agriculture output in the region and the nation at large. The Institute for Peace and Conflict Resolution in conjunction with United Nations Development Programme (IPCRUNDP, 2012) traced the cause of the conflict in Guma and Makurdi Local Government Area of Benue State to the material needed for existence or survival which is the green of the land and fresh water. As the pastoralists need this for grazing and drinking purposes, the Tiv farmers at the same time need it for farming activities.
- c. Urbanization: Today, urbanization and changes in population growth have led to social change in the country in the past two decades. The continued expansion of urban areas to accommodate internal migration and population growth has to a large extent affected the grazing areas both within and outside the major towns as well as the arable lands owned by the farmers. Worthy of note also is that the tremendous increase in population has contributed to put pressure on the land by increasing the demand for land as well as agricultural products. The quest to join the league of developed societies has continued to pose a threat to certain agricultural activities in Nigeria. There is increasing erosion of farm and grass lands mostly needed by farmers for planting and herdsmen for grazing. This has deprived the pastoralists of valuable grassland, again forcing them to attempt to expand their “grass kingdom” (Burton, 2016).
- d. Long-Standing Disagreements: Burton (2016) noted that many of the recent attacks perpetrated by the Fulanis have stemmed from long-standing disagreements with various communities. For instance, Mayah, Tukur and Adebayo (2016) reported that a Fulani leader alleged that the massacre of Agatu people by Fulanis was a reprisal attack against the killing of their prominent son by the people of Agatu in April 2013 who stole his cows. Mostly in the middle-belt, the conflict was found to have stemmed from a long history of feud over farm lands and herding. Pre-existing communal conflicts have sustained the violence as herdsmen turned militants in the face of urbanization, desertification and the indifference of the Nigerian government to their plight

(Burton, 2016).

- e. Negligence: This has been identified on the part of both groups as a cause of the conflicts. Yahaya (2008) observed that the herdsmen often left a large number of cattle in the care of children who do not know the consequences in the event of destruction of farm produce. On the other hand, he posits that most farmers usually left their harvested crops on their farm unprotected while others who had poor yield intentionally left them un-harvested for cattle to graze so that they could claim heavy compensation. The Nigerian government is as well indicted in this accusation. Burton (2016) noted that government's silence or negligence on the need for increased grazing space has influenced the conflict. He also argued that the request is not new as the Fulani herdsmen have previously called on the government to rectify the situation. He maintained that there has been little action on the part of the government to resolve these problems and some quarters believe that it is just being politicized for selfish gains. The herdsmen therefore have grown restless and their impatience has culminated into violent actions.

Effects of Farmers and Herders Conflict on Educational Development.

The deadly conflict between farmers and herders have become one of the major insecurity problems in Nigeria. These bloody attacks and counter attacks have created educational effects such as:

- i. Barrier to educational activities: The conflicts between the farmers and herdsmen in Nigeria have adversely affected the educational development of the entire nation. Today, many pupils and students receive educational instructions at the Internally Displaced Persons (IDPs) camps. Many have stopped going to school because their parents are dead; while many school buildings have been damaged beyond repair. This, therefore, means that the quest for quality education by these children has been dangerously threatened. According to Alabi and Cheke (2018) over 400 school children affected mostly in Tiv communities were forced out of school as a result of the crisis that rocked the villages in Ileama and Doma local government areas. Equally in Nasarawa State about 3000 primary school pupils in Awe Local Government Area were forced out of school as a result of herdsmen attacks. The case of Shong village in Bachit District of Plateau State should also be noted. Here, six classroom blocks in Lea Primary School of Shong village were destroyed sometime in April, 2018 (Ejembi and Gyang, 2018).
The truth, is that herdsmen attacks have become a serious challenge to the efforts towards sustaining the reduction in the figure of the out-of-school children. Management of schools which requires proper planning, directing,

monitoring and controlling of human, material, time and physical resources, finances, records and information flow has been affected drastically as most school facilities and documents have been destroyed thereby keeping students and teachers out of the school (Ahmed, 2015). This to a large extent may affect the 2030 Agenda for Sustainable Development Goals (SDGs).

- ii. **Decrease in school enrolment:** The carnage of farmers/herders conflict also brings about decreased in school enrolment figures. The emotional and psychological problems created in the people as a result of the fear further leads to decreased enrolment (Joseph, 2017). The author further notes that even parents who have returned from the Internally Displaced People's Camp, prefer to stay at home with their children instead of sending them back to school to continue their education. According to most parents interviewed by the authors, they prefer to stay at home with their children because they do not know when next the Fulani herders are coming to attack. This psychological problem further aggravates the enrolment situation in the affected areas and the whole school enrolment reduces drastically even when normalcy returns to some areas because many people, who left the rural areas in search of peace and school for their children, may not return. In addition, the writers observed that there has been a steady decline in school enrolment for over one decade in most rural areas. This crisis has affected school enrolment, teaching/learning and educational quality improvement advocated for. From the foregoing, one would understand that, these conflicts between farmers and herders have not only affected the infrastructural facilities and school enrolment but the entire educational system in the country.
- iii. **Threat to student's security:** Tertiary institutions are also attacked with impunity and have been forcibly turned into grazing fields for herdsmen exploration and exploitation. For instance in April 26, 2017, the University of Ilorin gave a seven-day ultimatum to herdsmen encroaching on its land to quit the campus, but it was never obeyed (Oyeleye & Adeyemo, 2018). Equally, sometime in February 2018, the Vice Chancellor of Plateau State University in Bokokos, Prof. Dockman Sani, raised alarm on how deadly herdsmen who entered the University were harassing female students (Ejembi & Gyang, 2018). The failure of the government to address the consistent farmers and herders clashes has several implications on the student's security.
- iv. **Displacement of School Children:** The conflict between farmers and herders always result to mass exodus of people to a safer place this leads to formation of several Internally Displace People (IDP) camp across the country as a result

of the conflict. Ofem and Inyang (2014) observed that farmers and herders conflict resulted in increase in number of Internally Displace People (IDP) camp across the nation especially women and children (pupils and students), For example Benue state recorded over 80, 000 people in Internally Displace People (IDP) camp across the state (Vanguard, 2016). By implication payment of school fees by parents becomes a problem. Some schools have been turned into grazing fields instead of learning centres, and hundreds of school children have been put out of school. The cumulative effect in all these is a dysfunctional educational development.

- v. **Destruction of School Property:** The incessant destruction of lives and property has created management problems for school teachers and head-teachers in such areas. According to Suleiman (2016), when farmers and herders clash, infrastructural facilities in the schools such as classroom buildings, offices, books and other relevant documents are greatly destroyed or damaged. Most often, schools are burnt down to ashes in the rural areas. This makes it hard for learners to continue with their learning activities for a long time as they relocate to safer places with their families. Besides, educational development cannot thrive well in the midst of this atrocity.

Strategies for Managing Farmer's and Herder's Conflict.

Conflict management is the process of reducing the negative outcome of conflict. The major strategies for managing violence conflict between herders and farmers include the following:

- i. **Build Community Peace and Security Architecture:** Establishing community architecture for peace and security will help in the early detection and resolution of potential conflicts. The solution set should include inclusive and participatory platforms for dialogue and conflict management by all stakeholders. For example, local vigilante groups should work with the herders and farmers to deliver mutual protection. Collaborative efforts will enhance mutual understanding among them. A similar strategy was successfully deployed by South Africa's Hemmers Bach Rhino Force and its anti-poaching rangers.
- ii. **Mop-up Arms across the Country:** The proliferation of Small Arms and Light Weapons (SALW) means that simple provocations can easily lead into major conflicts which can result to avoidable deaths and injuries (Duquet, 2009). Agrarian disagreements that should be resolved by simple police work escalate to deadly proportions because of the easy availability of illicit weapons are in the hands of herders and farmers. Therefore, the Federal Government of Nigeria, working with the sub-national governments, should implement a

mop-up of SALW from across the country.

- iii. **Facilitate Communicative Engagement:** Data on the conflict patterns and trends should be leveraged in designing advocacy programmes to deliver social cohesion. Such programmes should target the traditional leaders from both parties. In addition, the government should work with civil society organisations to set up a safe space for the warring parties to speak sincerely and freely about the various grounds for their claims in the conflict. Such an approach will enable each party to see and think through the other party's claims (Duquet, 2009) empathetic, creating a willingness to seek common grounds jointly. Open and honest dialogue can achieve gains that deployment of force will not accomplish.
- iv. **Encourage Private Sector Investments:** The organised private sector can collaborate with the state governments to set up ranches under a public-private partnerships model. Such collaboration, which exists in other agricultural value chains, should be extended to animal husbandry. The government's involvement in such a scheme could help assuage the herders' fears about private investors.
- v. **Operationalize Already-Designated Grazing Reserves:** The Federal Government of Nigeria proposes the establishment of grazing reserves in all states of the Federation to solve the herder-farmer clashes and boost the milk production capacity of Nigerian cattle. This proposal heats the polity as it plays into the suspicions of those who believe there is a Fulanisation or Islamisation agenda to subjugate the rest of the country under hegemony. While this view is yet to be substantiated, it is a strongly held perception in many quarters and should be considered and addressed in any proposed solution (vanguard 2 march 2016). The suspicion is exacerbated by the fact that the Government of Nigeria has developed only 115 out of the 415 existing grazing reserves. Of this number, only a few (data not available) are in operational condition. This information raises doubts about why the government needs more grazing reserves if it cannot develop over 70 percent of the existing grazing reserves. In the light of the above, the proposal for additional grazing reserves is seen as provocative and can escalate an already tense political situation in the country. Moreover, this proposal is even more incendiary given that the states expected to designate the grazing lands are predominantly agrarian, do not raise cattle, and do not see the justification for depleting their shrinking arable land to support a business (cattle husbandry) that is not strategic for our economic agenda.
- vi. **Facilitate Establishment of Commercial Cattle Ranches:** Many commentators have recommended the establishment of commercial cattle ranches as a more optimal solution. In this model, cattle owners and herders will have access to

pasture on land specially prepared to offer all the services needed to raise a commercially viable cattle husbandry business. The cattle ranches will provide the right type of pasture, veterinary services, access to market for the products, social services (education, healthcare, recreation, etc) for the herders and their families, etc. The herders under the Miyetti Allah Cattle Breeders Association of Nigeria (MACBAN) have rejected this proposal, insisting on free access to grazing reserves and cattle paths. Their position is informed by the assertion that Fulanis (who constitute most of the herdsmen) are a nomadic people for whom it is unnatural to settle in a place for longer than a few months. This point demands further interrogation as there are at least three classes of Fulanis based on settlement patterns: nomadic/pastoral or Mbororo, semi-nomadic, and the settled or "Town Fulani." Furthermore, it is imperative to explore the optimal economic model for managing the ranches to ensure their commercial viability. The government has proven its inability to manage the ranches; therefore, it needs to explore private sector models for achieving the desired ends. Such an economic model should integrate the ranchers' genuine fears and concerns especially given their current educational levels and fears that the cost of the ranches may distort their current economic model of near zero feed costs (Premium Times 11 may 2016).

Conclusion

Conflict between the farmers and herdsmen has had an adverse effect on the educational development in Nigeria many pupils/students now receive academic instructions at the Internally Displaced Persons (IDPs) camps, many have stopped going to schools because their parents are dead while teachers are constantly on the run or hiding. Equally, a number of public schools have been brutally attacked and destroyed. The conducive atmosphere for teaching and the learning is no more there as pupils/students now receive instructions under perpetual fear of the unknown. The situation is so bad that some tertiary institutions have been forcibly tuned into grazing fields instead of research institutions, although the government had in the past taking some measures to address this phenomenon, the increase in desertification and the increase in climate change has further increase the drive for the herdsmen to move around in search for grazing land and pasture for their livestock. This movement always pitch them against farmers and the host community whose crops are regularly invaded and destroyed by the cattle's during seasonal movement. The result of this increases conflicts, death, displacement, educational backwardness and total destruction of properties. However, because the phenomenon is a human security issue, there is a need for a concerted effort at local, state, national and international level to address the challenges. Also, there is need for counselling bodies around the world to intervene into the matter to bring in their best to solve these disastrous acts in

the country.

Recommendations

The following recommendations are made for possible implementation:

- I. The federal government should deploy a special tactical task force to all affected states to give immediate and timely response to attacks.
- ii. Government should create state and community police to help in identifying and tackling crimes in the rural areas.
- iii. Government should create more awareness campaign on social media, mass media and communities to educate the farmers and herders on the need for peace coexistence among them.
- iv. Government should arrest and prosecute perpetrators of all forms of farmers and herders attacks.
- v. Government should improve teaching and learning in the Internally Displaced Persons (IDPs) camps by recruiting qualified teachers as well as supplying learning materials.
- vi. Enough armed personnel should be posted to guide all the primary, secondary and tertiary schools in the affected areas (while all the school compounds shall be adequately fenced).
- vii. International Agencies such as United Nations Children's Fund (UNICEF) and United Nation's Educational, Science and Cultural Organization (UNESCO) can intervene by constructing temporary schools in safe areas (unaffected areas) to temporarily accommodate pupils and students who are displaced.
- viii. Herdsmen should be properly educated or re-oriented on the sanctity of human lives, and taught how to use better channels of communication to convey their grievances than resorting to conflict.
- ix. Any form of aggression as a result of past issue(s) should be discouraged and anyone found wanting in that respect be prosecuted.
- x. Government should establish cattle grazing fields in the six geo-political zones of the country and out-law open grazing of cattle. This must be done through due consultation, dialogue or appeal to some aggrieved regions of the country which may oppose or resist the move.

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RELEVANCE OF BIOLOGY EDUCATION ON THE DEVELOPMENT OF MODERN DAY SOCIETY

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Abstract

The purpose of this study was to assess how Science Teachers perceived the relevance of biology education on the development of modern day society. To achieve this purpose, a survey research design was employed for the study. The population of the study comprised of science teachers from Senior Secondary Schools in Southern Kaduna Senatorial District of Kaduna State. The Senatorial District is made up of 8 Local Government Areas out of which (Jema'a, Kaura, Kachia and Zangon Kataf) local government areas were randomly selected. From these 4 local government areas 10 senior secondary schools each were selected purposively. A stratified sampling technique was used to select 200 respondents from 10 senior secondary schools with each having 5 respondents. Thus, a total of 200 respondents served as sample size. The instrument for data collection was a self developed questionnaire which was validated and administered to the respondents. The data collected were analyzed using simple descriptive statistic of frequencies and percentages. The data were further used to compute mean scores and standard deviation to answer research questions. The findings of the study reveals that the respondents perceived very positively the relevance of biology education on the development of modern day society, among others. Based on the findings, it was recommended that government should provide adequate learning materials for biology education in secondary schools in Kaduna State.

Keys Words: Relevance, Biology Education, Development, Modern day society

Introduction

Science and Technology remains the bedrock for individual and societal development. This makes the entire world to take issues of science education very serious because of its serious impact and services to humanity. Due to its importance, the Nigerian

Government has made good efforts in projecting science related disciplines and subjects that are replete in the Nations curriculum. The Nigerian policy on Education (2008) emphasizes the teaching/learning of science in all the tiers of education. In the primary level, the subject appears in the name of 'Basic Science'. In the secondary school it is called "Biology" and in Tertiary Institutions you can still find it as "Biology" extending tentacles to disciplines like "Zoology, Micro-biology, Medicine, Agronomy, Anatomy, Botany among others.

Biology in particular is a natural science that studies living organisms and how they interact with each other in the natural environment. It examines the structure, function, growth, origin, evolution, and distribution of living things (Tamaraukro, 2012). The study of living things (Biology) is very essential to human beings for many reasons. School students study biology to obtain a certificate and to go and train for jobs that need the knowledge and the practical skills acquired through the study of Biology. The study of Biology also helps us to live healthier and happier lives because it helps us to understand our bodies, other living organisms and our environment. It also reveals the importance of nutrition and hygiene. High school Biology is not merely intended to increase students/learners' knowledge but also to develop and encourage scientific attitudes. It again encourages its learners/students to be open minded in asking questions and to be objective and accurate in interpreting results (Nigeria Center for Disease Control, 2010).

Biology like other sciences began as man started to observe his environment and look for cause and effect relationship. Not satisfied with only observation, many early biologists wanted to manipulate or test predictions based on their observations. The pioneers in this field of experimental biology include William Harvey, Anthony Von Leeuwenhoek, Lious Pasteur, Gregor Mendel, Alexander Fleming and Charles Darwin. Today biology has grown from the familiar areas of microbiology, biochemistry, zoology, genetics and botany to new specializations that include neurology, endocrinology, limnology, electrophysiology and biotechnology. The knowledge of Biology can help educators instill in the next generation of citizens an understanding, appreciation and healthy skepticism about what science can achieve.

Jane (2017) defined Biology as "The scientific study of life" It is a natural science with a broad scope but has several unifying themes that tie it together as a single, coherent field. For instance, all organisms are made up of cells that possess hereditary information encoded in genes, which can be transmitted to future generations. Another major theme is evolution, which explains the unity and diversity of life (Hillis, 2020). Energy processing is also important to life as it allows organisms to move, grow, and reproduce. Finally, all organisms are able to regulate their own internal environments.

Biologists are able to study life at multiple levels of organization. They study molecular biology of a cell to the anatomy and physiology of plants and animals, and evolution of populations. Hence, there are multiple sub disciplines within biology, each defined by the nature of their research questions and the tools that they use (Davies, 2012). Like other scientists, biologists use the scientific method to make observations, pose questions, generate hypotheses, perform experiments, and form conclusions about the world around them.

Relevance of Biology Education in Modern Society

The erroneous belief that Biology education is meant to enable students pass prescribed examination and meet the requirement for admission into tertiary institutions has negatively impacted on the attention and interest that students should pay to the subject (Obi, 2011). Biology education is relevant in modern day societies as Biologists play the following roles in national development:

a. Promotion of good health practices

One major objective of biology education is to promote good personal and community health practices. Students are made to acquire knowledge of the causes, mode of transmission, symptoms and control methods of many diseases. These include water borne diseases such as cholera, dysentery and poliomyelitis and air borne diseases such as tuberculosis, whooping cough and measles (Jegede, 2017).

The effectiveness of personal hygiene and a clean environment in preventing those diseases is stressed by the subject. The control of malaria a major killer disease has posed a major challenge to government and health workers. Students acquire the knowledge of how to control the breeding of mosquito which is the vector of malaria parasite. The ravaging effect of sexually transmitted disease (STDs) including immune deficiency syndrome (AIDS) can be reduced through sex education and other good health practices. Biology education can therefore reduce the man hour lost due to ill health and the cost of maintaining various health institutions.

b. Management of refuse and household wastes

Many cities in Nigeria today are defaced by heaps of refuse generated daily in our homes and markets. The cities not only look unsightly and unkempt but sometimes are filled with unpleasant stench of decomposing organic matter. Simple waste management principles acquired from biology education can provide the knowledge required to deal with the problems of waste disposal and save the nation from the effects of poor waste management and heavy cost of machinery which are difficult to maintain and very frequently go out of use (Miller, 2010).

c. Reduction of ecological problems

Many ecological problems such as desertification, erosion and flooding which are common in our communities today are made worse by human activities that include deforestation, blocking of natural waterways and canals by property developers and refuse. Biology education can provide the knowledge required to combat desert encroachment and gully erosion through the management of vegetation and refuse disposal. Current global challenges such as global warming, pollution and ozone layer depletion and their solution are some of the issues covered by biology education (Miller, 2010).

d. Promotion of good nutritional practices

Biology education explains the nutritional values of most food items consumed in Nigeria (Jegade, 2017). The requirement of the human body of various food types such as carbohydrates, protein, fats and oils, vitamins, mineral salts and water are stressed. This started in the form of balanced diet which is a diet that contains the right proportion of all the food types needed by the body. This knowledge will prevent many food deficiency diseases such as kwashiorkor in children, scurvy, beriberi and goitre which are brought about by poor eating habits. The health implications of obesity are also explained. The objective of eating right is to ensure the availability of a healthy population that will contribute to national development.

e. Conservation of Nigerian natural resources

Umeh (2005) observed that Biology education inculcates in students the need for the wise use of the nation's natural resources such as minerals, plants, animals, land and water. This is because these resources cannot be produced or replaced by man even though they have become intricately tied to human survival on health necessitating their controlled exploitation and use.

f. Overcoming misconceptions and myths

Okoruje (2008) opined that several myths and misconceptions in the past led to evil practices such as the killing of twins, dedication of albinos to gods and they believe in "Ogbanje spirits". Biology education has enabled modern society to understand these phenomena and seek for medical help if necessary. The current misconception of the nation's immunization campaign can be death with through biology education.

g. Promotion of family planning

Overpopulation is a major problem in developing countries. This is contributing to food shortages, unemployment, urban congestion and the creation of slums. Provision of housing, schools and health facilities cannot keep pace with the growth in population. Nwidi, (2012) opined that the knowledge of birth control campaign

through biology education such as use of various contraceptive methods is helping many families to control their family size and hence national population.

Application Areas of Biology in Modern Days Society Foods and Beverages

People consume biological products both to survive and for enjoyment, as modern Biology helps with the method of processing and preserving foods (Davies, 2012). Livestock provide food for humans, and those animals in turn need their own food to survive. Plants provide endless options for food: feed for animals, fruits, vegetables, oils for eating or cooking and flavoring extracts. Beets and sugarcane can be made into sugar for sweetening. Honeybees use flower nectar and make honey. Sugar maple trees' sap can be boiled to make maple syrup. Coffee comes from coffee tree seeds, whereas tea originates from tea plant leaves.

Microbes and enzymes enable the creation of foods such as cheese, yogurt and bread. Barley, yeast and hops work together to make beer, with enzymes activated with the malting of barley and the yeast metabolizing in fermentation. Wine is made in similar fashion from grapes and other fruits (Benjamin, 2012).

Other biological processes aid in food production. Example is compost made from decaying plant and animal waste serves as a natural fertilizer for organic crops. Whether insect or bird, pollinators continue the process of plant life, giving humans and other animals food and beverages to eat and drink.

a. Clothing and Textiles

Modern day Biology knowledge is applied in the production of fabrics, silks which people wear as clothing made from biological substances (Owen, 2013). Cotton provides material for many clothing items. Linen, made from flax, is another plant-based fabric. Even polyester is made from biomass in the form of fossil fuels. Plants provide the basis for fabric dyes and nylon. Carpets, upholstery, curtains, towels and countless other household textiles are made from plants.

b. Beauty and Personal Care

Brown (2013) observed that modern Biology helps in the formation of beauty and other personal care body lotions. Biological sources make up the ingredients for many personal care and beauty products. Shampoo, henna dye, lotion, cosmetics, perfumes, diapers, loofahs, nail polish remover and soap represent only a few examples of biology-based everyday items (Hillis, 2020).

c. Transportation and Leisure

Tires are made from the rubber of the rubber tree, this are direct derivate of Biological

products that are process into tires (Jane, 2017). Wood serves as the source for sports equipment such as baseball and cricket bats, bowling pins and lanes, this are obtain through the help of modern Biology (Miller, 2010). Musical instruments such as clarinets, violins, drumsticks, drums and pianos contain biologically sourced components other products such as boats are still made of wood, as are docks.

d. Buildings

Nwidu (2013) opined that many homes around the world are built from plants which is a direct derivate of biology knowledge. Wood from trees provides framework for houses and other buildings and the furniture within them. Rugs and other floor covers are made from wood, cork, fibers and linoleum, all plant-based. Paper from wood, erasers from rubber, inks, pens and pencils all derive from plants (Umeh, 2005).

e. Fuels

Brown (2013) noted that there are many fuels used today originated from a biological origin, this are obtainable through a biological process. Fossil fuels such as petroleum and natural gas formed from decayed plant and animal matter. Modern biofuels are made from plant material. Ethanol made from plant sugars is blended with gasoline to increase fuel efficiency (Benjamin, 2012). Algae, corn, wheat, rapeseed oil and sugar beets provide the basis for biofuels, this opens up a relatively new realm of renewable fuel to counteract carbon emissions (Micheal, 2014).

f. Healthcare and Medicine

Doctors, nurses, and other medical staff must study biology to learn how to aid both humans and animals. Learning about the human body's inner processes, organs, neurological system, blood, reproduction, development and diseases all prove essential for treatment and research (Okoruje, 2008).

Biological items also aid medicine as many medicines contain plant-based ingredients (Umeh, 2005). Aspirin was derived from the acetylsalicylic acid found in willow tree bark. Foxglove provides the basis for a heart medication, the anti-cancer drug Taxol is another example of a biologically derived medicine (Brown, 2012).

Biology Education plays an important role in national development if the right approach is followed. Simple scientific principles can provide skills and tools required for everyday living through knowledge provided by biology education about self and the environment.

In addition, learning of Biology gives the students the opportunity to follow instructions, perform and report on tasks and comprehend written information

underlying scientific principles. It also provides opportunity to develop skills of observation, recording, classification, seeking answers and objectively assessing information or interpreting situations (James, 2013). Study of biology is subject to social, economical, technological, ethical and cultural influences and limitations. The application of biology may be both beneficial and detrimental to the individual, the community and environment. Biology transcends national boundaries and the language of science, correctly and rigorously applied, is universal (Nigeria Center for Disease Control, 2010).

Biology education is relevant to modern days society as the knowledge of Biology is required in virtually all aspect of human endeavors such as health, agriculture and other important aspect of human reality. The need of Biology knowledge cannot be over emphasized as Biology brings about learning the reality of living things and relationship between humans and the ecosystem. Despite the roles that Biology plays in the society, it's still faced with problems such as lack of materials, equipment, lack of funds to make researchers to explore more areas and application of Biology in modern day society. It is against this background that this study aimed at assessing the relevance of Biology education in our modern day's society.

Purpose of the study

The purpose of this study was to assess how science teachers perceived the relevance of Biology Education on development of modern day society.

Research Questions

The following research questions were drawn to give guide and focus to this study:

1. Is Biology Education relevant on the development of modern day society?
2. What are the areas of application of Biology Education in modern day society?

Methodology

The purpose of this study was to assess how Science Teachers perceived the relevance of biology education on the development of modern day society. To achieve this purpose, a survey research design was employed for the syudy. The population of the study comprised of science teachers from Senior Secondary Schools in Southern Kaduna Senatorial District of Kaduna State. The Senatorial District is made up of 8 Local Government Areas out of which (Jema'a, Kaura, Kachia and Zangon Kataf) local government areas were randomly selected. From these 4 local government areas 10 senoir secondary schools each were selected purposively. A stratified sampling technique was used to select 200 respondents from 10 senior secondary schools with each having 5 respondents. Thus a total of 200 respondents served as sample size

The instrument for data collection was a self developed questionnaire which was validated and administered to the respondents. The questionnaire had statements reflecting the variables for the study. Respondents were required to respond to the statements based on their opinion/feelings which are on a modified four-likert scale rating point strongly Agreed (SA), Agreed (A), Disagreed (DA), and Strongly Disagreed (SD) with a corresponding value of 4, 3, 2 and 1 respectively. Acceptance mean of 2.5 was used for the study. The data collected were analyzed using simple descriptive statistic of frequencies and percentages. The data were further used to compute means scores and standard deviation to answer research questions.

Results

Table 1: Respondents response on relevance of Biology Education

Item	S.A (4)	A(3)	D(2)	SD (1)	Total	Mean	Decision
are the relevant of Biology Education in our modern days?							
Promotion of good health practice	50	125	20	5	620	3.10	Accepted
Help in management of refuse and household waste	80	98	15	7	651	3.25	Accepted
Reduction of ecological problems	142	51	4	3	732	3.66	Accepted
Promotion of good nutritional practices	53	135	12	0	641	3.02	Accepted
Help in overcoming misconception and myths	70	122	0	8	654	3.27	Accepted
Helps in conservation of natural resources	160	26	10	4	742	3.71	Accepted
Promotion of family planning	93	52	50	5	633	3.16	Accepted

Table 1 reveals the responses of the respondents on their perception on the relevance of biology education on the development of modern day society. On the item, biology education promotes good health practice, the mean score obtained was 3.10. On the item biology education help in management of refuse and household waste, the obtained mean score was 3.25. On the item, biology education reduce ecological problems, the obtained mean score was 3.66. On the item, biology education promote good nutritional practices, the obtained mean score was 3.02. On the item, biology education help in overcoming misconceptions and myths, the obtained mean score was 3.27. On the item, biology education helps in conservation of natural resources, the obtained mean score was 3.71. While on the item, biology education promotes

family planning, the obtained mean score was 3.16. Therefore, the he aggregate mean score was 3.33 which is above the 2.5 minimum level of acceptability. This means that the respondents of this study perceived very positively the relevance of biology education on the development of modern day society.

Table 2: Responses on areas of applications of biology education on development of modern day society

Item	S.A (4)	A(3)	D(2)	SD (1)	Total	Mean	Decision
are the areas of application of Biology in modern days?							
Food and beverages	122	42	26	10	676	3.38	Accepted
Clothing and textiles	66	89	41	4	614	3.07	Accepted
Beauty and personal care product	63	80	27	30	576	2.88	Accepted
Building	40	93	60	7	566	2.83	Accepted
Fuels	106	44	38	12	644	3.22	Accepted
Health care and medicine	143	41	10	6	720	3.60	Accepted

Table 2 shows the respondents' responses on areas of applications of biology education on the development of modern day society. On the item: Biology is applied to food and beverages, the obtained mean score was 3.38. On the item: Biology is applied to clothing and textiles, the obtained mean score was 3.07. On the item: Biology is applied to beauty and personal care products, the obtained mean score was 2.88. On the item: Biology is applied to building, the obtained mean score was 2.83. On the item: Biology is applied to fuel industry, the obtained mean score was 3.22. On the item: Biology is applied to health care and medicine, the obtained mean score was 3.60. Therefore, the aggregate mean score was 3.32 which is above the 2.50 minimum level of acceptability. This means that the respondents can identify areas which Biology Education can be applied to.

Discussion

The purpose of this study was to assess how Science Teachers perceived the relevant of Biology Education on the development of modern day society. To achieve this purpose, the data collected were analysed and findings reveal the following.

The responses of the respondents of this study revealed that they had very positive

perception of the relevance of biology education on the development of modern day society. Table 1 showed that all the statements reflecting the relevance of Biology Education the respondents had mean scores above 2.5 level of acceptability. In support of the findings of this study Jegede (2017) asserted that one major objective of biology education is to promote good personal and community health practices. Similarly, in support to the findings of the study, Miller (2010) stated that the principles acquired from biology education can provide the knowledge required to deal with the problems of waste disposal, current global challenges such as global warming, pollution and ozone layer depletion.

The responses of the respondents of this study showed that they identified areas where biology Education can be applied to. Table 2 indicated that all the statements reflecting the areas biology education can be applied to, the respondents had obtained mean score of above the 2.5 level of acceptability. These findings correspond with the findings of (Davies, (2012), Owen, (2013), Brown (2013) and Micheal, (2014).

Conclusion

The relevant of Science knowledge especially Biology in the modern society cannot be emphasis as Biological knowledge is practically applicable in all aspect of life in the modern day society like in pharmaceutical industries, health, fusil fuel, education, food and nutrition, society mindset orientation on family planning and myth, clothing and textiles e.t.c.

Recommendations

Based on the findings of this research, the following are hereby recommended:

- I. Government should provide adequate learning materials for Biology Education in Secondary Schools in Kaduna State.
- ii. Curriculum developers of Biology should review the Biology Education curriculum towards problem solving in the modern society.
- iii. Government should found research in Biology to help explore more uses and application of Biology in modern day society.
- iv. Government should provide laws to enhance the use of Bio-technology and Bio fusil fuel to reduce carbon emission and pollution.

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TECHNIQUES FOR REDUCING TOMATO (*Solanum lycopersicum*) POST HARVEST LOSSES: IMPERATIVE STEPS TOWARDS FOOD SECURITY IN NIGERIA

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Abstract

Much of the tomato produced in developing countries like Nigeria is lost due to poor harvest and post harvest techniques. Tomato is lost at harvest or during post harvest handling period due to factors such as contamination, inappropriate harvesting technology, lack of processing facilities, poor transportation network, and lack of access to cooling systems among others. Lost of tomato in quality and quantity due to poor harvest handling reduces yield, farmer's income, government revenue and poses a threat to food security. Hence, this paper discussed factors responsible for tomato post harvest loss and technologies that could be used to reduce the loss which include washing, sorting, packaging, cooling and waxing among others. As part of the recommendations, research and extension services should be strengthened to expose farmers, buyers and other handlers of agricultural products to available technologies in tamato post harveet lose reduction.

Key words: Tomato, post harvest loss, food security

Introduction

Tomato (*Solanum lycopersicum*) is a fruit from the solanaceae family native to South America. Despite botanically being a fruit, it is generally eaten and prepared like a vegetable. Tomato is an important component of human diet and the major dietary source of the antioxidant lycopene containing about 60-90 mg/kg (Yusufe et al, 2018) which has been linked to many health benefits, including reduced risk of heart disease and cancer. Also, the presence of bioactive compounds in tomato such as polyphenols has physiological benefits related to the circulating organ functions, anti-flammation, blood vessel relaxation, and capillary wall stabilizing agents (Husselund, et al, 2013). Tomato is ranked first among all vegetables in terms of its nutritional contribution and high biological activity in the human diet (Suarex et al, 2008) as a great source of vitamin C, potassium, folate, and vitamin K. It can be processed into different products such as ketchup, puree, juice and powder. Tomatoes are also important in food industry where they serve as raw materials for the production of value added products.

Nigeria ranks the 16th largest tomato producing nation in the world and has the

comparative advantage and potential to lead the world in tomato production and export (Onuwa, 2020) when adequate attention is given to harvest and post harvest losses. In 2017, production of tomato was estimated at 181 million metric tons worldwide, including 21 million metric tons in Africa. In Nigeria, tomato production is estimated at 1.8 million metric tons, accounting for about 0.57 of Africa's total output and 1% of world output (Food and Agricultural Organization (FAO), 2018).

Despite Nigeria's potential of leading the world in tomato production in addition to its nutritional, economic and health benefits, tomato production is constrained by post-harvest losses which limit the volume of good quality produce reaching consumers. It is estimated that one-third (about 1.3 billion tons) of total food produced for human consumption is lost or wasted globally annually (FAO, 2012) with tomato having the highest post harvest loss (FAO, 2018). The perishable nature of produce, inferior technology, lack of awareness about post harvest handling procedures among producers as well as market factors results in poor post harvest handling of tomato (Bombelli and Seipati, 2015). Previous researches and government efforts have always concentrated on increasing and improving production and yield of tomato so as to meet up with astronomical rising food and income demands of farmers. While it is good to encourage increased tomato production, failure to reduce post harvest losses reduces the availability of food vegetables in particular and income that could be generated from selling such produce and by extension, poses a threat to food security.

Food security means a situation where all people at all times have both physical and economic access to sufficient and safe food for an active, healthy life (FAO, 2013). In the world today, more food is being produced when compared to the ancient times where subsistence agriculture was the practice. However, the greatest challenge associated with food production today besides other factors such as over population, climate change and urbanization is post harvest losses which usually result in shortage of food for human consumption (Akor et al, 2018). Hence, reduction of losses incurred during harvest and handling of tomato is of utmost importance in order to combat hunger, raise income of farmers/other participants in the agricultural value chain, raise government's revenue (Gross Domestic Product) and improve food security in Nigeria.

Post Harvest Food Losses

Post Harvest Loss (PHL) is defined as the degradation both in quality and quantity of food which occurs between the period of harvest and consumption (Kader, 2002). PHL is also described as losses that occur along the food supply chain, from the farm gate through till it gets on the table of the final consumer. They are losses which are usually encountered along the chain in the cause of handling, storage, transportation, and

processing resulting in reduction in the quantity and market value of agricultural commodities (Kader, 2005; Aramyan and Van Gough, 2014;). The FAO (2013) sees post harvest loss as reduction in edible

food or its nutritional value which was produced for human consumption which may be incurred directly or indirectly. According to Grolleaud (2004), direct losses happen when food stuff disappearance is caused by leakage such as spillage from bags, baskets, or vehicles or when food stuff is consumed by pests, while indirect losses occur when there is a reduction in the quality of the food stuff such that the consumers will refuse to purchase it.

Post harvest losses have been classified into two broad groups. Firstly, losses after harvesting such as those lost during transportation and others that get bad due to temperature build-up and secondly, the food losses due to socio-economic reasons such as losses due to human factors of rejecting some food due or buying some food items that may not be needed (Andrew and Obioma, 2018). On the other hand, Kader (2003) stated that losses could be weight loss (which occurs when there is reduction in the water content of foodstuffs) quality loss (assessed by the appearance of the produce such as size, shape, the amount of foreign materials, and damages on the foodstuffs. The foreign materials may include insects while the damages are the marks or the holes in the produce as a result of insect attack), nutritional loss (loss in the nutritional contents of the foodstuff which occurs when some insects feed on grain, and remove a large portion of the protein and vitamin from the grain), loss of seed viability (the loss in seed germination that leaves the seeds non viable as the embryo has been eaten by insects) and Commercial loss (the translation of other losses discussed above into economic and monetary terms).

Tomato is one of the most postharvest loss products in the fruit and vegetable supply chains of sub-saharan Africa with greater percentage of the postharvest losses in the fresh tomato supply chain occurring mainly at the pre-consumer level (FAO, 2018).

Causes of Post Harvest Losses (PHL) in tomato

Post harvest losses of monumental value of tomato occur due to factors such as mechanical damage, physiological deterioration and biological damage. Mechanical factors that cause tomato postharvest losses include bruising, rough handling, poor packaging and inappropriate transportation facilities. Bruises done on tomato, rough handling and the use of inappropriate transportation facilities could cause squeezing of the produce and spillage of the liquid content. This could make tomato loss economic value and in extreme cases unacceptable for consumption.

Another factor identified by Kiaya (2014) is physiological factors including changes such as ripening and sprouting. These changes increase the susceptibility of the food item to mechanical damage or infection by pathogens, causing a reduction in the nutritional value and sometimes make the commodity unacceptable to consumers. Atanda et al (2011) reported that production of ethylene causes premature ripening of some crops which also renders the crops unacceptable for consumption.

Tomato post harvest losses are also caused by biological agents principal among which are rodents, insects pests, birds and other large animals causing loss of quality and quantity of tomato. Contamination of tomato by the excreta of these animals as well as their feeding activity have the potential of causing weight loss, reduction in quality as well as out rightly making the produce not suitable for human consumption. Kiaya (2014) posited that biological causes of deterioration of food include respiration rate, ethylene production, sprouting among others. Microorganisms also cause colossal post harvest losses in tomato. This happens when harvested tomato are consumed by microbes such as molds, bacteria, and yeasts. These microbes eat small portion of the food item and cause damages to the point that such item becomes unacceptable to man for consumption.

Physical factors which cause tomato post harvest losses are excessive heat and insufficient heat/cold. Excessive heat damages perishable foodstuff like tomato and other vegetables whereas insufficient cold destroys tomato that is preserved using refrigeration (Atanda, et al, 2011).

Additionally, the environmental conditions in which tomato is stored or preserved and processed can have a major effect on the storage quality of the items and the amount of the tomato that gets lost at the end. Andrew and Obioma (2018) identified environmental factors affecting post harvest food quality to include temperature, humidity, solar radiation, and altitude, among others. As regards temperature, the authors pointed out that the higher the temperature of the environment where the food item is kept after harvest, the shorter the storage life of the commodity, and the greater the rate of loss within a given time. This is due to the fact that most factors that destroy post harvest food or reduce the quality of the foodstuffs occur at faster rate when temperature increases. This also accounts for the rate of spoilage caused by micro organisms, growth and physiological/physical processes such as germination of the food item during storage. Humidity is another important environmental factor that affects shelf life of post harvested tomato. When the humidity is high, tomato being a food item with high water content spoils easily due to mould development occasioned by high air water content. On the other hand dried tomato will absorb water from the atmosphere when the humidity is high and spoil easily. Time is also an environmental

factor that causes post harvest loss. The longer the time harvested tomato stays under storage, the greater the deterioration in quality and the greater the chance of damage and loss of the food item.

PHL in tomato can also be attributed to socioeconomic and institutional factors including inadequate marketing information and support system, inappropriate transportation facilities, unfavorable government policies, inability to implement regulations and legislations, lack of appropriate tool and equipment, lack of technological knowhow and poor maintenance culture for existing facilities and infrastructure (Prigojin, et al). Other causes include inadequate drying equipment, storage facilities, poor transportation network, inadequate marketing system, inappropriate harvesting, packaging and handling skill.

Techniques for reducing post harvest losses (PHL) in tomato

Most post harvest effort in Nigeria towards reducing food losses have always concentrated on cereals while perishable foods like tomato have traditionally been given little or no attention in post harvest food loss reduction activities. This is understandable given the place of the cereals as the most important source of staple food supply in many families. However, this should not be done to the neglect of tomatoes and other vegetable crops since they constitute an important part of the diet in Nigeria. A deliberate effort should therefore be made to include tomato in any effort aimed at reducing post harvest food losses.

Post harvest techniques, also termed post harvest strategies or technologies used in reducing food losses after harvest include all the treatments that occur from the time the crop is harvested until the foodstuff reaches the final consumer. These strategies to include harvesting methods/tools/equipment, transportation, processing/preservation, packaging, distribution/sale and storage (Francis, 2010). According to Atanda et al (2011), post harvest losses reduction can be achieved through the right agricultural techniques which include varietal differences, harvesting, handling, sorting, packaging, transportation, storage and processing as well as sanitation.

Pre-cooling of the produce soon after their harvest (before storage/shipment) is one of the important components of the cool chain, which ultimately affect the shelf life of the produce. Rapid pre-cooling to the product lowest safe temperature is most critical for crops having high respiratory rates. The purpose of pre-cooling is to remove field heat, moisture loss, ethylene production, respiration of micro-organisms and increase the shelf life of the tomato. Without a doubt, the most important factor affecting postharvest life is temperature. This is because temperature has a profound effect on the rate of biological reactions such as metabolism and respiration (Khanal, n.d).

Khanal identified different methods of pre-cooling as: cool air (room cooling, forced air cooling), cold water (hydrocooling), direct contact with ice (contact icing), evaporation of water from the produce (evaporative cooling, vacuum cooling) and combination of vacuum and hydro-cooling. Selection of pre-cooling method depends on factors such as temperature of produce at harvest, physiology of produce and desired postharvest life.

Another technique of reducing tomato post harvest losses is Washing and Cleaning. Before fresh tomato and other vegetables are marketed, various amounts of cleanings are necessary which typically involve the removal of soil dusts, adhering debris, insects and spray residues. Chlorine in fresh water is often used as disinfectant to wash the commodity. Tomato cleaning is achieved by wiping the produce with damp cloth. Some fungicides like Diphenylamine or ethoxyquin may be used as post harvest dip to control pests and mould development.

Waxing: waxes are esters of higher fatty acid with monohydric alcohols and hydrocarbons. Waxing generally reduces the respiration and transpiration rates in tomato. Other chemicals such as fungicides, growth regulators, preservatives can also be incorporated specially for reducing microbial spoilage. Waxing has the advantage of improving appearance of produce, protecting fruits from micro-biological infection among others. Examples of waxing materials used commercially are paraffin wax, carnauba wax, bee wax, shellac, wood rasins and polyethylene waxes.

Packaging is a system of preparing goods for transportation, distribution, storage, retailing and end use. It is a means of ensuring safe delivery to the ultimate consumer in sound conditions at maximum cost. Proper or scientific packaging of fresh tomato reduces the wastage of commodity by protecting it from mechanical damage, dirt, moisture loss and other undesirable physiological changes and pathological deterioration during the course of storage, transportation and subsequent marketing. Locally, wooden boxes, baskets woven from bamboo stems or twigs, sack/jute bags, plastic crates and corrugated fiber board (CFB) boxes are in general use. A good packaging material should have sufficient strength against compression, impact and vibration; be environmentally friendly; should have special consumer appeal; should be easily printable; be free of chemical substances; and should facilitate special treatment like pre-cooling.

Conclusion and Recommendations

One of the greatest challenges associated with food production in Nigeria today apart from overpopulation, climate change and urbanization is post harvest loss. Being perishable, losses incurred due to harvest and handling of tomato is very high. Tomato

post harvest loss is caused by factors such as improper harvesting techniques, contamination, poor transportation handling, inadequate cooling system, high relative humidity and inappropriate processing techniques among others. Post-harvest losses in tomato and indeed other crops limit the quantity and quality of produce reaching consumers, affects prices of produce and ultimately reduce income of the farmers and revenue that accrues to government. Hence, reduction of losses incurred during harvest and handling of tomato is of utmost importance as it will go a long way at combating hunger, raise income of farmers/other participants in the agricultural value chain, raise government's revenue and improve food security in Nigeria. Therefore, the following suggestions are made for improvement:

- I. Research and extension services should be strengthened to expose farmers, buyers and other handlers of agricultural produce to available technologies in tomato post harvest loss reduction.
- ii. Post harvest technology should form an important part of the curriculum of agriculture at secondary and post secondary school level. This will help to train future farmers on modern ways of handling tomato and hence reduce post harvest losses.
- iii. Government should make farmer's access to loan facilities easy and at reduced interest rate so as to help them acquire modern technologies of storing and preservation of tomato.
- iv. Government should encourage more research activity on effective ways of storing crops in Nigeria through adequate funding of relevant bodies.

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TEACHING WRITING SKILLS ON PUPILS WITH DYSGRAPHIA

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Abstract

Pupils with dysgraphia often struggle with writing letters and numbers. They lack appropriate strategies to use while writing, which leaves them frustrated and unwilling to write. Teachers need to find basic writing skills and prewriting activities that will help pupils become more proficient writers. The writing skills pupils need to be able to write include the ability to trace, colour, draw, and copy task. Each of these is developed in a sequence such as; vertical lines, horizontal lines, circle shape, cross shape, right/left diagonal line, rectangle shape and triangle. These writing skills help to enhance pupil's ability to write meaningfully. Acquisition of the skills of writing encourages pupils to participate in the classroom activities. It helps them to control the size, slant, slope, spacing and speed of writing at which he/she writes.

KEYWORDS: Teaching, Writing Skills, Dysgraphia.

Introduction

Writing is a functional task that is used to communicate thoughts using printed symbols. The skill of writing is an important gateway to academic success. It gives opportunity for every pupil to participate in classroom activities and provides a valuable source of self-esteem in pupils with dysgraphia. It is an act of recording language symbols by hand using either pen, pencil, or chalk. Writing engages pupils in communication in the classroom. In other words, pupils are connected together by writing, and make themselves known by it. Writing has a unique position in pupils' success in their academics in school. Its success is based on constant practice and ability to listen, read and speak.

Writing involves fine-motor skill coordination, letter memory and formation. Pupils must be taught to write in order to success in school. Writing involves the ability to trace, colour, draw and copy a given task accurately. Acquisition of writing skills helps pupils to write with correct punctuation, spacing, formatting, capitalization, without omission of letters in words and correct spelling. Ability to write makes learning more practical and enjoyable and helps pupils to transit from poor writers to proficient writers. Pupils with dysgraphia have difficulty coordinating their motor movement

that is needed to write. Writing varies within an individual and changes very slowly with age. Ndoh and Iheacho (2019) noted that, if a child has difficulties with aspects of writing performance such as speed, omission, task completion and or legibility, it can significantly hamper progress in the classroom and lead to academic underachievement.

In order to have good handwriting, pupils must have the ability to recall the letter forms and use the correct motor pattern to write them. They should be able to appropriately judge the amount of space that is needed between the letters and the words and where they are being placed on the page. Effective communication through writing involves the acquisition of fine motor skill, memory, visual processing and high order thinking. All of these processes work together for a meaningful written communication. Writing is carried out to express ideas, pass information, and receive information and to record information. Teaching writing in school helps pupils to develop and use legible writing for effective communication and provide them with opportunity to use handwriting as an integral part of the writing process. Therefore, the paper will discuss writing skills pupils need to be able to write, characteristics of pupils with dysgraphia and activities for teaching writing to pupils with dysgraphia.

Concept of Dysgraphia

Dysgraphia is a specific learning disability, literally known as “bad writing”. That is weakness in the skills needed to produce writing. Dysgraphia is from the Greek word “dys” meaning “impaired and “graphia” meaning making letters forms by hand (Patino, 2018). The disability affects writing in the area of organization, motor skills, and information processing skills. Dysgraphia is a neurological disorder that shows evidence when pupils are learning to write. Their writing usually shows illegibility, mix-up letters of the alphabet, poor formatting and spacing, omission of letters in a word, poor spelling, difficulty writing on a straight line or within the boundaries and experience difficulty in thinking and writing at the same time.

According to Rosenblum, Weiss, & Parush (2004), dysgraphia is a learning disability in which pupils have difficulties writing using hand due to visual motor deficiency. They added that dysgraphic pupils may have difficulty in speed of writing and doing homework. Meese (2001) described dysgraphia as handwriting problems, specifically, partial inability to remember and form certain letters of the alphabet or symbols. Similarly, Sousa (2001) explained dysgraphia as a disorder that causes difficulty with writing letters and numbers. Pupils with this disorder struggle to use the appropriate movements that are required to write letters and numbers. National Center for Learning Disabilities (NCLD) (2007) stated that, dysgraphia is a learning disability

that affects writing abilities. It can manifest itself as difficulties with spelling, poor handwriting and trouble putting thoughts on paper.

Marentette (2011), also views dysgraphia as a deficiency in the ability to write, primarily not only in terms of handwriting, but also in terms of coherence. It occurs regardless of the ability to read and is not due to intellectual impairment. He further explains that dysgraphia is a transcription disability, meaning that it is a writing disorder that is associated with impaired handwriting, difficulty in processing written words and letters in those words as well as sequencing, and movement of muscles required to write.

Dysgraphic pupils have poor handwriting; they struggle to form letters or numbers correctly, which creates an additional challenge to their ability to learn. These pupils write slowly, with inconsistent formation of letters. They cannot use appropriate formatting and spacing strategies when writing. They have strange pencil grip and hand position. Dysgraphia can have a negative impact on the success of a pupil in school. Pupils with dysgraphia are not able to keep up with written assignments in the classroom; they cannot put coherent thoughts together on paper, or write legibly. Dysgraphia often overlaps with other learning disabilities such as speech impairment, attention deficit or developmental co-ordination disorder. (Crouch and Jakubecy, (2007), and Knobelauchin, (2007) in Ozoji, Unachukwu and Kolo (2016) described pupils who suffer from dysgraphia as those who do not only have poor handwriting, but also have difficulty expressing themselves in written form. Dysgraphic pupils have trouble with clarity of writing, cannot make meaning of what they themselves are writing, that is the information on the pages cannot be decoded by the pupil that wrote them.

Dysgraphia interferes with a pupil's ability to express idea and simultaneously synchronize the many functions such as; motor skill, attention and several aspects of lingual ability and organization. Some pupils with dysgraphia display a lack of fine motor coordination to produce writing that is legible. This is because dysgraphia has to do with dysfunction in the manner in which two brain systems interact to enable an individual translate mental image into written language that is, sound-to-symbol and mental-to-written word forms. Dysgraphia is a brain-based issue. It is not the result of pupils being lazy. Pupils with dysgraphia have difficulty in thinking and writing at the same time. Their handwriting tends to be messy. Many of these pupils struggle with spelling and putting thoughts on paper.

Dysgraphia varied from pupil to pupil and Pupils with dysgraphia can exhibit any one or more of the variations. Sousa (2001) and Ozoji (2016) identified three types of

dysgraphia to include: Dyslexic dysgraphia, motor clumsiness dysgraphia, and spatial dysgraphia. Dyslexic dysgraphia results from pupil's problem in phoneme-to-grapheme conversion. Motor clumsiness dysgraphia: results from pupil's lack of control over their fingers, wrist, and hand. Pupils with spatial dysgraphia, in this category exhibit deficit in their spatial processing system of the brain's right hemisphere (Sousa, 2001).

Ozaji (2016) further added that, in motor dysgraphia, text that are either spontaneously written or copied remain illegible and drawing becomes a problem to such pupils. Though oral spelling is normal, finger-tapping speed is abnormal. In the case of dyslexic dysgraphia, a text that is written spontaneously is illegible, particularly when the text is complex. Drawing and text copying skills remain normal, although oral spelling is poor. Fine motor speed (finger tapping) is also normal in this type of dysgraphia. In spatial dysgraphia, pupils exhibit deficit in their spatial processing system of the brain's right hemisphere. Though drawing remains problematic, oral spelling and finger-tapping speed remain normal. In spontaneously produced or copied writing, illegibility is still a prominent feature in pupils with this type of dysgraphia.

Causes of Dysgraphia among School Pupils

Pilgrim (2003) stated that, there are several causes of dysgraphia which can affect pupil's ability to write. These include:

- * brain damage: Brain damage occurs due to a wide range of internal and external factors, such as starved of oxygen at birth or through near drowning, sustained high temperature, head injury or stroke
- * physical illness or deformity: This is due to birth defect, illness or accident. When the nerve is damaged or paralyzed, the normal routes to acquisition of handwriting will not be opened.
- * inadequate written instructions: If a pupil has never been given any instruction in penmanship, this may lead to dysgraphia. Inadequate instruction is frequently related to poor writing.
- * Disorientation: Is an altered mental state a person who's disoriented may not know their location and identity or the time and date. It's often accompanied with other symptoms such as: confusion, or being unable to think with normal level of clarity, being confused and having disrupted attention.
- * multiple mental images: A mental image or mental picture is an experience that, on most occasion, significantly resembles the experience of visually perceiving some object, event or scene but occurs when the relevant object, event, or scene is not actually present to the senses, mental imagery can sometimes produce the same effects as would be produced by the behavior or

experience imagined.

Characteristics of Pupils with Dysgraphia

Dysgraphic pupils often get confuse during writing activities. They find it difficult to hold the pencil and form letters of the alphabet. Knoblauch, in Ozoji (2016) pointed out the following characteristics to include; mixing lower and upper case letters within the same word, cramped and awkward pen/pencil grip, awkward body position when writing, unfinished or omitted words, mixing printed or cursive letters in a single word, difficulty thinking and writing at the same time, low classroom productivity and participation, incomplete assignments/homework, problem with focusing attention on ongoing activities and difficulty with syntax (sentence formation) and grammar (use of rules in writing sentences).

Patino (2018) grouped the characteristics of dysgraphia into six categories namely: visual-spatial, fine motor, language processing, spelling/handwriting, grammar, and organization of language. A pupil may have dysgraphia if his writing skills lag behind those of his peers and exhibits the following: Visual-spatial difficulties: The pupil has trouble with shape-discrimination and letter spacing; has trouble organizing words on the page from left to right. Fine motor difficulties: The pupil has trouble holding a pencil correctly, tracing, color inside the lines; holds his wrist, arm, body or paper in an awkward position when writing. Language processing issues: The pupil has trouble getting ideas down on paper quickly, has trouble understanding and following direction, and loses his train of thought. Spelling/handwriting: Pupil has a hard time understanding spelling rules, mixes upper- and lower-case letter in a word, makes spelling errors in writing, avoids writing and has trouble reading his own writing.

Concept of Writing

Writing is a medium of communication that represents language through the inscription of signs and symbols. It is also a conventional system or marks or signs that represent the utterances of a language. Writing renders language visible, it is concrete and permanent. To produce a good writing, one must have good metalinguistic knowledge about grammar of a particular language. Writing requires formal instruction and discourse. It begins from learning to write letters of the alphabets, numbers, to learning to form words correctly, and use the words to make sentence. Writing helps the writer to convey meanings or messages in textual forms. Using writing the writer tries to interact with the readers by adopting an acceptable writing convention. Writing is transactional and message oriented. Its goal is to convey information accurately, effectively, and appropriately. Writing is a daily activity that pupils engage in the school. The ability to write helps pupils to succeed in other school

subjects.

Writing is defined variously by different authors. Meadows (2006) describes writing as an activity which integrates many different processes such as physical linguistic, cognitive, social and is effective in different ways according to the writers age, experience and purpose. These activities are physical production of text through handwriting, spellings and punctuation, content, word choice, syntax and factual connections, organization and clarity. Deane, Odendah, Quinian, Fowles, and Welsh (2008) explain that, writing is a complex cognitive activity and a verbal production skill where printed symbols are manufactured to meet a discourse demand. Writing is a powerful and indispensable tool for gathering, preserving and disseminating information across cultures and nations with accuracy and certainty. For written communication to be effective, the writer has to write clearly for the readers to understand what is written. Any writing that does not make meaning to the reader becomes useless. Writing is a complex work of language which involves some aspects of language such as grammar, spelling, punctuation, and organization. Pupils have to be exposed to these different ways to be able to bring out their creativity and arrange their ideas meaningfully.

Writing is a complex meta-cognitive activity that draws an individual's knowledge, basic skill, activities and ability to co-ordinate multiple processes. This means that writing is a method of representing language in a visual form through symbols. The ability to write is one of the most important factors in the academic process. Pupils who are unable to write, often experience frustration in academic activities in the school (Ozaji, Unachukwu and Kolo, (2016)

Skills pupils need to be able to write

There are skills pupils need to acquire to be able to write meaningfully. These skills include; the ability to trace, colour, draw, and copy. Each of these is developed in a sequence such as; vertical line, horizontal line, circle shape, cross shape, right/left diagonal line, rectangle shapes and triangle. These writing skills help to enhance pupil's ability to write meaningfully. Acquisition of the skills of writing encourage pupils to participate in the classroom activities. It provides mean of self-esteem in those with dysgraphia. Stewart, (2017) posited that these basic writing skills (tracing, colouring, drawing and copying) help the writer to control the size, slant, slope, spacing, and speed of writing at which he/she writes.

i. Tracing Skill:

Tracing is a powerful way to practices fine motor control. Simple activities, such as tracing lines and shapes, build and strengthen coordination between pupil's fingers,

hand and wrists. When pupils trace straight, curve, and zig-zag lines, these are beginning steps to start to learn to write letters of the alphabet. According to Spear-Swerling, (2006) tracing helps pupils to build penmanship skills and learn how to write letters of the alphabet, numbers, geometric shapes, figures, pictures trace can be on a bold line or on dotted lines.

ii. Colouring Skill

Colouring is one of the writing skills pupils need to succeed in school. It enhances fine motor development. Colouring activity helps pupils build the muscles in their fingers, hand and wrists which aid in manipulating small objects and improves hand-eye coordination. It is an act of painting, dyeing, or shading, for the purpose of changing the appearance of an object from its formal appearance to make it look attractive. Colours are grouped into three categories namely; primary colors, secondary colors, and tertiary colors. The primary colours are red, blue, and yellow; the secondary colours are a combination of primary and are violet, orange and green; the tertiary colors are combinations of primary and secondary colours to include: red-orange, yellow-orange, yellow-green, blue-green, blue-violet, and red-violet. Elliot (2015) noted that the differences in colors are link to emotional responses. He stated that yellow and red produce systematic physiological reactions that manifest in emotional experience such as negative arousal, cognitive orientation, overt reaction or forceful behavior. Moreover, by asking pupils to colour shapes or objects, they learn to control their eye-hand coordination, as well as good estimate and use of space in shapes and objects.

iii. Drawing Skill

Drawing is another writing skill that helps in developing strong fine motor skills that enables pupils hold and manipulate writing materials. Drawing is a form of visual art that enhances perceptual, motor, cognitive and emotional functioning of pupils in the classroom. As pupils use drawing materials such as; pencil, crayon, paper and ink to draw pictures and objects it reflects their artistic, emotional and cognitive development. According to Welsh (2018), drawing is a fundamental form of human expression, especially, prehistoric drawings depicting aspects of early societies, such as hunting scenes, has been found in caves in southern Europe. The techniques of drawing and writing have common origins in the desire of human to express themselves and to communicate with others. He identified two types of drawing that helps to improve the writing skills of pupils. They are, traditional and digital drawing. The traditional drawing involves using normal art supplies to make a physical existing copy of an art, such as pencils, markers, pastel and charcoal, while digital drawing is done with the computers or electronic devices, such as stylus or finger on a touch screen devise stylus-to-touch pad, finger- to-touchpad and mouse. Depending on the age and stage of pupils, drawing can be guided as in tracing or free in which the pupils uses his or her imagination to draw.

iv. Copying Skill

Copying is another writing skill, which is sometimes presented as the first stage in learning to write. The teacher writes letters and words and asks pupils to copy. This activity aids retention. Stewart (2017), stated that pupils replicate or copy exactly what the teacher wrote on the chalkboard, such as letters of the alphabets, numbers and words as their classroom activity or their assignment. In copying, pupils need the visual-motor skills and handwriting skills. Copying may be very tiring for pupils with dysgraphia, and so it needs close supervision to be of value or meaningful.

Richard, Durrant and Brooks, (2018) lighted some visual perceptual skills needed for accuracy and legibility in copying to include: Visual memory, visual closure, visual tracking, visual spatial relations, and visual scanning. Visual memory: This focuses on one's ability to recall visual information that has been seen. Visual memory is a critical factor in reading and writing, when a pupil is writing a word he must recall the formation of parts of the letter from memory.

Visual closure: Is the ability of the eyes to visualize a complete image or object when only a portion is seen. Visual closure allows pupils to comprehend words and letters without actively assessing each line. Visual tracking: Is defined as the ability to efficiently move the eyes from left to right, or from right to left, up and down and circular motion or focusing on an object as it moves across a person's visual field. According to Richard, Durrant and Brooks (2018), this skill is important for almost all daily activities, including reading, writing, cutting with scissors, drawing, and playing. Spatial awareness: In handwriting, it refers to accurately spacing letters within words and spacing words correctly within a sentence. Letter size and use of margin also fall under this term. Visual scanning: is needed to help pupils look in all directions with the eyes to locate an object or to avoid obstacles when walking in a crowded classroom. Visual scanning activity is one way to build visual perception needed for locating an item on a shelf, finding a matching sock in an overstuffed drawer, and finding a keyword in a reading activity.

Activities for Teaching Writing to Pupils with Dysgraphia

The ability to write letters of the alphabet legibly, spell the letters, form words, space and format it in the straight line as well as use the words to write meaningful sentences are the challenges face by dysgraphic pupils in schools. Lerner and Kline (2006) outlined some activities that could be used to help them learn to write. These include:

(a) chalkboard activities; Circle, lines, geometric shape, letters, and numbers using the muscles of the shoulders, arms, hands, and fingers. (b) writing in a clay pan or sand, cornmeal, salt, or nondrying clay on a cookies sheet. (c) Position; to prepare for writing, the teacher has the pupil sit in a comfortable chair, have the table at the proper

height, feet flat on the floor, both forearms on the writing surface. The non-writing hand should hold the paper at the top. (d) Paper; to keep the paper from sliding, it may be necessary to attach the paper to the desk with masking tape. (e) Holding the pencil; have the pupil to hold a pencil properly between the thumb and middle finger with the index finger riding the pencil. A piece of tape or a rubber band can be placed around the pencil to help the pupil hold it at the right place. (f) Stencils and templates; geometric forms (squares, circles, and so forth), letters, and numbers can be represented in stencil made from cardboard or plastic. Have the pupil trace the form with a finger or with a pencil or crayon. Then remove the stencil and reveal the figure that has been made. (g) Tracing; make heavy black figures on white paper and clip a sheet of onionskin paper over the letters. Have the pupil trace the forms and letters; start with diagonal lines and circles, then horizontal and vertical lines, geometric shapes and finally letters and numbers.

Similarly, Graham and Harris (2005) identified six principles that teachers can use to help pupils with dysgraphia in the classroom as follows:

1. Provide effective writing instruction such as; (a) a supportive and literate classroom environment. (b) Daily practice on a range of writing tasks. (c) Teacher modelling and direct instruction of writing skills. (d) teacher/pupil's conferences. (e) cooperative learning opportunities for planning, drafting and editing written products. (f) Sharing written work with the class, careful assessment. (g) Follow-up instruction and feedback. (h) Integrating writing activities across the curriculum.
2. Tailor writing instruction to meet needs of individual pupil. Adaptation may include pupil-specific topics for instruction, one-to-one supplemental instruction, and adapting task requirement (for example, length of writing assignment).
3. Intervene early. Early intervention in handwriting and spelling can have positive effects on the quality and quantity of written compositions.
4. Expect that each pupil will learn to write. The teacher's expectations of a pupil's competency, coupled with supportive and positive classroom strategies, can facilitate the writing performance of pupils with writing disabilities.
5. Identify and address academic and non -academic stumbling blocks. Task-related behaviors (for example, attention, disorganization) as well as behavioral or emotional concerns may require intervention in order to promote positive and productive writing experiences.
6. Take advantage of technological tools for writing. Teachers can work with technology to both encourage and teach writing to pupils with writing disabilities. Simply using a word processor may help some pupils, whereas others may benefit from more sophisticated software used to teach planning,

composition, or editing.

Conclusion

Acquisition of writing skills is basics for written communication in school. Ability to write meaningfully is truly one of the most important factors in the academic success. When a pupil is unable to write what can be interpreted and utilized for assessment, learning becomes more boring and frustrating experience. Pupils with writing difficulties face the risk of poor grades and even school failure. These problems tend to affect their levels of confidence when among peers or those who can judge them. It is important to note that dysgraphic pupils are influenced by internal and external factors, such as brain damage, illness, poor instruction, learning environment among others. Teachers should be patient and positive when practicing handwriting, they should encourage proper pencil grip, posture and paper positioning. Teachers should encourage the use of writing paper with raised lines, avoid criticism for sloppiness or illegibility and provide additional time for writing tasks. And have pupils complete writing activities in small steps.

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CAUSES AND EFFECTS OF EXAMINATION MALPRACTICE IN NIGERIA

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Abstract

Education, being a process of teaching and learning is evaluated through examination at the end of the learning period. Examination not only serves as a feedback for the trainer to ascertain the level of knowledge acquisition but also serves as a measure of knowledge retention by the trainee. Any misconduct or irregularity distorts this feedback mechanism and gives a false outcome of the learning process. This paper focuses on the parental influence on examination malpractice in senior secondary schools: It addresses forms of examination malpractice, causes, effects, way forward and recommendations. Relevant journals and conference papers were consulted, and the writers' personal experiences during examination invigilation were very useful in this paper. There should be serious disciplinary measures on teachers/parents who indulge in supporting examination malpractice in various ways. Teaching and learning environment should be made conducive in terms of adequate facilities. We all need to cultivate healthy attitudes toward examination. It must not be seen as a do or die affair and an instrument of oppression. All stakeholders in education must do everything possible to ensure proper conduct during examinations. In other word, examinations should be designed and conducted in such a way that accountability and acceptability is guaranteed.

Keywords: Causes, Effects, Education, Examination Malpractice, Senoir Secondary Schools

Introduction

Education has been severally defined by different people at different points in time. According to Fafunwa cited in Adegbemile and Azike (2014), education is what each generation gives to its young ones, which makes them to develop attitudes, abilities, skills and other behaviors which are of positive value to the society in which they live. Akaranga and Ongong (2013) opined that education is a necessary process through

which young adults are equipped to lead productive lives according to their talents and interests. However, through education, learners are not only taught, trained, and adequately guided to acquire relevant skills and knowledge but also how to adapt to acceptable public life.

Duruh (2012) defined examination as the act of giving students or candidates a test to determine what they know or have learned. George and Ukpong (2013) opined that examination is the most common tool around which the entire system of education revolves, it is the instrument used to decide who is permitted to move to the next academic level. Oluyeba and Daramola (1992) cited in Duruh (2012) defined Examination Malpractice as an “Irregular behavior exhibited by candidates or anybody charged with the conduct of examination in or outside the examination hall, before, during or after such examinations”.

From all the definitions, it is clear that examination malpractice tends to confer undeserved grade to the perpetrators of the act. Again, it may be committed by not only the candidates but also by other bodies charged with the responsibilities of examination management. Examination malpractice has been a social problem for decades, but the rate and manner it is perpetrated nowadays calls for serious concern.

Examination Malpractice

Examination Malpractice remains a serious social problem that poses a great threat to the credibility and integrity of the entire educational efforts in Nigeria. This has now become an issue of national concern. To Maduabum (2001) Examination malpractice is an improper practice carried out before, during or after any examination by an examinee(s) or others with a view to obtain good result. Examination malpractice can be defined as a deliberate wrong doing contrary to official examination rules designed to place a candidate at an unfair advantage or disadvantage, Sooze (2004) cited in Duruh (2012) define examination malpractice as an illegal means which students use to pass examinations. Examination Malpractice Act (1999) explains examination malpractice as any act of omission or commission by a person who in anticipation of, before, during or after any examination fraudulently secure any unfair advantage for 157himself or any other person in such a manner that contravenes the rules and regulations to the extent of undermining the validity, reliability, authenticity of the examination and ultimately the integrity of the certificates issued.

From all the definitions, it is clear that examination malpractice tends to give undue advantage or undeserved grade to the beneficiary of the act. Again, it may be committed by not only the candidates but also by other bodies charged with the responsibilities of examination management.

Forms of Examination Malpractice

In every examination, students develop new methods of perpetrating examination malpractices. Instances of examination malpractices vary. They range from impersonation, leakage of questions, tampering with results, and computer fraud to fraudulent practices by invigilators. Duruh (2012) identified some forms of malpractices are discussed below.

1. Collusion among candidates themselves and between them and examination officials: Collusion occurs when candidates writing the same examination copy from one another. When examination official leaks the examination materials to the intended examinees or parents prior to the examination time, the malpractice committed also falls under collusion.
2. Impersonation: This is a case where another candidate or hired mercenary sits for examination on behalf of the genuine candidate. Male candidates sitting in for girls or vice versa, and twins writing examinations for each other.
3. 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; handkerchiefs, rulers, chairs, tables, walls of examination halls and so on.
4. Irregular activities inside and outside the examination halls: Students, who have made up their minds to cheat, exhibit unwholesome behaviors during examination. For instance, smuggling out question papers out of the examination hall, sending and receiving information from other candidates or from their friends outside the hall, tearing part of the question paper or answer booklet during the examination to perpetrate malpractice.
5. Scientific malpractice/the use of mobile phones during examinations: Nowadays, candidates employ unauthorized scientific calculators and mobile phones to take undue advantage. Mobile phones with camera (imaging functions) are used to take snapshots of a whole textbook in a much reduced format for use during examination. For examination that involves multiple choice questions, candidates inside the examination hall receive the answer through the handsets from their agents even outside that geographical location.
6. Other forms of examination malpractice includes the use of coded sign languages by some candidates, exchanging of answer booklets for note comparison or outright impersonation, mass cheating, leakage of question papers, etc.

From the forms of examination malpractices above, it is clear that examination malpractice is not limited to the time and the place of examination. In fact, it occurs either before, during or after examination. A typical pre-examination malpractice in Nigeria is in the process of registering SSCE candidates for examinations. Ojerinde

(2004) cited in Anzene (2014) reported that “one of the commonest forms of pre-examination malpractice is the registration of non-school candidates for school examination by principals in spite of clear regulations against such practice”.

Causes of Examination Malpractice

Many reasons have been adduced to be the cause of the prevalent involvement of parents in cases of examination malpractice. Petters and Okon (2013) identifies the causes to include:

1. Fear of failure.
2. Craze for certificate.
3. Desire of parents to have their children in choice professions and universities.
4. Pressure on students to pursue courses which they have no aptitude.
5. pressure on teachers who want to gain favor of student.
6. overcrowded sitting arrangement.

However, rapid growth and demand for education in Nigeria, poor teaching and learning environment, lack of well-equipped teachers who are also most times not qualified to impart the contents to the learners, lack of viable teaching materials/equipment like standard laboratories, libraries and other things remain major causes of examination malpractice.

Effects of examination malpractice

Obudigha (2014) identified some of the effects of examination malpractice which includes:

1. Examination malpractice leads to loss of credibility. A country that becomes notorious in examination malpractice loses international credibility. The implication is that documents or certificates obtained from such a country will be treated with suspicion.
2. Examination malpractice has a lot of consequences on the individuals and institutions of learning and communities at large. Dismissal, termination, loss of position, and lack of self-confidence are effects and have caused a lot of embarrassment and suffering to individuals, families etc. The guilty ones who were not caught and punished cannot defend the certificates obtained not to talk of delivering at their duty posts.
3. It brings about laziness and stupidity, thereby discouraging hard work which is the foundation of growth and progress.
4. The fight against corruption cannot be realized if examination malpractice continues to be rampant in our educational system. As future leaders who have been equipped through a school system characterized by academic fraud and dishonesty, will certainly manifest this fraudulent behavior in any organization

they may find themselves. Those that cheated to pass examination will cheat to get employed, have spouse, and even to win election through electoral violence or other sharp malpractices.

5. Other effects of examination malpractice includes discouragement of students from hard work, low productivity and poor job performances, bribery, corruption, and certificate racketeering.
6. Examination malpractice with its disadvantages is affecting all the facets of the society negatively. The potentials of this nation will be difficult to be realized socially, economically, and technologically until the individuals, governments, and other stakeholders in the education sector collaborate to eradicate this malpractice.
7. There is the possibility of unfulfilled dreams and vision, if the student is sent away from school.

Ways of Curbing Examination Malpractice in Nigeria

No one can claim to have all the solutions to the eradication of examination malpractice in Nigeria, but this paper believes strongly that the following suggestions will curtail malpractice to the barest minimum.

1. Good moral values should be properly inculcated into our youths, and parents counseled to stop supporting their children to cheat in examinations. Again, there is need to engage only honest persons in examination management.
2. Since some of the teachers in our various levels of education are beneficiaries or products of examination malpractice, a compulsory nationwide retraining of teachers is very important to re-equip them to impart knowledge.
3. Good salary should be paid to teachers and special welfare package given to examination officials to prevent them from seeking financial and material gratification from students, parents, and others who may want to corrupt examination process. Examination officials such as teachers who invigilate examinations, supervisors who oversee the conduct of examinations in schools, officers of examination bodies who monitor the conduct of examinations and law enforcement agents charged with the security of the examination center must be person of integrity.
4. Trained teachers should be deployed to handle subjects only in their field of specialization so that their delivery of lessons will be masterly and the learner confident is guaranteed.
5. School libraries and laboratories should be adequately equipped: Tools for effective teaching and learning include current and quality textbooks, up to date laboratory equipment, and workshop tools. These vital equipment should be provided and the libraries and laboratories made conducive for learning activities.

6. Less emphasis should be placed on paper qualifications /certificates: Nigeria's education system is largely certificate oriented. Too much priority placed on paper qualification or certificates is the major contributing factor for examination malpractice.

Recommendations

Based on the negative effects of examination malpractice, the following recommendations are made:

1. There should be serious disciplinary measures to teachers/parents who indulge in supporting examination malpractice in various ways.
2. Teaching and learning environment should be made conducive lessons mastery, confident boost during examination.
3. We all need to cultivate healthy attitude toward examination. It must not be seen as a do or die affair and an instrument of oppression.
4. All stakeholders in education must do everything possible to ensure proper conduct during examinations. In other words, examinations should be designed and conducted in such a way that accountability and acceptability is guaranteed.
5. There should be provision of adequate time for revision and coverage of syllabus, in addition to strict and enforcement of disciplinary measures on students found involved in examination malpractice.

Conclusion

From the discussion so far, examination malpractice which has remained the order of the day in the education sector requires a multidimensional ways of reducing it to the barest minimum. Examination is an instrument for assessing, controlling and reforming educational standards. Today, the era of hard work seems to be over in our school system as students no longer take their studies seriously, rather they think of different methods they will use to cheat during examination. If this is not checked, it will never bring to the reality of the nation's philosophy of education.

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RELIGIOUS VIOLENCE, TERRORISM AND THE PEACE OF CHRIST IN SOUTHERN KADUNA

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Abstract

The paper synthesizes the causes and effects of religious violence, terrorism and the role of the peace of Christ as a panacea to curbing violence and social ills in southern Kaduna. Southern Kaduna has been engulfed in the past years with series of religious violence and terrorist activities which have made some communities uninhabitable and the economy stagnant. The study had two objectives to achieve which are to identify the causes and effects of religious violence and terrorism in southern Kaduna and to identify the role of the peace of Christ as panacea for overcoming violence and terrorism in southern Kaduna. The study in the literature review further surveyed religious violence and terrorism in southern Kaduna, causes of religious violence in Kaduna, the effects of religious violence and terrorism in Kaduna and Peace of Christ as a panacea for overcoming Violence in Kaduna State with recommendations to the problem at hand, which are the need for communication, collaboration, Negotiation, conciliation:, mediation:, arbitration etc.

Keywords: Religion, Terrorism, The Peace of Christ, Southern Kaduna.

Introduction

Religion is a great force that can be used for human development when properly channeled. Unfortunately, instead of being an agent of unity, religion has become an agent of division. Many lives and property have been lost in the name of religion.

Africa in general and Nigeria in particular, with reference to Kaduna state, has experienced series of religious crises and terrorist activities, which have disrupted the government and the economy.

Weaver (2001) posits that religious violence is a term that covers phenomena where religion is either the subject or object of violent behavior. Religious violence is specifically, violence that is motivated by or in reaction to religious precepts, texts, or doctrines. This includes violence against religious institutions, people, objects, or when the violence is motivated to some degree by some religious aspect of the target or precept of the attacker. Religious violence does not refer exclusively to acts committed by religious groups, but also includes acts committed by secular groups against religious groups.

Weaver (2001) further stated that the life of every human person is more meaningful in relationship with other human beings. So we have to interact with each other. This is the more reason for Weaver's assertion of Aristotle that the human person is a social being. As human beings seek meaning in life by living together, worshipping together, marrying each other, etc. there is bound to be some misunderstanding. This is based on the fact of our individual differences. But that does not mean that we cannot understand each other and live peacefully, notwithstanding our individual and religious differences.

The fact that religion constitutes the second nature of the African people cannot be overemphasized. Religion affects everything we do. Mbiti (1985) rightly observed that Africans are notoriously religious, and each people have their own religious system with a set of beliefs and practices. Religion permeates into all the departments of life so fully that it is not easy or possible to isolate it ... Religion is the strongest element in traditional background, and exerts probably the greatest influence upon the thinking and living of the people concerned.

Religious violence is a term that covers a phenomena where religion is either the subject or object of violent behavior. Religious violence is specifically, violence that is motivated by or in reaction to religious precepts, texts, or doctrines. This includes violence against religious institutions, people, objects, or when the violence is motivated by some religious adherent who are victims or target of such religious attacks. Religious violence does not refer exclusively to acts committed by religious groups, but also includes acts committed by secular groups against religious groups. Bello (1994), asserts that terrorism is not new and even though it has been used since the early times of recorded history, it can be relatively hard to define terrorism.

Terrorism has been described variously as both a tactic and strategy; a crime and a holy duty; a justified reaction to oppression and an inexcusable abomination. Obviously, a lot depends on whose point of view is being represented. Terrorism has often been an effective tactic for the weaker side in a conflict. As an asymmetric form of conflict, it

confers coercive power with many of the advantages of military force at a fraction of the cost. Due to the secretive nature and small size of terrorist organizations, they often offer opponents no clear organization to defend against or to deter.

Religious violence and terrorism in Nigeria refers to Christian-Muslim strife in modern Nigeria, which can be traced back to 1953. Today, religious violence has been dominated by the Boko Haram/ISWAP insurgency, banditry, kidnapping with the aims to impose Sharia in the northern parts of the country. Southern Kaduna of late has been engulfed in the unending cycle of violence and insecurity in the five local governments areas that make up southern Kaduna senatorial zone which are Kachia, Zango Kataf, Kaura, Jema'á and Sanga

The strategy of terrorists is to commit acts of violence that draws the attention of the local populace, the government, and the world to their cause. The terrorists plan their attacks to obtain the greatest publicity, choosing targets that symbolize what they oppose. The effectiveness of the terrorist act lies not in the act itself, but in the public's or government's reaction to the act.

After nearly a decade of violence and terrorism, Nigeria's government still does not have an effective strategy for dismantling the group. The terrorist organization preys on the disillusioned Muslims of the north, who are fed up with corruption and have few economic opportunities. The government's current plan of increasing security forces only gives the problem a military dimension, and any help from international forces would only increase local support for the anti-West terrorist group. Guns alone cannot attack the real root problems of the growth of extremism in the country consequently, there is every need for government and citizens to explore other productive approaches to resolving religious violence and terrorism in southern Kaduna.

The peace of Christ as in the context of this research, centres on the teachings of Jesus on non-violence. Jesus was antagonistic towards violence especially to his followers in the Sermon on the Mount (found in Matthew 5, 6 and 7) is one of the most detailed teachings of Jesus Christ recorded in the New Testament. In this vital sermon, Jesus Christ laid out the central facets of the way of life He taught His followers. One of the central themes of the Sermon on the Mount is Christ's expectation that His followers be characterized by peace not violence or war.

Communities have been engulfed by terrible acts of religious violence, and terrorism acts. Terrorists and militant groups have unleashed havoc in Southern Kaduna communities. The coordinated attacks on helpless civilians by armed groups had led to consistent loss of life's and properties and has slowed the economic activities in these

areas and also educational activities. It obviously looks like there is no help despite the presence of military personnel and government assurances of safety. But believers, are to be consoled with the words of Christ in the psalmist ...from where does our help come..? our help shall come from God who made heaven and earth (Psalm 121:1). It is in this light that this research work seeks to the effects of religious violence, terrorist activities in Southern Kaduna and the need for the peace of Christ as a panacea for overcoming violence and terrorism in Nigeria as a whole.

Religious Violence and terrorism in Southern Kaduna

Shiklam (2018) asserts that for all most 40 years, Kaduna State has been embroiled in multiple ethno-religious crises that have encapsulated the southern part of the state against the northern part. In those 40 years, it's been from one attack to another with alarming casualties and destruction of property worth millions of naira. A violent conflict played out on October, 18, 2018. In this recent attack, over 70 people were killed in the bloody ethno-religious clash, which started in Kasuwan Magani community, a few kilometers from Kaduna metropolis. This is the second time the Kasuwan Magani community had suffered from bloodshed. In February 2018, Muslim and Christian youths in the area, clashed over allegations that Muslim youths were having love affairs with Christian girls and converting them to Islam and marrying them. In the February incident, about 20 people were said to have been killed with hundreds of shops and houses burnt during the incident.

Furthermore, Shiklam buttressed the bloody clashes in the state that had polarised the people along ethno-religious lines. In Kaduna, the state capital, Muslims and Christians live in segregated communities. The cities are divided by the Kaduna River, with Muslims predominantly in the northern part of the metropolis, while Christians are predominantly in the southern part of the city. Sadly, this gulf has continued to widen following the persistent violence and failure of past and present administrations to address the real causes of the conflicts.

To add salt to injury, the situation in Southern Kaduna also has turned into a kidnapping dungeon with the abduction and killing of the paramount ruler of the Adara ethnic group, the Agom Adara, Mr. Maiwada Rapheal Galadima on Friday October, 19, 2018. This ignited yet another fire as youths in parts of the metropolis took to the streets, burning tyres and attacking people who were not of their religious faith. News of this attack spread like wildfire to other places, prompting the youths to also mobilise and attack those who were not of their faith (Shiklam 2018).

Causes of Religious Violence in Southern Kaduna

Shiklam (2018) opines that the Kaduna State Peace Commission enumerated several

causes of conflicts in the state. The commission noted that historically, several conflicts have been fueled by mobilisations of ethnic and religious groups. Concerns among groups over perceived inequitable access to social mobility and economic opportunities, as well as provision of social amenities and infrastructure, like schools, health centres, water and electricity supply, location of industries and scholarship awards.” “Indigenes are perceived to enjoy preferential access to land, schools, deepening the social inequalities to the detriment in context,” the commission noted. It also attributed the problem to access to land, which is also tied to socio-cultural identities. It is therefore not surprising that it is one of the drivers of conflicts in Kaduna State.

According to the commission, “inequality is another major driver of conflict in Kaduna State. Kaduna has a huge youth population with over 54 per cent of its 6.1million people aged between 15-64 years. The youths are central actors in conflict either as causes, victims or actual perpetrators of conflict”. Furthermore the commission also pointed out the high rate of unemployment among the youths, limited economic opportunities and easy access to drugs, exposes them to criminal tendencies. The commission also noted that given the partisan nature of politics in Kaduna,

political leaders and successive administrations have been viewed as representing specific political, ethnic or community interests rather than common interest of all people in Kaduna State. It pointed out that based on this partisan nature of political leaders, policies, are therefore also perceived as being skewed in favour of those communities, thereby creating room for politicians to mobilise group identities to achieve personal political ends, which includes engagement in violent conflict.

Effects of Religious Violence and Terrorism in Kaduna

Terrorism in Nigeria has become one of the greatest problems as well as all over the world. It influences not only people who have become the unwilling participants of the action but also their families, friends, and even strangers. Lawan (2014) outlines certain effects of religious violence and terrorist activities in Southern Kaduna

- a) Religious violence and terrorist attack had led to lose of live: the series of violence and terrorist attack in villages in Southern Kaduna have left us with number of dead relatives and friends who had ambitions, families and other things that life have to offer. in 2021 killings in villages was so alarming 30 persons in Madamai in Zango kataf, 10 in Zipak Jema'a Local Government Area, more than 80 deaths around Ugwan masara, Jankasa, Gora, Ugwan Wakili etc. or is it the killings that happened in 2016/2017 where more than 800 souls were lost around Godogodo, Gidan Waya, Pasakori, Ugwan Ali, Bakin Kogi Kaninkon, Goska, Ninte, Dangoma and even within Kafanchan (Catholic

Church Kafanchan diocese report 2017). Furthermore, looking also at the kidnappings and murders that go on in Kachia Local Government Area is also alarming and cannot be over emphasized because Kachia has become a save heaven for this terrorist assailants in 2022 more than 40 deaths has been reported(Aruwan 2022). Amnesty International have report a recent death toll of 25 persons in April 2022 at maraban Agban, Adan, and Agban Gida in Kagoro communities in Kaura. According to Lawan (2014) the victims of terrorism often lose their lives. And it is the worst effect. People can die. They are in constant danger. The second one is the mental thing. How the families of the victims and their friends feel. They do not know if a person survives. And if he or she doesn't it is a great grief which chases people through the whole life. Also according to the Naira Forum (2016) these incidents not only cause people to lose their own lives, their loved ones but also cause a serious mental trauma.

- b) Terrorism impairs the economy negatively: Kaduna State is ranked 15th in the country when it comes to GDP with about 3.3% while agriculture is still the major economic strong hold of the state with southern Kaduna produces about 65% of agricultural products in the state ranging from rice, beans ginger, maize, yams but to mention a few (Wikipedia 2021). For more than 5 years southern Kaduna had been impaired with insecurity were farmers crops are destroyed, farmers and their families are killed in farms and people fear for the unknown when they venture to farm their lands. Investors can become skeptical of starting their business in a particular place with the unstable situation. Moreover, lots of money are spent on the struggle against terrorism. Lawan (2014) further suggested that if this is not enough it also effects the socio economic conditions of a society where people become scared even to go to their work place or investors are skeptical of trying their businesses in such an unstable situation.
- c) These acts cause a trickledown effect; from causing an emotional upheaval to destruction of properties and lives to an individual's beliefs and acceptance in the normal society, how it should function and what values it should impart to its younger generation. This could ultimately result in weakening the foundations of a society and their potential for growth (Lawan 2014)

Peace of Christ as a panacea for Overcoming Violence in Kaduna State

According to Kajom. (2015), in accessing the work of Hanks Kung states that in describing the peace of Christ it is essential to focus on the historical Jesus because he has discovered striking sociological parallels between the story of Jesus and contemporary life situations. Jesus experienced conflicts similar to those of the twentieth-first century man. By way of contrast Kung's argued that Jesus of History

was an embodiment of peace. He neither a liberal conservative government party nor a priest he was neither ordained nor did he intend to exercise political power. He was simply a teacher and a peacemaker, to “guide our feet into the way of peace” (Luke1:79), who, in the style of the prophets, taught about new life, love, joy, and peace with God and fellow human beings in the world.

The peace of Christ in this context could be centered on the teachings of Jesus on non-violence. Jesus was antagonistic towards violence especially to his followers. Jones. (2015) asserts that the Sermon on the Mount (found in Matthew 5, 6 and 7) is one of the most detailed teachings of Jesus Christ recorded in the New Testament. In this vital sermon, Jesus Christ laid out the central facets of the way of life He taught His followers. One of the central themes of the Sermon on the Mount is Christ's expectation that His followers be characterized by peace—not violence or war. When it comes to the matter of Christianity, peace, and peacemaking, we encounter several perplexing problems.

Roberts (2016) asserts that the peace of Christ's peace is exclusively in terms of personal peace with God and the inner peace that follows from this divine relationship.

Also, the outset of this series on Seeking the Peace of Christ that a Christian passionately believe that everyone can have personal peace with God through Christ. Another result of this peace is deep, inner tranquility and a sense of well-being, the peace of God “which surpasses all understanding” (Phil 4:7).

Conclusion

In summary, it is clear from the above exposition that there is no one eternally divined way of resolving a conflict. Each conflict is unique in its own sense and calls for a peculiar solution after careful review of its cause(s), actors involved and their willingness to work for an amicable solution of the contentious issues. The unending conflict and crises in Nigeria is a major test on our nascent democratic experiment as all efforts to restore peace in the area have proved abortive. For some, it would appear that our brand of democracy has imbued in the people the culture of impunity while for others; it is political differences and intolerance that has fueled some of the violence that has erupted in Nigeria. It is the position of this paper that government have not done enough to salvage the situation in southern Kaduna because the primary role of government is to safe guard lives and properties of its citizens but where bandits, terrorist are allowed to operate freely without fear or regard on human lives is uncall for. Emulating Christ and his teachings is a sure way to curbing the menace in Southern Kaduna that is not to say the peace of Christ has encouraged careless living, laziness and so forth.

Recommendations

From the from the foregoing, the study recommends the following as ways to curbing religious violence and terrorism in southern Kaduna:

- a) Ranching is viewed as a more acceptable practice of livestock farming that can help cope the ethno-religious violence in Southern Kaduna to void the farmers-headers conflict that has gone on for years and has led to deaths and destruction of property.
- b) Meaningful activities such as dramatization, miming, poetry, singing, projects. According to Adejobi (2009), “the more children are exposed to reading materials that promote images of other people's culture, religion, uniqueness, social identity, among others, the less likely they are to find faults with one another and the more they are able to live among and work together for the benefit of mankind and for the good of the society”. The church leaders should re-orientate the members of the society towards peace and tolerance rather than towards violence. Adams (2000) affirms that “church leaders should liaise with curriculum planners, to ensure that the tenets of promoting peaceful co-existence such as kindness, loyalty, honesty, love, optimism, compassion, etc. are included in reading comprehension passages of the English language curriculum.
- c) The non-governmental organizations (NGO“s) should redouble their efforts as facilitator of dialogues and mediators of conflicts between conflicting parties. In addition, they should “setup their advocacy by sensitizing and conscientizing the people about their rights and the rights of others especially on peaceful co-existence, civic and religious rights”, among others (E nukora, 2005).
- d) Every politician has a religion as such religious leaders are responsible to telling politicians and teach them the importance of good governance and encourage them to avoid discrimination and marginalization of the people when dealing with developmental projects and religious matters in the country (Salamu, 2010). Politicians should not mingle region with politics.
- e) Church leaders should preach and promote ethno-religious tolerance and accommodation of opposing views as part of deepening peaceful co-existence and harmony in the country. In Nigeria, “intolerance of opposing views by adherents of the major religions has heated the polity and caused tension”. (Salamu, 2010).
- f) Church leaders should monitor and influence Christian politicians to sponsor bills of peaceful co-existence.
- g) Inter-faith training of the youths should be encouraged by the religious leaders so as to enlighten them about the faith of others.
- h) Government should ensure the protection of religious freedom of the citizens.

This is necessary as one observes that the constitutional provisions for freedom of worship, religious expression and obligation as entrenched in section 38(1) and (2) of the 1999 constitution of the federal republic of Nigeria are weak. There is need to promote a human rights based approach to the protection of religious freedom in Nigeria (US Department of States Report, 2014). Most of the tensions and conflicts between Christians and Muslims in Nigeria is because of the flagrant abuse of the fundamental individual and group rights in the country.

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PERCEPTION OF TEACHERS AND INSTRUCTORS ON THE APPLICABLE COMPETENCY NEEDS OF STUDENTS IN CABINET MAKING REQUIRED FOR IMPROVED PRACTICAL SKILLS IN TECHNICAL COLLEGES IN KADUNA STATE, NIGERIA

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Abstract

The aim of the study was to establish the perceptions of Cabinet Making facilitators or trainers who essentially are Teachers and Instructors on the competency needs required for the improvement of students practical skills acquisition in Technical Colleges in Kaduna State. Three research questions and three hypotheses were formulated to guide the study which and was tested at 0.005 level of significant. The study applied the descriptive survey design to postulate the competency needs and task expected into cluster of three broad groups of Planning and Execution stage (PLES), the project Assembling and Finishing Application stage (PAFAS) and the Maintenance of Woodworking Tools and Equipment Stage (MTES). Sixty Seven (67) competency needs generated were all accepted by both Teachers and Instructors as required for the improvement of Cabinet Making students practical skills acquisition in Technical Colleges in Kaduna State. The finding indicate that there was no significant difference in the mean ratings of both groups of respondents on their perceptions regarding the competency needs required for improved practical skills of students offering Cabinet Making. It was concluded based on findings that students' practical skills in cabinet Making can be improved by increasing the periods for the practical content of the curriculum which will further expose students to the much needed competencies and skills. This in the long run will ensure the attainment of the goals of Technical Education thereby enhancing the economic stability of Nigeria. Furthermore, it was posited that all the identified competences needs and skills highlighted in the study must be integrated to form the most essential practical training component of Cabinet Making. It was also recommended that adequate budgeting and funding for competency and skill based TVET programmes such as Cabinet Making must be provided by government if the existing gap must be filled to ensured quality and standard of training.

Keywords: Cabinet Making, Competency needs and Practical skills

Introduction

Developing the human capital resources of a nation has been seen as the engine for growth in all spheres of national development of any country particularly in the industrial sector which is the point for the economic transformation of the society. And this can only be achieved through a deliberate strategy, emphasizing entrepreneurship skills development in Technical, Vocational Education and Training (TVET). It is evidently clear that TVET has the capacity to sufficiently equip the idle and unemployed youths with saleable skills required for effective participation as entrepreneurs, leading to self reliance and self sustainability in the labour market. TVET therefore is geared toward the impartation of basic practical and functional lifelong skills.

Technical Education is described by the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2022) and the International Labour Organization (ILO, 2022) as a means of preparing for occupational fields for effective participation in the world of work; an aspect of lifelong learning and preparation for responsible citizenship; an instrument for promoting environmentally sound, sustainable development and method of facilitating poverty alleviation. The goals of Technical Education according to Onwuegbuna as cited in Lawal (2014) is the transmission of ideas, skills, knowledge and values of work and what an individual can do with his or her life. Therefore, Technical Education enables an individual to acquire ideas and skills for self reliance.

Competency is described as the capacity to apply or use the set of related knowledge, skills and abilities required or needed to successfully perform 'critical work functions' or tasks in a defined work setting. Competences often serve as the basis for skill standards that specify the level of knowledge, skills, and abilities required or needed to succeed in the workplace as well as a potential measurement criteria for assessing competency attainment. Competence is a measure of both proven skills and proven knowledge. Similarly, Abdullahi (2010) described competency as the capability of accomplishing a job with precision of certainty, practical knowledge in combination with ability, cleverness and expertness. Trades in Technical Colleges are grouped into four areas indicating their relationship. The four areas or major groupings are: Engineering Trades, Construction Trades, Miscellaneous trades and Business studies trade (NABTEB, 2014, Oranu, 2001). The construction trades were further subdivided into woodworking trades which includes: Carpentry/Joinery, Furniture Making or Cabinet making, Upholstery making and Machine Woodworking. The critical need for students of Cabinet Making to acquire the relevant competencies and skills underscores the basic essence why the new curriculum was designed to bridge the existing gap between theories and practical as against the old curriculum that

places more emphasis on theory at the detriment of practical skill acquisition (Aina, 2000). In summary, skills simply refer as the capacity of accomplishing something with precision and certainty. It also refers to the ability to do something well.

The main objective of Technical Colleges therefore is to provide students with the required knowledge and skills that will enable them to be employable, self reliant or proceed for higher education. However, Sara (2001) posited that more than 60% of the staff teaching Cabinet Making cannot perform the skills or provide technical services that they are expected to teach despite their qualifications. Sara further buttressed that this scenario is due to incompetency from their respective institutions of higher learning. Similarly, Ulifun as cited in Uyanga (2005, p. 4) lamented that the skill content of our current technical facilitators or technical teachers education is insufficient. Furthermore, it was concluded that the trainers tend to pay more attention to methods (pedagogy) than to matter (skill or knowledge) which is why our current technical teachers know more methods than skills they are supposed to impart. The competency expected of Cabinet Making trade teachers to possess and pass to students includes: Basic design process, wood preparation and joint making skills, wood project assembling skills, wood finishing application skills, maintenance of woodworking tools and equipment skills

It is expected that the facilitators of Cabinet Making and are the teachers and Instructors in technical Colleges should possess the necessary competencies in Cabinet Making so as to improve students' practical skill.

Statement of the Problem

There is an apparent failure of facilitators or trainers (technical teachers and instructors) in technical colleges to impart the requisite and necessary skills to students of Cabinet Making. This has led to a huge public outcry about the quality of graduates produced in Technical Colleges and Cabinet Making in particular; there is an obvious skills and competency gap in the areas of design process, wood preparation and joint making skills as well as wood project assembly, wood finishing and maintenance of woodworking tools and equipments. The general problems of production of unskilled graduates has led to mass unemployment, low productivity, poor quality product, high cost of production or services and poor economy of the nation in general. According to Enemali as cited in Yerima (2019) posited that it is the inability of Technical and Vocational education and training program to adequately respond to the needs of students for employable skills that has resulted in the production of a pool of inadequately prepared indigenous manpower for effective participation in the Economic, Social and Political life of Nigeria.

Aim of the Study:

The aim of this study was to seek for the perceptions of facilitators or trainers (teachers and instructors) in technical colleges on the competency needs of students in Cabinet Making required for improving students' practical skills in technical colleges in Kaduna State.

The specific objective of the study is to:

- I. Determine the perceptions of Cabinet Making facilitators or trainers who essentially are teachers and instructors on the applicable competency needs required and necessary for improving students' practical skills in technical colleges in Kaduna State with regards to the basic design process, wood preparation and joint making skills.
- II. Determine the perceptions of Cabinet Making facilitators or trainers who essentially are teachers and instructors on the applicable competency needs required and necessary for improving students' practical skills in technical colleges in Kaduna State with regards to wood project assembling and wood finishing application skills.
- III. Determine the perceptions of Cabinet Making facilitators or trainers who essentially are teachers and instructors on the applicable competency needs required and necessary for improving students' practical skills in technical colleges in Kaduna State with regards to the maintenance of woodworking tools and equipment.

Research Questions

The following research questions are formulated for the study;

- I. What are the perceptions of cabinet making teachers and instructors on the applicable competency needs required with regards to the basic design process, wood preparation and joint making skills which are necessary for improving students' practical skills in technical colleges in Kaduna State?
- II. What are the perceptions of cabinet making teachers and instructors on the applicable competency needs required with regards to wood project assembly and wood finishing application skills which are necessary for improving students' practical skills in technical colleges in Kaduna State?
- III. What are the perceptions of cabinet making teachers and instructors on the applicable competency needs required with regards to the maintenance of woodworking tools and equipment skills which are necessary for improving students' practical skills in technical colleges in Kaduna State?

Research Hypotheses

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

- HO1:** There is no significant difference in the mean rating of responses on the perceptions of cabinet making teachers and instructors on the applicable competency needs required in basic design process, wood preparation and making of joints which are necessary for improving students' practical skills in technical colleges in Kaduna State.
- HO2:** There is no significant difference in the mean rating of responses on the perceptions of cabinet making teachers and instructors on the applicable competency needs required in wood project assembling and finishing application which are necessary for improving students' practical skills in technical colleges in Kaduna State.
- HO3:** There is no significant difference in the mean rating of responses on the perceptions of cabinet making teachers and instructors on the applicable competency needs required in the maintenance of woodworking tools and equipment which are necessary for improving students' practical skills in technical colleges in Kaduna State.

Methodology

The Descriptive Survey Design was used for the study. The study was carried out in all the Science and Technical Colleges in Kaduna state. The population of the study comprised 20 teachers and 15 instructors of Woodwork trade in all Five (5) Science and Technical Colleges in Kaduna State; they include GSTC Malali, GSTC Soba, GSTC Kajuru, GSTC Abet, and GSTC Fadan Chawai. The purposive sampling procedure, a form of non- probability sampling technique was used. The instrument for data collection contained 48 identified competency needs and practical task expected for effective participation in cabinet making construction process. The 48 items were clustered around competency needs and the practical tasks expected to be imparted and performed by the students during basic design process, wood preparation and joint making skills which for convenience the researcher refers to as Project Planning and Execution Stage (PLES), the Project Assembly and Finishing Application Stage (PAFAS) and the Maintenance of Woodworking Tools and Equipment Stage (MTES). All the items were identified and generated from literature and modified; this led the researchers to hypothesize that the competency needs and practical tasks expected could be clustered into three broad groups of Planning Stage, the Process of Project Assembly and Finishing Application Stage as well as the Maintenance of Woodworking Tools and Equipment Stage. The instrument for data collection contained 32 critical items out of an initial 67 items that were identified to be relevant competency needs that should be exhibited during the project planning and

execution stage (PLES). 24 items were identified also to be relevant competency needs that should be exhibited during the wood project assembling and finishing application stage (PAFAS) while 11 competency needs were also identified as appropriate for use in the Maintenance of woodworking tools and equipment stage (MTES).

The instrument for data collection was face validated by four experts in technical and vocational education from the School of Technology Education, Abubakar Tafawa Balewa University, Bauchi and Kaduna Polytechnic. A preliminary study was conducted with sample size 15 respondents to determine the suitability of the instrument for data collection and to establish the reliability of the instrument. The data generated by the instrument were computed to determine the reliability of the instrument using the Cronbach Alfa (α) test. A standardized reliability coefficient of $\alpha=0.95$ was obtained. Specifically, the reliability coefficients of the various sections (A, B, C) of the instrument are 0.81, 0.82 and 0.83 respectively. The researchers and the research assistants administered and retrieved the instruments from the various trainers (teachers and instructors) that were involved in the study. This was done to ensure uniformity of standards in the supervision of the procedure of administration and retrieval of the instruments; it was also to ensure that the objective of the study was not disclosed to the respondent. A total of 35 questionnaires were administered with a return rate of 86.8% recorded. Data collected were analyzed using Means and Standard Deviation as well as percentages to answer each of the research questions. In taking decision for the research question, any item with a mean of 3.50 was considered as agreed; while any item with the mean of less than 3.50 were considered as disagreed.

Results and Discussion

Research Question 1

What are the perceptions of cabinet making trainers (teachers and instructors) on the applicable competency needs required which are necessary for improving students' practical skills in technical colleges in Kaduna State with regards to the basic design process, wood preparation and joint making skills?

Table 1: Contains items and data to answer research question 1 Section A: Planning and Execution Stage (PLES)

Item Statement	X1	SD1	X2	SD2	XG	Remarks
1. Ability to interpret drawings to correct	4.29	2.04	4.32	2.10	4.45	HN
2. Ability to sketch parts to correct proportions	4.65	2.06	4.22	2.05	4.61	VHN
3. Ability to produce working drawings to correct scale	4.37	2.05	4.31	2.06	4.30	HN
4. Ability to show dimensions of working drawings clearly	4.40	2.05	4.51	2.05	4.40	HN
5. Ability to produce and present working drawings in an orderly sequence	4.22	2.04	4.12	2.05	4.31	HN
6. Ability to present designs that are functional, original and workable	4.21	2.04	4.08	2.06	4.32	HN
7. Ability to produce designs that are feasible with respect to cost	4.30	2.06	3.92	2.03	4.36	HN
8. Ability to produce designs that are feasible with respect to availability of material	4.21	2.05	4.20	2.03	4.52	VHN
9. Ability to produce designs feasible with respect to availability of tools and facilities	4.45	2.09	4.12	2.0	4.23	HN
10. Ability to produce designs that are feasible with respect to time	4.31	2.07	3.83	2.0	4.31	HN
11. Ability to produce cutting - list that reflects all needed materials and supplies	4.22	2.08	4.24	2.0	4.23	HN
12. Ability to selected materials that are appropriate for the project	4.41	2.07	4.27	2.0	4.43	HN
13. Ability to prepared a work plan for constructing the project	4.51	2.05	4.31	2.10	4.42	HN
14. Ability to produce a work plan that is orderly	4.33	2.04	4.10	2.08	4.21	HN
15. Ability to produce pieces cut to the required dimensions	4.51	2.03	4.27	2.08	4.45	HN
16. The ability to follow the correct steps and procedures for project construction	4.12	2.03	4.32	2.07	4.67	VHN
17. Ability to minimized wastage of materials	4.61	2.01	4.10	2.06	4.76	VHN
18. Ability to follow the correct procedures for performing specific operations	4.21	2.04	4.36	2.04	4.43	HN
19. Ability to use necessary templates, jigs or fixtures	4.31	2.02	3.61	2.04	4.21	HN
20. Ability to displayed good workmanship in performing operations	4.23	2.06	4.19	2.05	4.33	HN
21. Ability to select tools correctly in carrying out operations	4.41	2.04	4.10	2.05	4.32	HN
22. Ability to cut appropriate joints for the construction of the project	4.35	2.07	4.12	2.04	4.23	HN
23. Ability to avoid split or cracks in the wood	4.26	2.06	4.02	2.02	4.42	HN
24. Ability to work independently with little or no assistance	4.37	2.04	3.95	2.01	4.44	HN
25. Ability to work and deliver project within time	4.29	2.05	4.22	2.02	4.52	VHN
26. Ability to use materials to the best advantage	4.37	2.07	4.15	2.02	4.35	HN
27. Ability to properly set up project for assembly	4.36	2.06	4.44	2.03	4.41	HN
28. Ability to properly cramped project squarely	4.28	2.09	3.92	2.07	4.21	HN
29. Ability to properly wiped away excess glue before setting	4.41	2.03	3.64	2.06	4.23	HN
30. Ability to prevent cramp marks appearing on the surface of the project	4.39	2.02	3.90	2.04	4.44	HN
31. Ability to properly filled Joints after cramping	4.28	2.02	3.47	2.04	4.25	HN
32. Ability to ensure that project assembled reflect desired shape	4.44	2.01	4.01	2.06	4.52	HN
Grand Mean	4.54	2.10	4.33	2.08	4.46	HN

Source: Field Trip (2022)

The analysis in table 1 above shows that mean scores ranged from 4.21 to 4.76 with a grand mean score of 4.46 indicating the perceptions of Cabinet Making trainers (X1 and X2) that the applicable competency needs are highly needed and therefore

acceptable as applicable competency needs required for the Planning and Execution stage of Cabinet Making projects.

Research Question 2:

What are the perceptions of cabinet making teachers and instructors on the applicable competency needs required which are necessary for improving students' practical skills in technical colleges in Kaduna State with regards to wood project assembly and wood finishing application skills?

Table 2: Contain items and data to answer research question 2.

Section B: Project Assembly and Finishing Application Stage (PAFAS)

Item	Statement	X1	S.D1	X2	S.D2	XG	Remarks
1	Interpret working drawing as specified in initial design	4.22	2.05	4.02	2.10	4.40	HN
2	Correct use of cramps/ clamps during assembling cabinet project	4.25	2.04	4.21	2.05	4.34	HN
3	Correct use of scrap blocks during assembling cabinet project	4.20	2.10	4.23	2.05	4.30	HN
4	Trial assembling of large cabinet project	4.03	2.02	4.09	2.04	4.31	HN
5	Applying glue to joints before assembling	4.27	2.01	4.21	2.01	4.53	VHN
6	Removal of excess glue from joints after assembling cabinet project	4.17	2.03	4.32	2.02	4.40	HN
7	Test for on the square of the assembled cabinet project	4.45	2.02	4.14	2.04	4.29	HN
8	Removal of cramps/ clamps after assembling	3.90	2.01	4.09	2.07	4.30	HN
9	Ability to produce a project that is strong and solid	4.42	2.06	4.28	2.07	4.27	HN
10	Ability to construct Joints properly made and properly fitted	4.32	2.07	4.73	2.04	4.34	HN
11	Unity or Harmony of finished project is perfect and appealing	4.33	2.04	4.21	2.03	4.37	HN
12	Ability to perform properly the treatment of Edges/corners (Chamfer)	3.56	2.03	3.98	2.02	4.35	HN
13	Ability to cut angles and curves specified in working drawing	4.98	2.02	4.43	2.05	4.16	HN
14	Ability to Correctly fixed fittings (Locks, hinges and handles)	4.40	2.05	4.20	2.10	4.25	HN
15	Ability to select suitable materials for finishing project	4.09	2.04	4.12	2.03	4.36	HN
16	Ability to execute project timely and safely	4.21	2.04	4.31	2.03	4.62	HN
17	Ability to properly sand before the application of finish	4.31	2.07	4.42	2.04	4.45	HN
18	Ability to apply finishing materials efficiently to reflect desired surface	4.24	2.10	4.34	2.06	4.35	HN
19	Ability to construct a project with final appearance reflecting preliminary sketches	4.32	2.06	4.41	2.01	4.41	HN
20	Ability to produce a project with size same as dimensions of working drawing	4.44	2.08	4.24	2.02	4.46	HN
21	Ability to produce a project fit to serve the purpose for which it was made	4.54	2.05	4.57	2.05	4.51	VHN
22	Ability to produce a project good in appearance, balanced and perfect shape	4.54	2.09	4.54	2.06	4.53	VHN
23	Ability to produce parts of final project proportional, within acceptable tolerance.	4.53	2.08	4.67	2.10	4.55	VHN
24	Ability to properly sealed with fillers splits or cracks in wood	4.45	2.0	4.34	2.04	4.39	HN
Grand Mean		4.58	2.18	4.31	2.08	4.52	VHN

Source: Field Trip (2022)

The data presented in table 2 above indicates that mean scores ranged from 4.16 to 4.55 with a grand mean score of 4.52 indicating the perceptions of trainers on the applicable competency needs are very highly needed and therefore acceptable as applicable competency needs required for the Project Assembling and finishing Application of Cabinet Making projects.

Research Question 3:

What are the perceptions of cabinet making teachers and instructors on the competency needs required with regards to the maintenance of woodworking tools and equipment skills which are necessary for improving students' practical skills in technical colleges in Kaduna State?

Table 3: Contain items and data to answer research questions 3.**Section C: Maintenance of woodworking Tools and Equipment Stage (MWTES)**

S/N	Item Statement	X1	SD1	X2	SD2	XG	Remarks
1.	Ability to sharpen various hand saws teeth	4.43	2.10	4.40	2.09	4.31	HN
2.	Ability to sharpen various hand plane cutters	4.41	2.09	4.30	2.07	4.33	HN
3.	Ability to carry -out toping and setting of saws	4.45	2.13	4.30	2.07	4.26	HN
4.	Ability to repair broken handles of hand tools	4.51	2.11	4.50	2.10	4.50	VHN
5.	Ability to repair worn out hand tools	4.52	2.11	4.49	2.11	4.50	VHN
6.	Ability to carry out grinding operation	4.40	2.09	4.39	2.09	4.39	HN
7.	Ability to carry out sharpening of plane cutters	4.46	2.08	4.40	2.07	4.43	HN
8.	Ability to carry out sharpening of chisels	4.41	2.09	4.42	2.10	4.40	HN
9.	Ability to setting the teeth of saw	4.23	2.07	4.32	2.07	4.26	HN
10.	Ability to grind carving gouges	4.46	2.07	4.40	2.06	4.23	HN
11.	Ability to sharpen scribing gouges	4.23	2.06	4.37	2.08	4.30	HN
Grand Mean		4.48	2.09	4.42	2.08	4.45	HN

Source: Field Trip (2022)

Data presented in table 2 above indicates that mean scores ranged from 4.23 to 4.50 with a grand mean score of 4.45 indicating that the applicable competency needs are highly needed and therefore acceptable as applicable competency needs required for the Project Assembling and finishing Application of Cabinet Making projects.

The findings of this study were discussed based on the research questions and objectives of the study in line with the data presented:

Table 1: The study identified and highlighted relevant applicable competency needs required by cabinet making students of Science and Technical Colleges to improve their practical skills. The 32 applicable competency needs were highlighted and varying perceptions were expressed by the respondent which indicates that all the items were highly needed to improve the practical skills of students of Cabinet making in technical colleges in Kaduna State.

Table 2 shows that respondents considered the 27 items highlighted as applicable competency needs necessary for improvement of students practical skills in technical colleges in Kaduna State. The applicable competency needs listed in items 5,21,22, and 23 were rated above 4.50 indicating Very Highly Needed, in addition, the Grand Mean Total for Project Assembling and finishing Application stage was 4.52 indicating

Very Highly Needed.

Data in table 3 shows that 11 items that were highlighted and considered by cabinet making teachers and instructors as applicable competency needs necessary for improving students practical skills in technical colleges in Kaduna State. The Grand Mean rating for the Maintenance of woodworking tools and equipment stage was 4.45 indicating highly needed. The applicable competency needs listed in items 4 and 5 were rated above 4.50 indicating Very Highly Needed.

Test of Hypotheses

Three hypotheses were formulated for the study and the data for testing them and the findings were presented in tables 4-6.

HO1: There is no significant difference in the mean rating of responses on the perceptions of cabinet making teachers and instructors on the applicable competency needs with regards to basic design process, wood preparation and making of joints skills which are necessary for improving students' practical skills in technical colleges on Kaduna State.

Table 4: The t-test Analysis of Mean Rating of respondents on the perceptions of Cabinet Making Teachers (CMT) and Cabinet Making Instructors (CMI) on the applicable competency needs which are necessary for improving students' practical skills in Basic Design Process, wood preparation and making of joints stage is presented in table 4:

	Mean	SD	n	Df	t-cal	t-crit	Decision
CMT	4.30	2.072	20				
				96	0.17	1.66	NS
CMI	4.39	2.094	15				

Source: Field Trip (2022)

Result in table 4 shows that the value of t- test calculated is 0.17 while t-test critical is 1.66. This implies that t- calculated is less than t-critical.; therefore, the null hypothesis is accepted. This means that there is no significant difference in the Mean ratings of respondents on the perceptions of Cabinet Making Teachers and Cabinet Making Instructors on the applicable competency needs with regards to basic process and wood preparation which are necessary for improving students' practical skills in technical colleges in Kaduna State.

Ho2: There is no significant difference in the mean rating of responses on the perceptions of cabinet making teachers and instructors on the competency needs with regards to wood project assembling and finishing application necessary for improving students' practical skills in technical colleges on Kaduna State.

Table 5: The t-test Analysis of Mean Rating of the perceptions of Cabinet Making Teachers (CMT) and Cabinet Making Instructors (CMI) on the applicable competency needs which are necessary for improving students' practical skills in Wood Project Assembling and Finishing Application stage is presented in table 5:

Table 5:	Mean	SD	n	Df	t-cal	t-crit
CMT	4.54	2.17	20			
				96	0.48	1.66
CMI	4.29	2.07	15			

Source: Field Trip (2022)

Result in table 5 shows that the value of t- test calculated is 0.48 while t-test critical is 1.66. This implies that t- calculated is less than t-critical; therefore, the null hypothesis is accepted. This implies that there is no significant difference in the Mean ratings of respondents on the perceptions of Cabinet Making Teachers and Cabinet Making Instructors on the applicable competency needs in Wood project Assembling and Finishing Application which are necessary for improving students' practical skills in technical colleges in Kaduna State.

Ho3: There is no significant difference in the mean rating of responses on the perceptions of cabinet making teachers and instructors on the applicable competency needs with regards to the maintenance of woodworking tools and equipment which are necessary for improving students' practical skills in technical colleges on Kaduna State.

Table 6: The t-test Analysis of Mean Rating of respondents on the perceptions of Cabinet Making Teachers (CMT) and Cabinet Making Instructors (CMI) on the applicable competency needs necessary for improving students' practical skills in Maintenance of Woodworking Tools and Equipment stage is presented in table 6:

	Mean	SD	n	Df	t-cal	t-crit	Decision
CMT	4.58	2.14	20	96	-0.88	1.66	NS
CMI	4.31	2.07	15				

Source: Field Trip (2022)

Key for table 4-6:

CMT – Cabinet Making Teachers CMI – Cabinet Making Instructors SD – Standard Deviation

DF – Degree of Freedom

N – Number of Respondent NS – Not Significant

Result in table 6 shows that the value of t- test calculated is -0.88 while t-test critical is 1.66. This implies that t- calculated is less than t-critical; therefore, the null hypothesis is accepted. This means that there is no significant difference in the Mean ratings of respondents on the perceptions of Cabinet Making Teachers and Cabinet Making Instructors with regards to the applicable competency needs on basic process and wood preparation which are necessary for improving students' practical skills in technical colleges in Kaduna State.

Conclusion

For Cabinet Making students to possess the much needed applicable competency needs and skills which are highly essential in building their capacity to engage in productive ventures in Cabinet Making after schooling there has to be a deliberate

policy formulation and implementation that is geared towards ensuring adequate provision of both human and material resources in the Technical Colleges. Government and the respective technical college managements should as a matter of priority treat these competency needs as critical components that must be incorporated as key aspects of the assessment procedures of practical projects of Cabinet Making.

Based on the findings of this study, it was concluded that cabinet making students must be exposed to competency needs and skills by increasing the practical lesson periods to ensure the effective implementation of the practical content of the curriculum. This strategy will engender and position technical colleges on the sustainable path of addressing the issues of unemployment and low productivity which are critical elements necessary for the enhancement of the Economic prosperity and stability of Nigeria. These competencies if imparted on students have the capacity to equip and

prepare them to fully participate in the cabinet making and the woodworking enterprise which will enhance the economic stability of Nigeria.

Recommendations

Based on the findings of this study, the following are recommended:

1. A comprehensive reviewed of the National curriculum on woodworking trade courses in general and cabinet making in particular should be undertaken to incorporate all the competency needs and skills highlighted as key in the overall improvement of students' practical skill acquisition in Cabinet Making by the educational policy makers.
2. Adequate budgeting and funding for TVET should be provided by the respective government if standards and quality can ever be assured and guaranteed in Cabinet Making and other skill and competency based educational programmes.
3. The reinvigoration and retooling of Technical and Vocational Colleges on skill based training program for retraining the graduates should be embarked. This is to ensure that the teaming unskilled youths are given a lifeline by being trained and equipped with lifelong skills and competencies to engage in fruitful endeavors.

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QUALITY EDUCATION AS A PANACEA FOR ACHIEVING NATIONAL SECURITY

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Abstract

This paper discusses the place of education in the development of any nation and how it can be used to achieve national security interalia through qualitative education for easy comprehension. The paper is broken into six (6) distinct sections; It starts with conceptualization of key words, the role of education in checkmating insecurity, causes of insecurity in Nigeria, effects of insecurity in Nigeria, efforts by government to address insecurity issues and, conclusion with recommendation. The paper was able to establish the fact that quality education can reduce incidences of insecurity, even if not eradicated totally. This paper revealed that education is a major weapon for progressive change. The paper concludes that sound quality education anchored on good educational policies and implementation can reduce, to a large extent; insecurity in Nigeria. It was recommended that a state of emergency should be declared in the educational sector to reduce illiteracy and the vulnerability of the youth, among others.

Key Words: Quality Education, Panacea, National Security.

Introduction

Education is very important to the development of any society. In fact, according to Babalola (2002) education is a major weapon of social change and should not be neglected by any human society that craves for development in all ramifications of the word. The Nigerian government recognizes the importance of education to the overall growth of the nation and “as instrument for effecting national development” to the extent that the Nigeria's philosophy of education is based on the following set of beliefs:

- a. Education is an instrument for national development and social change
- b. Education is vital for the promotion of a progressive and united Nigeria
- c. Education maximizes the creative potentials and skills of the individual for self-fulfillment and general development of the society.
- d. Education is compulsory and a right of every Nigerian irrespective of gender, social status, religion, colour, ethnic background and any peculiar individual challenges: and
- e. Education is to be qualitative, comprehensive, functional and relevant to the needs of the society (FGN, 2004).

Scholars, over time, have added an adjective, “quality” in a bid to conceptualize the term education. They opined that for education to achieve its stated goals, it must be qualitative. Hence, Maduewesi (2002) opined that quality education demands that all levels and aspects of the educational system, including but not exclusive to, vocational, practical and theoretical education, should produce results that are of much benefit to the nation. It involves factors such as well articulated national goals, well planned curriculum, assessment procedure and instruments, capacity to examine data, how to utilize assessment results and quality of students enrolled. To him, the challenge of quality education is lack of good parenting and a belief among many of the youths and adults in our society that education and hard work to achieve it are not critical components in life.

UNICEF (2000), clarifying what quality education should be, emphasizes that this education type should incorporate:

- I. Learners who are healthy, well-nourished and ready to participate and learn, and who are supported in learning by their families and communities
- ii. Environments that are healthy, safe, protective and gender sensitive, and that provide adequate resources and facilities
- iii. Content that is reflected in relevant curricular and material for the acquisition of basic skills, especially in the areas of literacy, numeric skills for life and knowledge of nutrition, HIV/AIDs prevention and peace.
- iv. Process through which trained teachers use child-centred teaching approaches in well-managed classrooms and schools and skillful assessment to facilitate learning and reduce disparities
- v. Outcome that encompasses knowledge, skills and attitudes, and are linked to national goals for education and positive participation in society.

UNESCO (2005), writing in the same vein, opined that quality education is expected to encourage the learners' creative and emotional development; support objective of peace, citizenship and security; promote quality; seek for past global and local cultural

values and transfer them to future generations. Omo-Ojuga (2007) and Ajegbesan (2010) observe that quality education addresses major domains which reflect diverse goals and audience including the promotion and improvements of basic education, re-orientation of existing educational policies and programmes at all levels to address national security and sustainable development, development of public awareness as well as provision of training and retraining, which should involve higher education.

Therefore, education must be holistic, encompassing qualitative and quantitative processes which must include “relevant curriculum, availability of adequate human and non-human resources, assessment of educational programmes and processes through proper supervision and evaluation of educational outcomes to ensure quality assurance, control and national security (Osakwe, 2013).

National Security

The term National Security became prominent in Nigerian society during the upheavals that followed the political imbroglio of 1966 which heralded the Nigerian civil war, beginning from 1967-1970. The word gained ascendancy and became a household parlance in our polity at the return to civil democracy in 1999, following the withdrawal of the military from the active politics and governance of the country. There is no gainsaying the fact that Nigeria is currently facing serious security challenges, that have put every citizen on the edge including those at the helm of affairs and even the security operatives saddled with the responsibility of securing lives and properties. Hardly can fellow countrymen and women sleep with their two eyes closed. Since the last four years, there has been a dramatic twist on the wave, dynamics and sophistication of insecurity in Nigeria. Insecurity that used to be one of the lowest concerns in the hierarchy of Nigeria's social problems has now assumed an alarming proportion. At time we thought that corruption and power failure have the crown of our problems, but insecurity in the country has now taken the centre stage (FinIntell, 2013).

Today in Nigeria, a lot of people have developed fear, apprehension and are jittery because of the level of insecurity. However, huge amount of money is always allocated to security by government for the purpose of addressing these threats of insecurity. A cursory glance at the Nigerian daily newspapers will convince one of the state of insecurity in the country. Youth restiveness, kidnapping, bombing, arson, militancy, insurgency inter alia, have become the order of the day (Ogheneakoke, 2014). National growth, economic development and human capital development have all been hampered by this social problem. Robert McNamara, a one-time president of the World Bank, once observed that no country can develop under an environment of insecurity. Peace and stability, to him, are necessary condition for growth and

development. As seen in Nigeria, Mordi (2013) noted that the nation's growth and stability have been truncated by the on-going mayhem and destruction of lives and property in different parts of the country by the menace of Boko- Haram in the North Eastern states, the militants and kidnappers in the south-South; banditry in Zamfara, Niger and Kaduna State of recent among others. Food production has been grossly affected and on the decline as farming and agricultural activities have been hampered, while oil exploration, exploitation and export have been negatively affected in the North and south-south, respectively (Omoroge, 2012).

In light of these, we shall be discussing how to achieve national security in Nigeria, in this paper, under the following sub- headings:

1. Conceptualization of key words
2. Causes of insecurity in Nigeria
3. Effects of insecurity in Nigeria
4. Role of education in checkmating insecurity
5. Previous efforts made by governments to address insecurity.
6. Conclusion and recommendations

Conceptual Clarification of Key Words National Security

We cannot define national security without, first of all, conceptualizing the word security. Wikipedia defined security as freedom from, or resilience against, potential harm (or other unwanted coercive change) caused by others. (<https://en.m.wikipedia.org>), Nmom (2013) described the term security as a total peaceful state of mind of an individual, the group, the state, the nation at a particular point in time and space. He reasoned that it may not be an absence of violence or some sort of physical assault or some disruptions but a relative peace that can guarantee quality life and social cohesion for survival of the individual group or nation. From the above two definitions, one can deduce that security is perceived in terms of protecting the generality of the people, and it is a collective responsibility of the government and the people. Hence, the notion of community policing has become a recurrent decimal in security parlance in Nigeria. According to Mezieobi (2012) the term security brings to mind issues that pertain, predominantly, to one or a combination of the following whenever it is discussed:

- a. The defense and protection of national integrity or Nigeria's sovereignty, territorial and political jurisdictions from external and internal interferences or intervention;
- b. Personal safety of members of political class who are in control of the helm of affairs of governance, in addition to safeguarding or protecting their office, hence the incredible allocation of funds for security services;
- c. The security agents or forces, civil defense corps protecting the lives and

properties of the mass of the defenseless citizenry against the menace of the men of the underworld;

- d. Forestalling or deterring possible internal attacks or crises and subjugating insurgency;
- e. Keeping the security agents on active security alert and readiness at all points in time;
- f. Checkmating impending or actual internal threats to state or national security or anti-social behaviours by those who are deliberately undermining or sabotaging government efforts;
- g. Checkmating social problems such as Boko-Haram saga and youth militancy, kidnapping/abduction banditory that may pose threat to state and national security and detract the political cadre in control of state affairs from active commitment to their functions; and;
- h. Making the environment free from insecurity in order to attract international investment. This is in line with Robert McNamara's earlier quoted assertion on the relationship between growth, national development and peace and security.

From the definitions above, security therefore can mean the state of being free from danger, risk or threat. It covers freedom from anxiety, fear, the safety of a state or organization against criminal activities and attacks like terrorism, theft or espionage (Ogheneakoke, 2014). The security interests of any nation therefore include safety of lives and properties, economic, physiological, mental well-being and the freedom to pursue the attainment of objectives without hindrance (Otoibhi, 2012).

In the opinion of Brown (2013), National security is the ability to preserve the nation's physical integrity and territory, to maintain its economic relations with the rest of the world on reasonable terms, to preserve its nature, institutions and governance from outside disruption, and to control its borders. Also, national security is a condition where our most cherished values and beliefs, our democratic way of life, our institutions of governance and our unity, welfare and well-being as a nation and people are permanently protected and continuously enhanced. It is the requirement to maintain the survival of the nation through the use of quality education, economic power, military and political power, diplomacy and power projection. It can be described as the aggregation of the security interest of the individuals, political entities, human associations and ethnic groups which make up the nation (Osakwe, 2013). Succinctly put, national security is the security of a nation state, including its citizens, economy, and institutions, which is regarded as a duty of government (<https://en.m.wikipedia.org>).

National security therefore refers to policy enacted by governments to ensure the

survival and safety of the nation-state, including but not limited to the exercise of diplomatic, economic and military power in both peace and war. In other words, it means the freedom from foreign domination which is the sine-qua-non for the sustenance of the state through the instrumentality of economic, diplomacy, power projection and political power.

Insecurity

The term insecurity can be conceptualized according to the discipline or subject of study. For instance, Nigerians talk of insecurity when describing a state or situation of declining safety of lives and properties, apprehension over increasing rate of terrorism, armed robbery, kidnappings, political upheavals, religious conflicts, assassinations, secret cults-related criminal acts, intra and inter-ethnic strife, hijacking, riots, demonstrations, etc. But for the purpose of this study, we will adopt the definition of Effom and Edinyang (2013) who defined insecurity as the state of being subjected to danger and injury. It is a feeling of un-usual nervousness that may be triggered by perceiving of oneself to be vulnerable.

Causes of Insecurity in Nigeria

Ogheneakoke (2014) identified a plethora of factors as causes of insecurity in Nigeria. These include, but not limited to, the following:

- i. Corruption
- ii. Marginalization
- iii. Social inequality
- iv. Ethnicity
- v. Poverty and greed
- vi. Loss of value system
- vii. Religious intolerance
- viii. Foreign infiltration – insurgency
- ix. Bad leadership
- x. Youth unemployment
- xi. Porosity of our borders
- xii. Falling standard of education
- xiii. Poor judiciary system
- xiv. Cultism and cult activities
- xv. High value for material things
- xvi. Manipulation of electoral processes by political parties
- xvii. Lack of trust on security agents
- xviii. Human right abuses
- ix. Injustice
- x. Lack of transparency

Cost and Effects of Insecurity in Nigeria

The socio-political and economic landscape in Nigeria has been blighted by the endemic twin evil of crime and violence. The abysmal failure of successive administrations in Nigeria to address challenges of poverty, unemployment and inequitable distribution of wealth among ethnic nationalities, ultimately resulted to anger, frustration, agitation and violent crimes against the Nigerian state by individuals and groups. Such crimes include militancy, kidnapping, bombing, armed robbery, destruction of government properties, among others. The activities of various militia groups consequently resulted in low income for government from oil revenue, undermining the gross domestic product growth rate, low participation of local and foreign investors in economic development and insecurity of lives and properties of the citizens (Finintell, 2013).

The Cost

The cost of life and material resources lost to insecurity in the country since the past few years is unquantifiable. According to Human Rights Watch, a security monitoring agency, between 2009 and 2012, about 2,000 lives had been lost to militia insurgency; within the first nine months in 2012, 815 people were killed in 275 suspected attacks, and more than 60 police stations were attacked in 10 northern states, excluding the bombed police headquarters in Abuja. Tens of dozens are still nursing various degrees of injuries. The data base of orphans and widows caused by the rampaging sects has grown vastly, swelling the numbers of internally displaced persons (IDPS).

Money from some international organizations and funds raised locally from governmental, nongovernmental agencies, charitable organizations and individuals that is supposed to be channelled to human capital development has been deployed for the rehabilitation of families of the casualties and the renovation of properties destroyed. Yearly, unspecified millions of naira is being paid as ransom for the release of victims of kidnappers: not forgetting the Central Bank of Nigeria's N100 million cash donation, N200million donation from the combined efforts of the opposition governors, and the \$50,000 (USD) from the Christian Association of Nigeria (CAN), America chapter, to reduce the suffering of the victims of regional militia.

The cost of insecurity in Nigeria could also be seen on the percentage of annual budget allocated to security agencies on yearly basis. Infrastructure and human capital development are almost foregone alternatives; hence capital expenditure is struggling from the rear. (See diagram 1 below)

The Weight of Insecurity on National Budget

S/N	Year	Budget (N'trn)	Allocation to Security	% on Budget
1	2018	₦9.12	₦1.305trn	6.35%
2	2019	₦8.92	₦1.76trn	8.91%
3	2020	₦10.8	₦1.78trn	10.4%
4	2021	₦13.58	₦1.97trn	11.0%
5	2022	₦17.13	₦2.41trn	15.0%

The Weight of Education on National Budget

S/N	Year	Budget (N'trn)	Allocation to Education	% on Budget
1	2018	₦9.12	₦651.23b	7.14%
2	2019	₦8.92	₦634.56b	7.12%
3	2020	₦10.8	₦607.66b	5.62%
4	2021	₦13.58	₦771.46b	5.68%
5	2022	₦17.13	₦705.28b	4.30%

The Effect

As Nigeria struggles with the army of unemployed youths of about 24%, companies in their numbers are closing down operations in Boko-Haram ravaged north and oil-rich south-south, and relocating to other African countries for loss of lives and properties. And the few remaining companies operate on skeletal bases. Construction workers and expatriates providing specialized services on various projects in these regions have fled for safety. This development has multiplied the number of unemployment youth roaming the street and has become an easy tool for violence. This scenario has not only deepened the existing unemployment rate but also paints a gloomy picture of poverty.

Education they say is the bedrock of social economic development Babalola (2007). The Islamic militants have serially attacked students and facilities in educational institutions in different northern states in the country (Chibok Girls and Burnin Yadin Boys Government Schools). Over time, a lot of schools have shut down their academic programmes. This has drastically impacted the teaming number of students seeking admission into academic institutions at all levels. For example, university of Maiduguri, one of the most affordable universities in Nigeria which is known for turning down admission of students because of quality and to avoid overcrowding of facility, now solicits for admission through different media outreach.

Also recently, a respondent survey shows that many students have vowed never to participate in the compulsory one year national youth service corps (NYSC) programme if posted to the northern part of the country. Those who were inadvertently posted to the north redeployed immediately after three weeks of mandatory camping.

This development therefore defeats the core mandate of setting up the Act of NYSC in 1973 (FinIntell, 2013).

Role of Education in Checking Insecurity

There is a significant relationship between national security and education. A cursory look at the personality of Boko-Haram Islamists and bandits in the northern region of Nigeria reveals high level or rate of illiteracy among them. It is in the light of this that the former Emir of Kano, HRM Lamido Sanusi, admonished the elites of the region to establish schools, instead of building mosques. Also, in a bid to help reduce the rate of illiteracy the past administration of Dr. Goodluck Jonathan established Nomadic education and Al-Majari schools in the northern region.

According to Nandi (2013), education helps in developing intelligent social actors with the ability to make rational decisions and act intelligently. It also helps to address issues of poverty, violent crimes and illiteracy. Through education, the moral personality of man is built up as it equips the learner with the skills of moral judgment that in turn guides his actions and behaviours. In other words, the right type of values such as honesty, respect for elders, integrity inter alia is inculcated into the young ones. Quality education also promotes the spirit of nationalism and patriotism among youths. Through education, it has been discovered that youths develop positive attitudes of togetherness, comradeship and cooperation towards the entire nation.

UNESCO (2008) stated that “No development can be possible without humans, and no humans can reach development without quality education”. It is in light of this, that Anadi (2008) opined that for a nation to be developed and secured, there must be a very considerable proportion of trained educated citizens in that nation not only to act as doctors, engineers, teachers, agriculturist, scientists, and the likes, but also to create a new class sufficiently large and hence, sufficiently strong to establish its own values of justice, security, selection on merit, flexibility, empiricism and efficiency. For this to be actualized, our education system (primary, secondary and tertiary levels) must be practical and functional. Therefore, quality education is the primary agents of national security and development for bringing the vision of society into reality. “For example, if the militants, Boko-Haram, armed robberies and kidnapers were properly nurtured with quality formal, informal and indigenous education from the grass root level, all these security threats/challenges such as terrorism, riots/civil unrest, demonstrations,

intolerance, cult-related criminal acts, religious intolerance, arm robbery, intra and inter-ethnic strife, drug trafficking, human trafficking, kidnapping, hijacks and many other vices threatening lives and properties would not have been in existence” (Osakwe, 2013).

Effort by Government to Check Insecurity

The inability of the security agencies to address the country's security challenges has raised some critical questions on the preparedness of Nigeria to attain desired political, social and economic heights in the year 2030. It further poses serious threats to the unity and corporate existence of Nigeria as a sovereign state (FinIntell, 2013).

Over the years, successive governments in Nigeria have adopted several measures aimed at addressing challenges of insecurity in the country, ranging from the carrots and sticks measures to the use of outright force and periodic critical evaluation of the performance of security agencies saddled with the responsibility of handling the situation. These security agencies include:

- I. The National Security Agency (NSA)
- ii. The National Intelligence Agency (NIA)
- iii. The State Security Service (SSS)
- iv. The Nigeria Police Force (NPF)
- v. The Nigeria Immigration Service (NIS)
- vi. The Nigeria Customs Service (NCS)
- vii. The National Drug Law Enforcement Agency (NDLEA)
- viii. The Nigeria Security and Civil Defence Corps (NSCDC)
- ix. The Nigeria Army – comprising of the Army, Air force and Navy

The role of Quality Education in Ensuring National Development/Security

Education is a milestone of every part of development. It provides all knowledge to do work with systematic way. It helps a nation in her economic, societal and personality development by providing large number of skills. Education creates awareness in the population that makes them self-reliant and self-dependent; it has the power to create stability and equality in different religion and people. According to the National Youth Development Policy 2001, the youths are the foundation of any society, their energies, inventiveness, character and orientation defines the pace of development and security of a nation. Through their creative talents and labour power, a nation makes giant strides in economic development and socio-political attainments. In their dreams and hopes a nation finds her motivation; on their energies she builds her vitality and purpose and because of their dreams and aspiration the future of a nation is assumed. The knowledge they acquire help to determine their degree of patriotism and contributions to national integration and progress. Between 2000 and 2004 about 30

percent of Nigerian youths between 10 and 24 were not enrolled in secondary school (population Reference Bureau, 2006) perhaps the prohibitive cost of acquiring education was responsible; the after effect of this situation is that thousands of young people roam the street in cities in Nigeria. Those who managed to finish have no opportunities for tertiary education having being denied the chance to reach their potential, they are disoriented and readily available for anti-social actions. Quality education which provides the learners with the knowledge, skills, values, attitudes, and competencies to contribute meaningfully to their environment can play a great role in changing a perverse mind from good to evil, from conflict to resolution of conflict oriented and from being war minded to peacemakers; it leads to the total transformation of an individual. Well educated population lives with silence and calm, they love one another and believe in social community. Education is the key to human development. Illiteracy and half baked literacy are two sides of a coin that breed stupid ignoramus. If a man is properly schooled, imparted with sound moral and academic knowledge he will hardly be swayed into joining gangs therefore parents, schools, government, religious organizations, the mass media, and the society have a big role to play in this regard.

Conclusion

Although the achievement of total or absolute security would be a mirage or to say the least an exercise in futility, as no country in the world or any known human society has achieved such an enviable feat. The contemporary security challenges in the country have not only raised critical questions bordering on the formulation, implementation and execution of Nigeria's educational policies cum philosophy, and internal security policies, but also the effectiveness of the security agents to perform their statutory responsibilities with patriotism.

Recommendations

On the basis of this, this paper recommends the under listed points/suggestions, as panacea for this seemingly intractable insecurity challenges in Nigeria:

- * The Federal Government (FG) should formulate and effectively implement policies and programmes capable of addressing the root causes of insecurity in Nigeria – such as high level of illiteracy, poverty, unemployment, environmental degradation, dearth of infrastructural facilities, uneven development, among others.
- * The Federal Government as a matter of urgency should see to the end of arolong ASUU strike and make education as its topmost priority through making more budgetary allocations to the education sector to strive.
- * There is a need for collective security arrangement by all levels of government in Nigeria – Federal, State and Local governments. The current arrangement

where security apparatuses are totally in control by the central/federal government needs to be looked into and redressed. This is where the issue of community policing comes into focus. This security configuration should produce a committee at village, community, local, state and federal levels with the responsibility of providing sensitive security information for security agencies at their areas of operation. This will ultimately assist in identifying criminals, their sponsors and hideouts in the country.

- * Lastly, the FG should reorganize the country's intelligence system and build a capable and more proactive security apparatus in Nigeria. This will add more value in checking incessant bombings, robbery, kidnapping and violent crimes/crises by hoodlums in the country.
- * For all these to be achieved, quality education for the masses is key.

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RADICALISM IN EAST AFRICAN THEATRE: A CRITICAL ANALYSIS OF NGUGI'S "THE TRIAL OF DEDAN KIMATHI" AND "I WILL MARRY WHEN I WANT"

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Abstract

This paper discusses the place of education in the development of any nation and how it can be used to achieve national security interalia through qualitative education for easy comprehension. The paper is broken into six (6) distinct sections; It starts with conceptualization of key words, the role of education in checkmating insecurity, causes of insecurity in Nigeria, effects of insecurity in Nigeria, efforts by government to address insecurity issues and, conclusion with recommendation. The paper was able to establish the fact that quality education can reduce incidences of insecurity, even if not eradicated totally. This paper revealed that education is a major weapon for progressive change. The paper concludes that sound quality education anchored on good educational policies and implementation can reduce, to a large extent; insecurity in Nigeria. It is recommended that a state of emergency should be declared in the educational sector to reduce illiteracy and the vulnerability of the youth, among others.

Key Words: Radicalism, East African Theatre, Trial of Dedan Kimathi,

Introduction

Ngugi was born on 5th January 1938 in Kamiriithu village of Limuru in Kiambu District in the white – highlands of Kenya. His father's name was Thiongo'o Wa Nduucu and his mother's name was Wanjiku Wa Ngugi. He is the fifth child of the third wife out of his father's four wives. His family was not a Christian family as it was a common practice during the colonial Kenya. Between 1947 and 1948, Ngugi's parents divorced and he had to stay with his mother together with his other brothers and sister.

Ngugi Wa Thiong'O went to C.M.S school in Kamaandura, Limuru, which was popularly called Rungai by the indigenous people of Kenya between 1947 and 1948. By 1955 he changed from Kamaandura school to Manguu Karinga school, also known as Kikuyu Independent school which was regarded by the Africans to offer "Stronger

and more correct education” A significant event in the life of Ngugi was the joining of Mau Mau by his brother Wallance Mwangi Wa Thiong'o and his mother's torture by the colonial administration as a result of his brother's participation in Mau Mau. This shaped and sharpened his politics.

Ngugi was also educated at Makerere University College (Then a Campus of London University), Kampala, Uganda, and the University of Leeds, Britain. The Kenya of his birth and youth was a British settler Colony (1895-1963). As an adolescent, he lived through the Mau Mau war of independence (1952-1962), the central historical episode in the making of modern Kenya and a major theme in his early works

Ngugi burst onto the literary scene in East Africa with the performance of his first major play, “The Black Hermit” at the National Theatre in Kampala, Uganda in 1962, as part of the celebration of Uganda's independence. In a highly productive literary period, Ngugi wrote additional eight short stories, two one act plays, two novels, and a regular column for the Sunday Nation under the title, “As I see it” In 1967, Ngugi became a lecturer in English literature at the University of Nairobi. He taught there until 1977 while in-between, he also served as fellow in creative writing at Makerere (1969-1970), and as Visiting Associate Professor of English and African Studies at North Western University (1970-1971). In his quest in championing the change of name from English department to simply Literature Department at Nairobi; which will reflect world literature with African and third world literature at the center, he wrote many essays. Some of which include *Homecoming* (1969) *Writers in Politics* (1981 and 1997); *Decolonizing the Mind* (1986); *Moving The Center* (1994); and *Penpoints Gunpoints and Dreams* (1998).

The year 1977 forced dramatic turns in Ngugi's life and career. His first novel in ten years, *Petals of Blood*, was published in July of that year. The novel painted a harsh and unsparing picture of life in neo-colonial Kenya. That same year Ngugi's controversial play, “Ngaahika Ndeenda” (I will Marry when I want) written with Ngugi Wa Mirri, was performed at Kammirithu Educational and Cultural Center, Limuru, in an open air theatre, with actors from the workers and peasants of the village. The play must have hit the government's nerves because Ngugi was arrested and imprisoned without charge at Kimiti Maximum Security Prison at the end of the year, December 31, 1977. It was at the prison that Ngugi made the decision to abandon English as his primary language of creative writing and committed himself to writing in Gikuyu, his mother tongue. After Amnesty international campaign secured his release a year later, December 1978 He could not practice his theater freely in Kenya due to harassments from the Moi dictatorial government. A plot to kill him made him go on exile first to Britain (1982-1989) and then US after (1989-2002). When he and his wife, Njeeri,

returned to Kenya in 2004 after twenty two years in exile, they were attacked by four hired gunmen and narrowly escaped with their lives.

Ngugi has continued to write prolifically, publishing in 2001, what some have described as his crowning achievement, *Wizard of the Crow*, an English translation of the Gikuyu language novel, *Murogi wa kagogo*. Ngugi's books have been translated into more than thirty languages. Ngugi Wa Thiong'o has been a Distinguished professor of English and comparative literature at the University of California, Irvine. He is a recipient of seven Honorary Doctorates, and a recipient of the 2001 Nonino International Prize for literature. He is also an honorary member of American Academy of letters.

Synopsis Of *Trials Of Dedan Kimathi*

The play opens in a courtroom where a judge is presiding over a case against Dedan Kimathi. He is being charged with treason for possessing a revolver gun without having a license for it. He is asked if he is guilty or not, but he remains silent. The play continues with a brief flashback of Black history, where the unpleasant and atrocious activities of slavery and colonialism are projected. A group of archivists come together and attempt a rescue of the situation, but it fails. Waitina, a white district officer barks orders at two black soldiers. He orders them to line up the villagers for inspection and questioning. He asks them if they are part of Kimathi's activist movement, and their response is negative but one of the villagers acts defiant and suspicious. The soldiers arrest him and take him along with them. As soon as they exit, we see Johnie, another soldier who meets a woman and questions her about what she is carrying. In her attempt to cover up, she pleads for mercy. Johnie seems pleased by her pleas and admires her beauty, he talks sweetly to the woman but she refuses all his advances, which gets him upset. His attempt to use force on the woman was halted when another group of soldiers are heard coming. He flees, while the woman hides. The soldiers pass on their way to the next village; the woman comes out of hiding and is very happy to have escaped from the soldiers. As she prepares to leave, a girl runs on stage being pursued by a boy. The boy overpowers the girl, but the woman separates them. The girl runs away leaving the boy alone with the woman, who bitterly scolds him for being oppressive to a fellow Kenyan because of five shillings. She gives the boy twenty shillings and tells him not to fight the girl anymore. The boy buys something to eat and returns to appreciate the woman. He asks her if there is anything he can do to show appreciation. The woman gives him a loaf of bread, which he is to deliver to an orange seller in front of the Court.

Dedan Kinanthi faces more tests against his resolve, by Henderson (who is also the Judge), the Banker, Politician and Priest. They ask him to surrender to the British

colonialist but he refuses and remains resolute. He is tortured by Henderson and soldiers but he remains adamant and even tears the surrender form which Henderson brings to him to sign. Meanwhile, the Boy and Girl meet again and during another fight, they find a gun inside the bread. The Boy and Girl discuss with the warder about the prisoner inside the prison and that they have brought a loaf of bread for him. In their struggle with the warder, they meet with the woman who tells them about Kimathi and his guerilla camp and the challenges he faced there.

The final scene ends in the courtroom where the judge pronounces a death sentence on Dedan Kimathi. Kimathi questions their right to administer justice on him. He further states his resolve and assures the judge that even when they kill him, the struggle will continue. As he is taken out, the boy and girl brings out the gun and points it at the soldiers. There is commotion, which is followed by a freedom song. All the soldiers flee and the people continue to sing their freedom song.

Themes In *Trials Of Dedan Kimathi*

1. **Collective Heroism:** The theme of collective heroism is prevalent in the play. In the play we see the Woman, Boy, Girl and Kimathi fighting different challenges in order to achieve one thing; freedom for Kimathi and indirectly freedom for Kenya. The Woman in the play symbolizes women in Kenya and the part they have to play in the liberation of Kenya. The woman is strong willed and morally sound. She is the one who makes the boy see his foolishness in fighting against his fellow Kenyan. She shows him motherly love through her actions and her words when she

Sit down and eat slowly. Nobody is going to steal it from you. If I were your mother, I would have you wash your filthy hands thoroughly, mend your clothes, wash them and teach you how to eat properly (p.18)

She also encourages him to see himself like a man and not a boy. Her words transform him and help him make peace with the girl when they later meet. When they discover the gun wrapped in bread the boy tells the girl. "Listen. You must help me, we must help one another; what shall I do with it?" (p.43) This means that the woman helped the boy realize his past mistakes the boy changes his perspective and now sees the girl as an ally and no longer as an enemy. That in itself makes the woman a hero. At the point in time when the boy gets afraid and tired of the gun, it is the girl that encourages him to keep persevering. The girl now becomes a heroine because the boy would have

abandoned the gun and that would have made the rescue plan a herculean task; more than it was already. Kimathi on the other hand does not budge on his resolve to reveal the whereabouts of his counterparts in the forest. He refuses to sign the surrender papers and he is tortured. If he had given up, the rescue mission would have been futile and the hope of the down trodden Kenyans would have been crushed. But even when tempted by juicy offers, he refuses and decides to stay on the side of the people we see their collective heroism at the final scene where the woman, boy and girl finally executed their rescue mission which led to the escape of Dedan Kimathi. Their collective heroism saved the day.

2. **Oppression:** The beginning of the play makes the theme of oppression very obvious when the Kenyans are made to squeeze around one side on rough benches while the White occupy more comfortable seats on the opposite side. The Kenyans are in their land, yet they are being oppressed by foreigners. It is also shown vividly when a procession of derelict Blacks was chanting anti-imperialist slogans in protest to the inhuman treatment of their brothers and they were scattered by burst of machine gunfire. This shows that they were treated badly, yet they can't help themselves. Any attempt to do that, is at the detriment of losing their lives. That is the height of oppression.

Ngugi also explores the theme of oppression through the character of girl. The girl is chased and overpowered by the Boy because of just five shillings. She got to a point where she says "I'm tired of running. All my life I have been mining on the run on the road men molesting me. No. I'll not run away again. A girl cannot run, run, run, all her life" (41) after she renders these lines she takes up arms to defend herself against the boy. Ngugi makes us understand that if we continue to run from the agents of oppression, it will be an endless circle. The people have to rise up and challenge the oppressor just as the girl did.

Synopsis of *I Will Marry When I Want*

The play is set in post-Colonial Kenya, Kiguunda and his wife Wangeci, two poor peasants, are waiting for a visit from a wealthy man named Kioi and his wife, Jezebel. While they are waiting, they argue with their daughter, Gathoni, who they believe to be lazy and disrespectful on account of being influenced by modernity.

Two of their friends, Gicaamba and his wife Njooki, stop by before the visit. Gicaamba is very radical, and speaks of how oppressed the Kenyan people are by the Kenyan authorities and the foreigners with whom they collaborate, as well as the deleterious Western religion that infiltrate their land. He decries their wealth and their avarice, and

how they consistently take from the poor to line their own pockets.

Gicaamba and Njooki leave as Kioi and his wife arrive. Wagenci and Kigunda secretly wonder if they are there because Gathoni is romantically involved with Kioi and Jezebel's son, John Kioi and Jezebel, as well as two other upwardly-mobile Africans, Ndugire and his wife Helen, sit down and tell Wangenci, that they need to have a lawful Christian marriage and join the church. They are both hesitant and Kiguunda practically shouts them out of his hut. After they leave, Kigunda and Wangenci, think about what the rich man and his wife said. Eventually Wagenci comes to believe that they want the marriage because then it would be fine for Gathoni and John to marry. Kiguunda agrees, and they plan to go to Kioi's house to tell them they agree with the plan

Before they go, Gicacimba and Njooki return and warn them about throwing their lot in with those people. Gicamba says Kioi ought to have a wage increase, not with an invitation to join the Christian church. He says his friend's marriage is valid because it was done in the Kenya way. Gicamba urge them to remember how Christians were complicit with the enemies of the Kenya people during the independence struggle.

Kiguunda and Wangeci ignore these entreaties and decide to go to Kioi's house. They arrive and are treated rudely by Jezebel, not being allowed to eat with them, but when they announced their desire to have a Christian wedding, the rich couple is pleased.

Kiguunda and Wangeci say they are happy to do this but have no money, and wonder if they can borrow a bit to pay for the ceremony and reception. Kioi and Jezebel laugh and say Kiguunda is wealthy because he gets paid more than others and has a title deed to one and a half acres. Kioi finally says he will insure a loan at the bank for Kiguunda, using the title deed as collateral.

Kiguunda and Wangeci are happy, and buy a lot of things for their house and for the wedding. They imagine the ceremony in their heads, but it all comes crashing down when Gathoni returns and cries that she is pregnant but John has jilted her. They go to Kioi, assuming he will want the children and says John is guilty of nothing. Kiguunda is enraged and pulls out a sword he wears under his clothing. He threatens Kioi, who cowers in fear, but a home guard and Jezebel enter the house, with Jezebel brandishing a gun, she orders them to leave, and as Kiguunda turns back for his sword he is shot by Jezebel.

After this incident, Wangeci wails to Gicaamba and Njooki about her family's troubles. Gathoni has left to become a barmaid, and Kiguunda, recovers from being shot, is

drunk and depressed. It seems Kioi used his powers at the bank to call in the loan, which took away their title to their land, and then bought it himself so a foreign company could build a factory on it. Kiguuda comes back from the bar and is angry, fights with Wangaci.

Gicaamba says they must not fight amongst themselves but instead, rise up against their oppressors. All sing and pledge themselves to wake up, to fight back. They proclaim that the trumpet of the masses, of the poor has been blown.

Themes Of *I Will Marry When I Want*

1. **Man's Inhumanity To Man:** Ngugi Wa Thiong O' explores this theme through the character of Mr. Ahab Kioi, Probably trying to identify him with the character of King Ahab in the Bible, Ngugi is in dealing with his fellow Kenyan. After the colonialist left Kenya a group of elite class emerged. They took over the offices vacated by the Whites and instead of making the burdens of their fellow brothers lighter, they made it heavier. Kioi is a wealthy man who owns workers and pays them peanuts; just enough to feed their bellies and nothing more. He tricks Kiguunda into using his precious land as collateral for a loan in order to sponsor a wedding that he obviously did not need. Although Kioi is wealthy, he finds pleasure in dispossessing the poor as seen in his lines when his wife Jezebel and Helen list the numerous things that Kioi needs to buy for his wedding. He says "and you can buy all those from my supermarket of Wabera street" (p.85) Kioi goes on to show his inhumanity when he finally disposes, Kiguunda of his precious piece of land. When it was auctioned by the bank to which he is a director. He also does not help in solving the issue of his son John impregnating Gathoni. He rather accuses Kiguunda of being an irresponsible parent by not teaching his daughter morals. He feels his son is innocent and should not be blamed for the pregnancy. When one reads the play, one cannot help but sympathize with Kiguunda and not blame him completely for his actions towards Kioi.

Ngugi's underlying message is that though the people fought for their political freedom, they are also in bondage economically and this time by their fellow Kenyan brothers. Be that as it may, they can still rise up and challenge the status quo and be sure of victory just as they did against the White man. At the end of the play, the trumpet of the masses has been blown and it is a clarion call to all.

2. **Religious Hypocrisy:** There is a popular saying that “Religion is the opium of the masses”. Ngugi explored that theme with dexterity. A lot of harm and deception is done under the auspices of religion. Gicaamba rightly observed when he said,

When the British imperialist came here in 1985, all missionaries of all churches, held the Bible in the left hand and the gun in the right hand. The White man wanted us to be drunk with religion; while he, in the main time was mapping and grabbing our land and starting factories and business on our sweat. (p.56)

The right hand is mostly engaged more than the left (except if one is left handed) and when Gicaamba says “Bible in the left hand and gun in the right hand” it means that the bible is only a façade. The main purpose was to oppress the people, but they justified it with the religion.

This was still the situation ten years after independence. The few elites who were bootlickers to the imperialist and were able to grab what was left by the colonial government; continued to play the religion card on the masses in other to cover up their greed and other atrocities. Kioi and his wife Jezebel portray themselves as ideal Christians and tell Kiguunda who does not agree with them, and ever pursues them out of his house. But desperation to be on the good side of Kioi so that their children will marry, drives him into the trap set by Kioi. When things do not work according to plan, we see how naïve and deceived Wangeci is when she said “. lets go to Kioi's place now. He is a good old man, a Christian, a man of integrity a man who likes to help others...” (p.98) She feels that any man who calls himself a Christian is automatically a good person, but she was disappointed. Kioi and Jezebel twist the Bible in other to justify their misdeeds and appease their conscience. Ngugi exposes all the tricks and loopholes of religious sentiments in other to concientize his people to open their eye and not to allow anyone use the marriage or religion to oppress them.

Ngugi's Ideological and Philosophical Perception

Here what is meant by Ngugi's ideology are his thinking, behavior, principles and characteristics and why they are so. His ideology can be seen to stem from the circumstances he found himself from his childhood. He was born into a poor African family under colonial rule. Added to this is the fact that his father divorced his mother when Ngugi was still very young. It was the mother who trained him in school and nurtured him into manhood. His mother's experience of torture at Kamiriithu many months in 1955 as a result of his elder brother joining Mau Mau guerrilla resistance armed struggle in 1954 were enough events to make Ngugi become a serious radical.

Ngugi was also born into and grew up in an environment where man's inhumanity to man was the order of the day. The colonialists disregarded the Africans and treated them with serious contempt in their own motherland. Their means of survival were seized and they were made to live like slaves to the White foreigners. Exploitation was practiced at its highest level in Kenya, and indeed, East Africa before Ngugi's very eyes. That is probably why land issue dominates Ngugi and other east African writer's literary works. Ngugi Wa thiongo is a great cultural crusader whose aim is to fight for African freedom in general, that of East Africa in particular and Kenya's to be specific.

Ngugi's Philosophy is based on total emancipation of the Africans, which have led him to constantly expose the evils of Colonialism and capitalism. Ngugi sees political independence as just the first step towards achievement of the entire freedom of the Africans spiritually, mentally, and socially. The second step is the economic freedom, which leads to the control, management and redistribution of resources. The third step is psychological emancipation, which will give the African the confidence and self-esteem to value himself and his own culture so that he can take control and achieve the goal of freedom.

Ngugi as a socialist realist: an Examination of the two plays as antecedents of his being socialist.

According to Gbilekaa (2013)

Essentially the socialist realist writer shows the changeability of the world in all its contradictory concreteness. He adopts a historical material approach to the world and so has a positive vision in the revolutionary inspirations of "the wretched of the earth" unlike the bourgeois artist, he does not distance himself from the decadent environment from a satiric contemptuous stance, but also takes positive measures towards changing it (p.83)

This describe vividly, the theatrical vision of Ngugi, "the Trial of Dedan Kimathi" a collaboration between Ngugi and Mecere Mugo was written is other to create an awareness using historical experience of the Mau Mau guerilla war to state that the future envisage by Kenyans, has not yet been achieved, and that the fight must continue. The main thrust of "the trial of Dedan Kinathi therefore, is to educate the ordinary people that their destiny is in their hands and they alone can change it. This is further emphasized by Gbilekaa (2013) when he says

thus the committed African writer is ahead of his colleagues because, unlike then, he has not only stopped short of telling

us where are came from and where we are at the present; but has in fact committed class suicide in order to raise conscience in his people, to rouse them to take arms against all forms of oppression and domination (85)

We can also see the people's resolve through the words of Kimathi Mightier than their best general, is our unity and discipline in the struggle. With unity, discipline in our total commitment to the liberation of us who sweat and labour, we can move mountains, we can yet cut off the giant's legs and mammoth head.(p.69).

Ngugi and Mugo, therefore end the play with a passionate call by the Boy and Girl for a committed fight to end injustice. The “Trial of Dedan Kimathi shows maturity in Ngugi's ideology growth and literary expression. The second play is a post independent plays which Gbilekaa in his book “Another voice meta-critical essay in Drama, Theatre and Politics says” “in theatrical idiom, post-independence drama expressed the new national conciseness. Rejecting his erstwhile Eurocentime aesthetic socialization and ideological bent”. (54). the focus is on conceiscentizing the rural masses and bestows in them the spirit of transforming themselves. The play “Ngaalika Ndeenda (I will marry when I want) was co-authored by Nugi Wa thiongo and Ngugi Wa Miri and written in their native Gikuyu Language. This was a radical shift from the status quo. Ngugi saw community theatre as a more potent tool in rousing the conciseness of the people to fight against injustice and oppression this time from their own government. Gbilekaa (1997) observes that

Of recent, community theatre for development has been used as a medium for conscientization. This process has come to be through the identifiable efforts of the theatre and people. Two here come under the grip of political tyrants and megalomaniacs after a protracted period of colonialism evolved a theory of revolution which starts with radical literacy programmers' (p.67)

The play was purposely written to be acted by the masses. The play epitomizes workers' and peasants' exploitation and the need to fight for their rights this is done through the use of songs, dance and traditional ceremonies. The authors used traditional elements such as proverbs to embellish the play, for instance, Kiguunda in order to tell the audience how much he values his little piece of land says “a man brags about his penis, however tiny” (4). In summary, Ademola. O. (2002) has this to say

Nationalist plays in addition, expresses the people's

disaffection, and consciously awaken their level of awareness with the sole aim of making them reject and resist colonial or post-colonial disillusionment and general oppression (p.118).

Conclusion

Ngugi has been a strong and radical voice in Africa in general, East Africa specifically and Kenya particularly. His two plays have made their mark in the history of his country and he will be forever remembered in the Kenya community as one who fought with his pen, on the side of the downtrodden, the proletariat, and the masses. Today, colonialism is not the issue in many African societies; bad governance is. People therefore have to take a radical approach to cause a turnaround in their fortunes. Africans have to look beyond religion and ethnic differences in order to charter a new course for the progress of the continent.

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DECLINING USAGE OF LIBRARY AND THE INCREASING USE OF INTERNET BY STUDENTS OF KADUNA STATE COLLEGE OF EDUCATION GIDAN-WAYA

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Abstract

The study examined the declining usage of library and the increasing use of Internet by the students of Kaduna State College of Education Gidan-Waya. The Internet has an important role in the library operations and services, despite that there is a debate whether it is an asset to the libraries or it will replace libraries. The objective of the study which are: research questions are; what are the benefits of Internet document over library documents by the students of Kaduna State College of Education Gidan-Waya? What are the problems students encountered with when using the library and Internet resources and services. Survey method was used out this research and the target population was students of Kaduna State College of Education Gidan-Waya. The population of the study 6,510, the sample size was 326 and random sampling was adopted. The instrument for data collection was questionnaires and analyzed using Frequency and Percentages to answer the research questions. Finding of the study revealed that, invention of Internet has drastically reduced the library usage and that Internet document are better than library document because of it convenience, accessibility and pace for providing learning materials. It also revealed that, poor facilities, lack of search skills, lack of access time and lack of guidance or support from the staff are the key factors hindering the use of library and Internet resources and services. The study concluded that, the emergence of the Internet has contributed to the decline in the library usage for learning among the students. Based on the findings, the study recommended that the standard school library and Internet services should be provided to the schools, so that learners can benefit from the wealth of knowledge provided by the library and Internet services.

Key Word: Declining Usage, Library and Internet, Students.

Introduction

In the work of Okeke (2000), the art of reading is a priceless instrument for every one. Holte (2000), asserted that reading must definitely add t quality to life and provide access to culture and cultural heritage. Unarguably, reading is an essential tool for significant learning and it is equally important for everyone to develop the culture of reading always so as to survive life. In furtherance he viewed, learning is one of the most important activities of life through which people enter into the life and experiences of others and extend their knowledge, scope of experiences and enjoyment. Obviously, knowledge is power but knowledge cannot be acquired without the implanted spirit to learn. Library undoubtedly enhances the intellectual and academic output of students and staff commenting on the importance of library as an organ of academic discipline. Oni-Orisan (1987), observed that no system of education is complete without well-equipped libraries with services operated either directly through contact with students readers services] or indirectly through activities carried out behind the scene technical services (Nwali, 1990).

Interestingly, there are various means through which learning can be actualized. Some of these are the schools where people may be exposed to symposia, conferences or by interacting with other colleagues. According to Longman's dictionary (2009), library is a room, sections or series of sections or a building itself given are to books, manuscripts, musical scores or other literary and sometimes artistic materials such as printings or musical recordings usually kept in convenient order for use but not for sale.

However, in the global world today, Internet media are not only serving's alternatives to the library and posing as a greater challenge to librarians but also gaining more users every day. The rapid growth of Information and Communication Technologies (ICTs) are said to be changing the way academic libraries operate today (Montage, 1991). Several books and other literary materials can be downloaded within seconds' everyday through the Internet and its components such as Adobe reader, portable document file (PDF) and several host of others. Indubitably, the emergence of the Internet and other new technologies have brought tremendous changes into human endeavor and learning being an integral part of human existence has been greatly affected. The focus on student learning as an important outcome of library programs is a relatively new concept, but many librarians are embracing the challenge of finding ways to better understand what impact they are having on students and their education. In part, this change in focus is driven by external trends in accreditation and an imperative to develop a culture of evidence" through formal assessment programs. More so, library that had once appeared to be one of the most important designated More for acquiring knowledge has suddenly become nearly deserted for the new

places for -new media and this Internet has become a new abode for the use while avid trend- and users of libraries.

The library is the academic heart of the institutions and basic function is to provide the institutions staff, students and other researchers with materials, assistance and an enabling environment that would facilitate teaching, learning and research. It's important to library service to focus more on the users of the resources provided for students or patrons. According to Whitmire (2008), affirmed that, the information resources and services available in institution information systems must be capable of supporting the research activities among the students. Ugah (2008), opined that, the more accessible information resources are, the more likely they are to be used and also users tends to use information sources that require the least effort to access.

It's one thing for the information to be available have quick and easy accesses to it, the universal technology that lack have quickly available and another for the people access is the Internet. The Internet is therefore a technology that facilitates such information networks. In addition, the Internet is an international network of self-governing global network that join together Internet millions of individuals, commercials sand profit organization (Nura, 2010). Remarkably, Internet is changing our lives in so many ways, becoming more central to librarians and libraries with each passing year coming more each passing year; it has denied everyday routine from delivering document and purchasing books to the widened databases as well as delivering distance education. Hence, the Internet is searching for database an important modern technology universally accepted whose components suit a mail. New groups, Search engines and teleconferencing etc. are some of the wide of felicities and services on the Internet. The Internet has emerged as an important component in academic institutions as it plays a pivotal role in meeting the information and communication needs of institutions (Luambano and Nawe, 2004).

Google Docs sheet and slides are a word processor. A spreadsheet and a presentation program respectively. The Suits allows users to edit documents online while collaborating with other users in real time Create and edit (Wikipedia, 2015).

A very important and most used information source is the Encyclopedia is a type of reference work or compendium holding a comprehensive are usually alphabetical by article name. Encyclopedia is divided into articles and entries, which Encyclopedia are Wikipedia, Encyclopedia Britannica and Wikiversity, Wikipedia site can be accessed and edited on most of its article with the expectation that they follow the website s policies. Wikipedia is ranked among the ten most popular website sand constitute the Internet's largest and most popular general reference work (Wikipedia,

2015). Encyclopedia Britannica is a general knowledge English language encyclopedia, while Wikiversity is a community devoted to collaborative learning.

A web browser commonly referred to as a browser is a software application for retrieving, presenting and traversing information for retrieving resources on the World Wide Web.

According to Halsey (2006), young people may go to the library to study, to use computer workstation or to socialize with friends. He also added that they may also use the library to gain access to recreational materials, conduct the research during the initial phase of forming a new business and unemployed peoples may use the collection to find the information about the job opportunities. Weber and Flatley (2008), find out that "it was obvious that the students saw the library as an important place for studying, meeting and group project, while most students do not use the library for their personal research interest or their leisure activities. Most often, some libraries are specifically designed to serve the material needs of the researchers within an organization that established them and these types of libraries are known as Special Libraries. Some libraries are set up to cater for information needs of u the public and the state government normally sets it up education, mass mobilization and social emancipation. They are known as public libraries and as such they provide users with general information irrespective of the age gender, discipline, political affiictions etc. Examples are Samaru Public Library, Kaduna State Library Board and many more. Also, some libraries could be found within a school environment and its purpose is simply to serve the needs of students. These types of libraries encourage the habit of individual investigation and research to supplement the information given in the classroom. Examples of these types of libraries are faculty of education, veterinary, agriculture and social science library, Prof. Benjamin Uchegbu Mass Communication Library, Sociology Library amongst several others. More importantly; some libraries are natural in outlook and usually owned by the government of a country. Example is the National Library of Nigeria.

The Internets are able to integrate the freely available information on the website with more formal literatures for which licenses are arranged with the publishers. Internet document facilitate "time and place in depended information services for the students' needs especially if active learning become a more common place. Bennett, Scott. (2009). Digital collection are available everywhere in the world offering flexible arrangement for students' knowledge Students knowledge, the Internet document important pay for educational information will have Internet do the document as a means of easily and various types are highly supporting by multi-disciplinary and the images of cans of easily and rapidly accessing books archive learning environment.

The library documents are documents that are very limited by storage Capacity the Internet documents have the high potentials to stores must information simply because; digital information require very little physical space to contained it.

The users are very important in the practice of librarianship; library process revolves around the users. Users must be constantly asked to access the resources and services provided, as this will help the library to improve upon it services. No matter how large the stocks of the library are, if the resources and services are not fully used effectively used, such a library would be useless. Students need information for a variety of activities, the library and Internet as vast of this resources and services that can meets the student's information needs. Students encountered with some challenges when using these library and Internet resources and services, because in using these library and Internets resources and services students lack skills in locating and evaluating the information which affect the effective utilization of library and Internet resources and services. Julien, (2002). "Stated that the skills that will enable the users to make effective and efficient use of the information resources and services. An information literate person or individual is expected possess some qualities as observed by Association of College and Research Library. According to the Information Literacy Competency Standard (2006)' The qualities include:

1. Determine the extent of information needed,
2. Access the needed information effectively and efficiently,
3. Evaluate it,
- 4, Formation and it sources critically,
5. Use information effectively to accomplish a specific purpose,
6. Understand the economic, legal and social issues surrounding the used of information ethically and legally.

In the contemporary society, regardless of where the library and Internet resources and services is situated, its meant to provide an information services to their clients or users according to the purpose of its establishment. Some libraries are set up to cater for information needs of the peoples that normally set it up, Its also an agent of mass education, mass mobilization and social emancipation. Thomas Mann (2005). In his work "Survey of Library Users Study discovered that student use Internet as their research sources, majority use real library for in-depth research assignment or probably uses both. It is also discovered that the printed materials are preferred over the online when the materials are long, dense and comprehensive the information and urban library council discovered in a study that 60.3% of its respondent rely on library alongside the Internet and 72.2% use the Internet as their main source of information and also supplement with the library materials for their information use.

Conclusively, all these components of the Internet used for teaching helps students to analyze, retain, share and source for information. This art of sourcing and sharing information invariably shapes the sphere of learning and makes it virtually available to everyone.

In the 21 century, there has been an increasing use of the Internet to gather and the retrieved data. This paradigm shift to digital libraries has greatly improved the way people use academic libraries, for instance, between 2012 and 2014, the average Kaduna State College of Education Gidan-Waya, libraries saw the overall number of transaction decreases because the students prepare to use Internet resources and services in their smart phones and personal computers than the library resources. Also, this generation has become more attuned to the Internet. Their eagerness to retrieve information as quickly and easily has greatly affected the library usage. One claim to understand may be the benefits of Internet document over library resources that result to the decreases in the usage of library. Therefore, the study is to investigate the declining usage of library and the increasing use of internet by the students of Kaduna State College of Educaiton, Gidan-waya.

Objectives of the Study

The aim of this study was achieved through the following objectives:

1. find out the purpose of using the library and Internet by the students of the Kaduna State College of Education Gidan-Waya.
2. determine how often these students use both the library and Internet.
3. find out the benefits of Internet documents over library documents

Research Questions

The following research questions were raised to guide the study are:

1. What are the purpose of using the library and Internet by the students of Kaduna State College of Education Gidan-Waya?
2. How often these students of Kaduna State College of education Gidan-Waya use both the library and Internet resources and service?
3. What are the benefits of Internet document over library documents by the Student of Kaduna State College of education Gidan-Waya?

Methodology

Survey research design was adopted and population constituted of 6,510 registered library users in Kaduna state college of education Gidan-Waya. In this way 326 respondents were selected using postulated a theory that a researcher should seek the empirical approach that uses sample size as a way of solving problem. Rosi (2006)

suggested that 5% of sample size is adequate for 2,000 but not greater than 8,000. Questionnaire was used as instrument for data collection and 300 copies were found valid. To analyse the data, simple descriptive statistic of frequencies and percentages was used.

Results and Discussion

The results of data collected were carried out using frequency and simple percentage presented in the table.

Research Question One: what are the purposes of using the library and Internet by the students of Kaduna State College of Education Gidan-Waya?

This is an open-ended question, an open need question allows respondents to give their responses without options in the questionnaire.

The respondents that choose Internet for learning believes that it is faster, more convenient, effective and easily accessible compared to library. The respondents that preferred Internet for their learning represent 26% of the sample size. 54% make use of both the library and the Internet for their learning, while the respondents that use Internet for learning have 6% more than those who make use of library for their learning. The respondents who preferred to use library for learning responded that; it provides them with more detailed materials, reliable, more resourceful and it also provides a conducive environment for research work. This result is collaborated with that of Oyedun (2007) where the students claimed the internet services have improved considerably on their academic performance.

Research Question Two; how often these students of Kaduna State College of Education Gidan-Waya use both the library and Internet resources and service?

Table 1: Shows the use of library and Internet resources by Kaduna State College of Education Gidan- Waya.

Use of library and Internet	Often use of library and Internet				Total
	Everyday	2-3 times in a week	Nightly	Others	
Library	160	66	36	18	326
Percentage %	49%	22%	12%	6%	100%
Internet	85	54	180	27	326
Percentage %	26 %	17 %	60%	8 %	100 %

Table 1 shows that 180 respondents (60%) make use of either the Internet or library 2-5times a week for their learning, while Small portion of the respondents of 6% occasionally make use of either Internet of library for learning. This indicates that, the students make an efficient and effective utilization of the library and Internet resources and services. In support to the findings of this study, Halsey (2006), opined that young people may go to the library to study, to use computer workstation or to socialize with friends. He also added that they may also use the library to gain access to recreational materials, conduct the research during the initial phase of forming a new business and unemployed peoples may use the collection to find the information about the job opportunities.

Research Question three: What are the benefits of Internet document over library documents by the Student of Kaduna State College of education Gidan-Waya?

Table 2. Shows the benefit of Internet documents over library resources

Benefit of Internet documents over library resources	Frequency	Percentage %
Agreed	147	49 %
Strongly Agreed	117	39 %
Disagreed	27	9 %
Strongly Disagreed	9	3%
Total	300	100 %

From table 2. It shows that 49% agreed and 39% strongly agreed that the invention of the Internet drastically reduced the library usage, thus shows that 88% of the respondents believe that the emergence of the Internet has reduced the library usage.

This implies that, it affect library services, hence exhibition and display of library and information system and services should done as a major tool in marketing the library system services and resources. According to Yusuf (2006) the Internet encourages democrat ionization of education of every learner, both young and adult has access to education anywhere in the world and at any time.

Conclusion

The central focus of the study is the declining usage of library and the increase in the use of Internet by the students of Kaduna State College of Education Gidan-Waya. From the research conducted, it was discovered that a majority of the respondents make use of both the library and the Internet, but the proportion and percentage of the Internet is higher than the 1library. Therefore, the advent of the Internet has reduced

the usage of the library to an extent and also complements the usage of library. It clearly indicates that the emergence of the Internet has contributed to the decline in the library usage for learning among the students of Kaduna State College of Education Gidan-Waya.

Recommendations

Base on the findings of the study, the following recommendation were made;

1. The Institution should provide a standard college Library and Internet services should be provided, so that learners can benefit from the wealth of knowledge provided by the library and Internet resources and services.
2. With the coming of 21 century, government should provide Virtual library as a tool for motivating the student to not only hangs within the library premises but round the clock and also every place they found themselves.
3. Student should use the library for their academic and personal purposes so as to be familiar with the importance of library in their academic work and entire life

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MEDIA AND INFORMATION LITERACY (MIL): ITS BENEFITS AND CHALLENGES IN COLLEGES OF EDUCATION IN NIGERIA

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Abstract

The 2020 edition of the National Commission for Colleges of Education (NCCE) publication, the “Nigerian Certificate in Education Minimum Standard for General Studies” has revealed a vacuum and created a fresh discipline that must be learnt by all students of the Colleges of Education in Nigeria for their Nigeria Certificate in Education (NCE). Among those courses are four important courses that have to do with providing the students with skills on where to access what information, how to access the information, how to analyze the information as well as how to disseminate the found information. Another important aspect of those courses is for students to understand the media, its content as well as its mode of operation. The four notable courses are no other than Media and Information Literacy 1, Media and Information Literacy 2, Media and Information Literacy 3, and Media and Information Literacy 4. This paper seeks to highlight the meaning of media and information literacy, discusses the effective media and information literacy learning, benefits and challenges of media and information literacy in Colleges of Education in Nigeria. It is therefore recommended that training and retraining programmes should be organized on a periodic basis for freshly employed teachers/lecturers of media and information literacy, among others.

Key Words: Media and Information Literacy, Benefits, Challenges, Colleges of Education.

Introduction

The effect of lack of education on the citizenry is adverse. It is responsible for our poor health, shorter lifespan, exploitation, gender inequality as well as unemployment. Worthy of note is the fact that people of a society with the inability to access the right information, analyze information as well as utilize such information for a greater good can lead to the destruction of that society through misinformation and fake news.

The convergence of media and technology in a global culture is changing the way we learn about the world and changing the very foundations of Education. It's no longer enough to be able to read the printed work, children, youths and adults too need to be

able to critically interpret the powerful images of a multimedia culture.

Media literacy education provides a framework and a pedagogy for the new literacy needed for living, working and citizenship in the 21st century. Moreover, it paves the way to mastering the skills required for lifelong learning in a constantly changing world.

Lack of qualified teachers to teach students about Media and Information Literacy (MIL) is another factor that is capable of crippling the educational system in any given society. Therefore, the need to equip potential teachers with the requisite knowledge on Media and Information Literacy (MIL) is a well thought out concept that must be nurtured for the survival and the upliftment of the Nigerian educational system.

According to Jacob (2017) the aims of Education have been categorized by different scholars. He posits that while Herbert believed in the complete living aim he advocated the moral aim, Pestalozzi is of the opinion that “Education is natural, harmonious and progressive development of man's innate powers (Guttek, 2006). He further explained that, education enables us to control, give the right direction and the final summation of instincts. Going by the above assertion, one can realise the very reason why the NCCE included the Media and Information Literacy in the Colleges of Education Curriculum.

It is a common knowledge that Media and Information Education has been brought in order to stimulate careful reasoning and mental self-discipline which according to (Brickhouse, 226) will result in continues intellectual development and high standard of moral conduct.

In our country, the greater number of the Colleges of Education is owned by Government. Government plays a vital role in the establishment of the Colleges of Education, its administration as well as recruitment of staff for the day to day running of the colleges. It is therefore important for Government to prepare effectively before introducing any course of study to be offered in the colleges and recruit as at when due in order to close the already large margin that exists as a result of the introduction of Media and Information Literacy. Therefore, shortage of teacher makes it more difficult to build a solid foundation for the students in the discipline of Media and Information Education.

Media and Information Literacy (MIL)

In the past 20 years, the field of media literacy Education has emerged to organise and promote the importance of teaching and learning's the notion of literacy. At first, the

media literacy was seen as teaching children about media- how advertising works or how to analyze the news telecast. But in her work "Literacy in a Digital World: Teaching and Learning in the age of information, Kathleen (1998), posited that media Education is more about Education than it's about media. For her, media education expands literacy to include reading and writing through the use of news and emerging communication tools. It is learning that demands the sound creative use of information.

Media literacy, grounded as it is, in inquiry based process oriented pedagogy, offers not a new subject to teach, but rather a new way to teach and even more importantly, a new way to learn.

Even today, but more and more so in the future, learning happens anywhere and everywhere, 24/7. Increasingly, it occurs most powerfully through the convergence of media technology. Video games for example are not just mindless entertainment but according to Paul (2003), are actually quite intricate learning experiences that have a great deal to teach us about learning and literacy are changing in the modern world. It is this convergence between media education, between entertainment and learning that is driving major change in the sources and the content of what we learnt and how we learn in today's world. Mass communication education is not needed in the future, it is needed now to assure that our citizens equipped to make right decisions and contribute to global economy (Thomas and Jolls,2004).

"Media and Information Literacy consists of the knowledge, the attitudes, and the sum of the skills needed to know when and what information is needed; where and how to obtain that information; how to evaluate it critically and organize it once it is found; and how to use it in an ethical way.

It is a course introduced in the latest edition of the “Nigerian Certificate in Education Minimum Standard for General Studies” (2020).

IFLA (2011) added that the concept extends beyond communication and information technologies to encompass learning, critical thinking, and interpretative skills across and beyond professional and educational boundaries. Media and Information Literacy include all types of information resources: oral, print, and digital. It is a basic human right in an increasingly digital, interdependent global world, which promotes greater social inclusion.

Effective MIL Learning

It is a global belief that information and communication controls every aspect of human societies around the world. Understanding information, its types, where to access what information as well as how to utilize the information is of critical importance. For instance, the knowledge of factual information is the type of information that deals with facts. It is mostly short and precise on truthful and proven concepts. Knowledge of this kind of information can be really helpful for students to differentiate between real information and fake information.

On the other hand, analytical type of information can help widen the students' thinking ability when it comes to analyzing contents. Due to its features that have to do with interpretation of factual information and determining what it implied or inferred, learners are equipped with the requisite knowledge on how to analyze information before passing it onward.

Knowledge of subjective type of information helps the learners to have a point of view or form an opinion about the particular information, while learning about objective types of information can help them understand that there should be a room for accommodating diverse views and opinions about an event or a piece of information.

Multimedia World

Since the beginning of recorded history, the concept of literacy meant having the skills to interpret squiggles on a piece of paper as letters which when put together, formed words together to understand and to express more complex ideas became the goal of education. According to Thomas & Jolls (2004) today information about the world around us came to us not only by words on a piece of paper but more and more through the powerful images and sounds of our multimedia culture.

From the clock radio that wakes us up in the morning until we fall asleep watching the late night talk show, we are exposed to hundreds of thousands of images and ideas not only from television but also from websites, movies, talk radio, call phone messages, Bill boards and more. Media no longer just shape our culture- they are our culture.

Although mediated messages appear to be self-evident, in truth, they use a complex audio/visual language which expresses many layered concepts and ideas about the world. Not everything may be obvious at first and images go by so fast. If our children are to be able to navigate their lives through this multimedia culture, they need to be fluent in reading and writing the language of images and sounds just as we have always taught them to read and write the language of printed communications.

Douglas (1996) calls the current youths generation " screen agers" because their media use is not distinguished specially as television or video games or movies or computers or even telephone but simply as a series of screens which they both access and manipulate in a constantly evolving stream of shared communication. This capability, in turn, is transforming the use and impact of media in everyday life.

Most of all bringing media culture into the learning environment from kindergarten to graduate School - guarantees a high level of engagement by students. And engagement , as every teacher knows , is the key to learning success. Teens today have no memory of life without Television. Thus to ignore the media rich environment is to short change them for life.

Challenges of Media and Information Literacy

When there are not enough good teachers, students lose. Students struggle to learn when they don't have teachers who are specifically trained on prepared to teach relevant disciplines. In most cases, administrators are forced to hire less than ideal teachers to cover up for these shortages. In situations such as these, it is almost impossible for effective learning to take place and is therefore, capable of creating a loophole in the process of teaching and learning.

It is also important to note that lack of relevant teachers teaching important discipline such as this can create apathy in the students which is capable of making them loose interest in the course.

A clear analogy of this situation can be seen in some Colleges of Education presently where it is clearly observed in a State College of Education, that there are only six (6) lecturers of Mass Communication, to teach Media and Information Literacy to over Ten Thousand (10,000) students of NCE 1 and NCE 2.

Situations such as these are really a cause for concern, as failure to hire relevant Teachers to teach students should be considered a huge misnomer since it is capable of robbing the students of their chance to achieve the right kind of education.

Benefits of Media and Information Literacy

The study of Media and Information Literacy can help the society as well as teachers to distinguish between verified information and unverified information. It makes students wiser in their consumption of information.

Teachers are known as consumers as well as producers of information. Therefore, understanding media and information Literacy can help them become wiser

consumers of media as well as responsible producers of their own media. It will also help to foster critical thinking in both the teachers as well as the students. This type of thinking can help them in many areas as they grow older.

Although Mass communication is ideally suited for an educational context, it is clearly not limited to children. Adults too need the opportunity to gain the skills they now found missing in their educational background.

Conclusion

It is worthy of note that the inclusion of MIL in the curriculum by NCCE (2020) is not the first of its kind. Before it, several other disciplines were considered and introduced in the past. It is therefore pertinent to use models utilized in ensuring that those courses that were introduced in the past got the right number and quality of teachers to teach in the Colleges of Education.

Recommendations

Based on the discussion, the following recommendations are made:

1. The Administrators of Colleges of Education should give MIL the attention it deserves. Looking closely into the course content, one can see that the course will require not just lecturers, but studio instructors as well as technologists to ensure effective learning to take place.
2. Periodic excursions to media establishments, printing press, and other media related centers has to be utilized for students to get the real picture of what they are been taught in class.
3. In consideration of teacher to student ratio, Colleges of Education should seek for ways to recruit competent lecturers with the Mass Communication background to teach the course effectively.
4. Where the approval for more recruitment is not forth coming, there may be need to scout in related disciplines like Educational Technology and other Communication disciplines, for lecturers within the institution to make frank attempts at teaching these courses.
5. Training and retraining programmes should be organized on a periodic basis for freshly employed teachers/lecturers of media and information literacy.
6. Being a newly introduced discipline, indigenous Literature in relation to the field are close to no existence. As such, it is important for relevant stakeholders to seek ways of creating publications that will service the teaching of the discipline or better still sponsor multiple research that are capable of improving the field of MIL.

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ASSESSMENT OF CONSTRUCT VALIDITY OF TEACHER-MADE ENGLISH TESTS IN SABON-TASHA INSPECTORATE DIVISION OF KADUNA STATE MINISTRY OF EDUCATION KADUNA

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Abstract

This study assessed the construct validity of the teacher-made English test in Sabon-Tasha Inspectorate Division of State Ministry of Education. A survey division was used and purposive sample of 50 experts were selected among the English teachers. An interview was used to elicit data for the study. Documentary source, English past teacher-made question papers were also analysed to determine whether the teacher-made English test fulfilled the construct validity. The finding from the interview shows most teachers admitted that their tests are well constructed, with clear statement of the time or duration and that the test is often divided into sections. Assessing the English question papers shows that some of the tests have a lot of errors and do not indicate the tests duration neither are they divided into sections. The finding shows that low level of resource is a problem to teacher-made English test. The study recommends training for teachers of English in the aspects of assessment and words should be backed up with action by providing the required materials for assessments.

Keywords: Teacher-made test, Construct validity, Assessment

Introduction

Test plays an important role in learning. It has been an instrument in measuring students' understanding of the subject matter they are taught. Tests play an important role in educational system as they are used as tools in measurement and evaluating process. Tyler (1949;5) has argued more than 80 years today, that before anyone can teach another person anything, two fundamental questions need to be addressed: "what do I want the person to learn?" and "what evidence will I accept to verify that learning?" Where teaching and learning has taken place without testing it, it will be futile to imagine that learning has taken place. Teaching and testing are so inter-related

that teacher cannot do his work effectively, he needs to test the progress of his students from time to time. A sound knowledge of where the students are and how they are progressing will help the teacher to effectively cater for the needs of his learners (Sethusha 2012; Moeller & Theiler 2014; Ugoduluwa & Wakjissa 2016). This study in set to assess the construct validity of the teacher-made English language test is Sabon-Tasha Inspectorate Division of Kaduna State Ministry of Education. The tests help teachers to make decisions on students' improvements, identify the needs of the students and help educational administrators to evaluate human ability and personality characteristics as well as adjustment and mental health.

Test is a primary and important aspect in teaching and learning process (Hiaton 1988). Teacher-made tests being the most common means of assessment in secondary schools in Nigeria accords for English language is accorded a special place in today's world hence it has become imperative to assess the contract validity of the teacher-made test. Lyle & Purpura (2015) and Lumila & Sikolova (2017) are of the view that test provides valuable information. Tests are used in the varieties of decisions, including, student selection, certification, classification, tracking, promotion or retention in educational programmes. This study assesses the construct validity of the teacher-made tests.

The dearth of infrastructure in secondary schools is said to have adversely affected assessment in Nigeria secondary schools. Adelaye (2018) states that tests in English in Nigeria secondary schools was the one that involved the purely practical evaluation to carry out in English but reverse has always been the case because of the lack of instrument. Olaofe (2011) asserts that English language is taught and assessed in an environment that is under-resource. He further asserts that there is great deformity in the educational sector because of the uncomfortable environment of learning which is as a result of under-resource environment. He further states that corruption, religion bigotry, ethnic cleansing, terrorism, regionalism, tribalism are the main cause of deformities in the teaching and assessment in Nigeria schools. He was optimistic that this unfavourable condition of teaching and assessment can be made better if the nation can undo the obstacles that stand against those obstacles that have made a blessed Nigeria schools an under-resourced learning environment.

The construct validity is sometimes said to be not always self-evident or easily understood and constructs often time are multi-layered and depended upon prior knowledge and skills. The test items of the teacher-made tests should really measure the students' ability in English teacher-made tests (Bachman 2000). For example, if the test is on English language the components of the test should be focused on English. If test measures what is supposed to measure or if it measures the construct or the theoretical ideas then the test is said to have construct validity.

Construct validity is the extent to which performance on the test can be interpreted as a meaningful measure of language proficiency. Similarly, Bachman (1990; 254) argues that construct validity concerns the extent to which performance on test is consistent with predictions that we make on the basis of a theory of abilities or constructs. According to Hughes (1989) a test is said to have construct validity if it can be demonstrated that it measures just the ability which it is supposed to measure. A test can be considered to have construct validity if its items measure every aspect which is suitable with the specific objective of instruction (Corner 2000).

Gareis (2015) posts that construct related validity is concerned with how accurately a test align with the theoretical concept or mental frame work or intended learning outcomes or objectives of the instructional unit. Gareis (2015) further states that the following questions will guide to affirm whether the test has construct validity; does the test measure what it purports to measure? Is the teacher shooting at the proper target? Are the test clearly divided into sections? Are the questions clearly stated without ambiguity? So if the answers to these questions will be in affirmative then the test has construct validity.

Teacher-made assessment is expected to lead to the production of learners who are interested in learning, shun unethical assessment practices and would eventually come out successful in certification examinations, ready to take their rightful place within the national development horizon as well as being adequately prepare for higher education. However, observation shows that these expectations are possibly not being met, with the public outcry of the poor performance and quality of students produced from our institution. Therefore, it is necessary to critically examine classroom assessment practices to see where its implementation has fallen short of expectation, so as to make recommendation to move the educational system forward.

Adikwu, Obinne & Amole (2014) see teacher-made test as a test that is deficient in standard and lack construct validity. They go further to say that emphasise on the tests are placed on obtaining high marks without general regard to the test structure of the test. Yu (2012) adds that teacher-made test lacks standard. It is resigned as a valuable tool to solve the problem or requirement of the class which it is prepared. Osunde (2008) states that most of the teachers in Nigeria schools system lack adequate skill to develop and validate teacher-made tests used in school based assessment. Omo-Rgbekuse, Afemikhe & Imobekhai (2010) in a study on teacher expressed competency on assessment issue found that many claimed that they were competent on almost all issues raised but experience on the field find no match between what is claimed and what actually observed.

Therefore, to gauge the construct validity of the test, the teacher needs to know the specific learning outcome of the unit of the study. On other words, he would need to know which content students are intended to learn and the cognitive level at which they are engage with the content. If you do not have the expertise in an area, it might not make sense. Therefore, if a construct validity in a teacher-made test can be achieved, the teacher must have the expertise in the subject area Emekwu (2013) , Shafack, Alemnge & Eta (2020) postulate that the poor performance in the final examination as a result or absent of the poor teacher-made test in all levels of education by the teachers. This implies that the poor performance in the standard examination is as a result of the poor construct validity of the teacher-made test in which the students are not used to the standard test because the teacher-made test is deficient in construct validity (Adikwu & Akem 2014).

The participants of the study are the English teachers in the sampled schools. The study strictly limited itself to assessing the construct validity of teacher-made test in Sabon-Tasha Inspectorate Unit of Kaduna State Ministry of Education.

Methodology

The study employed descriptive research design. The population of the study was purposively picked within the Sabon-Tasha Inspectorate Division of Kaduna Ministry of Education. Cohen & Mansion (1989) assert that the purposive sampling requires the researcher to hand pick the cases to be included in the sample on the basis of the researcher's judgement of their typicality. Ogunleye (2000) agrees with Cohen & Mansion (1989) that the purposive sampling is a situation whereby the researcher is guided by what he considers English teachers of Sabon-Tasha Inspectorate Division of Ministry of Education Kaduna State as typical cases which are most likely to provide requisite data or information. The researcher purposively sampled 50 experts in English language teaching and assessment in secondary schools. The researcher used interview as a tool for collecting the data. Secondly, the researcher purposively sampled 10 English question papers of teachers-made test JSS 2 and SS 2 first and second term from different schools within the research area. The teacher examines these question papers to see the extent to which construct validity is achieved.

Findings and Discussion

This study sought to assess the construct validity of the teacher-made English test in Sabon-Tasha Inspectorate Division. This section is presented in two parts namely: presentation of the data and discussion.

Presentation of Data

Table I: Composition of respondents by gender.

Response Category	Frequency	Percentage
Male	20	40%
Female	30	60%

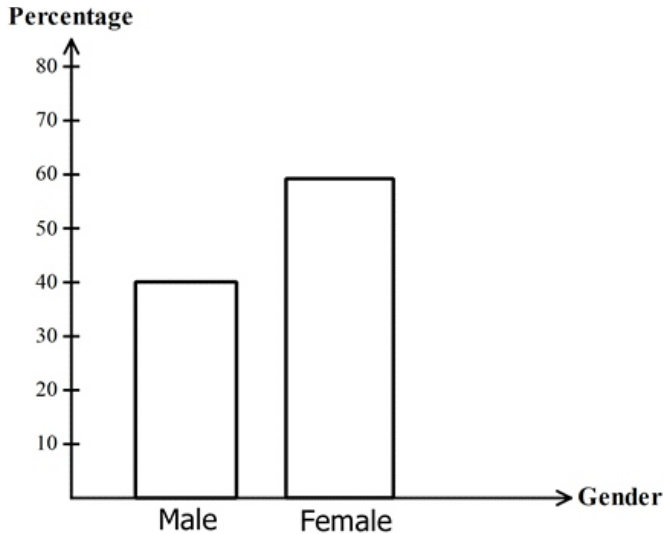


Figure I shows that there are more female than male respondents, 60 and 40 percent respectively.

Table II: Distribution of respondents by professional qualification.

Professional Qualification	Frequency	Percentage
Nigeria Certificate of Education	3	6%
Bachelor's Degree	40	80%
Masters' Degree	6	12%
Others	1	2%

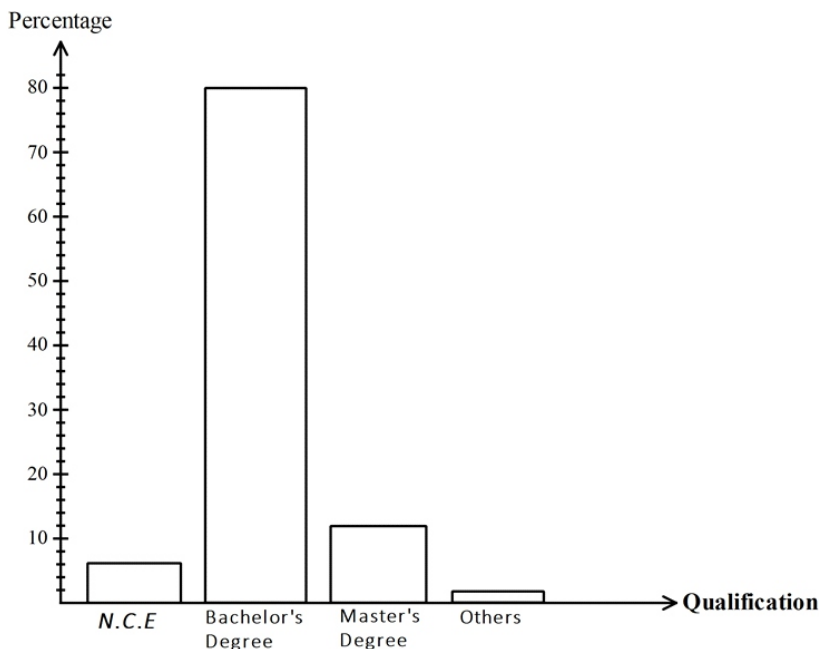


Figure II shows 80% of the respondents are Degree holders, 12% of them are Masters' holder, while 6% and 2% have NCE and other qualifications respectively.

Table III: The teaching experience of the teachers.

Years of Teaching Experience	Frequency	Percentage
1 – 5 years	6	12%
6 – 15 years	15	30%
16 – 20 years	15	30%
21 – 30 years	12	24%
31 – 35 years	2	4%
TOTAL	50	100%

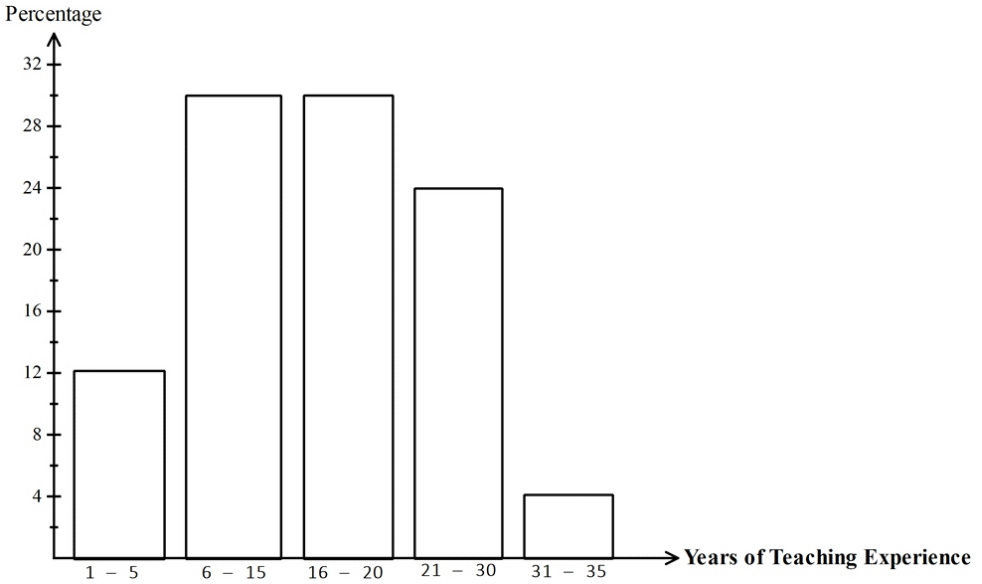


Figure III shows that teachers that have put in 6 – 15 and 16 – 20 years' experience in teaching are those in the highest number among the respondents with 30% each. Followed by those with 20 – 30 years' experience of 24% and those with 1 – 5 years have 12%, while those with 31 – 35 years have 4% of the number of respondents.

Table IV: Responses from the experts' perspective of the teacher-made English. A – J stands for the experts that were interviewed.

		Questions							
		Q1. Teacher-made English tests often have errors in word and sentence structures	Q2. Most questions are not often understood by the students.	Q3. Teacher-made tests do not often indicate the duration of the test on the question paper.	Q4. Teacher-made tests are not often divided into sections.	Q5. Teacher-made tests are poorly spaced.	Q6. Teacher-made tests lack the necessary materials needed for a good test.	Q7. Test environments are often not conducive.	Q8. Teacher-made tests are often written on a blackboard because of lack of materials.
A	Yes No	30% 70%	10% 90%	30% 70%	40% 60%	30% 70%	60% 40%	50% 50%	70% 30%
B	Yes No	20% 80%	20% 80%	30% 70%	30% 70%	30% 70%	50% 50%	60% 40%	70% 30%
C	Yes No	20% 80%	10% 90%	20% 80%	20% 80%	30% 70%	60% 40%	70% 30%	60% 40%
D	Yes No	30% 70%	0% 100%	20% 80%	30% 70%	40% 60%	70% 30%	60% 40%	70% 30%
E	Yes No	20% 80%	10% 90%	30% 70%	20% 80%	20% 80%	60% 40%	50% 50%	80% 20%
F	Yes No	10% 90%	20% 80%	30% 70%	30% 70%	30% 70%	70% 30%	60% 40%	80% 20%
G	Yes No	0% 100%	30% 70%	30% 70%	40% 60%	30% 70%	60% 40%	50% 50%	60% 40%
H	Yes No	30% 70%	20% 80%	30% 70%	30% 70%	20% 80%	80% 20%	70% 30%	70% 30%
I	Yes No	20% 80%	10% 90%	20% 80%	20% 80%	30% 70%	70% 30%	80% 20%	80% 20%
J	Yes No	10% 90%	0% 100%	10% 90%	30% 70%	20% 80%	60% 40%	70% 30%	70% 30%
	Yes No	19% 81%	12% 88%	23% 77%	34% 66%	28% 72%	64% 36%	82% 18%	71% 29%

Table IV shows that 90% of the teachers of English do not agree that the teacher-made tests often have errors and they are not often understood. Majority of the teachers do not agree that the teacher-made English tests do not often indicate the test duration and it is poorly space. A good number of the teachers believe that the test environment is poor and there are no enough materials for setting a standard teacher-made test.

Findings from Sampled Question Papers of Teacher-made English Test

The 20 question papers collected from the experts in these schools, show that 5, that is 20% have errors of punctuations, subject verb agreement, wrong vocabularies, etc.

The question papers show that 8, that is 40% of these tests did not indicate the time, that is, the duration of the examination.

Among the 20 question papers from different schools, it shows that 15, that is 80% of the questions are not divided into section based on aspects covered like writing, vocabulary and oral. All aspects of English language were bundled together.

5 that is 20% of the schools did not typed the English that questions. That is as a result of lack of materials.

Discussion of Results

The main aim of this study is to assess the construct validity of the teacher-made English tests in secondary schools in Sabon-Tasha Inspectorate Division of Kaduna State. We discovered that there are more female English teachers than male. The female teachers made up 60% of the English teachers while the male teachers are 40% of the sampled population of the study. Most of these teachers have a degree in English language as a field of specialization, 80% of these teachers admitted having first degree while 12% have masters' degrees. Those with Nigeria Certificate of Education are 6% and 1% have other certificates. The data also shows that the teachers have put in several years of practice. The teachers that have put in 6 – 15 years and 16 – 20 years are those in the highest number among the respondents which have 30% of them each. It is also followed by those that have put in between 21 – 30 years that have 24% while those with 1 – 5 years and 31 – 35 years have 6% and 2% respectively.

The first research question tries to find out whether the teacher-made English test questions are expressed and structured to the students' understanding. The data from the interview of the experts, shows that over 90% of the teachers do not believe that the teacher-made English test have errors in words and sentence structures. Over 80% of the teachers do not agree also that the students do not understand the teacher-made test because of wrong construction. However, examining through the documentary source of data, the past question papers of teacher-made tests show that some of the question papers have some grammatical and structural errors that ranges from punctuations, subject verb agreement and wrong use of words. This agrees with the assertion that the teacher-made English test is hurriedly prepared and presented. This finding is also in line with Omo-Egbekuse et al (2010) that teachers claim competency in assessment issues but experience in the field has shown that most teachers are still lagging behind

in the area of assessment. Though the errors observed in the teacher-made English test did not impede the understanding of the test. However, the findings of this study did not completely align with Osunde (2008) which revealed that teachers in Nigerian school system lack adequate skills to develop valid teacher-made tests in school. It is however imperative for teachers of English to address such common errors in their classroom assessment.

The second question of the study tried to find out whether the teacher-made English tests are divided into sections and have the indication on the test papers. The responses from the interview show that most teachers do not agree that their tests are not divided into sections. Also the majority of them do not agree that their test do not often include the time or duration. However, the question papers of the teacher-made English tests show that most of the questions were not divided into sections and do not have time allocation for the test. This further confirmed the assertion by Omo-Egbekuse et al (2010) that teachers claimed to have competence in assessment issues but what is seen in the field fails short of the claims.

The last research question investigated whether there are hindrances or barrier in achieving construct validity. The interview shows that 64% of the teachers admitted that lack of materials affect and hinder the achievement of construct validity in teacher- made tests. Some of the teachers admitted in the interview that most of the times, tests are written on the blackboard because of lack of materials to type questions on paper. This is said to be the reason that test questions are not divided into section and elaborate instructions are not given for lack of space. The question papers show that the test is not spaced accordingly. This is in line with teachers response that teacher-made tests do not have enough materials for its construction. This also confirms the assertion of Olaofe (2010) that English language is taught and assessed in an under-resourced environment. He concluded that there is a great deformity in the educational sector because of the uncomfortable environment of learning.

Conclusion

The goals of a test cannot be achieved if the test lacks construct validity. The teachers in Nigerian schools need to develop adequate skills in assessment to help them develop a valid based teacher-made test. A continuous attempt for developing their competency will go a long way to achieve construct validity.

Test is very crucial in the teaching and learning process. Teacher-made test being the test that is often used in assessment in Nigeria secondary schools has become a very imperative area that its construct validity has to be achieved. The need for continuous training of the teachers becomes very imperative.

Recommendations

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

1. In service training should be given to the teachers on assessment from time to time. This will help to improve their performance in teacher-made test.
2. Teachers need to have guide like textbooks that can guide them on how to construct teacher-made English test that can achieve the construct validity.
3. The teachers need to improvise materials that can aid them to set tests that will achieve the construct validity.
4. Government should match their words with action by providing the necessary materials to schools that can enable the teachers to set tests that have construct validity.

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VERTICAL FARMING SYSTEM: A SUSTAINABLE AGRICULTURAL TECHNOLOGY FOR ENHANCING FOOD SECURITY

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Abstract

This paper takes a cursory look at the use of vertical farming technology as a tool to overcome the prevailing challenges of food insecurity confronting most countries amidst the inadequacy of arable land and demand from a rapidly growing population. Vertical farming has the potentials of providing a more sustainable and resource-efficient solution to the problem of adequate food crop production, enabling the production of larger quantities of food crops closer to urban population where the demand are higher and also help reduce the distances associated with distribution. The paper examines the process of setting up vertical farms, how vertical farm works and the systems used in vertical farming. Application of robotics in vertical farms was then reviewed. Benefits of vertical farming were also identified. Recommendations includes to design business systems to locally build, install and commercialize community adaptable vertical farm prototypes and initiate strategies to attract venture capitalists to invest in vertical farms agritech companies in our communities.

Key Word: Vertical Farming System, Sustainable Agricultural Technology, Food Security.

Introduction

Agriculture has changed dramatically over time due to development of new technologies, mechanization, increased chemical use and specialization that favoured maximizing production and reducing food prices. In a report by Food and Agricultural Organization (FAO), (2017) these changes have allowed fewer farmers to produce more food and fiber at lower prices. Although these developments have had many positive effects and reduced many risks in farming, they also have significant costs. Diao et al., (2016) outlined some of these cost which includes topsoil depletion, groundwater contamination, air pollution, greenhouse gas emissions, the decline of family farms, new threats to human health, safety due to the spread of new pathogens, economic concentration in the food and agricultural industries. FAO, (2016) reported that field crop production has a huge influence on the environment, creating climate

change, water shortages, land degradation, deforestation, and other issues. According to Shailesh, (2021) one of the best ways to combat negative environmental changes caused by accelerated food crop production is to produce healthy food using methods which impact minimally on the environment based on sustainable agriculture. This offers a potential solution to enable agricultural systems to feed a growing population while coping with changing environmental conditions.

Sustainable Agriculture

Sustainable agriculture is defined as an integrated system of plant and animal production practices which will meet human food and fiber needs; improve environmental quality and the natural resource base on which the agricultural economy depends; make the most efficient use of nonrenewable resources and on-farm resources; and integrate, where appropriate, natural biological cycles and sustain the economy (USDA, 2007). It is a type of farming that produces enough food and textiles to fulfill the demands of the current generation without jeopardizing the environment's balance or future life support systems. Oregon State University, (2022) opined that sustainable agriculture combines three major objectives: environmental health, economic profit, and social equality.

Several studies of natural and human systems have discovered that agro systems that endure throughout time are often very robust, adaptable, and diverse. Cabell and Oelofse, (2012) observed that because most agro-ecosystems encounter factors (such as climate, insect populations, political situations, and others) that are extremely unpredictable and rarely constant over time, resilience is crucial. Farmers are contemplating how to leverage on existing natural processes or how to build their agricultural systems to include critical functions of natural ecosystems as one method to achieve these aims. It is frequently feasible to sustain an economically viable production system with fewer potentially hazardous inputs by constructing biologically integrated agro-ecosystems that rely more on internal cycling of nutrients and energy (Brodt et al., 2011; Van Ginkel et al., 2013). In the light of growing knowledge of the detrimental environmental effects of extensive tillage-based row-cropping systems, sustainable agriculture has become more important (Lira and Tyner, 2018; Ghimire et al., 2018).

According to Abubakar and Attanda (2013), a dynamic strategy will be required to address global food insecurity and put agriculture on a path to sustainability, in which soil, water, plants, and living beings coexist in well-balanced food chains. This type of long-term development will improve both the quality of life and the economy. However in the view of Ghimire et al., (2018) both the short and long-term aims, sustainable farming should use technologies that conserve land, water, or biological

resources, and avoid using technologies that degrade resources.

In the opinion of Obaisi, (2017), the world's resources are rapidly depleting, putting food security for a rising population in jeopardy. One of the most pressing issues confronting the globe today is how to efficiently use available but finite land resources which are rapidly depleting thereby putting food production in jeopardy. Vertical farming is one idea that can assist and give a more sustainable and resource-efficient answer to this critical issue (Cairns, 2020).

Vertical Farming

Vertical farming is the practice of producing food crops on vertically inclined surfaces. Instead of farming vegetables and other food crops on a single level, such as in a field or a greenhouse, this method produces food crops in vertically stacked layers commonly integrated into other structures like a skyscraper, shipping container or repurposed warehouse (Leblanc, 2020). Large-scale systems tend to consist of a series of vertically stacked surfaces that are usually, though not always, integrated into already existing buildings, like office blocks. Federman, (2021), observed that vertical farms can also be created inside repurposed warehouses, used shipping containers, greenhouses, or other buildings that would normally not be suitable for large-scale farming.

In the opinion of Howells, (2021), vertical farming might become the food production technique of choice for future generations with the correct investment and commitment. Meanwhile Leblanc, (2020) indicated that alongside sustainable outdoor techniques, indoor and vertical farming presents as a low-impact approach for increasing food production levels. Perhaps the most fascinating aspect about vertical farming technologies is that they are still in the early stages of development. In a report FAO, (2017) further indicated that as the world becomes more populated within urban centers, arable land and water become scarcer, and food security increases, the way we farm must adapt. Increasing food demand due to a growing population along with ever decreasing arable lands poses one of the greatest challenges facing us (Ranganathan, 2018). Vertical farming and hydroponics can not only solve existing problems but can improve the system, leading to a healthier and more sustainable future. Vertical farming enables the ability to grow food closer to large population centers and also reduces the transportation problems associated with distribution.

Chole et al., (2021) observed that vertical farming is often associated with Controlled Environment Agriculture (CEA) technology and indoor farming techniques. When using CEA technology the artificial control of temperature, light, humidity, and gases

is key and makes indoor production of food crops and medicine possible. The primary goal of vertical farming is to maximize crop output in a limited space while considering producing crops on otherwise barren and uncultivable land (Kirkham, 2019). According to the Vertical Farm Institute in Vienna, Austria, every square meter (10.76 sq ft) of floor space given over to vertical farming produces approximately the same amount of vegetable crops as 50 square meters (538 sq ft) of conventionally worked farmland (Kirkham, 2019; Touliatos, 2016). Vertical farming seeks to optimize growth conditions for each plant and can also apply these conditions in a controlled and fully automated environment. This maximizes yield and minimizes environmental impacts. Vertical farms are best suited to herbs and leafy vegetables that do not grow too high or too deep in the soil. This implies that it is possible to stack a lot of layers of plants in one building, making it a more cost-effective method of growing than traditional farming (Howells, 2021).

In vertical farming, a perfect combination of natural and artificial lights is used to maintain the perfect light level in the room. Technologies such as rotating beds are used to improve lighting efficiency. Instead of soil, aeroponic, aquaponic or hydroponic growing mediums are used in vertical farming (Lukhi, 2021; Farmdeck, 2022).

In the view of Agrofarming, (2022), the vertical farming method uses various sustainability features to offset the energy cost of farming as it uses 95% less water. Vertical Farms in Nigeria

According to Alonge (2022), the Lagos state government introduced its 'Eko Grow initiative', which welcomed venture capitalists to invest in agritech companies, thereafter many vertical farms have sprung up in the state. In a similar report De Luca (2022), revealed that a prototype of vertical farm was produced for Agege community in Lagos, where a co-development approach was adapted with each individual opinion valued, thereby arousing a sense of ownership of the project within the community. He further noted that three new prototypes were constructed and installed in Agege with local community support. Food growth performance and community acceptability of the prototypes were assessed and entrepreneurial competences and relationships in the community were developed. The success of this prototype may be useful as future models.

Runsewe, (2018) also gave an account of 'B.I.C. Farm Concepts', a Lagos-based agribusiness company which specializes in aquaculture, hydroponics, and has trained over 5000 small-scale farmers. Another success story is a company called 'Fresh Direct Nigeria', owned by Angel Adelaja located at Abuja, which employs a city

farming practice that uses the Vertical Farming technology to produce food and medicine on a commercial scale (Adams, 2018). According to Adelaja, the eco-friendly agricultural practice guarantees a 15 times higher yield. (https://www.instagram.com/p/BeIXH0mlu_I/?taken-by=missadelaja)

Setting up Vertical Farms

There are several ways in which to begin a home-scale vertical farm. Companies such as Cultivate the City Washington, DC (<http://cultivatethecity.com>) are known to sell readymade vertical farm installations that can be simply nailed to the wall or set up in the living room or backyard. For domestic-scale, simple vertical farms can be created using old pallets, or other custom-made solutions (Gibson, 2016). One can also buy customized, or standardized, off-the-shelf vertical farm solutions too. For larger-scale vertical farming options, one can either directly invest in existing vertical farms or raise enough capital to set up a new farm. Some companies offer larger-scale pre-packaged vertical farming solutions that can be quickly scaled up, depending on needs. Many of these solutions can also be combined with more traditional farming techniques, too (King, 2021).

Vertical Farming Systems and their Operations

Hydroponics is a common system of growing plants used in most forms of vertical farming, and it is slowly but steadily gaining importance. It Hydroponics involves the growth of plants in aqueous solutions of nutrients, rather than soil as in the traditional farming (Lagomarsino, 2019)

Aeroponics is another method used in vertical farming. This technique involves the growing of plants in an air or mist environment, with no soil and very little water. In aeroponics, seeds or seedlings are “planted” in pieces of foam stuffed into tiny pots, which are exposed to light on one end and nutrient mist on the other. The foam holds the stem and root mass in place as the plants grow (Reddy, et al., 2022).

Aquaponics is another technique used in vertical farms. Youmatter, (2020), recorded that in this system, fish grow in indoor ponds and produce nutrient-rich waste that acts as a food source for the plants grown in vertical farms. The plants, in return, purify and filter the wastewater, which is recycled directly back into the fish ponds.

Lokal is yet another interesting vertical farming technique, which is a sort of pop-up farming system. Crops are grown hydroponically, and it primarily relies on artificial light, like LEDs, rather than natural sunlight. According to the designers of Lokal, their system allows plants to grow three times faster than traditional gardens. In the demonstration model, a salad bar was set up in front of the farm, this enables the food to be served up straight away (Vyas, 2021)

Advanced Robotics in Vertical Farming

According to Eagle Technologies, (2021), advances in robotic technology offer promising solutions to some of the technical problems vertical farmers face.

Advantages of robotics include:

- Robots do not have to be fixed in place, and can move through a space as needed.
- Multiple axis of articulation allows for greater control.
- Various actions can be performed by a single robot.
- Robots can adapt to their environment instead of needing their environment to be prepared for them.

Benefits of Vertical Farming

The following are some of the major benefits of vertical farming:

- Higher productivity in a much smaller land area
- Preparation for future: By the year 2050, around 68% of the world population is expected to live in urban areas, and the growing population will lead to an increased demand for food. The efficient use of vertical farming may perhaps play a significant role in preparing for such a challenge (Leblanc, 2020)
- Increased and all year-round crop production: Vertical farming allows us to produce more crops from the same square footage of growing area. In fact, 1 acre of an indoor area offers equivalent production to at least 4-6 acres of outdoor capacity. Additionally, year-round crop production is possible in a controlled indoor environment which is completely controlled by vertical farming technologies (Masterson, 2022).
- Less Use of water in cultivation: Vertical farming allows crops to be produced with 70% to 95% less water than required for normal cultivation (Naga, 2020).
- Not affected by unfavorable weather conditions: Crops in a field can be adversely affected by natural calamities such as torrential rains, cyclones, flooding or severe droughts—events which are becoming increasingly common as a result of global warming. Indoor vertical farms are less likely to feel the brunt of the unfavorable weather, providing greater certainty of harvest output throughout the year.
- Increased production of organic crops: As crops are produced in a well-controlled indoor environment without the use of chemical pesticides, vertical farming allows us to grow pesticide-free and organic crops (Agrofarming, 2022)
- Human and environmentally friendly: Indoor vertical farming can significantly lessen the occupational hazards associated with traditional farming. Farmers are not exposed to hazards related to heavy farming equipment, diseases like malaria, poisonous chemicals and so on. As it poses

no disturbance to animals and trees in land areas, it is good for biodiversity as well. - Shorter growing periods

- Fresh produce grown much closer to where it will be eaten
- Reduced transport cost

Summary

Conventional agriculture has changed massively overtime with increase in food production as a result of the development of new technologies, mechanization, increased chemical use and specialization resulting in changes that have allowed production of more food at lower prices, but with significant costs amongst which are topsoil depletion, groundwater contamination, air pollution, greenhouse gas emissions, new threats to human health and safety due to the spread of new pathogens.

Sustainability of agricultural production becomes of paramount importance to ensure increased production without negatively impacting the environment. In the opinion of (Conserve Energy Future, 2022) sustainable agriculture is that form of farming which produces sufficient food and textiles to meet the needs of present generation without compromising the ecological balance and life supporting system of future generations.

Vertical farming represents an innovative way to produce better food, in a more efficient and environmentally friendly way. Therefore, indoor and vertical farming will serve as a low impact solution to boosting food production levels alongside sustainable outdoor practices.

Vertical farming enables the growing of food closer to large population centers particularly in our urban areas. Instead of farming vegetables and other foods on a single level, such as in a field or a greenhouse, vertical farming allows production of more crops from the same square footage of growing area.

Conclusion

Although vertical farming technology are still relatively new, generating interest that will lead to farmers adoption of the technology and creating enabling environment and structures to encourage farmer's involvement has the potential of boosting food production, conserving scarce natural resources and generating employment for the teeming population without impacting negatively on the ecosystem. Realizing vertical farming's potential will require stakeholders' collaboration, government policy support, including a clear strategy for successful implementation.

Recommendations

The government at all levels should:

- Design and develop affordable vertical farm prototypes that are adaptable to the community.
- Design business systems to locally build, install and commercialize vertical farm prototypes.
- Initiate strategies to attract venture capitalists to invest in vertical farms agritech companies.
- Employ community members to take care of the prototypes and provide regular updates.
- Start with a pilot system for each community with adequate input sources.
- Introduction of hydroponics instruction into Universities and other higher institution's curriculums.
- Help develop marketing structures for produce.

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DIPLOMACY AS AN ALTERNATIVE INSTRUMENT FOR PEACE IN INTERNATIONAL RELATIONS

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Abstract

In today's world, the day hardly passes-by without the news or report of armed conflicts, wars, threat of wars, violation of human rights and the like being filtered to one's ears. This goes to say that one's precious life is not safe. This constant awareness of fear and tension should make any sensitive and rational person question seriously the progress of our modern world. That is why since antiquity, the world has pursued two primary paths to peace. The realist road emphasizes military solution; the liberal road emphasizes political solution or diplomatic means. Peace which is an essential ingredient for any endeavor has become an elusive commodity to mankind worldwide. In this case the role and place of diplomacy in international relations and the maintenance of world peace cannot be overemphasized. This is because diplomacy is a means by which to avoid the escalation of conflict and dangerous severity of war. War or conflict could be caused by political or institutional factors, socioeconomic factors, resource and environmental factors etc. the effects of this war or conflict can be very devastating on human, socioeconomic, regional, global etc. many factors have precipitated the need for world peace which is why idealism and the use of content analysis in this work advocated that war or conflict is inevitable but can be eliminated or eradicated by the establishment of international institutions like United Nations, International Court of Justice, International Criminal Court etc. which serve as an arbiter in enforcing international law. The work concludes that there is need for enduring world peace to foster sustainable socio-economic and political development which can be achieved through the different strata and track of diplomacy coupled with dialogue. The work recommended that the most effective way to remove war or conflict and foster peace is to prevent war or conflict in the first place which the United Nations is at the forefront, by establishing a just economic world order.

Keywords: Instrument, Peace, International relations. Diplomacy

Introduction

When we rise in the morning and watch the television, listen to the radio, or read the

newspapers/dailies, we are confronted with the same sad news: violence, crime, wars, threat of wars, kidnapping, banditry, etc. I cannot recall a single day without a report of something terrible happening somewhere. Even in these modern times it is clear that one's precious life is not safe. No former generation has had to experience so much bad news as we face today; this constant awareness of fear and tension should make any sensitive and compassionate person question seriously the progress of our modern world.

However, since antiquity, the world has pursued two primary paths to peace. The realist road emphasizes military solutions the liberal road emphasizes political solution or diplomatic means (Kegley & Wittkope, 2004). To preserve peace, one must prepare for war. That remains the classical realist formula for national security.

Almost every day, the news headlines report of armed conflicts, wars, human rights violations or some kind of serious threats to life in one part of the world or the other is prevalent. Most of these conflicts end up in violence and war with bloodshed. The Israeli-Arab conflict is becoming more protracted and keeps changing its form. The Iraq and Afghanistan wars are still on-going. The dispute over the Iranian and North Korea's nuclear development also threatens international peace and security. The dispute between India and Pakistan is another issue on ground. The Ukraine (Crimea)-Russia war was a bone of contention with Russia launching offensive missiles in different towns of Ukraine and vice-versa. The America and her allies' invasion of ISIL, the sanctions slam on Russia because of the invasion of Ukraine are case of 'no going back', and many other international wars and conflicts.

However, the continent of Africa in particular has also been bedeviled with too many devastating conflict and war; the North-South Sudan case is an issue of international concern, Mali case is not left out. In Ghana, there are a number of chieftaincy and land disputes which are a major drain on the nation's socio-economic development, in Kenya the insurgent activities of Al-Shabab is becoming gruesome, Ethiopia – Tigray conflict keeps lingering.

The situation in Nigeria is a worse case. The Indigenous People of Biafra IPOB and the Yoruba Nation's agitation crises keep recurring every now and then. The Boko-Haram menace has claimed many innocent lives and is still claiming lives in different parts of the nation, with the missing 'Chibok Girls' and the kidnappers still at-large. The Fulani-Herdsmen/Farmers issue in Benue, Kaduna and some parts of Nigeria is still on-going. The Zamfara armed banditry is still a threat to peace. Nigeria is presently in a deep infectious and outrageous crisis that cries loudly and painfully for attention. Like an illness whose malignant path has been clinically dissected, political observers have

found Nigeria's democracy in a deep sea beset by unclément weather. So many nautical perils massing together are a nightmare even for a helmsman of undisputed genius: from the war of resource control sweeping the southern states, to the creeping Islamisation of the states in the North; from ethnic militias with a sepa ratist agenda; to shara enforcers angling for religious self determination in a secular state; from insecurity occasioned by the states loss of the monopoly of the instruments of violence (Abubakar, 2014).

Peace which is an essential ingredient for any endavour has become an elusive commodity to mankind worldwide. No wonder Dr. Salim Ahmad Salim, one time Secretary-General of the erstwhile Organization of African Unity has succinctly captured it thus; “conflicts continue to prevail in most parts of the continent... causing considerable human suffering and destruction of property and infrastructure. They are subjecting generations of young Africans to violence, hatred and destruction. Conflict and war have torn apart the social fabric of the African society. They have separated and splited families and communities” (Annan, 1998).

In sum, the scourge of conflict and war has been one of the most destabilizing factors and has severely undermined our efforts at promoting socio-economic development”. Some of the biggest burdens to many African countries and their economies are civilwars, coups, and refugees. Solomon and Swart (2004) write that “no single internal factor has contributed more to socio-economic decline on the African continent and the suffering of the civilian population than the scourge of conflicts within and between states.” Research on impact of wars on economies shows that, on average, non-warring African countries experienced an increase of 13% inGDP annually, while the warring countries experienced an 8% decrease (Annan, 1998).

Theoretical-frame of Analysis

Idealism is the theory adopted in analyzing this work. The proponents of this theory include Sir Winston Churchill, Woodrow Wilson, Immanuel Kant, Franklin Roosevelt etc. who championed the establishment of the League of Nations (Clifford, 2009). It seeks to create a state of perpetual global peace through the existence of world freedom. It desires to eliminate war, inequality of mankind, end tyranny and all of that. Idealism views the international system with its myriads of conflicts and war as not only flawed but also capable of amelioration, if not cure.

The idealists believe that:

- I. Human nature is essentially good.
- ii. War is not inevitable, and can be eliminated by eradicating the institutional arrangement that encourage it.

- iii. The international society must re-organize itself to eliminate the institutions that makes war likely (Alkali, 2003).

However, idealists advocate the creation of international institutions to create forum in which nation-states can discuss their disagreements in ways that will reinforce the cooperative rather than the competitive dimensions of their relationships with one another. Eventually, the idealist advocated the establishment of world government with institutional structures that correspond to domestic government to regulate and control the behavior of actors in the international system. Hence, the establishments of international institutions like the United Nations, International Court of Justice (ICJ) and of recent International Criminal Court (ICC), which serve as an arbiter in enforcing international law (Alkali, 2003).

The concern of nation states as regards the maintenance of a peaceful world was to ensure the good and peaceful coexistence in international environment; hence the relevance of this theory is to strive at maintaining a peaceful world.

Origin and the Concept of Diplomacy

Diplomacy is a practices and institutions by which nations conduct their relations with one another. Originally, the English term *diplomats* referred to the care and evaluation of official papers or archives, many of which were treaties. In the 18th century diplomatic documents increasingly meant those pertaining to international relations, and the term *diplomatic corps* was used to signify the body of ambassadors, envoys, and officials attached to foreign missions. In 1796 the British philosopher Edmund Burke castigated the French for their “double diplomacy” during the Napoleonic Wars; since then the term *diplomacy* has been associated with international politics and foreign policy (Microsoft Encarta, 2009).

The word 'diplomacy' stems from the Greek word 'diploma' which literally means “two fold” as in folded in two. In ancient Greece, a diploma was a certificate certifying completion of a course of study, typically folded in two. In the days of Roman Empire, the word 'diploma' was used to describe official travel documents, such as passports and passes for imperial roads that were stamped no double metal plates. Later, the meaning was extended to cover other official documents such as treaties with foreign tribes (Routledge,2013).

Diplomacy has been described as being old as man's existence on earth. It existed since the anarchical state system and can be substituted with such words as negotiation, or bargaining to change or sustain policies among states. Sir Harold Nicholson posits that diplomacy is the application of tact, common sense and intelligence in contact with

foreign officials, stressing that it is used primarily to reach agreement, compromise or settlement, whereas actors, objectives are in conflict or competition in the international system (Ugwukah, 2010).

The role and place of diplomacy in the international relations and the maintenance of world peace cannot be overemphasized. It is impossible to deny the importance of diplomacy in strengthening a nation's power, not only in external but also in internal affairs. Diplomacy is a means by which to avoid the escalating of conflict and dangerous severities of war (Rodi, 2018).

However, as stated under the clarification of key concepts, Diplomacy like any other social science concept has no watertight definition, which means that diplomacy as a concept has defied a precise and generally acceptable definition. For instance, it may be seen as the art and practice of conducting negotiations between representatives of groups or nations. It usually refers to international diplomacy, the conduct of international relations through the intercession of professional diplomats with regard to issues of peacemaking, culture, economics, trade and war. So, diplomacy is the business of making agreements or treaties between countries. It is the art or practice of conducting international relations, as in negotiating alliances, treaties, and agreements. It is also the art of conducting negotiations with other states of the world so as to remove or narrow down the areas of disagreements and misunderstandings and thereby maintaining good relations as far as possible (Okpara, 2019).

The Causes of Conflict/war

War, hot or cold, originates in the structure of the international political system. There is no single cause of war or conflict. Rather, it is context-specific, multi-causal and multidimensional, and internally, can result from a combination of the following factors:

- I. Political and institutional factors: weak state institutions, elite power struggles and political exclusion, breakdown in social contract and corruption, identity politics.
- ii. Socioeconomic factors: inequality, exclusion and marginalization, absence or weakening of social cohesion, poverty etc.
- iii. Resource and environmental factors: greed, scarcity of national resources often due to population growth leading to environmental insecurity, unjust resource exploitation (Kegley&Wittkope, 2004).

Most Americans blames the Soviet Union for creating the Cold War, by the actions that follow necessarily from the nature of its society and government. Revisionist historians, attacking the dominant view, assign blame to the United States. Some

American error, or sinister interest, or faulty assumption about Soviet aims, they argue, is what started the Cold War. Either way, the point is lost. Although the techniques used to manage insecurity are many, some-times the approaches fail and wars do break out. “There have been approximately 14,500 armed struggles throughout history, with about 3.5 billion people dying either as a direct or indirect result (Singer & Small, 2001). In contemporary era, there have been between 224 and 559 international, internal, and colonialist wars, depending on how 'war' is defined.

Okpara (2019) asserted that since the end of the Cold War, many conflict analysts have highlighted the rise of new forms of violent conflict. They argue that contemporary conflicts differ in terms of scope (internal rather than inter-state); combatants (non-state actors: private armies, warlords, criminal gangs, organized communal groups and terrorist or guerrilla organizations instead of governments, professional soldiers or conscripts); methods (increased use of terror and guerrilla actions and deliberate targeting of civilians instead of combat in conventional battlefields); and models of financing (external rather than internal).

Whether the objectives of contemporary wars have changed is contested. While some argued that new wars are no longer about ideology and nationalism and focus instead on identity and group conflicts; others stress that group labels can only resonate if tied to a specific political project. Wars are still fought, they argue, for economic, political, ideological and geopolitical reasons. In particular, control over and access to resources is still prevalent in many violent conflicts. Both nationalism and identity can come into play as a mechanism to provide justification for unique claims of control over resources and territory to the (forced) exclusion of other groups (Out, 2017). But while the security dilemma explains why states are insecure, it does not explain why war breaks out. An analysis of any war – Vietnam, Angola, Cambodia, World War II etc. war would find some variety of reasons for its occurrence (Placek, 2012).

The international system is the primary framework of international relations (Waltz, 1954). Although that framework exists all the time, so to explain why sometimes wars actually occur and sometimes they do not, we also need to consider some levels of analysis. Characteristics of individuals, both leaders and masses, and the internal structure of states are part of the forces that operate within the limitations of the international system. However, Waltz believed that there are three levels of analysis to the causes of war; the Individual, state/society and the International system.

Individual

Both the characteristics of individual leaders and the general attributes of people have been blamed for war. Some individual leaders are aggressive and bellicose; they use

their leadership positions to further their causes. According to liberals, misperceptions by leaders – seeing aggressiveness where it may not be intended, imputing the actions of one person to a group – can lead to the outbreak of war. But, we can only speculate.

If not the responsibility of leaders, perhaps characteristics of the masses lead to the outbreak of war. Some realist thinkers – St. Augustine and Niebuhr, for instance, take this position. St. Augustine wrote that every act is an act of self-preservation on the part of individuals; for Niebuhr the link goes even deeper – the origin of war resides in the depths of the human psyche.

For pessimists, if war is the product of a flawed human nature, then there is no reprieve – war will inevitably occur all the time. For optimists, all hope of eliminating war resides in trying to fundamentally alter human nature (Routledge, 2013).

State/Society

The second level of explanation suggests that war occurs because of the internal structures and dynamics of states. States vary in sizes, geography, ethnic homogeneity, and economic and political preferences. The question then, is how do the characteristics of different states affect the possibility of war? Which state structures are most correlated with the propensity to go to war?

Liberals posit that democratic states are least likely to wage war; that is the proposition of Democratic Peace theory (Placek, 2012). Democracies are pacific because democratic norms and culture inhibit the leadership from taking actions leading to war. Democratic leaders hear from multiple voices that tend to restrain decision-makers and therefore lessen the chances of war. Such states provide outlets for individuals to voice opposing viewpoints, and structural mechanisms exist for replacing war-prone or aggressive rulers. To live in such a state, individuals learn the art of compromise. In the process, extreme behavior like waging war is curbed, engaged in only periodically and then only if necessary to make a state's own democracy safe (Niebuhr, 1945). But, not every theorist sees the liberal state as benign and peace-loving. Indeed, Marxist or radical theorists offer the most thorough critique of liberalism and its economic counterpart, capitalism. They argue that capitalist liberal modes of production inevitably lead to conflict between the two major social classes within the state, the bourgeoisie and the proletariat, for both economic dominance and political leadership. This struggle leads to war, both internally and externally, as the state dominated by the entrenched bourgeoisie is driven to expand the engine of capitalism at the expense of the proletariat and for the economic preservation of the bourgeoisie (Nwolise, 2010)..

The International System

The most fundamental characteristic of the international system is anarchy, which by definition exists because the international system lacks a world government with the ability to make and enforce international law. This lack of world government (lack of

World Police Force) means that at the most basic level, wars happen because there is no global authority capable of preventing them. This international system is essentially a “self-help” system in which countries must ultimately provide for their own society (Moyroud, 1999).

To the realist, the international system is also anarchical. That the anarchical international system is governed only by a weak anarchical rule of law, which is easily dispensed with when states determine it is in their self-interest to do so. Thus, it is states that, when feeling threatened, decided to go to war against other, similarly situated states.

To Marxist as well, the international system structure is responsible for war. Dominant capitalist states within the international system need to expand economically, leading to wars with less-developed regions over control of natural resources and labour markets, or with capitalist states over control of less developed regions. The dynamic of expansion inherent in the international capitalist system, then, is the major cause of wars, according to the Marxist thinking. In addition to the above factors however, it is necessary to also add that factors like Internal, External and Economic motives could be sources to conflict or war in any human environment, most especially in Africa (Nwolise, 2010).

Appadorai (1974) posited that looking at the internal factor – more than three decades after African countries gained independence, there is a growing recognition among Africans themselves that the continent must look beyond its colonial past for the causes of current conflicts. Today more than ever, Africa must look at itself. The nature of political power in many African states, together with the real and perceived consequences of capturing and maintaining power is a key source of conflict across the continent.

During the cold war, external factor or efforts to bolster or undermine African Governments were a familiar feature of super-power competition. With the end of the cold war, external intervention has diminished but has not disappeared. In the competition for oil and other precious resources in Africa, interests external to Africa continue to play a large and sometimes decisive role, both in suppressing conflict and in sustaining it (Auustine, 1986)..

For the economic motives however, despite the devastation that armed conflicts bring,

there are many who profit from chaos and lack of accountability, and who may have little or no interest in stopping a conflict and much interest in prolonging it. In Liberia, the control and exploitation of diamonds, timber and other raw materials was one of the principal objectives of the warring factions. Control over those resources financed the various factions and gave them the means to sustain the conflict.

Other factors endangering or fueling conflict or war could be:

1. The belief of some leaders in “Pax Armamenta” (Peace through the barrel of the gun). It encourage over-looking of the real causes of conflict and insecurity. But paxarmamenta is a stratagem to protect the status-quo, while relegating dialogue which is a tool for changing the status-quo. Pax armament also diverts funds away from socio-economic development to arms meant to crush rebels, opponents and enemies.
2. International terrorism, apart from the tension, and destruction it causes and spread all over the world, also has the potentials to generate physical wars between and within nations. The fighting in Afghanistan and Iraq between US forces and forces internal to the two respective nations, was as a result of the September 11 2001 attack against America which stimulated the US Global War on Terror.
3. Bad governance generates injustice, tension and rebellion within a country. These may raise rebel or terror groups that choose to operate from outside the country, thereby raising tension between the two affected nations. Taking Nigeria as an example, the militancy in the Niger Delta is a product of prolonged neglect, resulting from equally prolonged suffering of the people. This led to kidnapping of foreign oil workers, and withdrawal of some oil companies from Nigeria (Alkali, 2003).

The Effect or Impact of Conflict/war

War or conflict has devastating effects across a range of areas, many of which have lasting impacts. These effects could range from: human toll, socioeconomic costs, social psychological, regional/global impact etc.

Human toll; war or conflict results in loss of life, disablement, rape and sexual violence, displacement and forced migration, the spread of disease and famine. Loss of life continues into the future with the spread of HIV/AIDS and the presence of landmines (Appadorai, 1974).

Socioeconomic costs; Infrastructure, capital stock and household assets are destroyed during conflict, investment declines, and household and national incomes drop. The loss of livelihoods, due in part to the destruction of infrastructure and natural resources,

and lack of employment opportunities coincides with a weakened social safety net and a decline in the capacity of the state to provide services, such as health and education. Socioeconomic indicators demonstrate that impacts of conflict include declining literacy, a drop in life expectancy and increased infant mortality. The collapse of education systems and the loss of educated populations (due to death or displacement) have negative long-term implications for human capital and economic productivity (Appadorai, 1974).

Social-psychological; Experiencing violent conflict can be extremely traumatic. Many war-affected persons suffer from post-traumatic stress syndrome, which contributes to poor mental and physical health, reduced quality of life, and in some cases, greater difficulties in work, education and family life - and increased violent behaviour. Women who have endured sexual violence can suffer rejection in their own families and communities. Youth and children are at particular risk of the effect of societal violence.

Legacy of large-scale human rights abuses: Violent conflict results from and produces a breakdown of law and order and the perpetration of human rights abuses on a mass scale – by government, non-state actors, and in the case of transnational conflicts, external actors. Addressing this legacy and finding the appropriate methods to come to terms with it is a key challenge in conflict affected societies. Left unaddressed, there is the risk that grievances will persist and societies will remain locked in conflict dynamics (Gaubu, 1998).

Regional/global impact: Violent conflict has various effects in neighbouring countries and beyond as arms, drugs, conflict resources and refugees spill over the border. Mass refugee migration in particular can place a large economic burden on host countries. Neighbouring countries may also suffer from damage to cross-border infrastructure and the environmental impacts of conflict (Appadorai, 1974).

The Need for World Peace

Among the copious issues engaging the actors in international relations, security and unrest issues are the most salient and alarming, the most prevalent, and indeed the most intractable. States exist in an anarchic world. While there may be formal and informal rules that give rise to a type of international system structure, there is no international supreme authority, no centralized government empowered to manage or control the actions of individual elites, sovereign state, or even international intergovernmental organizations (Knopf, 2016).

Many factors have precipitated the need for world peace at a very alarming rate with

earliest civilization man has always maintained a quest for peace and security the preceding century witnessed the signing of treaties alliances and concordance. Peace and security are twin sacred values desired by every individual, group, nation and the global community because without them, nothing else will be really meaningful. However, new or added dimension have been influencing the nature or relation and the interaction between man and his fellow man in the 20th century. The sweeping wave of nationalism, patriotism has radicalized the outlook of war and conflict in the contemporary international system.

The last century has witnessed the two greatest wars in man's history which has emphasized the need for peace. Hitler's invasion of Australia, Hungary and Poland shortly before World War II was the result of extreme nationalism and patriotism toward the Aryan race which is belonged to. The result of such extreme nationalism was the World War II which claimed a lot of human and other resources. Yet, despite the huge human and material resources lost, and the horrifying experiences of humanity in the First World War 1914-1918, and Second War 1939-1945, as well as the establishment and transparent assiduous efforts of the United Nations, and global investment on peace and security, the world cannot beat its chest today and scream "uhuru" (Kegley and Wittkope, 2004).

German Military strategist Clausewitz called war the continuation of political activity by other means (Gray, 2007), at the time leaders use war or the threat of war as a last resort to attract concession from their adversaries. But in a nuclear age characterized by existence of super powers, using war as the last resort will be suicidal to the human race. War is however, an option whose time has passed, peace is the only option for the future, and it can be achieved through the instrument of diplomacy. Diplomacy revolves around the representation and the protection of the interest and nationals of the sending state as well as the promotion of information and friendly relations. Through diplomacy, negotiations can come into play in order to maintain political, economic and social relations with another country or countries, and peace ensued.

The world has been saturated with civil wars and threats of war, conflicts and political unrest. The need for peace however, is very essential even in the state of nature. Hobbes believed that life in the state of nature, is a general disposition to war "of every man against every man", leading to perpetual fear and strife which consequently makes life in Hobbesian state of nature to be "solitary, poor, nasty, brutish and short". On the other hand, Lockean state of nature is moral and social in character. In it, men have rights and acknowledge duties, just that life in the state of nature (for Locke) is not satisfactory as peace is constantly upset by the corruption and viciousness of degenerate men, which Locke says plagues the state of nature by lack of an established

settled down law, lack of known and indifferent judge, and the lack of an executive power to enforce just decisions. These, Locke argued, necessitated the formation of a civil society (the State) devoid of the evils and hence the social contract (Murkherjee and Ramaswamy, 1999; Gauba, 2003; Enemu, 1999:74; Appadorai, 1974:27).

In essence, the argument in social contract is projecting the need for world peace, where people decided to surrender their rights in order to pursue peace.

Peacemaking

The deployment of peacemaking resources is an essential part of any effort, whether national or international, to prevent, contain and resolve conflict or war. Peacemaking efforts need to be well coordinated and well prepared. Within the UN system the recently created Executive Committee on Peace and Security, convened by the Under-Secretary-General for Political Affairs, is intended further to enhance cooperation, policy cohesion and the sharing of information (Gauba, 2002).

Peacekeeping

United Nations has deployed more of its peacekeeping operations in Africa than in any other single region. Following a decline in international tensions, the deployment in 1989 of operations in Angola and Namibia began a new era of complex, post-cold-war peacekeeping (Abubakar, 2014).

Peace-building

Peace is referred to absence of conflicts and disputes. In other words, when individuals are calm and composed, they are peaceful. When the individuals generate awareness in terms of morality and ethics and are considerate and supportive towards others, then it is stated that they are able to put into practice peace education. This is an action taken at the end of a conflict to consolidate peace and prevent a recurrence of armed confrontation. The consolidation of peace in the aftermath of conflict requires more than purely diplomatic and military action, and that an integrated peace-building effort is needed to address the various factors that have caused or are threatening a conflict or war. Peace-building may involve the creation of strengthening of national institutions, monitoring elections, promoting human rights, providing for reintegration and rehabilitation programmes, and creating conditions for resumed development (Gauba, 2002).

The Place/role of Diplomacy in Maintaining World Peace

Just like a lawyer's ethical responsibility is to make the most of vigorous possible advocacy for his client regardless of his personal opinions, so is expected of diplomacy

or a diplomat representing a state or organization in international relations. Diplomacy is expected to bring about negotiation. In order for a negotiation to succeed, which may not always be a desirable or preferred outcome; there should be a good general understanding of the baseline situation on ground, and the willingness to bargain. The main purpose of diplomacy is to avoid the situation of conflict or war as far as possible (Annan, 1998). Diplomacy takes place in both bilateral and multilateral contexts. Bilateral diplomacy is the term used for communication between two States, while multilateral diplomacy involves contacts between several States often within the institutionalized setting of an international organisation. Negotiation is one of most important means of conducting diplomacy, and in many cases results in the conclusion of treaties between States and the codification of international law. The aim of such international treaties is primarily to strike a balance between State interests.

In situation where diplomat is involved, the diplomat facilitates and maintains dialogue with his counterparts, hopefully with a view to arriving at complementary assessments of threats, benefits, and actions to be taken to maximize their respective national interests. If the dialogue goes far enough, it can lead to commitments usually expressed in the form of treaties or agreements.

Peace through diplomacy has become a national catchphrase. Diplomatic efforts are usually the most cost-effective and the most quickly deployed, while negotiation, mediation, good offices, fact-finding missions and judicial resolution may all be involved. Many public figures increasingly play down the need for force or military action, demanding that U.S. foreign policy be reconstructed around rhetoric, conversation - diplomacy. Of course, it is infinitely preferable, whenever possible, to achieve foreign policy objectives through diplomacy. The question is: Is this a time when diplomacy alone can achieve the peace we crave? It appears the present administration in Washington is coming to believe the answer is yes. After labeling Iran and North Korea as members of an axis of evil and Syria a rogue state and long maintaining a policy of refusing to entertain such nations in direct diplomatic talks, the president has lately shown himself willing to sit down with these same nations at a table laid with negotiation and compromise. In March, the U.S. held high-level talks with Iran and Syria on the future of Iraq, and scheduled a follow-up meeting for April. The same month, the assistant secretary of state met with North Korean officials in New York to discuss normalizing relations between their two nations - steps that could include removing North Korea from America's list of state sponsors of terrorism and opening a trading relationship.

Furthering national interest through peaceful means is the ultimate purpose of diplomacy. International relations expert Hans Morgenthau wrote, "Of all the factors

that make for the power of a nation, the most important, however unstable, is the quality of diplomacy”. High-quality diplomacy is one of the strongest weapons a nation can possess. Weak diplomacy, on the other hand, can thrust a nation into crisis. Morgenthau explained diplomacy as the “art of bringing the different elements of the national power to bear with maximum effect upon those points in the international situation which concern the national interest most directly”. Effective diplomacy occurs when a government uses the elements of national power at its disposal - its political connections and influence, geographic situation, economic and industrial capacity, military might - to promote its national interests. Intelligent diplomacy, wrote Morgenthau, harnesses these qualities and pursues its objectives by three means: persuasion, compromise, and threat of force (Morgenthau, 1978).

The United Nations (UN) organization remains as the single largest and most influential international diplomatic organization. The UN's objective is to prevent war, maintain peace, and ensure that all people can have a good standard of living and thus live with human dignity. Through the UN, countries can tackle international issues together, as well as prevent conflicts from arising amongst themselves through communication and compromise. Military intervention by the UN is only done when deemed necessary (Abubakar, 2003). In fulfilling its objective, the UN promotes peace and harmony above all else. In the UN, countries must work for the common good of the world, and in doing so, they are required to uphold peace and prevent conflict (Out, 2017).

By and large, diplomacy is a method of confidence-building. Confidence-building activities, like diplomatic summits and meetings, serve as a platform for countries to share information, propose cooperation, and clear misunderstandings, both on a bilateral and multilateral level. By understanding the intentions of other countries, a country may not engage in unnecessary conflict. The bond of trust created through diplomacy has the power to prevent tensions from developing, but countries engaged in diplomatic relationships must be committed to maintain the trust given to them by the other country. Diplomacy is not an end but a means, not a purpose but a method. It seeks, by the use of reason, conciliation and exchange of interests, prevents major conflicts arising between sovereign states. Thus, when agreement becomes impossible, diplomacy which is the instrument of peace, becomes imperative; and foreign policy, the final sanction of which is war, alone becomes operative.

Conclusion

The world needs an enduring peace for sustainable socio-economic and political development. There is no doubt that the world today faces a lot of challenges as far as global peace and security are concerned. This is a very crucial prerequisite for every

individual country as well, this can be achieved through the different strata and track of Diplomacy coupled with dialogue.

Anger plays no small role in current conflict and threat such as those in Africa.

These conflicts arise from a failure to understand one another's humanness. The answer is not the development and use of greater military force, nor an arms race. Nor is it purely political or purely technological. Basically it is mutual understanding, in the sense that what is required is a sensitive understanding of our common human situation. Hatred and fighting cannot bring happiness to anyone, even to the winners of battles. Violence always produces misery and thus is essentially counter-productive. It is therefore time for the world leaders to learn to transcend the differences of race, culture, and ideology and to regard one another through eyes that see the common human situation. These world leaders need to apply more of diplomacy than the current dominance of power approach in international relations. There is also the need to humanize the Multinational Corporations whose operations and scotched policies in Africa breeds militancy and terrorism.

Recommendations

1. The most effective way to diminish human suffering and the massive economic costs of conflicts and their aftermath is to prevent conflicts in the first place, and the United Nations play a key role in that. The United Nations need to foster peace using diplomacy, good offices and mediation. Among the tools the organization will use to bring peace are special envoys and political missions in the field.
2. The UN also needs to work harder at establishing a just economic world order. Today, less than half of the world (Northern Hemisphere) is enjoying excess world resources where more than half of world (Southern Hemisphere) is wallowing in poverty and misery. As such, there is urgent need for rich nations to move resources away from militarism to socio-economic well being in poor nations. To do so would benefit individuals, communities, nations and the world at large.

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CHALLENGING ISSUES IN TEACHING AND LEARNING OF MATHEMATICS IN SECONDARY SCHOOLS IN NIGERIA

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Abstract

Mathematics is one of the most important subjects taught from primary to tertiary institutions in Nigeria. Mathematics is a subject of numbers, shapes, data, measurements and also logical activities. It has a huge scope in every field of our life such as medicine, engineering, finance, natural science, economics, etc More so, mathematics provides an effective way of building mental discipline and mental rigor. However, teaching and learning mathematics in secondary schools in Nigeria is not without challenging issues. This paper discusses on challenging issues such as social, cultural political and technological issues. Theory-practice balance, multicultural education and leadership, policy and technology were discussed as remedy to the challenging issues. It is recommended that stakeholders such as government, curriculum planners, policy makers, experts, teachers, students and parents should be serious and be aware of these issues and their consequences in the teaching and learning of the subject.

Key Words: Challenging issues, Teaching and Learning, Mathematics

Introduction

The importance of mathematics in the development of manpower for a nation's economy cannot be over-emphasized. As a result of this, the Federal Government of Nigeria made mathematics a core and compulsory subject at both primary and secondary school level. In fact, the Nigerian government committed themselves a lot to the teaching and learning of mathematics in secondary schools by investing financially and materially in education. In spite the orchestrated importance of mathematics and the laudable as well as substantial investment in the study of mathematics by the Nigerian Government, students' performance in the subject has not been impressive over the years (Adeyegbe, 2007).

The West African Examination Council (WAEC) Chief Examiners' Report (2012) indicated poor performance in Mathematics. Also, Umadiae (2009) while announcing WAEC results said out of 1,369, 142 candidates that sat for examination in the country, 947, 945 candidates (83%) failed to obtain five credits passes and above in English and Mathematics. Precisely, this is a major problem as students' performance in mathematics in WAEC Examination is generally very poor.

In fact, everybody has a complained regards the teaching and learning of mathematics. From the point view of the students, mathematics teaching is seen as dull, boring, difficult and useless. The teachers complain of excessive workload and lack of facilities in the form of aids and equipment to improve the teaching and learning of mathematics. The head teachers and principals also complained that, "it is the fault of the teachers who do not make the students put in adequate effort (Sidhu, 2006).

Therefore, despite commitment by Nigerian government in providing quality education in general and specifically mathematics education by ensuring equity and access, there are so many issues in teaching and learning mathematics in Nigeria secondary schools. Some of these issues are related to theories and others are practical in nature. These issues are also related to classroom management, ethnicity, lack of trained teachers, inequity, lack of teaching aids and materials, lack of textbooks, lack of time for students, lack of clear objectives, gender issues, and issues of mathematical contents and pedagogy (Panthi and Belbase, 2017). In the researchers understanding, most of the public schools in Nigeria do not have proper management of the classrooms, there are inappropriate size of classes, not inclusive seating management, and lack of technology for learning and teaching of mathematics. Also, technological tools are misused even if they are available.

According to Panthi and Belbase (2017), classrooms setting in Nigeria are multi-cultural and multilingual in general because students come to school from different cultural and linguistic background. This creates challenges to the teaching and learning of mathematics in Nigeria. The mathematics curricula designed by experts and implemented by government to all school levels do not fit our culture. Foreign Mathematics is being taught as a compulsory subject in primary and post primary schools. Nigerian teachers are teaching and learning without considering the needs of the students, diversity and values of our society, and norms of the peoples culture. In fact, the Nigerian people are blindfolded to accept the imposed theories and practices without considering the richness of social and cultural diversity, geopolitical complexity, and local knowledge system. The dominant monolingual and mono-cultural western education system are so pervasive that it has severally affects the teaching and learning of mathematics in Nigeria. Therefore, this paper try to look at the

theoretical issues of mathematics teaching and learning based on radical and social constructivism, social issues cultural issues, political issues and technological issues. Also, some practical measures are suggested to address the issues in Nigeria context.

Theoretical Issues

Among the theories and philosophies in mathematics education, radical and social constructivism were the ones that have been greatly debated and discussed in the literature of mathematics education (Belbase, 2014). The subsequent action of teaching and learning, and curricular practices in mathematics have been severely affected by the views of mathematics such as mathematics is a foreign subject, mathematics is a collection of symbols, mathematics is meaningless subject, mathematics is a body of pure knowledge etc. All these actions have dominated the worldview of most of the mathematics teachers and curriculum experts in Nigeria (Luitel, 2009). Therefore, this paper presents some theoretical issues of radical and social constructivism of mathematics education.

Radical constructivism

According to the theory of radical constructivism, learners should be allowed to build their mathematical concepts of what they learn through active cognitive and adaptive process (Von Glasersfeld 1995). This means students should be involved in critical reflection on the teaching and learning of mathematics. That is, the teaching and learning processes take place through assimilation, accommodation, representation, and re-construction. Therefore, following these processes, it means students learn mathematics through active construction of the meaning of concepts they learn through individual re-organization, re-presentation, and reconstruction and social negotiation with peers, and teachers (Belbase, 2016). However, there are some major issues of radical constructivism in the teaching and learning of mathematics which rise from mathematically weak students, application of teacher-centered pedagogy, untrained teachers, the existing curricula, our diverse social and cultural context and general lack of hands-on resources for classroom practice. Based on theory of radical constructivism, there is the challenge of classroom teaching and learning due to large class size and limited or no classroom resources.

Also, mathematics teachers have not embraced constructivist based pedagogy in Nigerian context. As a result, these teachers rush to use mall approach to school improvement without considering the actual process of learning mathematics. Therefore, base on the students' cognitive, affective, and developmental stage, radical constructivist teachers should follow the various teaching techniques focusing more on individual and group presentations, discussions, tests, debates and student decisions, and applications of mathematical models for solving problems (Von

Glaserselfd, 2001).

Furthermore, the theory of radical constructivism accepts that students should be allowed to build their concepts of what they learn through active cognitive and adaptive process, and may give their reflection and argument about the content, process, and product in teaching and learning and construct the knowledge of mathematics. Then, these phenomena are related to social and cultural adaptation of knowledge and conceptual understanding. The role of language and interactions among peers or community of practice has not been well conceived in this paradigm and the excessive focus on the individual process of conceptual understanding and constructing knowledge has created a ground for dilemma (Belbase, 2014). Additionally, when using the radical constructivism, teachers try to give students adequate support in learning mathematics. Hence, the poor language background of the students, traditional curriculum with content focus, passive students, diversity of ethnic groups, traditional teaching method, that is, rote memorization, and assessment without focus on creation, our diverse socio-cultural context, and lack of inquiry-based teaching learning practices are some of the major issues for implementing radical constructivism in Nigeria. In fact, some of these issues are linked with philosophy and theory of social constructivism as discussed in the next topic.

Social Constructivism

This theory emphasized that mathematics knowledge is constructed through social interaction. This means that the learner should be allowed to learn from another person or the society through active interactions and participation in activities in groups or peers. In this process, scaffolding and guidance are very necessary for the learners (Burton, 1999). Therefore in applying the theory of social constructivism in teaching mathematics, there are many challenges. These issues are issues related to linguistic factor, cultural factor, traditional curriculum, conventional assessment system, inappropriate classroom size, passive learners, untrained teacher, use of banking pedagogy, and disadvantaged learners. (Panth and Balbase, 2017).

Hence looking at the objective of the curriculum in the Nigerian context, it does not focus on the construction of new knowledge by students or it does not encourage teachers to engage active construction of knowledge by students. On the part of assessment system it emphasizes rote learning and getting good grades in examinations. In fact, the examination does not measure students' social creativity and meaningful understanding of the subject matter, and it does not give value to the students' lived experiences. For the classroom sizes in most of the schools are not appropriate for teaching and learning in social and interactive settings, or the teachers are not able to do it due to large number of students in a class or general lack of

knowledge of the importance of group interactions or lack of motivation to do it. As a result of these, passive learners or rote learners or poor teachers are one of the issues of social constructivism. Also, it is hard to construct knowledge socially because of passive learners or rote learners and poor teachers. Mathematically poor students cannot reflect critically, and pedagogical poor teachers cannot give the reflection of students shared experience on mathematics. The Nigerian teachers are following the banking pedagogy with the linear fashion of inputs and outcomes which is one of the issues. (Panthi and Belbase, 2017).

In fact, teachers tend to use banking pedagogy to fill students' minds, as containers with the knowledge that they determined the students need to know (Fatma, Elizabeth and Thomasia, 2011). This Pedagogy hinders the students thinking because teachers transmit their knowledge to students as if they are filling empty vessels with content knowledge.

One should also note that, is not only theoretical issues that act in the classroom teaching and learning mathematics in the Nigeria context. Other issues related to social, cultural, political and technological aspects that might have a significant effect on the teaching and learning of mathematics were discussed in the following sections.

Social Issues

According to Panthi and Belbase (2017), the social issues of teaching mathematics are issues of language, issues of gender, ethnicity, and social justice in the Nigerian context. These are briefly discussed as follows:

Language Issues

Language is not merely a means of communication, but it is also a vehicle of understanding. Students make sense or create meaning in their language. That is, the most efficient way to make meaning or create a concept of mathematics is in one's mother language. However, there is lack of ability and lack of understanding because students' languages are different in schools and at home. Hence the language forms and strategy use in mathematics teaching differently favour some social groups over others. Therefore, language is one of the major caused of marginalization because teachers support some students while it may disadvantage other students through the choice of language used in the classroom. In fact, some students might be excluded from the classroom practice due to language as a barrier. As a result, there exists a social class of students that has the poor participation and less engagement in the classroom due to the difference of school language different from home language. Also the language has been a big challenge for the country to provide the textbooks and other resources in more than hundred mother languages (Panthi and Belbase, 2017).

Gender Issues

In the teaching and learning of mathematics, there is an issue of differential attainment between genders (male students and female students). The female students may not have or have less interest in studying mathematics at the secondary level of education. This is because parents give less priority to their daughters and give more priority to their sons. Another reason why women do not choose mathematics at the secondary school level is early marriage. Women have an extra burden to take care of home, and accomplish some responsibilities. Hence, the issues of gender are more challenging in the teaching and learning of mathematics in providing equal opportunity to both boys and girls in schools (Panthi and Belbase, 2017).

Ethnic Issues

Ethnicity in Nigeria is another issue in the teaching and learning of mathematics. The students and teachers have different ethnic background. These different ethnic backgrounds represent the various social classes in our mathematics classroom. Also, the mathematics curricula have been designed with the preference to certain social groups over others. As a result, mathematics education tends to favour one dominant social class over others. Therefore, it is important to include the students' social and ethnic identity in their learning process (Panthi and Belbase, 2017).

In fact, most mathematics teachers in Nigerian secondary schools do not care about how the ethnic background affects the teaching and learning of mathematics. As there are different ability groups and disability groups when observed through social aspect, the teachers always focus on the ability groups. That is, the teacher is always less responsive to individual demand of students. The teachers always concentrate on the learning of average or above average students without caring much about the low performers and putting all blames to the students' personal ability or disability to learn mathematics (Panthi and Belbase, 2017).

UNESCO (2015) clearly outlined that ethnicity in Nigeria has been an issue because the government has not been able to provide curricula, textbooks and teacher, training to all teachers to teach mathematics in students' mother tongues. Also, since it is not possible for teachers to know all the languages that students might speak in their family, then, it has been difficult for the government to provide support teachers to students who need help in mathematics in their mother language. All these create differences in the performance of students with different ethnic groups in education in general and mathematics education in particular.

Social Justice Issues

Another issue in the teaching and learning of mathematics is social justice. In fact

mathematics learners and teachers need to be educated about social justice. When teachers deliberate their knowledge to students, there is a hierarchical position of the teacher and students. That is, there is a power relation between the students and teacher in Nigerian secondary schools. This is because teachers may observe the social status of students or their families and treat them accordingly by discriminating based social class. Also, the students have a different position in the classroom based on which social group do they belong to and how they present themselves in the class depends on where they come from. These are unfair practices that are going on in the teaching and learning of mathematics in Nigeria, and are primary causes of social justice in the classrooms (Panthi, 2016). This issue makes the teachers not to care equally for all students because the teachers focus on the good students and the disabled students are not given proper attention. At the same time, teachers teach many students in a classroom in most of the public schools in Nigeria secondary schools because of lack of classroom. This lowered the performance of students as compared to the students of private schools (MOE, 2015). These issues lead to the issue related to students' achievement in public schools in Nigeria as discussed in the next subsection.

Achievement Issues

According to ministry of education (MOE) (2015), there is a huge gap of student achievement in mathematics across the geographical region, ethnicity, and gender of Nigerian secondary schools. That is, in mathematics, the average achievement score is 57% in the private schools and 26% in public schools. This disparity in the achievement in both private and public schools has been a source of social inequity in mathematics education. There is also a wide gap in the students' achievement between rural and urban schools in Nigeria. Therefore, the overall performance of students in mathematics in Nigeria has been found to be right skewed (right – tailed) indicating that many students had a lower grade than the median grade. The performance or achievement of students has also been found to be influenced by parents' education in a positive way. (MOE, 2015). Hence, the achievement gap has been a fundamental issue in Nigeria despite many efforts put by the government and non-governmental organizations in areas of education in general and mathematics education in particular. The gender gap, according to UNESCO (2015) has been one of the major concerns in the education outcomes in Nigeria. This is because there is a huge disparity in the educational attainment of students in general and mathematics based on other socio-economic factors beyond gender. Hence, it seems there are many social issues in teaching and learning of mathematics in Nigeria. These social issues are intertwined with cultural issues as discussed in the next section.

Cultural Issues

In Nigeria secondary schools, there are a lot of cultural issues in the teaching and

learning of mathematics. Nigerian schools practice one-way border crossing. That is, students leave their own family culture and enter the school that is different from their home culture. As a result of this difference in the home and school culture, many students struggle to learn mathematics which is even more decontextualized from their community and society. In the classrooms, these issues are the issues of inequity, inequality, gender issue, the issue of native language issue of ethnicity, and the issue of traditional curriculum. All these issues are more or less linked with social and political aspects too (UNESCO, 2008).

Diversity of Culture

Nigeria has multicultural and multilingual communities residing in all parts of the country. There are many ethnic groups in Nigeria that contribute to immense cultural diversity. Each ethnic groups and sub-groups have different cultural traditions and festivals. Therefore, the different cultural festival may affect the teaching and learning of mathematics in Nigeria. That is, students may be absent for many days from school because of local festivals and do not learn individually. Teachers lack the skill of teaching technique to the students in the different cultural background. Also, teachers who lack multicultural education are not well prepared to face the challenges of a pluralistic society. This makes the teaching and learning of mathematics to be tough in the diverse cultural groups of students in Nigeria. Although, we should focus on cultural norms, values, and practices that are important in education, but also we should be aware of some practices such as girls being absent in class during menstruation cycle due to cultural belief and practices that girls should not touch or be close to others during that time. Additionally, in many cultural and social groups, early marriage is another issue that may affect schooling and that may negatively affect interest to learn mathematics (UNESCO, 2015).

Diversity of Language

The language issue has been discussed in the part of social issues. However, it is considered here again as a cultural issue. There are many spoken languages in Nigeria. These languages have been dominated by English in schools. Although, primary education in many schools adopts classroom instruction in children's first language with positive results of increased interaction between students and teachers, and parents and teachers. It is an issue once they complete their primary schools. In some community, the teacher does not understand students' native language and students do not understand the language of the teacher. This creates a problem in the teaching and learning of mathematics. Also, some families do not understand the national language, that is, English, and cannot help their children at home too. This is because of the difference in cultural speaking and writing at home and in the school or classroom. (UNESCO, 2011). Therefore, the diversity of students' cultural and linguistic

background and the teaching style of their teachers are the attributions of poor results in school mathematics in Nigeria. These cultural and linguistic issues have a tailing effect on the politics of mathematics education. Hence political issues in the teaching and learning of mathematics are discussed in the next section.

Political Issues

The major political issues of teaching and learning mathematics are the issue of equity and access, the issue of poverty (economic status), the issue of pedagogical choice, and professional organization and unions (Panti and Belbase, 2017). These issues are discussed in the following subsections.

Equity and Access

This is a grave and critical political issue in mathematics education. In fact, in the mathematics classroom, each student cannot get equal opportunity in the classroom activities because of the inappropriate classroom size, the number of students, and the application of traditional pedagogy. Generally, teachers focus on good and intelligent students and do not care about the poor students in the classroom. Also, some of the teachers discriminate their students based on their ethnic and family background during teaching and learning process. This does not sound a good teaching at all. Sometimes the administrators of the institutions do not provide scholarship to the target students. They distribute it only to near and dear relatives. This can easily affect the performance and attitude of the students (Penthi and Belbase, 2017).

Chimomo (2005) study conveys that, resources are not equally distributed equitably, which is true in case of Nigeria too. In Nigeria, urban schools get more and better resources than the rural schools. This is because if one goes to urban schools can see them, with better facilities of modern technology, physical infrastructure, qualify teachers among others than the rural schools. This gives urban school learners better opportunities to mathematics education than the rural students (Kazima and Mussa, 2011). Hence the politics of the country influences the teaching and learning of Mathematics from primary school to university level through policy and distribution of resources. The issues of equity and access in mathematics teaching and learning also lead us to issues related to poverty (economic status) as discussed in the next subsection.

Economic Status

Another challenging issue in the teaching and learning of mathematics in Nigeria is poverty. Research has shown that the impact of poverty has a negative correlation to students' performance in general. That is, poverty affects the performance of children negatively because its effect can deal with all attempts of government and society to

achieve a greater equity and access to mathematics education. (Lim and Pateman, 2013). Some of the students in public schools in Nigeria come from a very low socio-economic condition. The result of this, is that the students are frequently absent in school. The students leave the school in mid of the section to support their family working as labourers in the construction and farms of others. In fact, the students have many problems due to weak economic statuses which include eating, living and clothing as their priorities before attending schools. Therefore, the socio-economic status of parents has a negative effect on the students' performance in mathematics in Nigeria (MOE, 2015).

Also, due to low socio-economic status, many school children work at home after their school each day. This means more students are engaged in domestic work to support their parents which create more negative impact on the students' education. This is because the students get less time for study, get tired and exhausted and therefore, cannot concentrate on their study at home (Panthi and Belbase, 2017).

Pedagogical Choice

Generally, in Nigeria secondary schools, mathematics teachers mostly use the traditional pedagogy such as lecture method and transmission approach. This kind of situation may create a social injustice because students do not have the opportunity to learn at the same pace and learn through interaction and negotiation (Panthi, 2006). As a result of continued use of the traditional pedagogy, the good, average and weak or low position of students are produced in a classroom teaching and learning in Nigerian secondary schools. The good students show power among all other students because they feel superior in the classroom and it affects their identity in the society. This issue is a big challenge from a political point of view because there are many low and average performing students in Nigeria who are left behind deliberately (Nakawa, 2013).

The pedagogical choice of teachers to engaged students in higher order thinking, reasoning and problem solving has a direct influence in the students' performance. Infact, many student in Nigerian schools can solve basic mathematics problems, but are not competent in critical thinking, reasoning, and problem-solving, especially working on the open-ended questions of higher cognitive level. The problem, therefore, lies in the teachers' pedagogical choice in not involving students in interactions and not inviting parents to engage with their children's education in mathematics education (MOE, 2015).

Professional Organizations and Unions

One cannot discuss political issues in teaching and learning of mathematics in Nigeria

without considering the roles and responsibilities of the teachers' union. Almost all the teacher unions in Nigeria are factions of political parties based on ideological reasons. As a result, their priorities and actions are not motivated by the need of students and the schools, but by the political agenda of their mother political parties. In fact their focus is not on the professional development of teachers although, sometimes, they raise issues related to political protection of their profession rather than qualification and skills. That is, they focus on political agenda rather than academic. They do not focus on educational program and quality of teaching and learning of mathematics and other subjects. (Panthi and Belbase 2017).

There is problem of negotiation because of poor students and untrained and unprepared teachers in order to help preparing students to work and make the teaching and learning to be transformative. There is also a lack of cooperation and collaboration among the subject teachers in schools. The school community relationship is also not strong in many part of the country. Therefore, parents are not informed about what is going on in schools and classrooms. This creates inequity because parents are not informed and students do not get equal access to classroom teaching and learning. In fact, teacher unions are fighting for their own rights only in terms of job security and benefits and are less concerned with the quality of mathematics education (Curriculum Development Center, CDC, 2007).

Some of the issues discussed above are from theories and social, cultural and political practices. However, there is a fast growing technology in all sectors of life that has changed the way things are being done, the way we think and the way the teaching and learning in schools are done. Therefore, some issues related to technology in teaching and learning of mathematics in Nigerian secondary schools are discussed in the next section.

Technological Issues

For a long time, the Nigerian government through the Ministry of Education has been training teachers on the use of technology for teaching and learning in education. With this effort, thousands of school teachers were trained. However, the country still lacks a broader application of technology in teaching and learning of mathematics. These days too, there are wider applications of internet technology by the public, but almost none in teaching and learning of mathematics in rural areas. Therefore, the major issues of teaching and learning of mathematics with technology are lack of knowledge of technology, affordances and constraints in teaching with technology, and the issue of using technology in the particular area of mathematics (Panthi and Belbase, 2017). Hence, these issues are discussed here as follows:

Knowledge of Technology

This is an issue in the teaching and learning of mathematics since the existing school mathematics curriculum in Nigeria, lacks a clear direction for using technology. In fact, many teachers lack relevant skills to use computers and applications to use in teaching mathematics. Also, there is a shortage of technological tools for teaching mathematics in many schools in Nigeria. There are so many approaches to applying technology in mathematics classroom. For this, the role of the teacher is key and their orientation to use of technology is also another challenge (Schoenfeld, 2011).

Use of Technology

The application of theories related to technology in the classroom practice depends on how teachers value technology and the nature of learning mathematical knowledge and well as crucial affective aspects, such as teacher confidence in using them (Thomas and Palmer, 2014). Panthi and Belbase (2017) stated that, a study by Langrange and Dedeoglu shows that, there was a high level of teacher expectation about technology use, but there was a quite low degree of integration in practice. This issue can be seen in two aspects. That is, teacher expectation to use technology and potentiality of the actual use of technology. Therefore, to establish a link between these two aspects, teachers require encouragement and support. This issue relates to Ruthren (2012) five suggestions to technology application in teaching mathematics in general and it can be applied to the Nigeria context. These suggestions are working environment, resource system, activity format, curriculum script, time available to teachers, and economy. Now, considering the issues related to economy, it directly affects schools and community to afford or acquire technology for the classrooms. However, there are technological tools such as radio, television and telephone which is on a sharp increase, and may have a great significance in teaching and learning of mathematics but are largely ignored in the classrooms or out of classrooms in Nigeria. The school mathematics curriculum in Nigeria does not mention any technological tools and their applications in the teaching and learning of mathematics. All these create issues in the teaching and learning of mathematics (CDC, 2011).

Affordability of Technology

In Nigeria, most students and teachers in public schools cannot afford new technology. This is because the new technology is very costly for them. In fact because of the cost in technology, schools do not have computer laboratories and is also very expensive for many parents to purchase a computer and connect it to the internet for their children to use at home. Also, most schools do not have mathematics labs with computers and overhead projectors, smart boards, and other tools. Therefore, lack of affordability of technology for use in teaching also has equity implications in general, since the

perceived advantages of this technology for supporting student learning and examination use are not equally available to all students in the public schools in Nigeria. This creates issue in the teaching and learning of Mathematics (Pierce and Ball, 2009).

Role of Technology

According to Cheung and Slavin (2011), some scholars critique that the use of technology produces a modest difference in students' performance, but it does not support a breakthrough. This shows that some teachers and researchers are in favour of technology use on specific curriculum areas in the mathematics curriculum than in all the content area. The scholars prefer to integrate technology with hands-on materials. This is because things are clear with procedures that are best executed by hand with technology integrated together (Stancey, Kendal and Pierce, 2002).

Another important issue in technology use is a matter of student interactions with each other, with the teacher and the technology. Therefore, Geiger, Faragher and Goas (2010) proposed that technology can play a role in the conceptualization of mathematical models that can provoke a change in student-student and student-teacher interactions and has the potential to mediate collaborative approaches to mathematical inquiry. This can only take place if teachers are well trained to use technology and students have the opportunity to use technological tools within and outside schools.

Also, according to Pun (2012), the role of technology in Nigeria has been realized for the rural development. That is, it has tremendous potential in developing education, health, business, and industries through the use of ICT in rural area of Nigeria. However, there is lack of government policy at micro level and support to the actors who wish to develop ICT in rural areas in general and mathematics education (Bal and Mishra, 2012)

Resolving Issues Discussed in this Paper

In this paper, issues of teaching and learning mathematics in relation to theoretical, social, cultural, political and technological aspects were discussed. Therefore, according to Panthi and Belbase (2017) some practical, pedagogical and curricular measures to resolve these issues in the Nigeria context are provided as follows:

Theory – Practice Balance

Mathematics teachers should have conceptual knowledge of broad range of theoretical aspects which include radical and social constructivism, so as to be aware of advantages and disadvantages of the theories. Having the knowledge of the theories,

teachers can easily implement the theories in teaching mathematics based on secondary school classroom context and availability of resources. In fact with the knowledge of theories by the teacher, he or she can be aware of the methods and invent resources to use in the teaching and learning of mathematics. Also, with strong knowledge of theories, teachers would be aware of social aspects of teaching and learning mathematics. That is, they can deal with students social backgrounds so that students would not feel neglected in any aspect. The social injustice, the social segregation based on language, class, and gender should be avoided by teachers. Also, social taboos about gender roles, ethnic disparity in decision-making in social issues and class hierarchy should be avoided too in the classroom. Therefore, teaching need training and support to create socially equitable and just classroom.

Multicultural Education

In the discussion above, diversity of culture have been considered as a barrier to providing equal access and maintain equity in mathematics classrooms. However, the diversity of cultures from where students come to the classrooms can be a rich source of knowledge and opportunity to learn from each other. More so, the curricula that integrate cultural knowledge and practice can be a rich source of new insights and practice in mathematics. In fact, the monolingual and mono-cultural curricula can be diversified with the multilingual and multicultural classroom for teaching and learning of mathematics. This can be achieved through resilience by a teacher who speaks one language and belong to one culture different from that of many or all students to promote multilingual and multicultural classroom. That is, the teacher can pick one student (in turn) from each cultural or linguistic background and ask them to work with other students to help each other in the interpretation of what is taught, and they can collaborate with each other and learn from each other. Here, the teacher only stands to facilitate the students' discussion within and outside the class by creating teams of students (community of learners). The teacher motivation is very important in this situation. Therefore, schools, communities, and government should motivate teachers to convert unfavourable situation to use as a resource and turn it into an opportunity to be creative and constructive in the teaching and learning of mathematics.

Leadership, Policy and Technology

Political issues can be resolved through positive actions of teachers, schools, communities, and the governments in Nigeria. In fact, the politics power, privilege, gender, race, and identity can be addressed through common understanding and taking responsibility to create a just society. That is, teachers should be professional to provide their service to the students by creating equitable and just classroom environment. Therefore, schools should have policy to train teacher to enhance social justice classes by incorporating multicultural practices in teaching and learning of

mathematics. The secondary schools too, should promote equity and fairness within the classroom and school premises where no students feel left behind because of gender, race, power and political reason. The teachers' union should as well take the responsibility of professional development of teachers and assume the responsibility for equity and social justice to all students. The teachers' union should also act as professional organizations to protect teachers and develop them professionally through training, education and resources.

On the issues related to technology in the teaching and learning of mathematics could be resolve through adequate use of technology in the classrooms to promote students' understanding of mathematics, and not just to demonstrate what happens and not just to calculate. Teachers should be well trained to use the technological tools for teaching different content areas of mathematics. Though, the general knowledge of technology is helpful to teachers for the understanding of its overall applications, the teachers also need specific skills to use in teaching specific contents. The teachers should also have access to the technological instruments such as computers, projectors, smart boards and calculators at schools. Therefore, the government should help in equipping all schools with technological tools and train all teachers to use them affectively.

Conclusion and Recommendation

In this paper, different issues of teaching and learning of mathematics as relates to philosophy and theory, culture, society, and technology are highlighted. Also, practical ways of resolving the issues are suggested. The issues are not wholly deal with. Therefore, a depth study in each of these issues may give more feasible ideas to solve them. Also, the government academic institutions and different stakeholders such as curriculum planners, policy makers, experts, teachers, students and parents should be serious and be aware of these issues and their consequences. In fact, a strong commitment, dedication, and desire of all is needed to address all the issues (problems) and improve the quality and equity in the teaching and learning of mathematics in Nigeria.

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A COMPARATIVE STUDY OF SACRIFICE IN CHRISTIANITY AND AFRICAN TRADITIONAL RELIGION IN KAGOMA LAND, KADUNA STATE

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Abstract

The study is a deliberate attempt to examine and compare sacrifice in the Scriptures with that of the Kagoma Traditional Religion. This is unconnected with the fact that some Kagoma Christians have the belief that the Kagoma Traditional Religious way of sacrifice is more effective than that of the Christian Scriptures and that it can deal with the problems of social vices being practiced in Kagoma land. The paper builds on Anthropological theory of Sacrifice propounded by Edward Burnett Taylor (1871) which tries to justify the origin of sacrifice and reasons calls for sacrifice. The paper focuses on the concept of sacrifice, Christian perspective of sacrifice, African traditional religious perspective of sacrifice, and sacrifice in Kagoma traditional religion. Some recommendations were given among which includes, all Christian denominations in Kagoma land need to unite in vision and mission for enhancing practical Christianity that brings spiritual, physical and transforming life to Kagoma people through spiritual and developmental programmes towards participation in recreational activities in Kaduna State College of Education Gidan Waya. To achieve the purpose of this study, the ex-pos factor research design was used. Sixty (60) students (45 males and 15 females) were selected using stratified sampling technique from three departments of Kaduna State College of Education Gidan Waya. The instrument used in data collection was a self developed questionnaire and had a reliability of 0.60. The statistical tool for data analysis was simple descriptive method of frequency and percentage. The mean scores were computed for statements reflecting the research questions. The result of the study revealed that students of the Kaduna State College of Education Gidan Waya had positive perception towards participation in recreational activities but however, shown negative attitudes towards participation in recreational activities. Based on the findings of the study, it is recommended that the College Authority should provide adequate recreational activities for effective participation of students in recreational activities in the institution, among others.

KEYWORD: Sacrifice, Christianity, African Traditional Religion, Comparative Studies.

Introduction

Sacrifice is an important part of every religion, (Ugwu and Ugwueye, 2004). In African religion, man's way of maintaining a cordial and intimate relationship with the supernatural beings and the great way of performing allegiance is through a befitting fellowship and Sacrifices. The moral and spiritual teachings of the Christian Church and the western education seem not to have transformed the lives of the African people for better way of understanding worship and Sacrifice as it was before their introductions into Christianity. The Church has made some great efforts on teachings and other means of impartation to her members to be real Christians in the way they live their lives, which is according to the doctrines of the Bible and the church as well as to fully incline to the biblical teachings and principles. But it seems that is not yielding a good result. Many Christians and non-Christians today are clamoring for the return of the African Traditional Religion as a means of imparting knowledge and Morals to the society due to the moral decay in the society these days.

There are some occasions issues which supposed to be settled peacefully in the Church where the gathering of believers as Christians who belief in the Bible as the final way of handling all matters which concerns Christianity and moral living, but it was taking to the palace of the local chiefs or to some occasions, it will be taken to court or traditionalist that deals with traditional rituals to be handled or for the committer to be exposed. Whenever the pastors and some Church leaders tried to come into the matter by advising the issue to be brought to the Church for settling, the disputers will revolt against the view and preferred the other way round, outside the Church.

In such a case, the victim will be fine with some items that are against the Christian's teachings and doctrines that always affect the victim's spiritual growth decorum to be innocent in a holy gathering. Things like goats, so many pots and crates of both local and modern/imported wines, fowls and some measures of grains. These items will be used as sacrifice of appeasement either on a sin of adultery or stealing or any crimes committed to such a degree, and this will serve as a means of cleansing and purifying the polluted person and the land that was polluted as the result of the crime committed. The moment the Christian's leaders tried to intervene as mentioned above, the locality will emphasize that except such items is made available according to the customs of the Land where the victim or the victims committed the crime, there would be a great disaster that will befall the Land and the persons involved. Therefore, with such an idea within the mind of a thorough African man and woman, Christians within these zones believed that African Traditional Religion and practices of Sacrifice is by far more effective and result oriented than that of Christianity.

The proposed theoretical framework for this study hinges on Anthropological theory of Sacrifice propounded by Edward Burnett Tylor (1871). Since the rise of the comparative or historical study of religions in the latter part of the 19th century, attempts have been made to discover the origins of sacrifice. These attempts though helpful for a greater understanding of sacrifice, have not been conclusive, but some important contributions have been made by some wonderful previous century's scholars, one of which is that of Edward Burnett Tylor.

In 1871 Sir Edward Burnett Tylor, a British anthropologist, proposed his theory that sacrifice was originally a gift to the gods to secure their favour, care, love and protection or to minimize their aggressiveness and hostility. In the course of time the primary motive for offering sacrificial gifts developed into homage, in which the sacrificer no longer expressed any hope for a return, and from homage into abnegation and renunciation, in which the sacrificer more fully offered himself. Sacrifice is one of the integral parts of human way of worship.

Sir Edward Burnett Tylor was born Oct. 2, 1832, in London and he died in January 2, 1917, Wellington, Somerset. An English anthropologist regarded as the founder of cultural anthropology, Tylor was the son of a prosperous Quaker brass founder. He attended a Quaker school until he was 16, when, barred by his faith from entering a university, he became a clerk in the family business. In 1855, at the age of 23, symptoms of tuberculosis led him to travel to America in search of health.

Tylor defines religion as the belief in spiritual being arising out of a primitive or ancient conception of ghost. This then gives the researcher a stand to adopt the Anthropological theory as a theoretical frame work. The theory centres on spiritual beings, and this study deals with human allegiance to super-natural beings which are spiritual beings that are unseen but active in the lives of the living that deserve sacrifice in the African context. The paper chose cultural anthropology because it is concerned with the study of human societies and cultures and their developments. Because it also focuses on cultural variation among humans, it deals with beliefs, practices, values, ideas, technologies, economies and domains of social and cognitive organization

Was it that Christianity has failed in imparting accurate Biblical knowledge and the meaning of sacrifice in Kagoma land? Do Christians in Kagoma land really have a full biblical knowledge of Christ's sacrificial work on the cross? Does the African traditional religious perception and practice of Sacrifices with Kagoma people more effective and result oriented than that of Christianity? These questions kept on bothering to the point of settling on the full Sacrifice of Jesus Christ for all humanity

which Christianity relied solidly upon, which busted the necessity of this paper A Comparative Study of Sacrifice in Christianity and African Traditional Religion in Kagoma Land, Kaduna State.

Concept of Sacrifice

An animal is Sacrificed so that its blood could stand in the place of a human life, and this act of offering of the blood on account of any human sin could be called a Sacrifice. Sacrifice as practice in the Old Testament has both historical and prophetic value. It was not just an historical practice of the Old Testament, but God in his infinite knowledge and wisdom, gave to humanity a prophetic practice of sacrifice that anticipated the coming of the Suffering Messiah (Isaiah 53) as the only and perfect means of reconciling and redeeming mankind to him.

Kearns (2008:24) said it “is not surprising to find out that sacrifice lies at the heart of most religions and perhaps at the foundation of human culture.” This can be seen in the bible as is clearly stated the origin of sin and sacrifice. Every year in the Old Testament, Jews look forward to the day of Sacrificial Atonement. On that day, the whole nation's sins are atoned for (Lev 16; 23:23-26). The priest would lay his hands on the Sacrificial atoning animal and take it to the bush and set it free, thus signifying that this animal has taken away the national sins of the Jews. As it were, all the national sins were transferred from the people to the Sacrificial atoning animal which then takes away the national sin of the Jews community, but the Jews had to do that yearly. The yearly sacrificial atonement was simply a practice of covering the nation's sins for that year, according to Kearns, (2008:38) “the sacrificial practice of the Day of Atonement reflected in the Hebrew Scriptures is a classic example of this scapegoat practice.” This Jewish practice was prophetic of the coming of Jesus Christ who would perfect and seal all Jewish sacrifices in his work of atonement on the cross. This final work of sacrificial atonement would involve not only the individuals, or the Jewish nation, but the whole world. The writer of the book of Hebrew pointed out of the temporary nature of the Mosaic Jewish Tabernacle/Temple worship and sacrifices as a foreshadow of the real atonement in the cross and sacrifice of Jesus Christ.

Mbiti, (1977: 63-66) argues that, “in African societies sacrifice was very common and that most, involved shedding of blood of a human being or an animal.” He adds that in African societies, life is closely associated with blood. So, when blood is shed in a sacrificial context, it implies that human or animal life is being given back to God who is, in fact, the ultimate source of all life. According to Mbiti (1975: 55-56), common routines like “good health, healing, protection from danger, safety in traveling or some other undertaking, security, prosperity, preservation of life, peace and various benefits for individuals” have religious connotations. Mbiti adds that “for the community at

large, prayer may ask for rain, peace, the cessation of epidemics and dangers to the nation, success in war or raids, the acceptance of sacrifices and offerings, and fertility for people, animals and crops” (Mbiti 1975: 55-56).

According to Kurtz, (2004:7) “The sacrifices of which we are speaking formed an essential ingredient in the Old Testament worship they also formed a part of that service which Israel was required to render to its GOD.” The Mosaic Law is the foundation and heart of Old Testament and as well as the act of Sacrifice, the Mosaic Law defines the relationship between God and his people the Israel, the Jews or the Hebrew.

Christian Perspectives of Sacrifice

The Christian concept of Sacrifice is deeply rooted in Jewish background. The beginnings of sacrifice are hidden in the mysteries of prehistoric life. The earliest narration in Genesis records the fact, but gives no account of the origin and primary idea. The custom is sanctioned by the sacred writings, and later on the long/established custom was adopted and systematized in the Mosaic Law. The practice was almost universal. Some Semitic peoples, Greeks, Romans, Africans, and Indians of Mexico offered human sacrifices. For this practically universal habit of the race, several solutions are offered, (Awolalu, 1979).

All the sacrifices and the offerings as relates to Tabernacle/Temple worship and as well as their summary in Leviticus 1-7, were all preparatory as a fore-shadow of what was to come to the Messiah. They were only shadow and types of represented and awaited coming cross of Jesus Christ as the sacrificial Lamb of God (John 1:36) fulfilled God's promises and prophecies to the Jewish ancestors. The book of Hebrews states, “But now, once for all time, he has appeared at the end of the age to remove sin by his own death as a Sacrifice” (Hebrews 9:26b). The coming of Christ and the role he played, that is, dying on the cross by shedding his blood for the whole world, Christians are no longer required to carry out any sacrifice of any kind that might require blood again.

The purpose of Sacrifice is centered on blood most often in the Old Testament and this could be seen as the cause of the Sacrifice in Genesis chapter 3 that described the fall of man into sin and it wages which is death, the soul that sins must die (Ezekiel 18:4) because all humans' souls belong to God (Ezekiel 18:4). An animal blood which contains life is offered instead of a human life on account of sin before God. The blood of an animal is a substitute of human life. Every act of human sin requires the death of the sinner, but a blood Sacrifice of an animal saves the life of a sinner. Therefore, an animal is Sacrificed so that it blood could stand in the place of a human life. The act of offering the animal blood on account of any human sin is called a Sacrifice. The redemption of the entire humanity is rooted in the Sacrifice, the shedding of blood and

the death of Jesus Christ on the cross as Grudem (1994:579) stated, “Christ blood is the clear outward evidence that his life blood was poured out when he died a sacrificial death to pay for our redemption”. This redemptive act of Jesus Christ is celebrated by Christian in the Holy Communion: the wine (the cup) signified the blood of Christ, while (the bread) signified the body of Christ. Buursma (nd:1354) says:

The bloodshed in the Old Testament sacrifices, therefore, represents death as punishment for sin; this establishes the principle that without the shedding of blood there is no forgiveness of sins. These sacrifices point to the blood of Christ, his death on the cross, as the penalty for sin. Through this blood, represent to God in heaven, he obtains for us (Christian) forgiveness, release from bandage, atonement, justification, cleansing, holiness and victory.

This quotation summarized what the book of Hebrew chapters 7-10 is saying. Christ's work of Sacrifice and redemption was by far superior to that of the Mosaic by both fulfilling and replacing it.

African Traditional Religious Perspective of Sacrifice

To many people, the concept sacrifice carries a positive value and meaning. Sacrifice is a common phenomenon in the African indigenous religions, cultural practices as well as in the dominant – conventional religions. It constitutes an important part of worship, prayers and thanksgiving. Mbiti (1975), Africans are notoriously religious. Everything an African does including planting, harvesting, sex, producing children and naming them, fertility and bareness, wealth and wellbeing, leadership, moving from one stage of life to another (Rites of passage from childhood to adulthood) have a religious dimension, in which some Sacrifices must be observed to fulfill the processes in a religious ways. For an African, there is an intimate relationship between the living and the living dead. When in a room alone, in a thick forest, in the dark, a cave or a mountain, a typical African will consciously or sub-consciously believe that though physically alone, he or she is connected with the spiritual world of the living dead (Mbiti, 1989:39), and so at the cause of excising the religious rites which is done through the Sacrifice is considered consciously.

Sacrifice in Kagoma Traditional Religion

Religiously, the Kagoma people were dominated by the African Traditional Religious beliefs and practices which are indigenous religions, cultural practices as well as dominant, as conventional religions, it constitutes an important part of worship, prayers and thanksgiving. The religion was African Tradition Religion. This religious belief and practice permeated their total life as their religion was viewed as a way of

life. What Mbiti said about African Religions is very true in Kagoma religious life. He states, "Religion permeates into all the departments of life so fully that it is not easy or possible to isolate it," (Mbiti, 1969:1). As far as the Kagoma people are concerned, there is much religion in farming, hunting, marriage, birth, death and public ceremonies. The various activities as mentioned were carried out religiously. Life is religion and religion is life. The social and religious practices whether is found in ritual or festivals are motivated by religious beliefs.

In order to properly understand the meaning of Sacrifices and of the religious life of the Kagoma people; it is necessary to understand the areas that dominated their religious beliefs. These areas are the beliefs in Num/God, Kyuu/ Spirits, Bo Tenykpou/ the ancestors. The Kagoma people have many other beliefs such as, social beliefs, kinship and community values, morality and ethics.

There are two related concepts that need to be defined;

- a. Sacrifice/Offerings (Khifing/Dyem); This deals with sacrifices and offerings as means of appeasing the Supreme deity to get his favour, paying for an offence committed, or to remove guilt as a result of breaking the law.
- b. Penalty (Kifany); this deals with penalty imposed upon an offender or guilt. The Kagoma people lay more emphasis upon Khifing/Dyem sacrifices/offerings and Kifany Penalties.

The Kagoma belief solidly to their traditional way of ancestral worship of idols and spirits and their traditional practices such as initiation rites, marriage customs, naming ceremonies, death and burial practices, participation in traditional functions, rites and rituals, and all these is attached to various Sacrifices, although they were all seen as sinful by Christians which no Christians should be involved. The missionaries' ignorance of the Kagoma traditions and culture led them to consider every aspect of Kagoma traditional religious and cultural practices as unacceptable. Their followers from the Kagoma Traditional Religion Converts to Christianity, the first generation Christian converts were also schooled in the missionary philosophy context which saw everything traditionally in Kagoma ways as sin, devilish and against biblical teachings.

A Comparative Study of Sacrifice in Christianity and African Traditional Religion in Kagoma Land

Everything about Israel revolved around God, the covenant and Tabernacle or Temple worship unlike the Kagoma Traditional Religion, which revolves around the spirits

and the ancestors. The Old Testament concept of Sacrifice, even though was similar to the Kagoma's concept when it comes to the Object of worship and Sacrifice, is however linked directly to God in the Tabernacle or the Temple worship.

In Kagoma religion, even the very weak concept of Sacrifice did not point to the coming Sacrifice of Jesus Christ, but what the spirits and the ancestors could do. This concept did not free the people from the root of sin and its effects, but from the wrath of the spirits and the ancestors. A sin or an offence makes a person a debtor to the offended spirits or the ancestors and for this reason; he/she must pay back the debt. When one sins, one incurs a debt what ones owes must be paid back in forms of sacrifices. Sacrifice in the religion of the Kagoma people is like to some extent, (if not all) a debt payment for wrongs/sins committed and not a solution to both the root sins and its effects which set free the sinner. Sacrifice as practiced by the Old Testament has similar with the Kagoma practices of penalty and offering. The Old Testament and Christians had a similar system of sacrifices and offerings. But in the Old Testament and Christian religion, God was the Centre, while in Kagoma Traditional Religion, the spirits and the ancestors were the active participant and recipients as it is obtainable in African Culture.

Conclusion and Recommendations

The main thrust of this work is a comparative study of sacrifice in Christianity and African traditional religion in Kagoma land. This is unconnected with the fact that some Kagoma Christians have the belief that the Kagoma Traditional Religious way of Sacrifice is more effective than the Christian way and that it can deal with the problems of social vices being practiced in Kagoma land. The study recommends the following as a possible way Kagoma Christians can guard themselves against syncretism of Christianity with the Traditional Religious practices. These are:

- I. All Christian denominations in Kagoma land need to unite in vision and mission of enhancing practical Christianity that brings both spiritual and physical transforming life to Kagoma land through spiritual and development programmes.
- ii. Ministers of God within Kagoma land are advised to step up sound teaching through messages or sermons in their respective congregation that is capable of liberating the people from falsehood believe particularly that sacrifice.
- iii. Christians in general particularly within Kagoma land are advice to live up to the expectation of Christianity rather than mere proclamation. Because it is the attitude of the so called Christian that discredits the religion before the eyes of the traditionalist

There is also need for respect, love and tolerance by church to the Kagoma

traditionalist rather than looking down on them. More so, Christianity within the said axis should come to terms on the reality that not all Kagoma traditional beliefs and practices are evil, as such; the good ones should be embrace or Christianized them.

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PERCEIVED KNOWLEDGE AND ATTITUDES OF STUDENTS TOWARDS PARTICIPATION IN RECREATIONAL ACTIVITIES IN KADUNA STATE COLLEGE OF EDUCATION GIDAN WAYA

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Abstract

The paper attempts to assess the perceived knowledge and attitudes of students' towards participating in recreational activities in Kaduna State College of Education Gidan Waya. To achieve the purpose of this study, the ex-pos factor research design was used. Sixty (60) students (45 males and 15 females) were selected using stratified sampling technique from three departments of Kaduna State College of Education Gidan Waya. The instrument used in data collection was a self developed questionnaire and had a reliability of 0.60. The statistical tool for data analysis was simple descriptive method of frequency and percentage. The mean scores were computed for statements reflecting the research questions. The result of the study revealed that students of the Kaduna State College of Education Gidan Waya had positive perception towards participation in recreational activities but however, shown negative attitudes towards participation in recreational activities. Based on the findings of the study, it is recommended that the College Authority should provide adequate recreational activities for effective participation of students in recreational activities in the institution, among others.

Key words: Knowledge, Attitudes, Participation, Recreational activities

Introduction

For the past decades, many changes occur in our lives. Our rural based societies have been transformed into cities and sub-rural areas as a result of advancement in science and technology. A sizeable number of people do not spend their leisure time wisely. Leisure and recreation are sometimes used interchangeably. Recreation is any activity which is not consciously performed for the sake of any reward beyond itself, which offers man an outlet for his physical, mental or creative powers which he engages because of his inner desires and not compulsory. According to Kenneth and Richard (2002) recreation can be define as any human endeavour concerned with those socially

acceptable and worth-while activities in which a person engages in during his free time or period other than his working hours and through which he may be developed physically, mentally, emotionally and socially. Onifade (2013), defined recreation as engaging oneself in a worthwhile, revitalizing and recuperative programme of lowly organized skilled activities of diverse benefits to person's health. Recreational activities are past-times and experiences which are freely chosen and that are usually undertaken in a free-time which produces feelings of well-being, fulfillment, relaxation and satisfaction (Suleiman, 2010). Therefore, recreation is an organized activity that is engaged in voluntarily and freely chosen that has diversified (physical, social, mental and emotional) benefits to the participants.

The Organization of African Unity (OAU) 1990, charter on the rights and welfare of the child. (Article XII): states that leisure, recreation and cultural activities state parties recognized the right to rest and leisure, to engage in play and recreational activities appropriately to the age of the child and to participate freely in cultural life and arts. Secondly, state parties shall respect and promote the right of the child to fully participate in. This suggests that participation in recreational activities is of importance to the development of an individual.

Mowen, and Goddey (2010) Stresses that Participation in recreational and socially supported physical activity is shown to reduce stress, anxiety and depression and reduce symptoms of Alzheimer's disease, violent, crimes, also decreases significantly when participation in community activities increase. Also, Humpel et al, (2002) suggested that recreational activities especially, outdoor ones improved one's health like maintaining lower body fat percentage, lowering blood cholesterol levels, increasing muscular strength, flexibility, muscular endurance, and reducing body composition and cardio-vascular endurance.

Recreation is done at leisure time. Leisure time is expressed as the time that one can spend totally with his/her own free will. After recreation fulfills individuals' professional, familial, social obligations, it is for individuals to participate in serial relaxation that they can choose with a free will, entertainments, knowledge and skills enhancement and interest to adopt themselves to refresh (Gokmen, et al, 1980). First and most important social environment leading and forming one's leisure time behavior is family. Starting from early childhood, the family as the smallest social unit in which an individual maintains to learn his/her own subculture values also provides a basis for the process of leisure time behavior models (Dottavio, (2010) in: Murathan et al (2019).

In the process of socialization they tend to recreation and what the individual acquired

in childhood can share similarity with recreation in adulthood. The models of recreation elapsed time until adulthood years are being learned circumstantially, developed, remained or learned again (Kelly, 1980). Although, the tertiary institution students and teenagers who spend significant amount of their times together in daily life are from the same society, they have different subcultures according to their environment in which they live, educational background, participation in production, families' socio-cultural and socio-economic structures. This difference reflects on teenagers and tertiary institution students' perception and attitudes related to recreation participation.

On the basis of the aforementioned, this study was conducted to assess the perceived knowledge and attitudes of students' towards participation in recreational activities in Kaduna State College of Education GidanWaya.

Research Questions:

To give focus to the study, the following research questions were drawn.

- I. Are the students knowledgeable on the importance of recreational activities?
- ii. What are the attitudes of students' towards participation in recreational activities in Kaduna State College of Education Gidan Waya?

Methodology

The methodology used in this study was survey method to elicit responses on the knowledge and attitudes towards participation in recreational activities. To achieve the purpose of this study, the ex-pos-facto research design was used. The population of this study included male and female students of the Kaduna state College of Education, Gidan-Waya. A total of sixty (60) students were selected using the stratified sampling method from three (3) Departments namely: Physical and Health Education, Agricultural Science and Home Economics. A self-developed instrument (questionnaire) was used for the collection of data for the study. The instrument for this study was validated by experts from the Department of Physical and Health Education. Their observations and suggestions were reflected in the final draft instrument for onward administration to the respondents of this study. The instrument had a reliability of 0.60. The instrument was divided into two sections; section A, seeks information on the demographic data of the respondents, while second B contains statements structured on the variables of the study. The statements were design to seek the opinions/feelings of the respondents on a modified 4 points Likert scale. A period of two weeks was utilized for the administration and collection of duty-filled questionnaire. The statistical techniques used for data analysis were descriptive method of frequency and percentage for demographic information of the respondents and mean scores for statements to answer the research questions.

Results:

Based on the data collected, the results obtained are presented in tables.

Table 1: Demographic data of the respondents

S/NO.	ITEM	FREQUENCY	PERCENTAGE
1.	Gender		
	Male	45	75
	Female	15	25
	Total	60	100.00
2.	Age range		
	19-24 years	10	16.7
	25-29 years	25	41.6
	30-34 years	15	25
	35 and above	10	16.7
	Total	60	100.00
3	Marital Status		
	Single	40	76
	Married	20	24
	Total	60	100.00
4.	Level		
	NCE 1	-	-
	NCE 2	38	63.33
	NCE 3	22	36.67
	Total	60	100.00

Table 1, revealed that 45 (75%) of the respondents were males, while 15 (25%) of respondents were females. The age range of the result in the same respondents table revealed that 10 (16.7%) of respondents were between the ages of 19-24 years old, 25 (41.6%) of respondents were between 25&29 years of age, 15 (25%) of respondents were between the ages of 30-34 years old and 10 (16.7%) of respondents were 30 years and above. On level of the respondents, 38(63.33%) were NCE 200 level students. While 28 (36.67%) were NCE 300 level.

Table 2: Responses of the Respondents on knowledgeable on the importance recreational Activities

S/NO.	ITEM	MEAN	STD. DEVIATION
5.	Recreation is a a freely chosen enjoyable and beneficial activity which you perform during leisure time	3.56	1.60
6.	Recreation provide opportunities for exercise	3.05	0.21
7.	Recreation enables an individual to develop and practice physical skills	3.40	0.14
8.	Recreation provides opportunities to learn social skills	3.25	0.12
9.	Recreation provides opportunities for fun and letting off steam	2.69	0.06
10.	Recreation provides opportunities for wise use of leisure time	3.10	0.11
Aggregate Mean and Std. Deviation		3.17	0.37

The result in table 2 shows the mean scores and standard deviation obtained on responses of the respondents on their knowledge on the importance of recreational activities. The result shows that the respondents have positive perception. The obtained mean score of 3.17, which is above the 2.5 minimum level of acceptability.

Table 3: Responses of the Respondents on Attitudes towards participation in Recreational Activities

S/NO.	ITEM	MEAN	STD. DEVIATION
11.	I like recreational activity	2.42	0.08
12.	I participate in recreational activity at my leisure time	2.10	0.09
13.	My parent/guardian are source of i nspiration to me to participate in recreational activities	2.15	0.10
14.	My friends in school are source of inspiration to me to participate in recreational activities	2.40	0.08
15.	I enjoy certain ply activities like sports, dancing, listening to music, c limbing, s wimming, among others	2.28	0.09
16.	I create time out of my daily lectures and tutorials to participate in recreational activities	2.25	0.09
Aggregate Mean and Std. Deviation		2.27	0.08

The result in table 3 reveals the responses of the respondents on attitudes towards participation in recreational activities in Kaduna state college of Education Gidan Waya. The shows that the respondents have negative attitudes towards participation in recreational activities. The obtained mean score of 2.27 which is less than 2.5 minimum level of acceptability.

Discussions

The purpose of this study was to determine the perceived knowledge and attitudes of students towards participation in recreational activities in Kaduna state college of education Gidan Waya. To achieve this purpose, two research questions were stated, data collected were analysed and the findings reveal that:

The respondents of the study have positive perceived positively on knowledge on the importance of recreational activities. The result in table 2 shows the obtained mean score of 3.17 on items on perception which is above 2.5 minimum level of acceptability. In support to this findings, the study titled "knowledge and attitudes of undergraduate students towards recreational activities in Kaduna State College of Education Gidan Waya" by Puis (2021) revealed that undergraduate students had positive knowledge towards recreational activities. Similarly, Drucker (1989) asserted that knowledge or information of a phenomenon becomes the basis for ones behavior or action.

The findings of this study also showed that respondents have negative attitudes towards participation in recreational activities. The aggregate mean score obtained was 2.27 which is less than the 2.5 minimum level of acceptability. In support to this finding, some studies have implicated poor attitude people have shown towards the active form of recreation. Findings from the work of Ime et al, (2011) revealed that the reasons of African American low participation in recreational activities included interest of individuals in recreation and lack of time because of work. This finding is justifiable on the basis of the fact that lectures and tutorial terminates by 4pm to give opportunity for students to recreate and ease of mental fatigue, but only a few students come out to participate in recreational activities such as football, basketball badminton, table tennis, and track and field athletics.

Recommendations

Based on the findings of this study, it is therefore recommended that:

- I. The College authority should periodically organize enlightenment campaign to students on the importance of participation in recreational activities.
- ii. Government should provide adequate facilities and equipments for recreation in the college.

- iii. Parents should be encouraged to provide enabling environment for their wards to gain variety of recreational habits to play for fun, enjoyment and relaxation.

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QUALITY DA'WAH BY NIGERIAN WOMEN: HAMPERING FACTORS AND REDEMPTIVE STRATEGIES FOR ENHANCEMENT

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Abstract

Lack of Quality Da'wah by Nigerian women resulting from passive involvement, lack of recognition, financial support and so on; are issues of great concern. This is what brought about writing this paper. The paper analyzes those aforementioned factors hampering the involvement of women in conducting quality Da'wah. This paper suggests some redemptive strategies like organizing relevant training programmes, investing on Da'wah, provision of adequate logistics and so on for enhancement. The cited Islamic literature such as the Glorious Qur'an, Hadiths of the Prophet (Peace be upon him) as well as views of some scholars to lend credence on the subject matter

Key words: Quality Da'wah, Nigerian Women, Hampering factors, redemptive strategies

Introduction

Da'wah is generally believed to be one of the most effective strategies to invite mankind to the worship of Allah alone; which of course is the main essence of their creation. It is that belief that prompted many Muslims both male and female to embrace the task of conducting it. *Du'ats* at individual and organization levels dedicate their time and resources to educate human beings and; to make provisions to cater for their social welfare and health facilities among other laudable services.

Women particularly in Nigeria are involved in *Da'wah* activities. However, their involvement is not up to the level that is supposed to be; which of course is the main reason why that Quality *Da'wah* is not forth coming from their side as consequence.

Factors like lack of recognition, financial support, improper training and poor logistics

provisions are responsible for the hampering.

The intention of this paper therefore is to examine and analyze those hampering factors that were mentioned above, their ill effects and; to as well design strategies that are to be taken as redemptive measures. The strategies include organizing proper training programmes like conferences, seminars, workshops and visitations; and to as well encourage the establishment of social welfare programmes and make provision of health facilities. It is hopeful that by employing the strategies, the hampering factors will be removed; and the quality of women *Da'wah* would be enhanced not only in Nigeria but even beyond.

Definition Of Terms Quality

According to the Oxford Word Power English-Arabic Dictionary (2001:602-603), Quality is “How good or bad something is”. It is also “a high standard or level”. It is equally “something that is typical of a person or thing”.

Akinpade and Tajimola (2015:366) advanced several definitions of the term “Quality” and attributed same to several scholars respectively. For example, they said that:

Quality is fitness of output in terms of standard, competences, academic/professional qualifications. They again said that: Quality is related to the extent to which formulated goals and aims are being reached.

Da'wah

Da'wah according to Lewis, et al (1965:168) in its literal sense has either the primary meaning of “call” or “invitation”; or it is applied to a vow of any kind, as well as imprecation or curse”.

In its technical sense however, *Da'wah* according to Razak (2005:16) means: “*Conveying the message of Islam to mankind, teaching them the religion, as well as guiding them to put its teachings into practice in their daily lives*”.

Quality Da'wah

From the definitions presented above, it could be deduced that: Quality *Da'wah* could be defined as:

A purposeful invitation to Islam verbally or non-verbally which is full of professional competencies in setting its standards in order to achieve its aims of educating mankind and helping them to put into practice the teachings of Islam for the betterment of humanity.

Position Of Da'wah And That Of The Formation Of Da'wah Organisations In Islam

The position of *Da'wah* and that of the formation of *Da'wah* organizations in Islam are issues of controversy among scholars. Some of them are of the opinion that the conduct of *Da'wah* is a collective responsibility on the Muslim community; and in which case, if a portion undertakes it, then the remaining members of the concerned community became delivered from the wrath of Allah. Prominent among these scholars is Fauzan (1999:217-218) where he opined categorically that:

It is not each and every Muslim that conducts Da'wah by teaching people the religious rites, faith, as well as commanding the good and forbidding the evils. The obvious reasons for that could be a weakness connected with either the Da'i's physical ability or his personality on the other hand, as well as ignorance of the statuses of some religious acts regarding permissibility, prohibition or otherwise on the other hand.

On the contrary, scholars like Zaidan (2001:309) are of the opinion that: “*Da'wah is an obligatory responsibility on each and every Muslim with whom the Islamic community stands, as long as he is matured and sane*”.

Similarly, regarding the formation of *Da'wah* organisations as being correct or wrong, scholars differ. While some of them like Ibn Kathir (nd: 391) opined that: “*Muslims are required by obligation to have a band of people among them that would be charged with the conduct of Da'wah*”. Others did not see the correctness of the formation. Among the reasons they advanced to that effect were that the organisations are hardly exonerated from accusing and labelling one another with ugly labels like 'profligate' or even much more than that.

From the foregoing, it is understood that *Da'wah* cannot be obligatory by law, or a collective responsibility in all situations. Certain considerations like those of ability, necessity and worthiness should be made before giving it a categorical position; and similarly the formation of *Da'wah* organizations to conduct it. Whichever opinion is upheld, the basic idea remains that *Da'wah* is an effective strategy and an encouraged act of conveying the beauty of Islam to mankind. It must not be neglected by every Muslim male or female at his/her individual capacity or by his larger community but quality is required in its conduct.

Features of Quality Da'wah

A quality *Da'wah* is a composition of several aspects among which are the following:

1. A good and competent Da'iyah: A *Da'iyah* is the person who conducts *Da'wah* whether male or female. It is mandatory that in order for his *Da'wah*

works to have quality, he should have a sound knowledge of whatever subject matter he intends to call people to adhere to it. Not only that, he should be polite in using language style as he should also be humble, sincere, patient and persevering as well as compassionate. It is equally important that he becomes conversant with the caliber of the targeted audiences in respect of all forms of their affiliations; and as well as current happenings of his society in order to speak to people in the language of their time and in accordance with its dictates as appropriate. Al-Anchawi A (2020:17) supported by stating that:

It is mandatory on a Da'iyah to be conversant with the current happenings in his society. That will serve as opportunity for him to design appropriate strategies which would lead to giving his maximum contributions. Ignorance of current happenings leads to total failure and it is as well a waste of time and resources.

2. Relevant subject matter: Relevant subject matter here means inviting mankind to worship Allah sincerely. This invitation could be done verbally through open air preaching for example, or non-verbal; like the provision of health facilities or social welfare programmes. Whichever form of *Da'wah* is chosen, the subject matter should revolve round teaching the beauty of Islam which will in turn lead to worshipping Allah alone. Aspects that are to be emphasized upon most especially should include encouraging the search for sound education both Islamic and Western, teaching the importance of faith and all other Islamic rites, promoting brotherhood and unity, proper motivation to spend in the way of Allah, and the importance of tolerance in a religio-plurastic community like Nigeria. A *Da'iyah* should be precise and comprehensive as appropriate in his *Da'wah*. He should avoid prolonging issues unnecessarily so that it would not lead to apathy.
3. Suitable Methodology: Islam obliges *Da'wah* and prescribes along with it its appropriate strategy to consist of wisdom and beautiful preaching. The Glorious Qur'an instructs that:
Invite (all) to the way of your lord with wisdom and beautiful preaching and argue with them in ways that are best and most gracious, for your Lord knows best, who have strayed from His path and who receives guidance. (Surah an-Nahl: 125).

It is important for a *Da'iyah* to note that, the strategy to be used in the conduct of *Da'wah* should differ from person to person, from locality to another and from one time to another. Each case should independently and wisely be dealt

with. Not one strategy is absolute, and not only one of it could be used to achieve good result. Zaidan A (2001:420) in support, stated that:

An effective strategy could only come by if the real problem of the targeted audiences is well identified; and appropriate solution is being proposed and emphasized upon. Secondly, the ambiguities in the solution if any, should be removed, so as to make the recipients understand the effectiveness of the solution for them to use. Thirdly, they should then be frequented to be taught till the solution becomes firmly established.

4. Good practice or exemplary life: Good practice of the *Da'iyah* by acting according to his *Da'wah* sets exemplary life worthy of emulation and the vice-versa. It is commendable therefore that the actions of a *Da'iyah* should commiserate with his utterances. However, it is not necessary or a pre-requisite that a *Da'iyah* should not conduct *Da'wah* unless on such things that he will practice; and if he does that, he is liable to double punishments of refusals and negligence. Al-Audah A (1991:73-74) opined that:

Wicked scholars are those who invite with their tongues but drive people away by their actions. It is advisable that a Da'iyah should show ardent desire in living an exemplary life. However, it is necessary that we emphasize here that, it is not a pre-requisite that a da'iyah should not conduct Da'wah unless on such things he will practice. This is admittedly not true. Both the Qur'an and Hadith instruct that a Muslim should conduct Da'wah even if he is guilty of acting contrarily. The expectations are that, he should be sincere, not hypocrite, misleading and as well as a man of show-off.

Involvement of Women in Da'wah Activities

Women in the past played greater roles in *Da'wah* activities. For example history has it that Asiyah (May Allah have mercy on her) as she is traditionally known, and who coincidentally was the wife of Pharaoh was said to have saved the life of the infant Musa bn Imran (Peace be upon him), the messenger of Allah. Prophet Musa (Peace be upon him) later reformed his people and established the worship of Allah on Earth. Without that her contribution, the story of the infant could have been a different thing entirely. The Glorious Qur'an sets example with her for the *Da'iyah* and the believers in general to follow in adhering to sincere faith, and in directing their spiritual vision to Allah, and to as well desire for martyrdom, rather than the worldly grandeur of personalities or

any other interest. Allah the Almighty says in that regard:

And Allah sets forth for those who believe the example of the wife of Pharaoh when she said: My Lord! Build for me a house with Thee in the garden; and deliver me from Pharaoh and his work, and deliver me from the wrongdoing people. (Surah at-Tahrim: 12)

Again the wives of the Prophet Muhammad (SAW) contributed a lot in conveying the message of Islam both literally and materially. A'ishatu bint Abubakar (R.A.) who was said to be the most learned among the Prophet's wives taught both the companions and their followers the religion of Islam. Zainab bint Khuzaimah was nicknamed as the mother of destitute because of her generosity. To crown it all, the whole of them contributed in conveying the message of Islam as they were taught by the Prophet (SAW) and instructed by God where He says: “*And remember what is rehearsed in your houses of the signs of Allah and of wisdom. Verily, Allah is the knower of the subtleties, All Aware*”. (Surah al-Ahzab: 35).

Al-Qurdubi A (1994: Vol 13:485) commented on the verse above thus:

Ibnul Arabi said that: There is an interesting injunction in this verse where Allah The Almighty instructed His Prophet (SAW) to convey the message of His glorious Qur'an, and to as well teach what he was taught of the religion accordingly. It will suffice the Prophet (SAW) to be considered as having discharged his responsibilities, if he could convey the message to only one person deliberately or co-incidentally. It would then be left for the recipient who heard from him to convey to others. The Prophet (SAW) was not obliged to go round his individual companions to convey the message of Islam if he had done so to only one of them, or after conveying to his wives. (The companions and his wives had the responsibilities to convey the message of Islam further.

The Nigerian Women Du'at:

Du'at is the plural form of *Da'iyah*, meaning more than one person or organization that undertake *Da'wah* activities. In Nigeria today, commendable efforts are made by several women and some women organisations in the field of *Da'wah*. Some of them do it at their individual capacities; while others participate in the activities of some *Da'wah* organizations. Notable among these organisations include *Federation of Muslim Women Organization of Nigeria (FOMWAN)*, *Women in Da'wah*, *Nisaa'us Sunnah*, *Initiative for Muslim Women in Nigeria (IMWON)* and *Muslim Professional (MPD)* and so on.

At individual level, the contribution of notable figures like those of the late A'ishah B. Lemu (May Allah forgive her) cannot be overemphasized. The deceased contributed a

lot in the field of literary works, establishment of *Da'wah* training centres and schools as well as in facilitating the formation of women Islamic organisations in many parts of the world most especially the West African Sub-Region. She observed and lamented on the lack of recognition and financial support suffered by women that are involved in *Da'wah* activities. Lemu B (2001:8-9) stated that:

I attended the Beijing conference on women in 1995 and found Muslim women there numerous but with a few exceptions, unprepared and with no common platform or strategy when they do not have the opportunity to meet at international level, let alone develop a consensus or a strategy.

The assessment of the journey so far regarding the women involvement in *Da'wah* activities show that there are certain achievements recorded in the areas of education and social welfare programmes. Just to mention two of them as an example, Maiwada (2012:5) attributed the following achievements to FOMWAN:

1. Establishment of 100 Nursery/Primary and secondary schools, 200 Islamiyyah/Qur'anic centres.
2. Several orphanage houses.
3. Clinics/hospitals.
4. Vocational training centres across the country.
5. Again the impact of the organization are manifested in dress code, propagation and promotion of Islam, as well as educational and economic development.

Hampering Factors to Women *Da'wah* in Nigeria

Despite all the laudable achievements recorded as a result of that involvement, yet some hampering factors impede greater success seriously and which in the consequence brought about retardation. The factors are:

1. **Lack of proper plan to teach sound Islamic and Western education:** The traditional system of informal education normally given in *Islamiyyah* schools is greatly inadequate. Drills and chorus recitation of the Qur'an, *Hadiths* of the Prophet (SAW) and some religious principles do not usually help matters. Similarly, emphasis is not normally given to teaching sound faith; the foundation upon which all other rites are placed and without which, there can never be Islam. Al-Qairawani (2007:8) stressed upon the completeness and soundness of faith in order to adhere to them in the

following words:

Faith is a phenomenon to be armed by the heart, uttered by the tongue, put into practice by the limbs. It increases with an increase in the observance of religious acts and the vice-versa. Faith is neither complete nor sound unless it is accompanied by action or practice. Utterances and actions cannot be correct acts of worship in Islam unless they were done with sincerity of intention and in accordance with the teachings of the Prophet (SAW).

Similarly, Western education does not receive desire attention, thereby hampering access to the use of sophisticated technologies in the conduct of *Da'wah*. The recent technology requires special skills obtainable through training. Where literacy in English language and basic Arithmetic are lacking, the skills could hardly be acquired and would consequently hamper *Da'wah*.

In a related development, governance in Nigeria today requires certificates showing his/her level of educational attainment. The higher the certificate, the more the higher position in government. A *Da'iyah* with PhD can occupy wonderful position in the government and make great impact. Her presence as a *Da'wah* worker in some places could help Islam consciously or unconsciously. Allah's tradition has been to help Islam in several ways even without the knowledge of the *Da'iyah* herself. As-Sa'adi (2005:458) added that:

Allah use to deliver the believers from calamities in several ways, some of which might be known to them or otherwise. It is possible for him to protect them sometimes through certain respects that is accorded either to their tribesmen or fellow non-Muslims country men; just like what happened to Prophet Shu'aibu (AS). He was delivered from being stoned to death for the respect and regards the unbelievers had for his family. There is no harm (from the Islamic point of view) to take part in a system even if it is un-Islamic as long as the religion of Islam and Muslims will be secured through the participation. It may sometime become even compulsory to achieve the objective of the stated safety or security depending on the situation at stake.

2. Laxity in generous spending in the way of Allah: Most of the women that are involved in *Da'wah* have self-reliant posture as far as funding are concerned. Internally generated funds, membership dues, levies, sales of publications and donations are some of their sources of finance. Although the ways are several, yet they are inadequate. More so, the motivation to entice the members to donate generously as well as free-will is in most cases not there or not even adhered to. This hampers their

involvement greatly.

3. **Lack of recognition:** Women *Du'at* in Nigeria operate most at local levels or at individual capacities. They hardly come into contact with other colleagues living in different parts. And even those that are found in the urban areas and those that partake in the activities of *Da'wah* organization hide away as women wing in their respective organisations to which they belong under the leadership of the men. Although it could be admitted in fairness that some organisations led by intelligent, educated and dedicated women are found, but their numerical strength and voices are not widely known or heard as expected.
4. **Lack of training programme:** Successful conduct of *Da'wah* could hardly come by where certain training programmes are not given. If conferences, workshops and various courses are not being organized for women *Du'at* from time to time, they can hardly conduct *Da'wah* and other Islamic works efficiently.
5. **Appointment of women *Du'ats*:** Women *Du'at* in Nigeria are not mostly paid either by *Da'wah* organisations or the government. They do it voluntarily. It is their males' counterparts that benefit the most even in the rare cases in which the payments are made; although they could not be as acceptable to the women targeted audiences as their female counterparts could. This free service is most of the times tedious.
6. **Claims of purity (Tazkiyyah):** Some *Du'at* have certain undiscovered weaknesses no matter how good their intentions or the strategies that they follow in order to succeed are. An observer may later discover the weakness and draw the attention of the affected *Da'iyah* for changes. The *Da'iyah* does not show willingness to accept corrections; which will consequently lead to claims of purity.

Redemptive Strategies To Remove The Hampering Factors For Enhancement

The undermentioned that are to be highlighted are some of the strategies that could lead to the enhancement of women involvement in *Da'wah*:

1. Proper plan to teach sound Islamic and Western Education: Education is a prerequisite in all forms of human endeavor. There is the need for *Du'at* at whatever level to plan and teach with Islamic and Western Education. The curriculum to that effect should be suitably drawn, implemented and supervised. A woman could act more efficiently in *Da'wah* works if she receives both Western and Islamic education. Where it becomes difficult to *Da'wah* organisations to design

separate curriculum different from what is now obtainable in the formal school system; it can still raise observations in the areas where there are lapses and suggest some recommendations for necessary review and modifications. There is no harm in doing so as could be understood from the opinion of As-Sa'adi (2005:458) where he said that:

There is no harm to take part in a system even if it is un-Islamic as long as the religion of Islam and the Muslims will be secured as a result of that. It may sometimes become even compulsory in order to achieve the security in question and depending on the situation at stake.

2. **Spending in the way of Allah:** Wealth is inevitable and imperative in an effective *Da'wah* work. If women *Du'at* could receive the necessary financial support from all stakeholders that could enhance their involvement in *Da'wah* works. They could conduct itinerant preaching, feature in several social media Islamic programmes, build schools, orphanages and provide additional welfare and health programmes. As a motivation to spend in the way of Allah, the Glorious Qur'an gives a great tidings that:

The similitude of those who spend their wealth for the cause of Allah is like the similitude of a grain (of corn) which grows seven ears, in each ear a hundred grains. And Allah multiplies it further for whosoever He pleases. And Allah is bountiful All knowing. (Surah al-Baqarah: 262).

3. **According deserved recognition:** Involvement of women in *Da'wah* activities, although passive, yet it yields commendable results; which calls for recognition. Women *du'ats* in the first place should join hands together and desist from the individual practice as it is witnessed in most cases currently. They should also be elevated from the level of "Women Wing" in the society led by their male counterparts, to that of being fully pledged councils or as the case may be. This of course will make their *Da'wah* voices be heard and their laudable social services be seen marking their recognition.
4. **Organizing Da'wah training programmes:** Effective *Da'wah* requires necessary training for its successful accomplishment. Conferences, training camps, workshops, seminars, visitations to skills acquisition and economic empowerment programmes should be given adequate attention for enhancement.
5. **Remuneration for women du'at:** Women *Du'at* like every other human being need life necessities like shelter and other provisions; and for them to be more

effective in their *Da'wah* works therefore, they need remunerations. Full time workers among them should be paid good salaries for their services and arrangements should as well be made to care for their welfare even after their years of energetic services. Stipends should also be given to casual or part time workers among them as the provision of other means of logistics is also required to be made.

- 6. Desisting from the claims of purity:** Human beings are never perfect as Allah The Almighty created them. They are fallible in several ways and commit sins day and night. The expectation is that women *du'ats* should implore the strategy of wisdom and beautiful preaching in admonishing wrong doers. They are not charged by Allah with the responsibility of ensuring that Islamic messages must be accepted and put into practice; otherwise the culprit should be disgraced. It is worrisome that to some *du'at*, as soon as an act of disobedience to God is discovered with somebody, then it becomes a major agenda of their preaching. They sometimes go to the extent of labelling the disobedient as being 'heretic' or a 'profligate'. This act of policing made some of them to turn blind eyes to their own shortcomings and begin to claim purity; which Allah prohibits in his saying that: “... *So ascribe no purity to yourselves. He knows him best, who is truly righteous*”. (Surah al-Najm:33).

Conclusion

Da'wah as it was mentioned elsewhere in this paper is one of the most effective strategies of inviting mankind to the worship of Allah alone; which is the main essence of their creation. Its effectiveness depends largely on its quality; which is a product of good and competent *Da'iyah*, meaningful subject matter, suitable methodology and exemplary practice. Although women in Nigeria are passively involved in *Da'wah* activities, yet their contributions cannot be overemphasized. If not for several obstacles such as lack of recognition, financial support, training programmes, sound education as well as claim of purity, their involvement could have been much better. This paper is however of the categorical stand, that if redemptive strategies like the provision of sound Islamic and western education, adequate financial support, remunerations, recognition and as well desisting from the claims of purity could be taken, the involvement of women in delivering quality *Da'wah* in Nigeria would be enhanced.

Recommendations

For enhancement, it is recommended that *du'at* at individual and organizations level in Nigeria, should design appropriate strategies to:

1. Teach and encourage the search for sound Islamic and western education.

2. Motivate all stakeholders to spend their time and resources generously in the way of Allah.
3. Wisdom and beautiful preaching should be adopted as a suitable methodology of *Da'wah*.
4. Recognition, financial support, vigorous training programmes, establishment of schools and other social centres should be encouraged and well supervised by individuals and organisations.
5. *Du'at* should desist from all claims of purity.

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PERCEIVED IMPORTANCE AND KNOWLEDGE OF HEALTH WORKERS ON SEXUAL HEALTH ISSUES OF PATIENTS WITH END-STAGE RENAL DISEASE IN FEDERAL MEDICAL CENTRE BIDA, NIGER STATE.

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Abstract

The purpose of this study was to assess the perceived importance and knowledge of health workers on sexual health issues with end-stage renal disease patients. To achieve this purpose, the researcher formulated two research questions that guided the focus to the study. A self-developed questionnaire was designed and validated. A pilot study was taken to establish reliability coefficient. The obtained value was .826. The questionnaire was administered to the participants which they were required to respond accordingly. 33 participants of this study were purposively selected. They included Nephrology nurses, General nurses, Doctors and Social workers). The data collected were analyzed using the descriptive statistic of frequency and percentage to answer the research questions. The results of this study revealed that it is important to health workers to discuss sexual health issues with patients afflicted with end-stage renal disease and that health workers were knowledgeable about sexual dysfunction of patients afflicted with end-stage renal disease. On the basis of the findings of this study, it is recommended that health workers must be ready anytime to discuss such issues with their patients and that sexual health issues of patients with end-stage renal disease should be discussed for enhancing and improving their knowledge, among others.

Key words: Perceived importance, knowledge, Health Worker, Sexual health issues, end-stage renal disease.

Introduction

The prevalence of sexual dysfunction among people with end stage renal disease (ESRD) provides a useful basis for clinicians to engage victims in discussions

bordering on sexual matters with a view to providing holistic care. The association between ESRD and Sexual Dysfunction (SD) is well established as evidence in some literature. Marcio et al, (2018) asserted that chronic kidney disease progression worsen erectile function. Men and women on haemo-dialysis do experience sexual problems which consequently affect quality of life (Giovanni, 2012). In the same vein, Valeria et al, (2017) in a study that assessed the prevalence and correlates of low sexual functioning in women on haemo-dialysis, a multinational, cross-sectional study concluded that women on haemo-dialysis reported low sexual functioning which appeared to be related to comorbidity. Furthermore, it was discovered in a recent meta-analysis that 83% of men on haemo-dialysis experienced erectile dysfunction of varying degrees (Dunkel, 1997). Similarly, as with women on dialysis, men's interest in sexual activities may be significantly reduced. Toorians et al, (1997) blamed this on reduced sexual desire among these patients.

Some factors had been implicated as responsible for sexual dysfunction in people with end stage renal disease. These factors include but not limited to hormonal imbalance, anaemia, chronic kidney disease mineral and bone disorder, depression, anxiety, poor self-esteem, social withdrawal and fear of death, autonomic neuropathy, medications and comorbid illness (Lawrence et al. 1998; Steele, et al. (1976), Vecchio, et al. (2012), Strippoli (2012), Weisbord, et al. (2007), Yavuz et al. (2005).

Harrison et al. (2020) found that sexual dysfunction is prevalent among people having chronic kidney disease and is the consequence of a combination of renal disease and physical and non-physical factors. The study further identified inconsistent disease definitions, stigma, inconsistency in the efficacy and safety of established treatments and changing gender roles in sexual function. The importance of engaging patients with end-stage renal disease in discussions revolving around sexual issues by clinicians cannot be overemphasized consequent upon the preceding evidence. Joe et al. (2014) concluded unequivocally that even though haemo -dialysis is adequate, it does not exert significant impact on sexual dysfunction; therefore, other treatment options should be considered. In developing treatment strategies for patients with end stage renal disease, health care providers too often focus attention on preselected areas that use standardized assessment tools. These tools often do not fully explore the patients' perceptions of their symptoms, issues, and problems and they do not address the impact of these symptoms on the overall quality of life of the patients (Weisbord et al. 2007). Palmer, (2003) emphasized that it is critically important not just to document (with a validated tool) an area of patient dysfunction, but that there is need to understand the importance of it for the patient. Health workers then need to develop a hierarchy of problem areas for each patient that needs to be addressed. According to Steele (1996) majority of peritoneal dialysis patients did not have intercourse,

although 50% of those surveyed would wish to. It is worth observing that quality of life and erectile dysfunction (ED) are associated in both directions. This condition impairs the quality of life due to kidney disease and can worsen. Although extant literature is replete with studies on end-stage renal disease, haemo-dialysis and the association between chronic kidney disease and sexual dysfunction, there is dearth of information on the perception of clinicians about the need to discuss sexual health issues with patients suffering from end stage renal disease. Therefore, this study aimed to describe the perception of health workers about discussing sexual issues with end stage renal disease patients.

End-stage renal disease has been shown to impact sexual health negatively, in particular “erectile dysfunction”. Supporting evidence has emanated from the observation that penile calcification in a tiny group of haemo-dialysis patients correlated with erectile dysfunction. Also, symptoms of depression have been seriously associated with the evolution of erectile dysfunction in patients with chronic kidney disease (Vecchio et al, 2012). Impaired sexual health has substantial implication for sufferer. Quality of life, self-esteem, anxiety, and depression have been demonstrated to be adversely influenced by erectile dysfunction in patients with chronic kidney disease (Turk, 2004; Lew, 2005). It is worth noting that quality of life and erectile dysfunction are associated. Vascular disease is a common problem in patients with chronic kidney diseases. It has been shown to have significant association with erectile dysfunction (Billups, 2005). Indeed, a correlation was said to exist between severe erectile dysfunction and coronary artery calcium in patients undergoing dialysis (Inci, 2007), as well as between erectile dysfunction and carotid-intima thickness in haemo-dialysis recipients (Stolic & Bukumiric, 2010). Anaemia is another bottleneck faced by people suffering from end stage renal disease; it is common among them than the general population. It is said to be responsible for causing a fall in the glomerular filtration rate (McFarlane et al. 2008; Stauffer & Fan, 2014). An association between anaemia and erectile dysfunction has been implicated in chronic kidney disease (Lawrence et al, 1997). There is a reduction in the delivery of oxygen to the corpora carvenosa in anaemic patients which is implicated in impaired nitric oxide generation within the erectile tissues and reduced erectile function (Lawrence et al, 1997; Beusterien et al, 1996).

Therefore, research evidence showed the association between end-stage renal disease and sexual health issues. It is important that health workers in the nephrology unit take the sexual health issues of end-stage renal disease patients seriously. However, this is not the case as extant literature is deficient in studies bordering on the role of health workers in addressing sexual health issues of these patients. The aim of this study is to

assess the perception of health workers about discussing sexual health issues with patients having end-stage renal diseases.

This research study seeks to explore whether: health workers believe that it is important to discuss the sexual health issues of patients afflicted with end stage renal disease? and how knowledgeable are health workers on sexual dysfunction of patients suffering from end stage renal disease? Based on these research questions, it was hypothesized that health workers need to know the importance and knowledge of sexual health issues of patients afflicted with renal disease in Federal Medical Centre Bida, Niger State.

Methodology

Survey research design was employed in this study. The reason for this choice was because the researcher only aimed to assess the perceptions of health workers in relation to end stage renal disease patients in discussion revolving around sexual issues. Health workers working in the nephrology unit of Federal Medical Center Bida constituted the target population for this study because they attain regularly to patients having end-stage renal diseases and provide health care services to them. A purposive sampling technique was used to select the participants of this study. Thomas, Nelson and Silverman (2005) asserted that purposive sampling involves picking on a sample based on the researcher's judgment to suit his research. Thus, 33 participants were selected for the purpose of this study. The researcher used the questionnaire as instrument for data collection. The questionnaire was designed with open ended and close ended questions. The questionnaire comprised of statements which the participants were required to respond accordingly. 4 copies the questionnaire was sent to professional experts in Federal Medical Centre, Bida- Niger State for their critical comments to ensure face and content validity. Their suggestions and constructive criticism were reflected on the final draft of the questionnaire. The reliability coefficient obtained for the instrument was .826. Adetoro (1986), Nie (1998) & Ojo (1994), stressed that the closer to 1 the reliability coefficient of an instrument the more reliable the instrument. By implication, this instrument is therefore reliable and valid for this study. A period of two weeks was used for the administration and collection of duly filled questionnaire by the researchers. The descriptive statistics of frequency and percentage was used to analyze the socio-demographic characteristics of the participants. It was also utilized to answer research questions formulated for the study.

Results

All the participants involved in the study were health workers (Nephrology Nurses, Dialysis Nurses, Doctors, and Social Workers) of the Nephrology Unit, Federal Medical Centre Bida, Niger State. Some of the demographic characteristics selected

for analysis were gender, age, marital status, current position and duration in Nephrology unit. The classifications into frequencies and percentages of the demographic characteristics of the participants are presented on Table 1.

Variable	Classification	Frequency	Percentage
Gender	Male	13	39.39
	Female	20	60.61
	Total	33	100.00
Age	24 years	2	6.07
	29 years	6	18.18
	34 years	7	21.21
	39 years	3	9.09
	40 years and above	15	45.45
	Total	33	100.00
Marital Status	Single	8	24.24
	Married	17	51.52
	Divorce	6	18.18
	Separated	2	6.06
	Total	33	100.00
Current Position	Nephrology Nurse	16	48.49
	General Nurse	8	24.24
	Doctor	2	6.06
	Social Worker	7	21.21
	Total	33	100.00
Duration of practice in Nephrology	0 -11 Months	2	6.16
	1-4 years	31	93.84
	5-9 years		
	10-14 years	1	5.4
	15 years and above		3
	Total	33	100.00

The demographic characteristics on gender shows that 13 participants (39.39%) were males and 20 participants (60.61%) were females. On age, majority of the participants (45.45%) were 40 years and above. On marital status, majority of the participants (51.52%) were married. On current position at work, 16 (48.49%) were nephrology nurses, 8 (24.24%) were general nurses, 7 (21.21%) were social workers and only 2 (6.06%) were doctors. On duration of practice in nephrology, 2 (6.06%) had been in the unit for 0-11 months. While majority of the participants 31 (93.84%) had been in the unit for 1-4years.

Table 2: Perceptions of Health Workers on the importance to discuss sexual health issues with end-stage renal disease patients.

Response	Classification	Frequency	Percentage
How important is screening of sexual dysfunction of patients with end-stage renal disease?	Unimportant	-	-
	Important	33	100
	Slightly important	-	-
	Very important	-	-
	Total	33	100.00
How often do you discuss sexual Dysfunction with a new patient?	Never	-	-
	In less than half of the cases	8	24.24
	In half of the cases	20	60.61
	In more than half of the cases	5	15.15
	Total	33	100.00

Table 2 shows the responses of the participants on their perceived importance of discussing sexual health issues with patients afflicted with end-stage renal diseases. The participants (100%) opined that it is important to discuss sexual dysfunction with patients afflicted by end-stage renal diseases. The participants responses on how often they discussed sexual dysfunction with end-stage renal patients reveals that 8 (24.24%) discussed with less than half of the cases. 20 (60.61%) discussed it with half of the cases while only 5 (15.15%) discussed it with more than half of the cases. This showed that the participants perceived that it is` important to discuss sexual dysfunction with their renal patients. This is often carried out by 75.66% of health workers in the unit.

Table 3: Perceptions of Health Workers on how often they discussed sexual dysfunction with patients in the different stages of end-stage renal diseases.

Stages	Classification	Frequency	Percentage
Stage 1: GFR>90ml/min/1.73m2	Never	-	-
	In less than half of the cases	28	84.85
	In half of the cases	5	15.15
	In more than half of cases	-	-
	Total	33	100.00
Stage 2: GFR> 60 -89ml/min/1.73m2	Never	-	-
	In less than half of the cases	28	84.85
	In half of the cases	5	15.15
	In more than half of cases	-	-
	Total	33	100.00
Stage 3: GFR> 30 -59ml/min/1.73m2	Never	-	-
	In less than half of the cases	-	-
	In half of the cases	33	33
	In more than half of cases	-	-
	Total	33	100.00
Stage 4: GFR> 15 -29ml/min/1.73m2	Never	-	-
	In less than half of the cases	-	-
	In half of the cases	-	-
	In more than half of cases	33	100
	Total	33	100.00
Stage 5: GFR> 15ml/min/1.73m2	Never	-	-
	In less than half of the cases	-	-
	In half of the cases	-	-
	In more than half of the cases	33	100
	Total	33	100.00

Table 3 shows how often the participants of the study discuss sexual dysfunction with patients at different stages of end-stage renal diseases. In stage 1, 28 (84.85%) participants discussed less than half of the cases while 5 (15.15%) discussed it with half of the cases. In stage 2, 28 (84.85%) participants discussed with less than half of the cases while 5 (15.15%) participants discussed it with half of the cases. In stage 3, 33(100%) participants discussed it with half of the cases. In stages 4 and 5, 33(100%) participants discussed it with more than half of the cases respectively.

Table 4: Participants responses on how often they provide information regarding sexuality to male and female patients.

Patient/condition	Response	Frequency	Percentage
Male patients with chronic Kidney failure	Never	-	-
	In less than half of the cases	-	-
	In half of the cases	33	100
	In more than half of the cases	-	-
	Always	-	-
	Total	33	100.00
Female patients with chronic Kidney failure	Never	-	-
	In less than half of the cases	33	100
	In half of the cases	-	-
	In more than half of the cases	-	-
	Always	-	-
	Total	33	100.00

Table 4 reveals the responses of the participants of this study how information regarding sexuality is provided. All participants (100%) claimed that in half of the cases of male patients with chronic kidney failure. Similarly, all the participants (100%) claimed that in less than half of the cases in female patients with chronic kidney failure.

Table 5: Health Workers' knowledge of patients with transplant experience with sexual complaints

Condition	Response	Frequency	Percentage
Erectile dysfunction (Men)	No one/Almost no one	-	-
	Less than half of the patients	-	-
	More than half of the patients	33	100
	Almost everyone	-	-
	Total	33	100.00
Decreased Libido	No one/Almost no one	-	-
	Less than half of the patients	-	-
	More than half of the patients	33	100
	Almost everyone	-	-
	Total	33	100.00
Menstruation problems (Women)	No one/Almost no one	-	-
	Less than half of the patients	-	-
	More than half of the patients	33	100
	Almost everyone	-	-
	Total	33	100.00
Insufficient Lubrication (Women)	No one/Almost no one	-	-
	Less than half of the patients	-	-
	More than half of the patients	33	100
	Almost everyone	-	-
	Total	33	100.00
Problems with reaching Orgasm	No one/Almost no one	-	-
	Less than half of the patients	-	-
	More than half of the patients	33	100
	Almost everyone	-	-
	Total	33	100.00

Table 5 reveals the responses of the participants on how many of their patients who received kidney transplant experience sexual complaints mention above. The participants (100%) claimed that more than half of the patients who received kidney transplant experienced erectile dysfunction (man), decreased libido, menstruation problems (woman), insufficient lubrication (woman) and problems with reaching an orgasm respectively.

Discussion

The participants in this study believe that it is important to discuss sexual health issues with patients afflicted with end stage renal disease. The findings on the perception of health workers on the importance to discuss sexual health issues of end-stage renal patients, shows that 33 (100%) of the participants asserted that it is important to screen patients on sexual dysfunction. On how often should they discuss sexual dysfunction

with a new patient be made, majority (60.61%) of the participants opined that in half of the cases.

To expanciate the importance of discussing sexual dysfunction with patients afflicted by end stage renal diseases, perceptions of Health Workers on how often they discussed sexual dysfunction with patients in the different stages of end-stage renal diseases reveals the following.. In stages 1 and 2 of end-stage renal diseases, the participants opined that they discuss sexual dysfunction in less than half of the cases. In stages 3 and 4, the participants asserted that they discuss sexual dysfunction in more than half of the cases of patients afflicted by end-stage renal diseases. In support to this finding, Gaby et al, (2015), asserted that sexual health is an important factor regarding quality of life, and if there is the presence of sexual dysfunction the quality of life is affected. Equally, due to the high impact of sexual dysfunction on patients health, early detection is essential.

The findings of this study suggest that the participants are knowledgeable on sexual dysfunction of patients afflicted with end-stage renal diseases. The responses of the participants on knowledge of patients with kidney transplant experience sexual complaints reveals that all participants (100%) asserted that more than half of patients' complaint of erectile dysfunction (man), more than half the patients complaint of decreased libido, more than half of the patients' complaint of menstruation problems (Women), more than half of the patients complaint of insufficient lubrication (Women) and more than half of the patients complaint of problems with reaching an orgasm respectively. In support to the findings above, the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders(5 Edition; DSM-V) (2013) reported that males with chronic kidney disease have a high prevalence of erectile dysfunction, with 71% of people with estimated glomerular filtration rates below 60 mL/min/1.73m² affected. Difficulties with ejaculation or inability to orgasm have been reported in 59% of sexually active male dialysis patients. In women, an estimated 56% of those on dialysis have difficulties in achieving orgasm, sexual desire has also been found to decrease in almost half of people receiving dialysis.

Conclusion

Based on the findings of this study, the following conclusions are drawn:

1. Health workers perceived that it is important to discuss sexual health issues with patients afflicted with end stage renal disease.
2. Health workers are knowledgeable about sexual dysfunction of patients afflicted with end stage renal disease.

Recommendations

On the basis of the findings of this study the following recommendations are made:

1. Health workers should use their knowledge in providing adequate and appropriate therapy to patients afflicted with end stage renal disease.
2. Health workers must accept that stigma is a major challenge among patients suffering from end stage renal disease. As such they should create a conducive environment where patients can open up in discussing sexual dysfunction.
3. Health workers must be ready anytime to discuss such issues with their patients and that sexual health issues of patients with end-stage renal disease should be discussed for enhancing and improving their knowledge.
4. Patients afflicted by end-stage renal diseases should feel free and secured in discussing sexual health issues with personnel that provides health care services.

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ABUNDANCE, ROOM-DENSITY, BITING- RATE AND GONOTROPHIC STAGES OF MOSQUITOES FROM SABON TASHA, KADUNA STATE, NIGERIA

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Abstract

Understanding biology and diversity of mosquitoes is essential for designing effective control strategies against mosquito vectors. Abundance, gonotrophic stages, room density and biting rates of endophilic mosquitoes were determined from five households within two localities at Ungwan Kadara and Ungwan Gimbiya in Sabon Tasha, Chikun Local Government Area of Kaduna State, Nigeria. Mosquitoes collected by Mortein spray were identified with standard morphological keys while their gonotrophic stages were determined based on observed abdominal conditions. Households A, B, C, D and E contributed 95(12.3%), 59(7.7%), 125(16.2%), 265(34.4%) and 226(29.4%) respectively to the total of 770 mosquitoes collected. Culex quinquefasciatus comprised of females 688 (86.8%) and males 102(13.2%) were identified. Out of 688 females collected, 308(46.1%) were engorged, 226(33.8%) not engorged, 59(8.8%) gravid and 75(11.2%) were half-gravid. The overall average of Indoor Resting Density of mosquitoes (2.23) and Man Biting Rate of mosquitoes (0.54) for female Culex quinquefasciatus was higher at Ungwan Gimbiya settlement (Indoor Resting Density of mosquitoes range = 1.83-3.85; Man Biting Rate of mosquitoes range = 0.51-1.01) than at Ungwan Kadara settlement (Indoor Resting Density of mosquitoes range = 0.85-1.32; Man Biting Rate of mosquitoes range = 0.17- 0.34). Presence of Culex species constitutes a major potential health hazard for residents in the study area, whose majority were observed not sleeping under insecticide-treated nets, nor using prospective clothing at night, applying insecticide sprays and installing net-screened doors and windows. Interventions with mosquito control programs and extensive health education in the study area will help to curb

potential public health problems posed by mosquito vectors.

Keywords: Abundance, room-density, biting-rate and gonotrophic stages, mosquitoes.

Introduction

Mosquitoes are disease-causing vector of several human diseases in tropical and subtropical Africa (Adeleke *et al.*, 2010) due to the haematophagous habit of their females (Jerome *et al.*, 2019). Diseases transmitted by female mosquitoes include lymphatic filariasis (Onyido *et al.*, 2016), dengue fever, yellow fever, Zika, Chikungunya, and Rift Valley viral diseases (Jerome *et al.*, 2019), and malaria (Irikannu and Chukwuekezie, 2015), as well as noise nuisance and allergic reactions caused by their bites (Onyido *et al.*, 2009).

The incidence of mosquito-borne diseases has been increasing at an alarming rate, with approximately 700 million infected cases and more than one million deaths recorded annually with a disproportionate effect on children and the elderly in developing countries (Caraballo and King, 2014). Despite considerable effort to control mosquitoes, it still represents a significant threat to human health because of inadequate environmental sanitation, human-host preference, mosquito resting density and environmental changes which are some of the factors that influence their role in disease transmission (Mboera *et al.*, 2010).

Study of the abundance, distribution, resting and biting habits of mosquito vectors are important for formulation and implementation of well-directed control intervention and to avoid waste of resources in combating harmless species. Hence, this study on endophilic mosquito species in selected households within Ungwan Kadara and Ungwan Gimbiya settlements in Sabon Tasha, Chikun Local Government Area of Kaduna State.

Materials and Methods

Study area: This study was conducted in Sabo Tasha, Chikun Local Government Area (LGA) of Kaduna State, north-west Nigeria, which lies between the geographical coordinates of Chikun Local Government Area (latitude 10°03.00' N - 10°50.00' N and longitude 6°40.00' E - 7°50.00' E) in the Guinea Savanna Zone of Nigeria experiences warm tropical savanna climate with prevailing eight months of wet season (March-October,) and four months of dry season (November- February). Average annual temperature of Chikun is 33°F, and typically varies from 55 to 95°F in the wet

season. Relative humidity ranges between 70-90% and 25-30% in wet and dry seasons respectively. Annual rainfall ranges between 850 to 1200mm. Chikun LGA covers an area of 4,466km², with a population of 372,272 (NPC, 2006) comprising traders, farmers, artisans and civil servants.

Study Design: The cross sectional study was conducted between February and March, 2015.

Selection of sampling sites: Five (5) households comprising A and B from Ungwan Kadara settlement, and C, D and E from Ungwan Gimbiya settlement in Sabon Tasha, Chikun LGA of Kaduna State were systematically selected for the study.

Sampling of endophilic mosquitoes: Endophilic mosquitoes were sampled from selected households after knocking them down with Mortein®, an aerosol insecticide containing d-phenothrin 0.03% and D-transallethrin 0.10% manufactured by British company called Reckitt an Australian brand.

Mosquito sampling was done between the hours of 06:00am and 7:00am before the occupants left their rooms. All windows and doors were closed, and moveable items removed to allow spreading of white sheet on the floors to receive mosquitoes that would be knocked down. The room was sprayed with Mortein® and allowed to remain for 20 minutes before collection. Mosquitoes that have been knocked down were collected and placed in a sample container with the moist cotton wool to preserve the mosquitoes before being taken to the laboratory for processing and identification. Endophilic mosquitoes which were expected to be females but few males were collected along with the females, and were distinguished using morphological keys (Service, 2012). The respective households A, B, C, D and E had four rooms each; and housed seven, ten, six, seven and eight occupants respectively for 15 nights.

IRD: Indoor resting density of mosquitoes collected is expressed as the total number of female mosquitoes collected divided by the total number of houses sampled and the total number of night that were used for mosquito collection (Ezihe *et al.*, 2017).

$$\therefore \frac{\text{(Total number of engorged mosquitoes)} \div \text{(Total number of room occupants)}}{\text{Total number of nights}}$$

Morphological identification of mosquitoes: All the mosquitoes collected were labeled properly and taken to Zoology Laboratory of the Department of Biological Science, Kaduna State University, for identification. The mosquitoes were placed on a non-grease slide and identification into genus level with particular reference to the body, head, thorax and hind-legs, patches, of scales, on the palps, antennae, proboscis, and the terminal abdominal segments based on morphological features outlined in Gillett (1972), under an x40 microscope.

Gonotrophic stages of female mosquitoes collected: Gonotrophic stages were categorized according to abdominal conditions of mosquitoes as engorged, not-engorged, gravid, and half-gravid (Obi *et al.*, 2021).

Data Analysis: Data from the study were analyzed using the Statistical Package for Social Sciences (SPSS) version 2.10 for the analysis of variance (ANOVA) at 5% level of significance.

Results

A total of 770 endophilic mosquitoes were collected from the study and all belong to the species *Culex quinquefasciatus* (Table 1). The total number of *Culex* mosquito was highest in household D 265 (35.4%) followed by E 226 (29.4%), C 125 (16.2%), A 95 (12.3%) and B 59(7.7%). There was significant difference ($p < 0.05$) between the populations of *Culex* in all the households. Comparison of mosquitoes population in A and D; A and E showed a significant difference $p < 0.05$ but not when A was compared with C ($p > 0.05$). There was significant difference when B was compared with C, D and E ($p < 0.05$). Generally, more female 688 (86.8%) than male 102 (13.2%) of *Culex quinquefasciatus* were collected but a total of 308 (46.1%) of the 688 females collected were observed to be engorged. Table 1 indicated that average IRD of 2.23 and average MBR of 0.54 but these was higher at Ungwan Gimbiya settlement C, D and E (IRD range = 1.83-3.85; and MBR range = 0.51-1.01) than at Ungwan Kadara settlement A and B (IRD range = 0.85-1.32; and MBR range = 0.17- 0.34).

Table 1: Abundance, IRD and MBR of *Culex quinquefasciatus* mosquitoes collected

House	<i>Culex quinquefasciatus</i>							Room	Occupant	Night	IRD	MBR
	Total		Female		Male		Engorged					
	No.	%	No.	%	No.	%						
A	95	12.3	79	83.2	16	16.8	36	4	7	15	1.32	0.34
B	59	7.7	51	86.4	8	13.6	26	4	10	15	0.85	0.17
C	125	16.2	110	88.0	15	12.0	46	4	6	15	1.83	0.51
D	265	34.4	231	87.2	34	12.8	107	4	7	15	3.85	1.01
E	226	29.4	197	87.2	29	12.8	93	4	8	15	3.28	0.76
Total	770	100	668	86.8	102	13.2	308	20	38	75		
Average/household			133.6				61.6	4	7.6	15	2.23	0.54

$$\text{Average IRD} = \frac{(\text{Average no. of female mosquitoes}) \div (\text{Average no. of rooms})}{\text{Total number of nights}} = \frac{133.6 \div (4)}{15} = 2.23$$

$$\text{Average MBR} = \frac{(\text{Average no. of engorged females}) \div (\text{Average no. of room occupants})}{\text{Total number of nights}} = \frac{61.6 \div (7.6)}{15} = 0.54$$

Abundance and gonotrophic stages of female mosquitoes collected are shown in Table2.: Out of the total number of female *Culex quinquefasciatus* mosquitoes collected (n=668), those from household D contributed the highest with relative percentage of 34.6% while B had the least with 7.6%. Gonotrophic stages indicated that engorged females had the highest number of 308 (46.1%), followed by not-engorged females 226 (33.8%), gravid 59 (8.8%), and half-gravid with 75 (11.2%). There was significant difference (p<0.05) between engorged mosquitoes in all households but when engorged mosquitoes in household A was compared with those in households C, D and E, there was no significant difference (p>0.05). Likewise, there was no significant difference (p<0.05).when household B was compared with households C, D and E.

Table 2: Abundance and gonotrophic stages of female mosquitoes collected

Houses	Female <i>Culex quinquefasciatus</i>		Gonotrophic stages of the female mosquitoes							
			Engorged		Not engorged		Gravid		Half gravid	
	No.	Relative %	No.	%	No.	%	No.	%	No.	%
A	79	11.8	36	45.6	23	29.1	10	12.7	10	12.7
B	51	7.6	26	51.0	17	33.3	3	5.9	5	9.8
C	110	16.5	46	41.8	29	26.4	20	18.2	15	13.6
D	231	34.6	107	46.3	93	40.2	12	5.2	19	8.2
E	197	29.5	93	47.2	64	32.5	14	7.1	26	13.2
Total	668	100.0	308	46.1	226	33.8	59	8.8	75	11.2

Discussion

In this study, the abundance of *Culex quinquefasciatus* mosquitoes caught seems to be high. This high mosquito abundance could be due to the fact that the study was conducted during the wet season. Adeleke *et al.* (2010) reported that mosquito abundance in Abeokuta, south-western Nigeria increased as the wet season progressed but with a drastic decline between June and July, when heavy rainfall would wash away mosquito eggs from oviposition sites.

The main mosquito species in this study is *Culex quinquefasciatus* which accounted for 100% of the total number of mosquitoes caught was similar to Orucho *et al.* (2013) who caught 100% *Anopheline* mosquitoes. *Culex quinquefasciatus* has also been reported to be the most abundant species prevalence in Nibo community, Awka South Local Government Area, of Anambra State, Southeastern Nigeria (Onyido *et al.*, 2016). The abundance of *Culex* species in these studies could be attributed to their breeding requirements. Culicine mosquitoes are known for their tendency to breed in polluted water bodies including open drains, open or cracked septic tanks, flooded pit (Uttah *et al.*, 2013). The present study areas have inadequate waste disposal system and lack good drainage system, thereby leading to so polluted gutters, which serve as breeding grounds for *Culex* mosquitoes. It is also possible that the presence of these polluted environment accounted for the absence of *Anopheles* species because polluted environment does not support the breeding of *Anopheles*. (Ebenezer *et al.*,

2013). Another possible explanation of the absence of *Anopheles* mosquitoes in the present study could be due to the fact that the study was conducted during the dry season. It is known that *Anopheles* thrives more during the wet season (Adeleke *et al.*, 2010).

Average indoor resting density of 2.23 mosquitoes per room (Table 1) suggests a high likelihood of human-vector contact. Onyido *et al.* (2008) had reported a room density of 8 mosquitoes at a development site in Nnamdi Azikiwe University Awka, Anambra State, Nigeria. Also, the average man biting rate of 0.54 (Table 1) could be an indication that a definite human-vector contact could occur. Ombugudu *et al.*, 2020 had also reported a biting of 5 mosquitoes per man per hour.

None usage of insecticidal aerosols by room occupants observed in this study may have accounted for the presence of mosquitoes in all the rooms surveyed. However, some of the occupants slept under insecticide treated nets to avoid being easily bitten by the mosquitoes. This is in agreement with the finding of Msugh-Ter *et al.* (2017) who showed that most undergraduate students of Federal University of Agriculture Makurdi protect themselves against mosquito bites by use of door and window nets.

Gonotrophic status which showed that a greater number of the mosquitoes caught were engorged was in complete contrast with the findings of Adeleke *et al.* (2010) who observed that the majority of his mosquito collections at Abeokuta were not engorged. The high percentage of engorgement (46.1%) witnessed in the present study may be an indication that a greater percentage of mosquitoes had taken blood meal and as such have high potential to transmit infections (Obi *et al.* 2021). This high proportion of the engorged females of the genus *Culex* might be due to the fact that majority of room occupants were observed not using prospective clothing at night nor used insecticide sprays and net-screened their doors and windows. The present study reported less gravid mosquitoes (8.8%) compared with the engorged. This indicates that the mosquito population is a young one and signifies their low survival rates (WHO, 2003). However, the presence of gravid females in the study area suggest that some of the mosquitoes were able to obtain blood meal and complete at least a gonotrophic cycle and thus have the potential for disease transmission (Obi *et al.*, 2021). According to Obi *et al.* (2021), high number of engorged mosquitoes in a community could be an indication of high productivity and points towards the absence of intervention or reduced application of vector control measures and interventions.

Conclusion

The presence of *Culex* mosquito species constitute a major potential health problem for the inhabitants of the study area. Consequently, Interventions with mosquito

control programs together with massive health education programs in the area will help in curbing the menaces posed by these vectors.

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ENTREPRENEURSHIP AND CREATIVITY IN EDUCATION: A TOOL FOR YOUTHS EMPLOYMENT AND JOB CREATION IN NIGERIA

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Abstract

The progress of a nation is a function of the level of the resourcefulness of the people which to a great extent, relates to the level of quality of the training and purposeful development of education in that nation. Such progress or development could only occur when an individual in the society is gainfully employed and per capital income is enhanced. This could only be possible when government educational policies are geared towards a functional education that can lead to job creation and also self-reliance. Entrepreneurship and creativity in education is a means through which government could attain such development in the society. Therefore, this paper examines how the role of entrepreneurship and creativity in education could help in job creation among youths in Nigeria. The paper recommended that funding of Entrepreneurship education among many others should be taken seriously.

Key Words: Youth employment, Creativity, Entrepreneurship Education, and job creation.

Introduction

Education is the key to national development. This is because it unlocks the economic potentials of the people; empowers and equips individuals in society to participate in, and benefit from their national economy. It facilitates economic development and provides the basis for transformation. Education is the essential tool for sustainability. The present global economic crises suggest that the entire world is struggling for qualitative education (Aluwong, 2010).

Entrepreneurship and creativity in education as part of the total educational system is

the type of education that involves the acquisition of skills, ideas and management abilities necessary for job creation.

An Entrepreneur promotes employment rather than seeking for an employment. Therefore, there is the need to embrace this type of education and provide all the necessary resources needed to make it functional. Quality Entrepreneurship education could be used as a tool for fighting the war against poverty and unemployment among youths in Nigeria.

According to Agi and Yellowe (2013), education is important to the development of human resources, impartation of appropriate skills, knowledge and attitude. It is the basis for transformation, industrialization and a high way to global knowledge economy. Relating to security, Agi and Yellowe (2013), explained further that education is regarded as a means of achieving peace, gender equality and positive African values. It is therefore the understanding of many that education leads to national transformation and development through reduction in poverty and to ensure peace and security.

The National Economic Empowerment and Development Strategy (NEEDS, 2004) document lends credence to the place of education by clearly explaining its role in self-reliance and development. Again Agi and Yellowe (2013), asserted that the goals of wealth creation or generation, poverty reduction and value re-orientation can only be attained and sustained through an efficient education system which impact the relevant skills, knowledge, capacities, attitudes and values. In view of the benefits of education enumerated above, Nigeria has provided education for decades with abundant available manpower. However, what keeps agitating the nation endlessly borders on the slow and inefficient economy, mere primitive democracy and violent social co-existence in society (NEEDS, 2004). Evidenced with many primary and secondary schools and tertiary institution's graduates not gainfully employed either by self or government. Supporting this Ochonma (2011), reported that about 2.8 million fresh graduates enter the labour market yearly and only 10% of these are gainfully employed.

Analyzing the problem of entrepreneurship and creativity in education in Nigeria, Agi and Yellowe (2013), argued that the problem is not about curriculum or investment in education neither is it non-availability of manpower for the sector, but that many have tended to look in the direction of management of education which includes lack of policy analysis to make students to fit into society, yet not relying on the government of the day but the managerial ingenuity of educational managers and administrators to make education a building block of socio-economic empowerment, prosperity, self-

reliance, employment crime reduction and national security, through improved access to quality, functional education at all levels. The paper focused on the concept of youth, causes of youth unemployment in Nigeria, entrepreneurship education, challenges of entrepreneurship in Nigeria and how entrepreneurship could help in job creation.

Concept of Youth

Adebayo (2002), defined youth as “the time of life when one is young especially the period between childhood and maturity of the early period of existence, growth or development” the word “youth”, “adolescent”, “teenager” and “young person's” are often used interchangeably. According to Jega (2012), 'Youth can be defined as a special group of people with strong stamina and passion for realizing certain set goals and objectives'. The way in which a nation defines its youth is related to the objective conditions and realities that exist on the ground especially historical and contemporary socio-economic and political issues that need to be addressed. For the purpose of execution of Nigeria's National Youth Development Policy; the youth comprises all young persons of age 18-35 who are citizens of the Federal Republic of Nigeria. This category represents the most culture, the most volatile and yet the most vulnerable segment of the population, socio-economically, emotionally and in other respect.

Causes of Youth Unemployment

Youth's unemployment in Nigeria is a consequence of several factors. One major factor is that of population growth. Nigeria has continued to experienced high rate of population growth. This increasing population growth has produced an overwhelming increased in the youth population thereby resulting in an increased in the size of the working age population.

Lack of employable skills due to inappropriate school curricula is another factor contributing to the rising youth unemployment. Analysts have argued that in Nigeria generally, the skills that job seekers possess do not match the needs and demands of employers (Mcgrath, 1999; Kent and Mushi, 1995). According to them, the education system in Nigeria has its liberal bias which indeed over supplies the labour market with graduates who do not possess the skills required by employers. Many graduates in Nigeria lack entrepreneurial skills to facilitate self-employment (Oladele, Akeke and Oladunjoye, 2011).

Another factor is the perception of policy makers and the youth themselves about employment.

To the policy makers and the youth, employment means a job with salary and working for someone else. It is this perception that has continued to influence the institutions in

Nigeria that provide skills and training. Based on this, curricula and training programmes are generally tailored towards preparing young people for formal sector jobs. Since these jobs do not exist, there is often a mismatch between the skills possessed by the job seekers and the available jobs.

Among other factors responsible for youth unemployment are poor governance, ineffective targeting of the poor resulting in resources being thinly spread among competing projects, overlapping of functions, poor coordination and lack of sustainable measures (Musari, 2009).

Conceptualizing Entrepreneurship Education

Entrepreneurship Education means many things to many people. Nwabuama (2004), views entrepreneurship education as the identification of the general characteristics of entrepreneurs and how potential entrepreneurs can be trained in management techniques needed for effective performance of persons for long time survival of an organization after the acquisition of occupational skills. Olawolu and Kaegon (2012), confirm that entrepreneurship education prepares youths to be responsible and entering individuals who become entrepreneurs or entrepreneurial thinkers by exposing them in real life learning experiences where they will be required to think, take risks, manage circumstances and incidentally learn from the outcome.

Ememe (2010), observes that entrepreneurship education enables youths to seek for success in ventures through one's effort.

According to Ebele (2008), entrepreneurship education is the teaching of knowledge and a skill that enables the students to plan, start and run their own business. In the view of Swarland (2008), entrepreneurship education aims to stimulate creativity in students, enables them to identify opportunities for innovation and motivate them to transform the ideas into practical and targeted activities whether in a social, cultural or economic context. Amusan (2004), agrees that entrepreneurship education will provide opportunities for students to access their attitude, aptitude and skills relating to those necessary for developing and running business.

Entrepreneurship education entails teaching students, learners and would-be businessmen, the essential skills required to build viable enterprises, equipping the trainees with skills needed for taking responsibility and developing initiatives of prospective trainees (Ezeani, 2012).

According to Abefe-Balogun (2012), Entrepreneurship education involves a dynamic process of creating wealth through the process of creating something new and in the

process assumes both attendant risks and rewards. Izedonmi (2006), states categorically that it is a process of preparing trainees for self-employment.

Okereke and Okorofofor (2011), assert that entrepreneurship education has been acknowledged worldwide as a viable tool for self-empowerment, job and wealth creation. To Atakpa (2011), Entrepreneurship education is an aspect of education which equips an individual and creates in the person the mindset to undertake the risk of venturing into something new by applying the knowledge and skills acquired in school. Also to Fashua (2006), entrepreneurship education creates the willingness and ability in a person to seek out investment opportunities in the society and be able to establish and run an enterprise successfully based on the identified opportunities. Hence, the overall purpose of entrepreneurship education is to develop expertise as an entrepreneur. Entrepreneurship education entails philosophy of self-reliance such as creating a new cultural and productive environment promoting new sets of attitudes and culture for the attainment of future challenges (Ogundele, Akingbade and Akinlabi, 2012).

Trends and Practices in Entrepreneurship Education in Nigeria

Entrepreneurial education and training is becoming a global phenomenon due to world growing unemployment and poverty driven crimes and crises. This has made many countries of the world either developed, developing or underdeveloped to be interested or making progress though slow.

The Federal Republic of Nigeria Government has been making various efforts to enhance skill acquisition of youths. However, Education For All (EFA) reported by Babalola (2011), showed that sufficient attention is not given to skill training for youth and adults. This forms the basis of the then President Obasanjo to mandate all university students in Nigeria, regardless of which major, to be exposed to entrepreneurship development study.

However, as Babalola (2011), reported, efforts at integrating entrepreneurship education into the curriculum of Nigeria public university seem to be inadequate. As at 2010, the most coordinated entrepreneurship education in Nigerian public universities is reported to be at the University of Ibadan which commenced in the 2003/2004 academic session. The programme is reported to be integrated into the curriculum and only concentrated on few students who are interested in developing their entrepreneurial skills.

At the University of Nigeria, Nsukka, in 2010 the Centre for Entrepreneurship and Development Research (CEDR) was set up to promote entrepreneurial culture and

mind-set, skill acquisition, self-employment economic independence and self-actualization. The University of Ilorin was reported to have agreed since 2005 to create a directorate to handle entrepreneurship training however it was only in 2008/2009 that the University established the directorate of Technical and

Entrepreneurship Centre (TEC).

University of Benin also established an entrepreneurship development centre to; develop and offer courses, seminars, workshops and conferences to advance and propagate entrepreneurship in the following ways:

- i. Offers a 2 credit course to penultimate analyzed student.
- ii. Provides clinics in entrepreneurship to students, staff and members of the public.
- iii. Serves as a national centre for the training and development of experts in entrepreneurship.
- iv. Promotes research and experimentation in entrepreneurship. And
- v. Commercializes innovation and inventions.

Considering the importance of entrepreneurship education in the life of Nigeria citizens in general and university graduates in particular, the National Universities Commission (NUC) made it a national policy to encourage Nigerian Universities to provide entrepreneurship education for undergraduates to address the challenges of unemployment. This made NUC design an entrepreneurship course titled Graduate Self Employment (GSE, 301) with the theory and practice components to be taught in Nigerian Universities.

In Delta State University, it is the policy of the University that those reading Business Management or Accounting courses must register study and pass courses in entrepreneurship, while it forms part of the general courses required to be passed before graduating.

In other state Universities in Nigeria, it is only offered as general courses. However, the case of Covenant University, Sango Otta is an outstanding example of where a serious effort has been made to integrate entrepreneurship development study into the curriculum since the inception of the University in 2001. All the students from 100 to 400 levels are made to register for, study and pass Entrepreneurship Development Study (EDS).

Therefore it is observable that; there is a missing link in the National Universities Commission

(NUC) policy on entrepreneurship education with the absence of a standard

curriculum and course outline/content to guide and develop entrepreneurship in the Universities, since entrepreneurship education in Nigeria schools, colleges, polytechnics and universities is not given serious attention it deserves. Therefore there should be a systematic coordinated planning and implementation carried at producing well course structured, teaching contents, methods and materials.

The Roles of Entrepreneurship and Creativity Education

- i. Entrepreneurship education can positively impact a learner at all levels on a wide number of contexts. This may explain why there are such a wide entrepreneurship education programs, all of which can provide important outcomes at various stages of a learner's life.
- ii. Entrepreneurship education is a key driver to economy, wealth and a high majority of jobs are created by small business started by entrepreneurially minded individuals. Thus it would make learners to be relevant in today's economy.
- iii. Entrepreneurship education equipped people with traits of creativity, innovation, independence and foresight or promoting local Entrepreneurship technology activities are a real-life vehicle for developing academic skills. Hence, trained entrepreneurs are always empowered to tap from local resources in their immediate environment. This is a phenomenon that has been demonstrated in China, Japan, India and other emerging economies of the world.
- iv. Entrepreneurship education inculcates in learners the mentality of hard work, one of the keys to unlock poverty doors in developing areas. Entrepreneurs are trained to work hard to be able to run businesses profitably and successfully.
- v. Entrepreneurship education provides a guide to empower the youth based on the belief that young people are themselves the best resources for promoting their own development in meeting the challenges and solving the problems faced in today's world and in the new millennium.
- vi. Entrepreneurship education develops good support skills including commenting, decision making, interpersonal abilities, economic understanding, digital skills, marketing, managerial, and financial skills.
- vii. Entrepreneurship education also provides individual with adequate training that will enable creativity and innovative relevance to skill acquisition which encourages self-employment and self-reliant.

How Entrepreneurship and Creativity Education Could Help in Job Creation among Youths in Nigeria

Quality Entrepreneurship Education plays a vital role in the social, political and economic development of any Nation. This is possible when jobs are created for the citizenry by establishing a lot of businesses that will accommodate the unemployed youth in Nigeria.

- i. Creation of self-employment. An entrepreneur provides job for himself by establishing small business centre. According to Olorunmolu (2008), it helps to reduce the problem of unemployment and other social vices in Nigeria. The entrepreneur does not only provide jobs/employment for himself alone, but provides for others too. This in turn helps the individual to increase per capital income hence improve standard living.
- ii. The Entrepreneur determines or identifies the specific wants of the people and the type of goods and services that will fulfill those wants most comfortable. Emeruwa (2005) asserted that the entrepreneur does not only identifies but mobilizes and organizes the resources to tap the opportunities by assisting men, materials, money and machines to explore the opportunity.
- iii. Entrepreneurship stimulates rural, economic and industrial development. They contribute to the development of rural areas. They do this by establishing their small/medium scale enterprise in such areas by discouraging rural migration.
- iv. They provide ample job opportunities to the rural dwellers. They also provide goods and services, which could be found in an urban area and sometimes provide infrastructural facilities.
- v. The entrepreneurs are usually motivated in their activities not only by the need for material contributions to the welfare of the communities but also desire to make profit. This uplifts the dignity of labour.
- vi. Through entrepreneurship education, utilization of local resources is made possible. The graduates of this specialized education set up their small/medium scale business, which will enable them to utilize the local resources available in their vicinity.
- vii. Through entrepreneurship education, a pool of potential entrepreneurs who are well equipped with skills and technical know how to manage small/medium scale industries. This will equally help in job creation.

Challenges of Entrepreneurship Education in Nigeria

The programme is confronted with a lot of challenges which brought a setback in the attainment of its objectives. These challenges have not enable Nigerian to enjoy the

benefits of this programme as expected. These above limits the achievement of the millennium development goals (MDGs) in Nigeria. Some of the challenges have been pointed out by eminent scholars such as Gana (2000), Aiyeduso (2004), Osuala (2010) and they includes:

- i. Poor funding by government and Non-governmental organizations.
- ii. Poor or ineffective planning, supervision, information and evaluation of the programme across the board.
- iii. Inadequate teaching materials, equipment and infrastructural facilities.
- iv. The challenges posed on globalization, information and communication technology (ICT) have affected the curriculum, methodology, facilities, staff and equipment.
- v. Inadequate qualified teachers and instructors as well as supporting staff at all level.
- vi. Inadequate motivation for available teaching and non-teaching staff which affects staff efficiency, retention, creativity and initiative.
- vii. Emphasis on theoretical Knowledge rather than practical knowledge due to lack of entrepreneurship education centre.
- viii. High level of corruption and very poor maintenance culture in the system.
- ix. Poor enabling business environment, access to credit/ loan, infrastructural decay, mass poverty, inflation, technological infraction, political instability and insecurity of lives and properties which hamper economic and business activities.

Conclusion

Entrepreneurship education is very important that there is urgent need for all higher educational institutions in Nigeria to comply with the presidential directives to the level of making Entrepreneurship compulsory for all students of higher education institutions in Nigeria, irrespective of their areas of specialization. This policy decision was based on government awareness of the crucial role of Entrepreneurship education and training in fostering employment generation among the teaming youths, economic growth, and wealth creation. Thus, entrepreneurial skills development according to Anho (2011), goes beyond training and education, it involves a process of human capacities building through formal and informal training inculcating in the entrepreneur basic skills such as financial skills, technical skills, creative skills, managerial skills, intellectual skills, marketing skills, communication skills and technological skills.

Recommendations

The wheel of development of any country lies on the shoulders of how productive and creative the youths are. The government, parents and guardians have obligations to

ensure that youth are empowered to discharge their obligations to the society and to better their life. In the light of the issues discussed above, the following recommendations are proffered.

- i. Funding of entrepreneurship education should be taken seriously by the federal government. This can be achieved through increase in the budgetary allocation to educational sector.
- ii. Entrepreneurship and creative education should be inculcated into the school's curriculum to promote human empowerment and development through entrepreneurial skill acquisition. It is a means of reducing unemployment since it is skilled oriented and employment motivated.
- iii. All school programmes should be geared toward providing entrepreneurial skills.
- iv. The private partners and Non-Governmental Organization (NGO) should be encouraged to participate in entrepreneurship education through funding or contributions in kind. This involvement should be seen by firms as a long term investment, and as an aspect of their corporate social responsibility to the nation.
- v. To empower youth, federal government should provide enabling environment and all the necessary equipment and materials for easy teaching and learning entrepreneurship education needed for economic enhancement and youth empowerment in Nigeria.
- vi. The youth should shun joblessness and criminality through the cultivation of entrepreneurial spirit and acquisition of relevant skills that will launch them into enterprise greatness and economic independence.

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TEACHING METHODS AS DETERMINANTS FOR THE IMPLEMENTATION OF PHYSICAL EDUCATION CURRICULUM IN PUBLIC AND PRIVATE SECONDARY SCHOOLS IN KADUNA STATE, NIGERIA

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Abstract

The purpose of this study is to assess the utilization of teaching methods for the implementation of Physical Education Curriculum in Public and Private Secondary Schools in Kaduna State, Nigeria. To achieve this purpose, an ex-post facto research design was adopted. The population of the study comprised of all public and private Secondary Schools of six thousand nine hundred and ninety eight (6,998). A sample size of four hundred and twenty (420) was purposively selected according to the existing educational zones in Kaduna State. The purposive sampling method was used to select public and private Secondary Schools across Kaduna state that are offering physical education irrespecting of educational zone or Local Government as many secondary schools do not have Physical Education teachers. The respondents consisted of Physical and Health education teachers in Public and Private Secondary Schools selected in the area of study. The researcher developed instrument tagged 'Researcher's Self Developed Questionnaire (RSDQ)' and was corrected by academic mentor and validated by the experts while pilot study was conduct to establish the reliability of the instrument. Twenty (20) Secondary Schools (ten public and ten private) were used and Cronbach alpha reliability coefficient of 0.878 was obtained. Descriptive statistics of one sample t-test was used to test the hypothesis and the decision to reject or accept the hypothesis at 0.05 alpha level of significance. While the mean and standard deviation was used to answer the research question. The major finding revealed that there was no significant difference in the utilization of teaching methods for the implementation of Physical Education curriculum in public and private Secondary Schools in Kaduna State, Nigeria (0.897). The researcher concluded that, both public and private Secondary Schools Physical Education teachers adequately utilized teaching methods for effective implementation of Physical Education curriculum in Secondary Schools. And therefore, recommended the need for more collaboration between owners of public and private Secondary Schools in Kaduna State through quality monitoring/supervision, conferences, workshops and symposiums on the use of varieties teaching methods to enhance teaching and learning.

Keywords: Physical education curriculum, Implementation, teaching methods, public and private secondary schools.

Introduction

Teaching is a means of imparting knowledge to the young ones from one generation to another. The act of teaching is carried out by teachers through various methods to achieve the set objectives. Education world is known by various methods of learning, without learning methods, learning will not be effective. Therefore, in order that the learning process goes well, effective learning methods are required (Munawaroh, 2017). Teaching method is the way teachers deliver the subjects to students by using certain approaches/techniques corresponding to the characteristics of the learners that were encountered. According to Djamarah (2010) the method of teaching, is a teaching strategy to achieve the expected goals. In other word, teaching is a formal structure setting in order that learning can take place through selecting of good curriculum contents/materials and its logical presentation while bearing in mind the learners and the objectives of the lesson.

Therefore, effective teaching requires accurate and proper utilization of methods to enable teachers achieves the goal of teaching smoothly. The better and the more appropriate methods used by teachers in teaching and learning, the more learning achievement will increased and can be optimized. The aim of teaching is to provide the learners with the best learning experiences to modify their behaviours that will benefits them, family and the society. Teaching methods help to determine the success or failure of learning and teaching activity. Hence, the more precise method is used by teachers the more effective the achievement of learning goal (Qudsyi, Herawaty, Saifullah, Khalliq & Setiawan, 2011). Therefore, teaching methods should be able to bring the atmosphere of teaching interaction to becomes instructive or conducive, putting the learners to take active learning, as well as foster and develop interest in learning and increase learning spirit, thereby increase the learning outcomes and live up to teaching process which is ongoing (Rohani, 2004).

The goals of teaching and learning can only be achieved by the teachers who are the curriculum implementers. However, the role of teacher in curriculum implementation cannot be over-estimated as they selects instructional materials, directing, controlling, time management, strategy and tactic (methods) and conducting of what to be taught. They also involves in evaluation of learning outcomes after exposing the learners with learning experiences through appropriate teaching methods. Lassa (2007) views teachers as the key element to proper development of the child and consequently they are needed in greater number in all the secondary schools. Teachers are the cornerstone or the hub of any educational system, as they select the content, defines the objectives and selects the teaching methods and materials. For the desired programme outcomes to be achieved, the content, methodology and resources must be carefully designed and implemented to suit the needs and interest of the children (Nasibi, 2005).

In Nigeria, Secondary School Education is the second level of the educational system which children receive before the tertiary stage. The broad aims and objectives of secondary school in Nigeria among others are to prepare an individual for useful living in the society and for higher education (National Policy on Education, 2009). Secondary schools in Nigeria can be public or private. Public secondary schools are owned and controlled by Federal and State governments. While private secondary schools are owned and controlled individuals or cooperate organizations, though each have unique characteristics. Subjects taught in secondary schools in Nigeria are strictly guided by the curriculum through National Policy on Education based on their relevance to the nation's education quest. The benefits of Physical Education to individual and the society has been knowledge as the only programme that provides learners with opportunities to learn motor skills develop physical fitness and gain understanding about physical activity (Mamsar, 2007). According to Nasibi (2005), the school has an obligation to implement the curriculum in order for the intended objectives to be achieved. This call for its inclusion in Secondary Schools as its provide many opportunities for children to engage in developmental related physical activities and thus better placed amongst societal institutions to motivate children to live active lifestyles (Jenkinson & Benson, 2010).

In teaching delivering, no single method is adequate to achieve the objectives of the lesson, but combination of two or more is essential in achieving the aims of teaching and learning. Using of variety methods of teaching is very important in enhancing teaching and learning and to overcome any stigma attached to teaching (Gilbert, 2012). According to Uti (2009) noted that, teaching that does not vary can make students indifferent to learn materials that are given and finally students can be passive. It is necessary to vary methods to improve students' learning achievement. The used of various teaching methods must be adapted to the learning goal that will be implemented.

The outcomes of learning are determined to some extend by the method(s) used by teachers in presenting learning experiences to the learners. Smith (2016) observed that, the extent to which teachers use learner centered method technique learning approaches and resources in teaching in class was adequate which is responsible for the curriculum implementation. Any method adopt by the teacher to impact knowledge must take into consideration the learners, the topic, instructional materials, facilities and the objectives of the lesson to be achieved. It has also been observed that, using varying teaching methods and aids in addressing more than one sense and the more senses are addressed, the better the learning outcome (Doyle and Robson, 2002). Good methods and resources support students learning and have been found to increase students achievement (Bitner. 2002). Good use of teaching resources

enhances, facilitating teaching and learning processes, promote perception, understanding, motivation and concrete facts. Teaching can be said to be a process that facilitates learning (Farrant, 2004). Teaching and learning are opposite sides of the same coin for a lesson is not taught until it has been learned. The teacher plays an important role in teaching because he or she acts as a catalyst by actively stimulating learning.

In today's modern society, teaching methods are not just simple tools use in presenting and receiving knowledge but as complex process that involves the whole teacher's personality as well as the physical, social and economic factors of the environment (Gerald, 2016). This realization has made teachers much more conscious of self, the value of the school, the society and the class room as aids in support of their own direct teaching, with the aim to provide a favorable educational environment (Farrant 2004). The educational environment of the classroom should provide excitement, interest and enjoyment. The teacher is to provide these conditions, so what the children see and hear and do what the teacher provides them, and it is all geared to what the children are ready and able to learn. Effective methods of teaching in schools demand that, teacher should be knowledgeable about the pupils, ability to relate the content, methods, sequence and pace of his work to the individual needs of his pupils, using the environment and appropriate media as a support. By giving careful consideration to such issues, and by supplementing direct teaching with indirect support, the teacher can achieve a good result that can have dramatic result and be extremely enjoyable for the pupils (Munawaroh, 2017). In providing school-based opportunities, efforts are being made to stimulate interest and participation from the greatest proportion of students in the school. This requires offering a wide variety of activities including non-competitive and healthy-enhancing choices consideration should also be given to provide opportunities at various times so that participation is feasible for all children (Lassa, 2007). A major implication of educational reform presently occurring in the world particularly in Nigeria and Kaduna States is the expectation that teachers should be able to show what students are learning as a result of participation in Physical Education. While this might not sound very well, most of those teaching Physical Education obviously do not understand what method they should use in teaching (Mustain, 2007). For curriculum implementation to be effective, teachers as implementers must be familiar with what he or she is required to teach, helping the pupils to make sense of their world, by encouraging the creative abilities of each pupil and helping children to develop emotionally and socially, through their valued feelings (Mustain, 2007).

Teaching methods

There are several teaching methods which are categorized into three broad types. These are teacher centered methods, learners centered methods and content- focused methods and interactive/ participation methods.

a. Teacher centered methods

In this, the teacher made himself to be a master of the subject where he is looked upon by the learners as an expert or authority while the learners presumed to be passive and copious recipients of knowledge from the teacher. The examples of such methods are expository or lecture methods- which require little or no involvement of the learners in what they are taught, that such methods are called “closed ended”.

b. Learner-centered methods

In learner centered methods, the teacher or instructor is both a teacher and a learner at the same time. In the word of Lawrence Stenhouse, the teacher plays a dual role as a learned as well as a teacher “so that in his classroom extends rather than constricts his intellectual horizons”. The teacher also learns new things every day which he/she didn't know in the process of teaching. The teacher becomes a resource rather than an authority. Examples of learner centered methods are discussion method, discovery or inquiry base approached and the Hill's model of learning through discussion (LTD).

c. Content-focused methods

In this category of methods, both the teacher and the learners have to fit into the content that is taught. Generally, this means the information and skills to be taught are regarded as sacrosanct or very important. A lot of emphasis is laid on the clarity and careful analyses of content. An example of a method which subordinates the interests of the teacher and learners to the content is the programme learning approach.

d. The specific teaching methods

There are over one hundred and fifty methods of teaching in general. However, specific teaching methods can be considered from various methods in the course of classroom instruction. It is however, important to note that the choice of any form of methods should not be arbitrary, but needs be governed by certain criteria. At the same time each method is not fool proof, but has its own advantage and disadvantages. Some specific methods of teaching includes lecture method, discussion method, demonstration method, buzz group method, play way method, brainstorming method, role play method, the assignment method, the tutorial method, the seminar method, the programme instruction method among others.

Statement of the problem

Curriculum are guidelines designed to show teachers and schools how each subject should be taught. Despite this, some teachers in secondary schools find it difficult to

select which method to use in delivering the curriculum to achieve its positive goals despite so many methods of teaching. This is also the case in implementation of Physical Education curriculum in public and private Secondary Schools. Inappropriate used of teaching method in teaching physical education can lead to hazardous implementation of physical education curriculum despite its positive values. The positive outcomes that are achieved as a result of Physical Education curriculum implementation must be clearly documented and made available to policy makers to ensure this subject remains a critical part of every child's education (Mahar, 2006). However, implementation of curriculum in Secondary Schools is facing serious challenges particularly as to which method to use in teaching Physical Education by the specialists. More so, as implementation of physical education curriculum depends on appropriate used of teaching methods for both theoretical and practical courses. Unfortunately, most physical education teachers in public and private secondary schools seem to lack appropriate knowledge to use one or combine methods of teaching to achieve the aims of teaching and learning, talk more of which methods to employ in practical and theoretical classes. As Mustain (2007) noted that, those teaching physical education obviously do not understand what method they should use in teaching. There is also, the seemingly inconsistencies in the use of teaching methods in the implementation of skilled based secondary school curriculum in Nigeria, due to various constraints, many schools are not really able to implement it (Sudarshan, 2014). This has created a gap between Physical Education curriculum implementation and other seemingly more important subjects.

It is on the basis of the aforementioned that this study was conducted to find out whether there exist any differences in the utilization of teaching methods for the implementation of physical education curriculum in public and private secondary schools in Kaduna State.

Research Question

This study attempted to answer research question as thus:

How do the participants of this study perceive the utilization of teaching methods for the implementation of physical education curriculum in public and private secondary school in Kaduna State?

Research Hypothesis

On the basis of the research question, the researcher hypothesized that:

There is no significant differences in teaching methods used by physical education teachers in public and private secondary schools in Kaduna State.

Methodology

The ex-post facto research design was adopted. The population of the study comprised of all public and private secondary schools of six thousand nine hundred and ninety eight (6,998) with sample size of four hundred and twenty (420) was purposively selected according to Graton and Jones (2004) for a basic descriptive statistics, an absolute minimum sample size of thirty (30) would normally be required, with a larger more sample desirable. For more detailed inferential statistics thirty (30) subjects per group would be a suggested absolute minimum. In order to get the require sample size, simple random sampling technique was employed to select seven (7) educational zones in Kaduna State with the helped of research assistants. Thirty (30) respondents were selected from each of the seven (7) educational zones selected to get the total sample size. Again, purposive sampling technique was used to select public and private secondary schools in all the seven (7) local/educational zones selected in Kaduna state that are offering Physical Education because many secondary schools do not have physical education teachers. The respondents consisted of Physical and Health Education teachers public and private Secondary Schools selected in the area of study. To achieve the purpose of the study, the researcher developed instrument tagged 'Researcher's Self Developed Questionnaire (RSDQ)' and was corrected by the supervisors, validated by the experts while pilot study was conduct to establish the reliability of the instrument. Twenty (20) Secondary Schools (ten public and ten private) were used and Cronbach alpha reliability coefficient was used, and the result was 0.878 was obtained. Descriptive statistics of one sample t-test was used in testing the hypothesis and the decision to reject or accept the hypothesis at 0.05 alpha level of significance. While mean and standard deviation in answering the research questions.

Results

Four hundred and twenty (420) copies of the questionnaire administered and four hundred and nineteen (419) were retrieved and used for the analysis. The Statistical Package of the Social Sciences (SPSS) Version 22 was used to analyze the data obtained from the respondents. To analyze the formulated hypothesis, an inferential statistics of one sample t-test was used. The hypothesis was tested at 0.05 alpha level of significance.

Table 1: Means scores of Reponses on the utilization of teaching methods for the implementation of physical education curriculum in public and public secondary schools in Kaduna State, Nigeria.

S/N	Items	Mean	SE	SD
1	Demonstration, Lecture, Discussion, Group method, play way method, and role play method are used in teaching physical in secondary schools.	4.52	0.05	1.07
2	Physical education practical lessons are carried out outside the class room setting through demonstration and other methods.	4.22	0.04	0.87
3	General conditioning of the body (warm -up) is employ before engaging students in demonstrating parts of skill	4.46	0.05	0.93
4	Step by step (parts) skill is part of teaching style in physical education	4.37	0.09	1.88
5	Electronics are used in teaching physical education in my school	2.04	0.08	1.67
6	Circuit training is part of the teaching strategies.	3.63	0.04	1.79
7	Assignment, tutorial, brainstorming, inquiry/discovery and seminar are methods in teaching physical education in secondary schools.	1.9	0.05	1.04
8	As part of curriculum , field trips are allowed in teaching physical education in secondary school	2.87	0.03	0.65
	Aggregate mean	3.50		
	Constant mean=3.81			

Table 1 shows the responses of the respondents on the utilization of teaching methods for the implementation of physical education curriculum in public and private secondary schools in Kaduna State. Item 1 states that demonstration, lecture, discussion group, play way and role play methods are used in teaching physical education in secondary schools. The obtained mean score is $\bar{x}=4.52$. Item 2 states that physical education practical lessons are carried out outside the classroom setting through demonstration and other methods. Means score $\bar{x}=4.22$ is obtained. Item 3 states that general conditioning of the body (warm up) is employed before engaging students in demonstrating parts of skill. Mean score obtained is $\bar{x}=4.46$. Item 4 states that step by step (parts) skill is part of teaching style in physical education. Mean score $\bar{x}=4.37$ is obtained. Item 5 states that electronics are used in teaching physical education in my school. Mean score $\bar{x}=2.04$ is obtained. This finding is justifiable due to the fact that power supply is a serious problem in Nigeria generally. For a long time the country has witness very poor and epileptic supply of electricity appliances not adequately utilized in many sectors. Item 6 states that circuit training is part of the teaching strategies. Means score $\bar{x}=3.63$ is obtained. Item 7 states that assignment, tutorials, brain storming, inquiry/discovery and seminar are methods used in teaching physical education in secondary schools. Mean score $\bar{x}=1.19$ is obtained. The findings

most be connected to the fact that some of these methods are not employed on a regular basis to teach physical education in secondary schools. Item 8 states that as part of curriculum, field trips are allowed in teaching physical education in secondary schools. Mean score \bar{x} = 2.87 is obtained.

On a general note, the result of this study shows that the respondents perceived very positively the utilization of teaching methods for the implementation of physical education curriculum in public and private secondary schools in Kaduna State. The aggregate mean score obtained is 3.50, which is above 2.50 minimum level of acceptability.

Table 2: Analysis of significant difference in the teaching methods used by physical education teachers in public and private secondary schools in Kaduna State, Nigeria.

School	N	Mean	SD	SE	T	Df	Sig. (2-tailed)
Public	240	3.5	0.50104	0.03234	-0.13	417	0.897
Private	179	3.5084	0.81674	0.06105			

Table 2 reveals the t-test analysis of difference and the obtained t-value is -0.13 which less than the t-critical value of 1.96 at an alpha level of 0.05. This implies insignificant difference between public and private secondary school teachers on the utilization of teaching methods. Therefore, the research hypothesis which states that there is no significant difference on teaching methods used by physical education teachers in public and private secondary schools in Kaduna state is accepted.

Discussion

The result of the finding revealed that, there is no significance difference in the utilization of teaching methods for the implementation of physical education curriculum in public and private secondary schools in Kaduna State, Nigeria. This finding is similar with Oba (2021) which established that there was no significant difference in methodology used by Physical Education teachers in public and private Secondary Schools teachers in the implementation of physical education curriculum in Nigeria. This could be established that, the teachers are familiar with the varieties methods of teaching as require for effective implementation of curriculum. Smith (2016) noted that, the extent to which teachers use learner centered method technique learning approaches and resources in teaching in class was adequate in the area which is responsible for the curriculum implementation. Using of varying teaching methods in addressing more than one sense and the more senses are addressed, the better the learning outcome (Doyle and Robson, 2002). Teaching methods and resources support

students learning and have been found increase students achievement (Bitner. 2002). Good use of teaching methods enhances learning processes, promote perception, understanding, motivation and concrete facts.

Conclusion

Based on the findings of this study, it is concluded that, there is no significant difference in the utilization of teaching methods in the implementation of physical education curriculum in public and private Secondary Schools in Kaduna State Nigeria. This could be attributed to the fact that, both public and private Secondary Schools use same curriculum, supervision teams as well as teachers from same training backgrounds.

Recommendation

The researcher recommended the need for more collaboration between owners of Public and Private Secondary Schools in Kaduna State through regular quality monitoring/supervision, conferences, workshops and symposiums on the use of varieties teaching methods to enhance teaching and learning.

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QUALITY ASSURANCE: A PANACEA FOR EFFECTIVE PRIMARY EDUCATION DELIVERY IN KADUNA STATE.

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Abstract

Education Quality Assurance in Nigeria is a paradigm shift from the former practice of school inspection to a monitoring and evaluating process that provides a new operative mode of evaluation. Since the importance of quality assurance in making primary education effective, efficient and viable cannot be over-emphasized, all hands must be on deck by stakeholders to ensure the sustainability of the programme. This paper examines quality assurance as means of making primary education more viable in kaduna state. Activities involved in quality assurance in primary education were highlighted. Problems militating against quality assurance in primary education were discussed such as: inadequate provision of facilities, insufficient funds etc. Recommendations were made to include: Fund allotted to primary education should be enough and Conclusions were made.

Key words: Quality assurance, panacea, effective primary education delivery.

Introduction

Education is the best legacy and the pivotal of a nation's development. The growth and development of any nation in human and infrastructure can be equated to the educational development of that nation. Therefore it is imperative for any nation to prioritize the education of its citizens above any other thing. Primary education which is the bedrock and the foundation of other levels of education should be regarded as the most important. To that end, FRN (2004) describes primary education as the key to the success or failure of the whole educational system because all other levels are built upon primary level of education. Hence there is need to maintain quality in primary education. This is the reason why many stakeholders in education have called for different measures to improve education. Among those calls was the advocacy for the establishment of quality assurance department in our education system. Quality

assurance involve a focus on attitudes, objectives, actions and procedures that through their existence and use, and together with quality control activities, ensure that appropriate academic standards are being maintained and enhanced in and by each programme.

Definition of Concepts

Quality is truly genuine position of a product, (goods and services) or a process attribute on good – bad scale. It is often associated or linked with defects and deficiencies in products or process. Quality is the capability of products or services to knowingly satisfy those preconceived composite wants of the user(s) that are intelligently related to the characteristics of performance and do not cause major overt or covert reactions or actions by other people (Robinson, 2006).

The concept of quality combine two aspects – the first relates to the features and attributes of the product or service. Second is the absence of deficiencies in the product. Assurance is described as a promise, guarantee or statement that something is true (Robinson, 2006). In early 2004, the Common Wealth of Learning started working in the area of quality assurance with the aim to achieve the outcome of enhanced quality at all levels of education. They provided adequate guideline for formulating quality assurance policies as well as for adopting systems and procedures within teacher education institutions for enhancing the quality of the processes involved in teacher development (Lakshim and Rama 2006). I

Definition of Quality Assurance

According to Merriam-Webster's Online Dictionary, quality assurance is “A programme for the systematic monitoring and evaluation of the various aspects of a project, service, or facility to ensure that standards of quality are being met”

Ciwar (2005:2) stated that quality assurance is the practice of managing the way goods are produced or services are provided to make sure they are kept at a high standard. In relating quality assurance to primary education, therefore, the author opines that it is the systematic practice of verifying or determining whether the products of primary schools (i.e pupils) actually acquired the knowledge, skills, attitudes and values expected of them at that level via the curriculum offerings i.e both curricular and co-curricular activities).

Quality assurance is a holistic term, which is directed toward education as an entity, and is concerned with ensuring the integrity of outcomes. It entails the supplier and consumer and the various activities put in place to produce quality products and services (Mkpandiok, 2007).

Primary Education

Primary education is the first level of formal education preceded by early childhood education. At this level, children are prepared for a broad-based education which emphasizes the attainment of permanent and functional literacy, numeracy and effective communication skills. It provides the basis for progressive learning of the child. In Nigeria, primary education is defined as education given in an institution for children aged 6 to 11 plus. Since the rest of the education system is built upon it, the primary level is the key to the success or failure of the whole system. The duration for primary education is six years (FRN, 2004:14)

Objectives of Primary Education

Federal Republic of Nigeria (2004:14) identifies the objectives of primary education as to:

- a) inculcate permanent literacy and numeracy, and ability to communicate effectively;
- b) lay a sound basis for scientific and reflective thinking;
- c) give citizenship education as a basis for effective participation in and contribution to the life of the society;
- d) mould the character and develop sound attitude and morals in the child; International Journal of Research Development 3
- e) develop in the child the ability, to adapt to the child's changing environment;
- f) give the child opportunities for developing manipulative skills that will enable the child function effectively in the society within the limits of the child's capacity;
- g) Provide the child with basic tools for future educational advancement, including preparation for trades and crafts of the locality.

The above well-articulated objectives of primary education cannot be achieved if standard are not maintained in primary education. This necessitates the need for making sure that all the activities involved towards maintaining quality in primary education take place.

Need for Quality Assurance in Primary School

The need for quality assurance in our primary schools cannot be overemphasized in order to ensure quality of teaching and learning. According to Adegbesan (2010), the following are the major needs of quality assurance in our primary education system;

- a. to serve as indispensable component of quality control strategy in education.
- b. to ensure and maintain high standard of education in all levels of education.
- c. to assist in monitoring and supervision of education for proper standards to be maintained.

- d. to determine the quality of the teachers input.
- e. to determine the number of classrooms needed based on the average class size to ensure quality control of education.
- f. to determine the level of adequacy of the facilities available for quality control.
- g. it would ensure how the financial resources available could be prudently and judiciously utilized.

Importance of Quality Assurance in Nigeria School

Adegbesan (2011) in his research paper stresses the need for quality assurance in Nigeria Education System in Nigeria to include:

- i. To serve as indispensable component of quality control strategy in education.
- ii. To ensure and maintain high standard of education at all levels.
- iii. To assist in monitoring and supervision of education.
- iv. To determine the quality of teachers' input.
- v. To determine the number of adequacy of the facilities available for quality control.
- vi. Quality assurance would ensure how the financial resources available could be prudently and judiciously utilized.

Requirement for Quality Assurance in Primary Schools

Because there is need for a shift of emphasis in education discourse from how much and how many to how well; from more to better and in fact to more of the better (Obanya, 2001), quality assurance in primary schools requires a number of provisions, and these include:

1. **Curriculum Relevance:** The curriculum is a document that guides learning experiences and how they are dispensed. Thus, the curriculum impacts directly on the quality of teaching and learning in schools. Hence, there is the need to make it relevant for qualitative education. This would include reviewing the curriculum regularly and updating it to accommodate emergent issues in society. In this way, it would serve the interest, needs and challenges of learners and society at large, as the teacher is better informed about what pupils will learn and how he will teach that.

2. **Infrastructural Facilities:** These are as essential as the curriculum document. Okujagu and Sokari Adox-Okujagu (2011) stated that school infrastructural facilities are those elements found within the school environment which facilitate its optimal functioning that culminate in the achievement of set goals. These elements include classroom blocks and furniture, health facilities and services, library, laboratory, Information Communication Technology (ICT) facilities, and toilet and water facilities. Infrastructural facilities when provided in primary schools, not only

engender effective and efficient running of the schools, but also provide a reasonable amount of comfort for teaching and learning to thrive, thereby assuring quality.

3. Instructional Materials: These are indispensable materials in the teaching and learning process because they are the media through which instruction is facilitated. According to Manga and Mangal (2009), they are associated or concerned with determining and providing appropriate stimuli to the learner to produce certain type of responses for making learning more effective. Generally speaking, instructional materials could be categorized as high and low technology materials that are used to aid the teaching-learning process in any formal educational institution. The characteristics of these materials are such that they assist or help to present the knowledge, skills, attitudes and values to be acquired by a primary school pupil in a qualitative manner.

4. Funding: To ensure quality assurance in primary schools, adequate funding is required. The funds would be utilized in the areas of training and retraining of quality assurance agents' at all three tiers of government, providing mobility for these agents to access primary schools, including those located in remote and rural areas, development of viable tools for quality assurance and getting teachers involved in the quality assurance process, among others.

5. Regular Capacity Building Exercise for Primary School Teachers: Obanya (2004:3) remarked that human development which is a product of capacity building is about creating an environment in which people can develop their full potentials and lead productive creative lives in accord with their needs and interest. Since no system of education may rise above the quality of teachers, it becomes expedient that the capacity of primary school teachers should be built. This exercise would enable them become acquainted with modern ways or means of discharging their professional duties (i.e translating the curriculum document into action). During the capacity building exercises teachers acquire more and new knowledge, skills, positive attitudes and values in their different areas of specialization or the subjects taught in the classrooms. When these are ploughed back into the classroom, they would improve the quality of instruction children receive in primary schools.

6. Qualified Teachers: Teachers hold the key to the success of any educational system. Therefore, for them to properly translate or interpret the curriculum to the understanding and utility of pupils, they must be adequately qualified for the job. It is in this direction that (FRN, 2004:39) recommends that the minimum qualification for entry into the teaching profession should be the Nigeria Certificate in Education (NCE). This is a move to ensure that primary school teachers are qualified, since it is

such a teacher that can introduce quality teaching and learning initiatives that could result to quality education.

Challenges of Quality Assurance in Primary Schools

Quality assurance in primary schools is plagued by a myriad of bottlenecks and these include:

(a) **Weak Capacity of Quality Assurance Agents:** The capacity of personnel entrusted with the responsibility of assuring quality in primary schools and education in general is weak. For this reason, they lack the wherewithal to carry out a qualitative quality assurance exercises that could induce quality in education in the schools. In the three tiers of government, as operated in Nigeria, there are school supervisors and inspectors of education in the Ministries of education, Zonal Universal Basic Education Commission Offices, State Universal Basic Education Boards and Local Government Education Authorities. These agents feel comfortable in their offices to the effect that they hardly remember to go out to the field for their professional assignment. If and when they do, their posture is punitive than being corrective and interactive for better results.

(b) **Low Learning Outcomes:** The outcomes of learning in literacy, numeracy and life skills in primary schools are very low. This is occasioned by inadequate infrastructural facilities and classroom furniture, among others. These inadequacies do not provide any measure of comfort and congenial environment for any form of teaching and learning that could stimulate qualitative education.

(c) **Lack of Standardized and Uniform Quality Assurance Tools and Reporting Mechanisms:** FME (2009), reports that standardized and uniform quality assurance instruments and reporting mechanisms are lacking in our educational system. Hence, quality assurance agencies develop, design and utilize tools that they are favourably disposed to without recourse to the fact that a common curriculum is in use. This in turn yields a reporting mechanism that is also not uniform, hence, creating discrepancies and variances in the feedback from the field.

(d) **Lack of Adequately Qualified Primary School Teachers:** This is one major and outstanding challenge of quality assurance in the primary school. A large number of teachers with certificates below the Nigeria Certificate in Education (NCE) still abound in the system (FME, 2009) as FRN (2004) declares that the minimum qualification for entry into the teacher profession shall be the Nigeria Certificate in Education (NCE). Maduwesi in Okujagu (2009), laments that the quality and quantity of teachers produced in Nigeria over the years fall short of national expectation and needs, and this remains a big challenge to the education system. The

current crop of primary school teachers is unqualified to the extent of not being sufficiently resourceful and, nationally and globally competitive. Not being globally competitive is even a more serious challenge given the fact that Nigeria aims at becoming one of the 20 strong economies/countries by the year 2020, yet teachers at its foundation level of education are far from being Information and Communication Technology (ICT) compliant. This is a dangerous threat to quality assurance in primary schools.

(e) **Lack of Fund:** Nigeria is a country that is populated by about 200 million people. More than half of this population lives in the rural and remote areas. For access to universal basic education, it is implicit that more primary schools would be located in these rural and remote areas whose terrains are very difficult in most cases. It is public opinion that quality assurance agents (i.e inspectors and supervisors) do not visit these schools as often as they should do due to lack of fund to provide mobility for them to get to these nooks and crannies of the country for quality control exercises. Hence, they only get to schools within their reach and leave the ones unattended to, to imaginations.

f) **Attitude of Quality Assurance Agents-** Often times, inspectors and supervisors see themselves as superior officers to the members of staff of the schools visited. In these schools they conduct themselves in a manner that suggests arrogance, intimidation, punitive measures and rigidity. They are, largely, supposed to be friendly and humble as individuals and the practice itself to be interactive and corrective. In fact, they play the role of mentors and should see teachers as mentees whom they should collaborate with to ensure improvement, maintenance, sustenance and assurance of quality in education.

Conclusion

Quality assurance involves the systematic review of educational programmes and processes to maintain and improve their quality, equity and efficiency. While the design of quality assurance mechanisms (tools, processes and actors) varies across national contexts, their common objective is to improve teaching and learning – with the ultimate goal to support the best outcomes for learners. Quality assurance aimed at getting things done right at the first time and every time. It is also a holistic method of identifying and resolving problems within the educational system in order to ensure continuous quality improvement. The need to enhance education quality in all levels of education in Nigeria becomes necessary in the sense that education has been seen as the single best development investment a nation can pursue and achieved through quality assurance monitoring and evaluation carried out on a regular basis to maximize the use of limited educational resources for desirable and specific goal attainment.

Assurance for quality education must never be toyed with because it is a total and entire process concerned with credibility and integrity of products.

Recommendations

It has been established in this paper that the importance of Quality Assurance in making primary education effective cannot be over-emphasized. In this regards, the following recommendations are made:

1. Fund allotted to primary education should be enough. This should be done by setting up a monitoring team who will ensure that all the monies meant for primary education are judiciously used.
2. For improved performance in teachers' methodological approaches in various school subjects, government should re-train teachers constantly, this could be done through capacity building programmes, organization of workshops, seminars and conferences.
3. Government and other well-meaning stakeholders in education should assist in providing adequate infrastructural facilities and classroom furniture to engender some measure of comfort for both teachers and pupils so as to stimulate an environment that is congenial for qualitative teaching and learning necessary for entronement of high learning outcomes.
4. Facilities needed for primary education should be adequate. School administrators, Parent Teachers' Association, (PTA), philanthropists and government should contribute towards provision of facilities needed in all primary schools in Nigeria. To assure quality in primary schools, provision of instructional materials should be made by combined effort of the teachers, pupils and the government.
5. An independent professional quality assurance body in primary education should be established to fashion out a comprehensive quality assurance document (in terms of policy), regulate quality assurance practices and develop tools or instruments that will be effective, efficient and relevant for use.

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EFFECT OF COVID-19 PANDEMIC ON ACADEMIC ACTIVITIES IN KADUNA STATE, NIGERIA

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Abstract

COVID-19 is and remains a major problem experienced around the world. One of its visible challenges was the closure of all schools and institutions of learning in Kaduna State. The COVID-19 pandemic became the main thrust at all levels of governance and the society at large and as such, affected school calendar for 2020 especially in Kaduna State where primary and secondary school pupils were automatically promoted without formal examinations. The Corona virus outbreak forced millions of students and teachers to adopt the use of technology to study and learn from home (for those who afforded and accessed the gadgets). This is not a new phenomenon because the home has long been epicenters of learning particularly as regards informal education. This paper assessed the effect of COVID-19 pandemic on the academic activities in Kaduna State, Nigeria. It also investigates the reality of COVID-19 in Nigeria, effect of Covid-19 pandemic on education, online education and challenges of learning from home and recommended among others that seminars, conferences and workshops on the effects of COVID-19 and safety precautions should be organized during vocations by the State Ministry of Education and Education Boards. These should be organized at Local Government levels to attract so many teachers, students and parents if possible. Furthermore, there should be provisions of the instructional electronic gadgets to all students and internet services in every part of the State for easy accessibility.

Key words: Effect, COVID-19, Pandemic, Academic Activities, Curriculum

Introduction

According to the World Health Organization (2020), Corona virus are a family of viruses that cause illnesses ranging from the common cold to more severe diseases

such as severe acute respiratory syndrome (SARS) and the Middle East Respiratory Syndrome (MERS). These viruses were originally transmitted from animals to people. SARS, for instance, was transmitted from civet cats to humans while MERS moved to humans from a type of camel. Several known Corona viruses are circulating in animals that have not yet infected humans. The name Corona virus comes from the Latin word corona, meaning crown or halo. Under an electron microscope, it looks like it is surrounded by a solar corona. The novel Corona virus, identified by Chinese authorities on January 7, 2020 and since it is named SARS-CoV-2, is a new strain that had not been previously identified in humans. Little is known about it, although human-to-human transmission has been confirmed (WHO, 2020). It was later coded “COVID-19” by the W.H.O which stands for Corona virus Disease 2019.

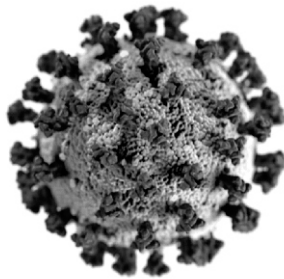


Image I: Illustration of the Morphology of Corona virus.

Chinese health authorities are still trying to determine the origin of the virus, which they say likely came from a seafood market in Wuhan, China where wildlife was also traded illegally. On February 7, 2020, Chinese researchers observed that the virus could have spread from an infected animal species to humans through illegally-trafficked pangolins, which are prized in Asia for food and medicine. Scientists have pointed to either bats or snakes as possible sources of the virus (Holcombe, 2020).

According to WHO (2020), signs of infection include fever, cough, shortness of breath and breathing difficulties. It further stressed that in more severe cases, it can lead to pneumonia, multiple organ failure and even death. Current estimates of the incubation period - the time between infection and the onset of symptoms range from one to 14 days. Most infected people showed symptoms within five to six days. However, infected patients can also be asymptomatic, meaning they do not display any symptoms despite having the virus in their systems.

On 27 February 2020, Nigeria confirmed its first case in Lagos State, an Italian citizen who works in Nigeria had returned on 25 February 2020 from Milan, Italy through the

Murtala Muhammed International Airport, fell ill on 26 February 2020 and was transferred to Lagos State Bio-security Facilities for isolation and testing (Nigeria Centre for Disease Control NCDC, 2020).

In order to contain the spread of the virus in Nigeria, the Federal Ministry of Education directed all educational institutions in Nigeria to shut down and allowed students to go home as cases of reported COVID-19 began to increase. To provide another window for learning, UNESCO through its COVID-19 Education response, floated a platform tagged “Learning Never Stops”, to facilitate inclusive learning opportunities for children and youths during this period of sudden disruption in the school system.

In a similar trend, the Federal Ministry of Education in Nigeria (2020) uploaded on its website electronic learning resources and education chat rooms for the thirty-six States in the country and the Federal Capital Territory, for continuing education and individualized learning for children at home. Laudable as these initiatives appear, they cannot be compared to classroom based instructions and the benefits to the very poor children who rely on schools not only for education, but also for food, healthcare and safety. Moreover, these efforts may not achieve the set objectives, given the limited access of poor children to television, electricity, internet and other equipment needed to take advantage of the e-learning platforms.

The Reality of COVID-19 Pandemic in Nigeria

On February 27, 2020, an Italian citizen became the index case for COVID-19 in Nigeria and as at April 9, 2020, there were 288 laboratory-confirmed cases of COVID-19 in Nigeria with 51 discharges and 7 deaths (NCDC, 2020).

On the other hand, some Nigerians due to superstitions and ignorance of the science behind the infection prefer only to pray (even violating the social distancing rule by attending churches or mosques during the lockdown) and use anointing oils, talisman, herbs or rituals to prevent contracting and spreading the virus. Some also used social media platforms (e.g. Whatsapp, Twitter, Facebook and Instagram) to spread fear, project fake news concerning the source of the virus, promote prejudice against China, incite panic buying, proffer fake cures and undermine medical advice, deliberately or ignorantly, they opined that lockdown, self-isolation and social distancing are un-African solutions to the pandemic (NCDC, 2020).

Effect of COVID-19 Pandemic on Education

The outbreak of Corona virus negatively affected educational activities worldwide, leading to the widespread closures of schools (WHO, 2020). It created serious disruptions in academic activities, as well as in the career plans of learners probably. According to United Nations Education Scientific Cultural Organization (UNESCO,

2020), some of the effects of COVID-19 pandemic on academic activities include the following among others:

- i. **Interrupted learning:** School provides essential learning and when they are closed, students are deprived of opportunities for growth and development.
- ii. **Nutrition:** Many youngsters rely on free or discounted meals provided at schools for food and healthy nutrition. This is compromised as a result of school closures for Corona virus.
- iii. **Unequal Access to digital learning portals:** lack of access to technology or good internet connectivity for continued learning during school closures.
- iv. **Increased pressure on schools and school system that remain open:** Localized school closures place burdens on schools as parents tend to redirect their children to schools that are secretly opened during the pandemic.
- v. **Social Isolation:** Considering the fact that educational institutions are hubs for social activity and human interactions, school closures can deprive youth and children of some social communications and socializations that are essential to learning, development and creativity.
- vi. Research activities were negatively affected because school closures and lock downs limited researchers' ability to conduct researches particularly in situations where face-to-face interactions were required access to school facilities or research laboratories were denied. School driven innovations and researches were also affected during school closures.

Suggested Measures for Preventing Spread of COVID-19

Knowledge of infection pathways and relevant precautions to take is needed to control any pandemic. While the scientific community continues to research possible vaccines or drugs for the viral infection, it is expected that adequate knowledge will motivate individuals to make decisions which may prevent and curb the epidemics. Knowledge such as regular hand washing, using hand sanitizers, wearing face masks, respiratory etiquettes, social distancing and self-isolation when sick are vital to reducing widespread infection (McBrien, Cheng and Jones, 2009).

At early stages of a pandemic, precautionary measures are needed to protect against possible danger and curtail the disease spread. In line with this therefore, the Nigerian government (just like other governments around the world) introduced various containment strategies which interfered with individuals' daily lives and have led to severe economic loss and social disruption. People were coerced to stay at home,

businesses and offices were closed, exempting healthcare facilities/workers and essential commercial establishments. For Nigerians making a living in the informal economy, their livelihood is now threatened by the lockdown since much of their activities and businesses involve face-to-face contact. In Nigeria there is no social safety net, no access to food stamps or unemployment benefits, most people earn their living on a daily basis. Regardless of this, there has so far been a high degree of compliance with the government directives, Nigerians are engaging in vigilant hand washing, practicing social distancing and self-isolation, and avoiding going to work, school or crowded areas. Even most religious leaders agreed to stop large gatherings, forbid the shaking of hands and directed church members to pray at home and use hand sanitizers (Federal Ministry of Health, 2020).

Some of the suggested measures to halt the Corona virus pandemic include; improved individual habits such as personal hygiene, including constant washing of hands with alcohol-based sanitizers, good respiratory attitude (close coughing and sneezing), and other personal protection practices like wearing of face mask, social distancing, avoiding touching of the face, and reducing contacts with people through self-isolation at home or avoiding nonessential travels or gatherings. Corona virus is a global problem that requires more action coordination and global cooperation to successfully contain the outbreak and to deal with its aftermath effects. Consequently, the United Nations appealed for 2 billion dollars to support global response efforts towards tackling the Corona virus pandemic. The consequences of COVID-19 could be more severe; if people do not comply or adhere strictly to public health regulations and advice.

To prevent further spread of the virus, civil societies and government agencies embarked on enlightenment campaigns for good hygiene and social distancing. Temperature screening was conducted at airports and those returning from countries with numerous confirmed cases of COVID-19 were implored to self-isolate. The NCDC in association with State governments also began tracing and tracking of possible victims and their contacts.

Online Education and Challenges of Learning from Home

Technology is a key component of education in the 21st century. The increasing use of technology in education has modified teachers' methods from the traditional approach that often place them as dispensers of knowledge to a more flexible approach where they act more as facilitators, mentors and motivators to inspire students to participate and learn (Onyema and Deborah, 2019). Technology facilitates Remote learning, Distance learning, Virtual learning, Blended learning, Mobile learning, Distributed learning, Machine learning, Ubiquitous learning, Deep

learning, Cooperative and Collaborative learning. Most aspect of education is going digital, and education stakeholders including students are confronted with the challenge of transition to online education. The use of appropriate educational technologies increases accessibility to learning resources such as Massive Open Online Courses (MOOCs), and multiple learning approaches to meet the need of diverse learners (Onyema et al., 2019).

Online education is a general concept for teaching and learning online with the aid of technological tools and platforms. The success of online education depends on factors including good internet connections, availability of learning software, digital skills, availability and access to technology among many others. Online education platforms are vital tools that support inclusive education and online learning. Online education has its roots in distance education and the emergence of digital technologies that facilitate the efficient and reliable delivery of lectures, virtual classroom sessions and other instructional materials and activities via the internet. With the high penetration of the internet and mobile technologies across the globe, online education platforms can be maximized to bridge the gaps in education, thereby reducing the rate of global illiteracy.

The following are some of the challenges of E-learning in Kaduna State among others:

- i. Adaptability Struggle:** Switching from traditional classroom and face to face instructor training to computer-based training in a virtual classroom makes the learning experience entirely different for students. Their resistance to change doesn't allow them to adapt to the online learning environment, but they need to accept the new learning circumstances with an open mind and heart. Understanding the benefits of eLearning and even discussing them with their peers may change this mindset and better prepare students for online classes.
- ii. Technical Issues:** Many students are not provided with strong internet connection that online courses require, and thus fail to catch up with their virtual classmates:
- iii. Computer Literacy:** Although students are generally tech savvy and thus able to manage computers well, lack of computer literacy is a major issue among students today. Many of them cannot operate basic programs such as Microsoft Word and therefore are not able to handle online classes.
- iv. Time Management:** Time management is a difficult task for E-Learners, as online classes require a lot of time and intensive work.

- v. **Self-Motivation:** Self-motivation is an eLearning essential requirement; however, many online learners lack it. Students need to find the motivation to follow the new educational trends and also properly equip themselves for future challenges in their education and careers. Only a positive attitude will help them overcome the challenges in online learning.

Summary

The paper discussed an overview of COVID-19 generally where more insight is given about what COVID-19 is and the damage it has done in the entire world especially on academic activities in Kaduna State, Nigeria. Though motivated both teachers and students to adopt the use of technology for teaching and learning (for those who can afford and access the services), it has caused more damage than good by depriving the poor child who cannot afford any of those gadgets nor have access to the services. Further, COVID-19 pandemic resulted to offering automatic promotion to primary and secondary school pupils which is not healthy for institutions of learning. Therefore, the effects of covid-19 pandemic on education cannot be overemphasized and will ever remain a trauma in our education system in Kaduna State.

Conclusions

The paper established that COVID-19 pandemic has adversely affected academic activities in all educational institutions in Kaduna State, Nigeria. These effects were felt by both educational institutions, educators, students and parents and other stakeholders in education. The pandemic had forced the government to emphasize on the need for adoption of technology in education, as a way to curb the effect of the virus and other future pandemics in education. Thus, the pandemic had caused the government to shutdown schools across the state, but it is sensible considering the rate of spread, and the dangers imposed by COVID-19 pandemic, except on the occasion where adequate covid-19 protocols would be strictly adhered to. The unprecedented school closures for COVID-19 remains a lesson and a warning to the entire educational world particularly those who are yet to embrace or adopt emerging learning technologies that support online or promote education.

Recommendations

The paper recommended the following:

- I. First, shield the most vulnerable children, older staff, and those who have underlying health conditions that put them at high risk should not return to school in person unless there is little or no community transmission; the school system should enable them to participate remotely to the greatest extent possible.
- ii. Reduce risk wherever possible. Large number of student on assemblies should be

- avoided rather smaller groups assembly should be encouraged where necessary.
- iii. The State Ministry of Education, Education Board and Local Education Authorities should provide COVID-19 protocol materials to the schools.
 - iv. Parents and guardians should be educated on how to encourage their children and wards on the need to always wear face masks and if possible, provide them with such.
 - v. The State Ministry of Education, Education Board should release fund to the various Local Government Education Authorities and the head teachers specifically for maintaining and repairing COVID-19 prevention equipment. This method will remove the protocol of applying, filling forms and wait for approval before money is released for the repair of any minor damage done to equipment.
 - vi. Seminars, conferences and workshops on the effects of COVID-19 and safety precautions should be organized during vocations by the State Ministry of Education and Education Board. These should be organized on Local Government basis to attract so many teachers and parents as possible.
 - vi. Teachers as well as students should be trained on how to handle and use online educational devices. Teachers must spend quality time to prepare and make their lessons creative, interactive, relevant, student-centered and group-based.
 - vii. Provide electronic gadgets for all students and install adequate internet services in every part of the state.

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RELATIONSHIP BETWEEN SCHOOL ENVIRONMENT AND ACADEMIC PERFORMANCE AMONG ADOLESCENTS IN GODOGODO EDUCATIONAL ZONE, KADUNA STATE

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Abstract

The research was on the Relationship Between School Environment and Performance among Adolescents in Godogodo Educational Zone, Kaduna State. The study was correlation in design and the population of the study was made up of three thousand nine hundred and eighty one (3981) Senior Secondary School Students from five (5) selected secondary schools in Godogodo Education Zone. The study had four objectives and in line with them four research questions were raised. Four null hypotheses were formulated and tested. The sample size was three hundred and forty eight (348). The instruments used for data collections were School Environment Questionnaire (SEQ) and Performance Test in Chemistry (PTC). Pearson Product moment Correlation (PPMC) was used to analyse the data collected and the result shows significant relationship between physical environment and academic performance of the students with ($r = .18, p = 0.038$), quality teachers on academic performance of the students with ($r = .74, p = 0.000$), learning facilities and academic performance of the students with ($r = .65, p = 0.000$) and peer pressure and academic performance with ($r = .586, p = 0.186$). It was thus, concluded that school physical structures, Quality of teachers and learning facilities have significant influence on academic performance of students. Therefore, it was recommended that education providers should provide good school structures, quality teachers and learning facilities in order to guarantee quality education and academic performance.

Key Words: School environment, academic performance, adolescents

Introduction

Over the years, educators depended mostly on what the teacher teaches the students

through talking in the class for assessment of school performance with little consideration given to other factors. Particularly in Africa at her early days of education, the primary goal was to educate the child, no matter the nature of the environment. There was no adequate consideration of what should constitute learning environment. That could be one of the reasons for poor performance of students in secondary schools over the years, particularly in science related fields such as Chemistry. Though even now the attitude of government and some other education provider does not seem to indicate that they understand the role of environment on learning. But it should be obvious that learning cannot take place in a vacuum, and that environment tends to promote effective learning. In a nutshell, with the growth in literacy rates across the globe over the years, there has been a paradigm shift by educational administrators to improvement in the quality of education, with great attention attached to the environment when education received. Though there are many studies that have been carried out on the influence of school environment on Academic Performance of students in other subjects like English and mathematic as this studies intends to focus, this paper tends to find the influence of school environment on performance among Adolescents in Godogodo Education Zone taking special interest in Chemistry because it requires a designed learning environment for it to be effectively taught.

Secondary school education is post primary level of education that prepares learners for tertiary level of education. Adolescents are most of the individuals found in secondary schools. Majority of them are teenagers which categorizes them as adolescents. Their goal is to achieve good performances in terms of grades. Bossaert, Doumen, Buyse and Verschueren (2011) defines academic achievement as student's success in meeting short or long term goals in education. According to Ajewole and Okebukola (2000), a number of factors are said to have contributed to the students' poor academic achievement in school. The authors stress that a host of these factors may surround students' poor achievement In Chemistry subject which may include: poor study habits and lack of available instructional materials, poor school climate, indiscipline, teachers' ineffectiveness, inappropriate teaching method and the type of learning environment available for both the students and the teachers. According to Laddunuri, (2012), academic performance is the ability to study and remember facts, being able to study effectively and see how the facts fit together and form larger patterns of knowledge, and being able to think for oneself in relation to facts and being able to communicate knowledge verbally or down on paper. Wagner (2017) posits that students' behaviour towards academic performance can be influenced through provision of an environment that balances and controls stimulants to the five human sensory organs. According to Olufemi, Adediran and Oyediran (2018), students' academic performance is affected by several factors which include students' learning

skills, school environment, parental background, peer influence, teachers' quality, learning resources and infrastructure, among others.

School environment encompasses all resources; human and material, programmes and opportunities, for students to use these resources creatively and imaginatively to learn and develop their potentials (Adamu, 2015). According to Odeh, Oguche and Dondo, (2015), School facilities have been observed as a potent factor to quantitative education. The importance to teaching and learning of the provision of adequate instructional facilities for education cannot be over-emphasized. The dictum that “teaching is inseparable from learning but learning is not separable from teaching” is that teachers do the teaching to make the students learn, but students can learn without the teachers. Tsavga (2011) maintains that the learning environment plays a vital role in determining how students perform or respond to circumstances and situations around them. This implies that no society is void of environmental influences,

As stated in Odeh, Oguche and Dondo, (2015) and Usaini, Abubakar` and Bichi` (2015) School environment consist of school physical structures, teachers and learning facilities. Ugulumu (2016) states that efficient or quality teacher refers to manner of getting things done, how to manage a class and time in getting things done. A good example is where a teacher can be called an efficient teacher, is when he comes in a class on time with well-prepared lesson plan, instructional materials, engaged time on task and everything is organized regardless of output or result produced in the teaching-learning process. The effective teacher refers to best giving and the ability to make students learn or master the skills and turn them into meaningful, relevant and applicable in real life situations.

Empirically, Megan (2002), carried out a research and found out that environments can significantly shape the degree of academic success experienced by urban students”. Okeke (2004) conducted a study on the influence of school environment on academic performance and the study reveals that quality of teachers' behavior have significant influence on effective teaching and learning. In another study by Okoye, Okoye, Okoh, Ezeji, Omankhanlen, and Onor, (2021) on environmental factor that affect academic performance of students, it was found that school physical structure and teachers have influence on students' performance. Hallak (1990) conducted a survey and found out that physical facilities contribute to academic achievement of students in the school system. They include the school buildings, classroom, accommodation, libraries, laboratories, furniture, recreational equipment, apparatus and other instructional materials. More so, Ugulumu (2016) found significant influence of school physical facilities and quality of teachers on academic performance of the students just as Odeh, Oguche and Dondo, (2015) and Usaini, Abubakar and Bichi`

(2015) earlier found.

Theoretically, the social learning theory of Bandura (1965) can offer explanation on the influence of environment on behavior and learning as reported in Santrock (2010). The theory holds that learning takes place when an organism observes others, the way they do and the result they obtains from that behavior. Therefore, when the environment is manipulated, either social environment or physical environment it tends to have effects on the learning performance of the students.

Objectives of the Study

1. To find out the influence of school physical environment on performance in Chemistry among adolescent students of Secondary schools in Godogodo Educational Zone
2. To find out the influence of school social environment on performance in Chemistry among adolescent students of Secondary schools in Godogodo Educational Zone
3. To find out the influence of learning facilities in Chemistry on performance among adolescent students in Secondary schools in Godogodo Educational Zone.
4. To find out the influence of peer group on performance in Chemistry among adolescent students in Secondary schools in Godogodo Educational Zone.

Research Questions

1. What is the influence of school physical environment on performance in Chemistry among adolescent students of Secondary schools in Godogodo Educational Zone?
2. What is the influence of school social environment on performance in Chemistry among adolescent students of Secondary schools in Godogodo Educational Zone?
3. What is the influence of learning facilities in Chemistry on performance among adolescent students in Secondary schools in Godogodo Educational Zone?
4. What is the influence of peer group on performance in Chemistry among adolescent students in Secondary schools in Godogodo Educational Zone?

Hypotheses

Ho1: There is no significant influence of school physical structures on performance in Chemistry among adolescent students in Secondary schools in Godogodo Educational Zone

Ho2: There is no significant influence of quality teachers on performance in

Chemistry among adolescent students in Secondary schools in Godogodo Educational Zone

Ho3: There is no significant influence of learning facilities on performance in Chemistry among adolescent students in Secondary schools in Godogodo Educational Zone

Ho4: There is no significant influence of peer group on academic performance in Chemistry among adolescent students in Secondary schools in Godogodo Educational Zone

Methodology

The design of the study is correlational research designs. Blog (2020) states that correlational research design measures a relationship between variables of this nature which justifies the use of correlation design in this study. The population of the study is made up of three thousand nine hundred and eighty one (3981) Senior Secondary School Students (SS1-2) from five (5) selected secondary schools in Godogodo Education Zone as revealed by Researchers survey (2022). The schools were selected by administering School Environment Questionnaire (SEQ) which revealed them scoring high as and qualified as the target population of the study. The population is heterogeneous in term of culture, religion etc. The sample of the study consists of 348 senior secondary school students from the selected schools who were randomly selected within the population and it was determined in line with the table of specification by Research Advisory (2006). The subjects were selected using simple random technique. This is because it gives every subject equal chance of being selected for the study. Table1 below shows the distribution of the sample of the study.

Table 2: Sample Distribution of Participants of the Study

S/No	School	Totals
01	GSS Aso	64
02	Jagingi Tasha	74
03	GSS Gidan Waya	80
04	GSS Godogodo	60
05	GDSS Aso	70
Totals		348

Two instruments were used for the study and they include School Environment Questionnaire (SEQ) and Performance Tests in Chemistry (PTC) was developed by the researchers, validated by experts and pilot tested. The data were analysed using

split half reliability and the reliability coefficients of the instruments were .87 and .80 respectively which was considered good enough to be used for the study. The data were analysed using Pearson Product Moment Correlation Coefficient (PPMC) because it is used to test hypotheses of significance of relation between variables.

Results and Discussions

This section deals with the analysis of the data collected and it include the characteristics of the participants to the test of hypotheses as follows:

Table2: Descriptive Characteristics of the participants

S/N	Variable	N	Mean
1.	School physical structures	348	28
2.	School quality of teachers	348	35
3.	School Learning Facilities	348	32
4.	Performance in Chemistry	348	61

Table 2 above shows that the mean scores of School physical structures, School quality teachers, Learning facilities and academic performance are 28, 35, 32 and 61 respectively. This suggests fair school physical structure and good quality of teachers, learning facilities and performances of the students.

Ho1: There is no significant influence of school physical environment on performance in Chemistry among adolescent students in Secondary schools in Godogodo Educational Zone

Table3: Relationship Between physical environment and Performance Chemistry among Adolescent students

Variable	N	df	r-Cal	P-Val
Physical environment	348	694	.18	0.038
Performance in Chemistry	348			

$P > 0.05$, at df 694

Table 3 reveals r-cal value and p-value of .18 and 0.038 respectively at .05 level of significance. This result shows a positive and significant influence of school physical

environment and performance of students. Thus, the null hypothesis is rejected.

Ho2: There is no significant influence of school social environment on performance among adolescent students in Secondary schools in Godogodo Educational Zone

Table3: Relationship Between social and Performance in Chemistry among Adolescent students

Variable	N	df	r-Cal	P-Val
Social environment	348	694	.74	.000
Performance Chemistry	348			

$$P > 0.05, \text{ at } df \ 694$$

Table 3 above reveals r-cal value and p-value of .74 and 0.000 respectively at .05 level of significance. This result shows that there is significant influence of quality social environment on performance of students. Therefore, the null hypothesis is rejected.

Ho3: There is no significant influence of learning facilities on performance in Chemistry among adolescent students in Secondary schools in Godogodo Educational Zone

Table4: Relationship Between Learning facilities and Performance among Adolescent students

Variable	N	df	r-Cal	P-Val
Learning Facilities	348	694	.65	.000
Performance in Chemistry	348			

$$P > 0.05, \text{ at } df \ 694$$

Table 4 reveals r-cal value and p-value of .65 and 0.000 respectively at .05 level of significance. This result shows a positive and significant influence of school learning facilities and performance of students. Thus, the null hypothesis is rejected.

Ho4: There is no significant influence of peer group on academic performance in Chemistry among adolescent students in Secondary schools in Godogodo Educational Zone

Table 5: Relationship Between Peer pressure and Performance among Adolescent students

Variable	N	df	r-Cal	P-Val
Peer pressure	348	694	-7.65	.000
Performance in Chemistry	348			

P > 0.05, at df 694

Table 5 reveals r-cal value and p-value of -7.65 and 0.000 respectively at .05 level of significance. This result shows a negative significant relationship between peer group pressure and performance of students. Thus, the null hypothesis is rejected.

Summary of Findings

The findings reveals the following:

1. There is significant influence of physical structures on academic performance of the students with ($r = .18, p = 0.038$).
2. There is significant influence of quality teachers on academic performance of the students with ($r = .74, p = 0.000$).
3. There is significant influence of learning facilities on academic performance of the students with ($r = .65, p = 0.000$).
4. There is significant relationship between peer pressure and academic performance of the students with ($t = .586, p = 0.186$)

Discussion of Findings

The present study shows that there is significant influence of physical structures on academic performance of the students. This is in agreement with the study of Ugulumu (2016) and Okoye, Okoye, Okoh, Ezeji, Omankhanlen, and Onor, (2021) found that school physical structure have influence on students' performances. This means that the better the structure of learning environment, the better the academic performance of the students. The present study also reveals that there is significant influence of quality teachers on academic performance of the students. It is a confirmation of research of Okoye, Okoye, Okoh, Ezeji, Omankhanlen, and Onor, (2021) found that the quality of school teachers has influence on students' performances. In their study, Usaini, Abubakar and Bichi (2015) also found a similar result.

The present research finally shows that there is significant influence of learning facilities on academic performance of students, confirming the findings of Odeh, Oguche and Dondo, (2015).

Conclusion

In line with the findings of this study, the researchers concludes that there is significant influence of physical structures on academic performance of the students in Chemistry. It is also concluded that there is significant influence of quality teachers on academic performance of the students in Chemistry. The researchers concludes that there is significant influence of learning facilities on academic performance of the students in Chemistry. It was also concluded that there is significant relationship between peer pressure and academic performance of the students

Recommendations

In line with conclusions of this study, the following recommendations were made:

1. Secondary Education providers should invest on schools' physical structures so as to improve academic performance of the secondary school students.
2. Teacher should improve themselves in furthering their education while government and other education providers select most qualified teachers to teach so that academic performance of the students will be improved.
3. Learning facilities should be ensured in secondary schools in order to guarantee quality education of the students and their academic performance.
4. Peer pressure should be given attention to curb its negative influence on learning but should be used to influence performance in a positive way.

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