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EDITORIAL NOTE

I have the delight and privilege to write as Editor-in-chief of the *Rima International Journal of Education (RIJE)*, an official research publication of the Faculty of Education, Sokoto State University. This edition (Volume 2: No. 2) of the *RIJE* has twenty four (24) articles from distinguished scholars and educators, poised to report cut-edge research findings and discourse on contemporary educational issues with implications for pedagogy, national and global development.

The dictum of "publish or perish" is in vogue in any worthwhile research-based institutions, hence strict adherence to publications in any reputable and recognized Journal, as such *RIJE* is recognized as complimentary to contemporary dissemination and propagation of knowledge. Therefore, the Editorial Board of *RIJE* wishes to use this medium to solicit well researched articles for publication from teeming population of academics and researchers globally. The Journal would always be subjected to thorough peer review and proper editorial vetting.

Prof. M. U. Tambawal,
Editor-in-chief

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IMPACT OF COLLEGIAL TEACHING AND VERBAL INTERACTION ON ATTITUDE IN BIOLOGY AMONG SENIOR SECONDARY SCHOOL STUDENTS IN SOKOTO STATE, NIGERIA

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Abstract

This study investigated the impact of collegial teaching and verbal interaction on attitude in biology among Senior Secondary Schools students, Sokoto State, Nigeria. The research used quasi-experimental control group design involving pretest and posttest. Four objectives, four research questions and four null hypotheses guided the study. Out of the nine (9) co-educational schools with 1,612 (927 boys and 685 girls) SS II biology students as the target population, three co-educational secondary schools with 164 SSII Biology students (85 boys and 79 girls) were randomly selected as sample size of the study.. Two schools were subjected to two different experimental groups where Biology concepts were taught to the students employing collegial teaching using high and low verbal interaction. The third group was taught the same Biology concept using lecture method as the control group. The treatment lasted for six weeks. Data was collected using Attitude of Students Toward Biology Questionnaire (ASTBQ) with a reliability co-efficient of 0.87. The collected data was analyzed using Man whitney and Kruscal wallis to test the null hypothesis. Findings of the study reveals that Collegial method is significant for improving students' attitude towards biology, although this attitude is not gender stereotyped. Overall, collegial method is more beneficial than lecture method in terms of students' performance and attitude when the same concepts are taught by teachers using high and low verbal interaction. The conclusion from this study was that if teachers collegiate among themselves and allow active participation of students to dominate discussion during lesson, then we should expect improved and positive attitudes towards Biology. It was therefore recommended that Biology teachers should employ collegial teaching method and encourage high teacher-student interaction.

Keywords: Attitude, Biology, Collegial teaching and Verbal interaction

Introduction

The success of a school depends on effective administration, teachers' professional, personal and social development as well as close relationship between and among teachers. One way of attaining close working relationship is through fostering collegiality among teachers. Collegiality is the quality of relationships that exist within and between the levels of the education system, a climate of trust running from top to bottom, respect for the views of staff and opportunities for them to engage in decision making, a reflective co-operative approach to the processes of commitment to share values with regards to relationship. (Ibrahim, 2000). High level collegiality among staff members and students attitude is associated with successful and effective schools in terms of academic performance. Collegial support provides an opportunity for reflection on practice and sharing expertise for problem solving through group processes ultimately deepening the knowledge of teaching and learning.

It was reported by Quinn and Karler (2004), that collegial teaching is simple team work between two or more qualified instructors who together make presentations to an audience. They also reported that collegial teaching as a restructuring of teaching procedures in which two or more educators who possess distinct sets of skills, work in a

co-active and co-ordinate fashion to jointly teach academically and behaviorally heterogeneous groups of students in an educationally integrated classroom setting.

Another important variable closely linked to collegial teaching is Verbal interaction. According to Berko, (2013), verbal interaction is an act of conveying messages, ideas, or feelings through the use of mouth. This engagement can be in the form of verbal interaction, gestures, research work, assignment questioning, soliciting responses, and many other forms of interactions The beauty of these interactions often gives birth to good academic performance and positive attitudes towards the subjects. Causes of fluctuating performance among students have also been attributed to teacher-teacher, teacher -students' relationships, methods employ for teaching and attitudes toward the subject.

Attitude is defined as a person's feeling and thought which predicts position to behave or responds in some particular manner (Lakpini, 2006). Attitude according to Michael (2007), is an expression of like and dislikes or person's disposition towards a particular area, a discipline or an object. Biology is defined as natural science concerned with the study of life and living organisms, including their structure, function, growth, origin, evolution, distribution and taxonomy (Albert, 2002).

It has been discovered in some studies that some biology concepts are abstract and therefore difficult to comprehend for teachers (Albert, 2002). Harwell (2003), opined that, once teachers have difficulty in understanding certain biology concepts, he/she will not be able to teach such concepts to the students rightly. There is the likelyhood that some aspects of the subject will be left partially taught or not taught at all. The challenge has further been aggravated by teachers' interest and attitudes towards the subject. According to Shuaibu and Usman (2002) and Alausa (2007) who equally asserted that the attitude and the type of method usually adopted in teaching biology affects students' academic performance, The lecture or expository method of teaching does not give students the desired opportunity to express themselves well and it equally limits interaction between students-students, and teacher- students' interaction.

During the course of such interactions, students fears and anxieties are not addressed in the class. For effective teaching and learning of biology, it is expected that students participate actively in the process by asking questions, holding discussions, carrying out class activities and making generous intellectual contributions. The biasness of teachers does not encourage interactions couple with high population of students in classrooms (Usman, 2007). As a result of all these effects mentioned and even more, the attitude of students in biology has been a growing concern in schools in recent times (Olatoye, 2009). It is against this background that collegial teaching and verbal interaction and their impact on, students' attitudes was experimented towards biology.

Objectives of the Study

The main aims and objective of this study is to investigate the impact of Collegial Teaching and Verbal Interaction on Attitude in Biology among Senior Secondary Students in Sokoto State, Nigeria. While the specific objectives of this study were to;

i.   Investigate the impact of collegial teaching on students attitude towards learning biology when taught using high levels verbal interaction and those taught the same concept employing lecture method.

ii.   Investigate the impact of collegial teaching on students attitude towards learning biology when taught using low level verbal interaction and those taught the same concept employing lecture method.
iii.   Investigate the impact of collegial teaching on students attitude towards biology when taught using high level of verbal interaction and those when taught using low level verbal interaction employing collegial teaching.
iv.   Investigate the impact of collegial teaching students' attitudes towards biology when taught using high level of verbal interaction, low level of verbal interaction and those taught using lecture method?

Research Questions

i.   What is the difference in attitude of students taught biology using high level verbal interaction employing collegial teaching and those taught using lecture method?
ii.   What is the difference in the responses of students attitudes towards biology when taught using low level verbal interaction employing collegial teaching and those taught using lecture method?
iii.   What is the difference in the responses of students attitude towards biology when taught by teachers using high level verbal interaction and those taught using low level verbal interaction employing collegial method.
iv.   What is the difference in the responses of students' attitudes towards biology when taught using high level of verbal interaction, low level of verbal interaction and those taught using lecture method?

Hypotheses

The following null hypotheses are formulated for testing at $p \geq 0.05$

$H0_1$:   There is no significant difference in the attitude of students towards Biology concept when taught using high level verbal interaction employing collegial teaching and those the same concept using lecture method.
$H0_2$:   There is no significant difference in the attitude of students towards Biology concept when taught using low level verbal interaction employing collegial teaching and taught the same concept using lecture method.
$H0_3$:   There is no significant difference in the attitude of students' towards Biology when taught using high level verbal interaction employing collegial method and those when taught using low level verbal interaction employing collegial method.
H_{04}:   There is no significant difference in the attitude of students towards biology when taught using high level verbal interaction, low level verbal interaction and lecture method.

Significance of the Study

The findings of the study will hopefully benefit the Science Teachers, Curriculum Planners, Professional Bodies and Associations, Students, Textbooks Publishers and Researchers:

Research Design

Quasi experimental design was adopted for this research. The design enable comparison between treatments verses control conditions on participants in a pretest and posttest design. This design was used to examine the impact of Collegial Teaching and verbal interaction on students' attitudes toward biology when they are taught by biology teachers using different levels of teacher- student verbal interaction for experimental groups while lecture method was used for the control group. There were high level verbal interaction (HV1) and low level verbal interaction, (LVI). The treatments comprised two groups which were subjected to high and low level verbal interaction while control group comprise one group respectively. Similarly quasi experimental design is best for this study because the sample is non-randomized which means intact class were used.

Population of the study

The population of the study comprised 1,612 senior secondary two (SSII) biology students recruited from nine (9) public co-education senior secondary schools in six (6) educational zones of Sokoto State.

Sample and Sampling Technique

Three co-educational schools were selected through stratified random sampling method from the six local governments that are part of the six educational zones. This was done to allow wide and equal representation of each local government. Three schools were selected because of their location and proximity to the state capital, also because of the nature of the study as it is an experimental research using Quasi experimental design.

These schools were GDSS, Minanata, , GDSS Shuni and GDSS Moreh. Two schools out of the three formed the experimental groups while the last school formed the control group. One intact class was selected from each school.

The sample is presented in table below:

Table 1:   Sample of the Study

S/No	Name of School	Educational Zone	No. of Students per class	Boys	Girls	Group
	GDSS Minanata	Sokoto South	61	29	32	Experimented Group 1 (EG1)
	GDSS Shuni	Bodinga	45	24	21	Experimented Group 2(EG2)
	GDSS Moreh	Sokoto North	58	32	26	Control Group (CG)
	Total		**164**	**85**	**79**	

Source: Research field data.

Instrumentation

The instruments used before and after the commencement of teaching for students' attitude toward biology in experimental and control groups was adopted questionnaire named as Attitude of Students Toward Biology Questionnaire (ASTBQ).

Validation of the instrument

In order to ascertain the validity of this instrument which is initially contain 48 items was given to some experts in the field of Test and Measurement and science educators in Department of Science and Vocational Education, Faculty of Education and Extension Service Usmanu Danfodiyo University, Sokoto. Some specialists in Department of Science Education, Sokoto State University and some Biology teachers to validate. The experts and educators examined the items and made necessary correction and adjustment. In order to add value to the questionnaire some questions were reframed and restructured, while others were discarded, arriving at 40 items to be responded.

The reliability of the instrument

The reliability of Attitude of Students towards Biology Questionnaire (ASTBQ) was determined by conducting the test with the designed instruments. Two test in a test-retest approach were concluded within two weeks interval. The scores obtained were then tested for reliability index and internal consistency coefficient for the items within the instruments. It was established to be 0.87. This was obtained by using the Cronbach Alfa statistical technique.

Method of Data Collection

Data was collected using Attitudes of Students Toward Biology Questionnaire (ASTBQ) items for both the pre-test which was conducted at the beginning of the treatment to establish equivalence of the subjects, While the post test data was conducted at the end of the treatment.

Method of Data Analysis

The data collected were analyzed based on the hypotheses formulated for testing at $p < 0.05$. This was able to form the basis for rejecting, retaining or accepting the null hypothesis.

H_{01}: There is no significant difference in the attitude of students towards Biology concept when taught using high level verbal interaction employing collegial teaching and those the same concept using lecture method. Man Whitney statistical technique was used to find the significant differences in attitude between the two groups.

H_{02}: There is no significant difference in the attitude of students towards Biology concept when taught using low level verbal interaction employing collegial teaching and those the same concept using lecture method. Man Whitney statistical technique was used to find the significant differences in attitude between the two groups.

H_{03}: There is no significant difference in the attitude of students' towards Biology when taught using high level verbal interaction employing collegial method and

those when taught using low level verbal interaction employing collegial method.. Man Whitney statistical technique was used to find the significant differences on attitude between the two groups.

H_{04}: There is no significant difference in the attitude of students towards biology when taught using high level verbal interaction, low level verbal interaction and lecture method. Kruscal Wallis statistical technique was used to find the significant differences in attitude between the two groups.

Results

Answering Research Questions

Research question one: What is the difference in the responses of students' attitudes towards Biology when taught using high verbal interaction (HVI) employing collegial teaching and those taught using lecture method (LM)?

Table 2:   Mean Difference in Attitude between HVI and LM

Category	N	Mean	SD	Mean difference
HVI	61	4.21	0.43	1.87
LM	58	2.34	0.27	

Source: Research field data.

Table 2 shows the mean difference in attitude towards biology between students taught using high verbal interaction of collegial teaching method and those taught using lecture method. The result indicates that students taught using high verbal interaction demonstrated positive attitude (M = 4.21; SD = 0.43) compared to those taught with lecture method (M = 2.34; SD = 0.27), with an observed mean difference of 1.87.

Research question two: What is the difference in the responses of students' attitudes towards Biology when taught using low verbal interaction (LVI) employing collegial teaching and those taught using lecture method?

Table 3:   Mean Difference in Attitude between LVI and LM

Category	N	Mean	SD	Mean difference
LVI	45	3.69	0.36	1.35
LM	58	2.34	0.27	

Source: Research field data.

Table 3 shows the mean difference in attitude towards biology between students taught using low verbal interaction of collegial teaching method and those taught using lecture method. The result indicates that students taught using low verbal interaction demonstrated positive attitude (M = 3.69; SD = 0.36) compared to those taught with lecture method (M = 2.34; SD = 0.27), with an observed mean difference of 1.37.

Research question three: What is the difference in the responses of student attitude towards Biology when taught using high level verbal interaction and those taught using low level verbal interaction employing collegial method.

Table 4:   **Mean Difference in Attitude between HVI and LVI**

Category	N	Mean	SD	Mean difference
HVI	61	4.21	0.43	0.52
LVI	45	3.69	0.36	

Source: Research field data.

Table 4 shows the mean difference in attitude towards biology between students taught using high verbal interaction of collegial teaching method and those taught using low verbal interaction. The result indicates that students taught using HVI demonstrated slightly more positive attitude (M = 4.21; SD = 0.43) compared to those taught with LVI (M = 3.69; SD = 0.36), with an observed mean difference of 0.52.

Research question four: What is the difference in responses of students' attitudes towards biology when taught using high level of verbal interaction, low level of verbal interaction and those taught using lecture method?

Table 5:   **Mean Difference in Attitude between HVI, LVI and LM**

Category	N	Mean	SD
HVI	61	4.21	0.43
LVI	45	3.69	0.36
LM	58	2.34	0.27

Source: Research field data.

Table 5 shows the mean difference in attitude towards biology between students taught using high verbal interaction of collegial teaching method, low verbal interaction, and lecture method. The result indicates that students taught using HVI demonstrated more positive attitude (M = 4.21; SD = 0.43) compared to those taught with LVI (M = 3.69; SD = 0.36), and LM (M = 2.34; SD = 0.27).

Testing Null Hypotheses

Null Hypothesis one (H_{01}): There is no significant difference in attitude of students towards Biology concept when taught using high level verbal interaction employing collegial teaching and those taught using lecture method.

Table 6:   **Significant Difference in Attitude between HVI and LM**

Category	N	Mean	SD	Test	p-value	Decision
HVI	61	4.21	0.43			
LM	58	2.34	0.27	9.86	0.00	H_0 Rejected

$\propto \geq 0.05$

Result presented in table 6 shows the significant difference in attitude towards biology between students taught using high level verbal interaction employing collegial teaching method and those taught using lecture method after treatment. There was a significant difference in attitude towards the two groups (Test = 9.86; p-value < 0.05) in favor of students taught with high level of verbal interaction. The research hypothesis was therefore rejected.

Null Hypothesis two (H_{02}): There is no significant difference in attitude of students towards Biology concept when taught using low level of verbal interaction employing collegial teaching and those taught using lecture method.

Table 7: **Significant Difference in Attitude between LVI and LM**

Category	N	Mean	SD	Test	p-value	Decision
LVI	45	3.69	0.36	6.75	0.00	H_0 Rejected
LM	58	2.34	0.27			

$\propto \geq 0.05$

Result presented in table 7 shows the significant difference in attitude towards biology concepts between students taught using low level verbal interaction of collegial teaching method and those taught using lecture method after treatment. There was a significant difference in attitude towards the two groups (Test = 6.75; p-value < 0.05) in favor of students taught with low level of verbal interaction. The research hypothesis was therefore rejected.

Null Hypothesis three (H_{03}): There is no significant difference in attitude of students towards Biology concepts when taught using high level verbal interaction and low level verbal interaction employing collegial method.

Table 8: **Significant Difference in Attitude between HVI and LVI**

Category	N	Mean	SD	Test	p-value	Decision
HVI	61	4.21	0.43	1.65	0.07	H_0 Accepted
LVI	45	3.69	0.36			

$\propto \geq 0.05$

Result presented in table 8 shows the significant difference in attitude between students taught Biology concepts using high verbal interaction of collegial teaching method and those taught using low level verbal interaction. Subjects were categorized according to the intervention they were exposed to. The dependent variable is the scores on attitude. There is no significant difference between students taught Biology concepts using HVI and those using LVI (Test = 1.65; p-value > 0.05). Based on this result, the research hypothesis was therefore accepted, suggesting that students do not differ in terms of their attitude towards Biology concepts when taught using and HVI and LVI.

Null Hypothesis four (H_{04}): There is no significant difference in the attitude of students towards biology when taught using high level verbal interaction, low level verbal interaction and lecture method.

Table 9: **Significant Difference in Attitude between HVI, LVI & LM**

Category	N	Median	p-value	Decision
HVI	61	4.02		
LVI	45	3.88	0.000	H_0 Rejected
LM	58	2.37		

$\propto \geq 0.05$

Table 9 shows the significant difference in attitude among students taught biology using HVI, LVI and LM. There was a statistical significant difference among the three groups (p-value = 0.00 < 0.05). However, an inspection of the median scores shows that students

taught using HVI and LVI displayed more positive attitude towards biology than those taught using LM. On the other hand, those taught using HVI and LVI have no much attitude difference. In view of this, the research hypothesis was rejected.

Summary of Major findings

There was a significant difference in attitude towards Biology concepts between students taught using high level verbal interaction employing collegial method and those taught using lecture method (Test = 9.86; p-value < 0.05) in favor of students taught with high level of verbal interaction.

There was a significant difference in attitude towards Biology concepts between students taught using low level verbal interaction employing collegial method and those taught using lecture method (Test = 6.75; p-value < 0.05) in favor of students taught with low level of verbal interaction.

There is no significant difference in attitude between students taught Biology concepts using HVI and those using LVI (Test = 1.65; p-value > 0.05).

There was a statistical significant difference in terms of attitude among among students taught biology using HVI, LVI and LM (p-value = 0.00 < 0.05).

Discussion of findings

The study revealed two major findings from the four research hypotheses.

The first finding revealed that there was a significant difference in attitude towards Biology concepts among students taught using HVI, LVI and LM. When the results were separated, significant difference exist between HVI and LM, in favor of those taught using HVI (Test = 9.86; p-value < 0.05). In addition, there was a significant difference in attitude of students towards Biology concepts between students taught using low level verbal interaction employing collegial method and those taught using lecture method (Test = 6.75; p-value < 0.05), in favor of students taught with low level of verbal interaction.

Secondly, there was no significant difference in attitude between students taught Biology concepts using HVI and those using LVI (Test = 1.28; p-value > 0.05).

The significant difference between high level verbal interaction (HVI) and lecture method can be explained by active participation on the part of the students compared to passivity that characterized lecture method (LM). Students tend to develop positive attitude towards a subject when they are fully involved in classroom activities as opposed to when they are treated as passive recipient of knowledge. A number of explanations have been offered to clarify students' positive attitude towards a subject. Ibraheem (2008), revealed that students tend to manifest unfavorable attitudes towards a subject when they experience difficulties in the subject. This clarification was supported by Bature (2005), who observed that the major determining factors for attitude formation are the individual wants, information on group affiliation and personality. Bature's observation informed the present study of the importance of attitude which arises when it has strong influence upon behavior and kinds of satisfaction and values the individual chooses. Timothy (2005)

further explained that students' attitude towards a subject is influenced by the instructional strategies employed in the process of teaching, thus confirming the significant importance of collegial method of teaching in improving students' attitude.

By implication, these findings suggest that collegial teaching method involving high verbal interaction significantly improve students' attitude and high participation towards Biology teaching compared to low verbal interaction and lecture method. This further suggests that collegiality is beneficial at the highest level.

Conclusions

Based on the findings of the study, a number of conclusions were made. First, high and low verbal interaction proved to be significant for improving students' attitudes compared to lecture method, suggesting the need to allow students to dominate 70% of the classroom activities.

Secondly, high verbal interaction is more significant for improving students' performance than low verbal interaction, confirming the need to implement a more active teaching approach that involve high collaboration.

However, Collegial method is significant for improving students' attitude towards biology, although this attitude is not gender stereotyped. Overall, collegial method is more beneficial than lecture method in terms of students' performance and attitude.

Recommendations

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

1. Since Collegial method is significant for improving students' positive attitude towards biology, Biology teachers should employ collegiality in their classroom activities. This method should however, be implemented to involve 70% domination of students.
2. Since there was significant difference and almost equal attitudes in students taught biology in both low verbal interaction and lecture method, a research need to be conducted to find out which method should be most recommended
3. Other strategies needs to be applied while using low level interaction in order to improve the students performance, since attitudes of students is more in favor using high verbal interaction,
4. Teachers' attitudes towards Biology should be positive to encourage students' attitudes and for them to serve as role models.

Suggested Areas for further study

1. Another study can be conducted to investigate teacher preparedness towards implementing collegial method of teaching on gender, locations and level of students.
2. A comparative analysis can be conducted to compare the impact of cooperative learning with collegial teaching.
3. In order to actually determine the impact of collegial method, a longitudinal analysis can be conducted to track student performance in a collegial classroom.

4.   Similar studies should be carried in other subjects like Chemistry, physics, mathematics at the Senior Secondary School Level.

Reference

Alausa, Y. A (2007). Teachers' Attitudinal Variable in the Implementation of further Mathematics curriculum as correlates of students' learning outcomes. *Zimbabwe Journal of Education Research.* **10** (1): 621 -640.

Albert, S,S. (2002). The Effect of Gender on Attitude and Academic Achievement in Evolution Concepts among Secondary School Students Using Problem Solving Instruction Strategy. *Zaria Journal of Studies in Education, A.B.U Zaria,* **3** (1): 132-138.

Bature, I.J., (2005).   Gender Related Difference in the understanding of mathematical skills among Junior Secondary Schools. *Journal of Science Teachers Association of Nigeria.* **7** (4): 21-29.

Berko, R.M. (2013). Professional Development of Teachers in Africa, A Case Study of Nigeria. The Africa Symposium: An Outline. *Journal of the African Educational Research Network.* **L** (l3): 63-68.

Harwell, S.H., (2003). International Behaviour, Laboratory Learning Environments and Students' outcomes in Biology Classes. *Journal of Research in Science Teaching,* **37** (l): 26-43

Ibraheem, M.A.O. (2008).   Comparison of Attitude .of Students of different Educational Levels and age-range-towards Science. *Journal of Education. Research and development,* **3** (32): 57-62.

Ibrahim, A., (2000). An Attitude Survey Towards Integrated Science. A Comparative case study of Pre-Service teachers. The Nigerian today. *A Journal of Teacher Education.* **8** (1&2): 230-237.

Lakpini M.A. (2006). Effect of a Conceptual Change Instructional Strategy on the Achievements, Retention and attitude of Secondary School Biology Student with Varied Ability. An Unpublished Ph, D thesis at the Department of Education. B.U.K.

Michael, Y.B. (2007). Teaching and learning the process of Science at the Junior Secondary Schools. *Forum Academia; Multidisciplinary, Journal of Education,* **3** (2):17-23

Olatoye, R.A (2009) Study Habit, Self-Concept and Science Achievement of public and Private Junior Secondary School Students in Ogun State, Nigeria. African Research Review. *An International Multi-Disciplinary Journal, Ethiopia*, **3** (4): 34-52

Quinn, R & Karler, R.A (2004) Effects of Team Teaching on the academic achievements of students in Introductory Technology. *International Journal of Instructional Media,* **4** (2): 23-27

Shu'aibu, A. K & Usman ,L.A., (2002). Effects of NISTEP Mode of Teaching on Students Academic Achievement in Integrated Science among Junior Secondary School Students in Nigeria. *Journal of Science Teachers Association on Nigeria,* **37** (I&2): 10-14

Timothy J., (2005). Secondary School Attitude towards Animal Conservation. A case study of selected Senior Secondary School in Sokoto. *Nigerian Journal of Science and Educational Research,* **1** (2): 27-31.

Usman, LA. (2007). Relationship between Students Performance in Practical and Activities and their Academic Achievement in Senior Secondary School. *Journal of Teacher Education Research and Development,* **1** (2): 81-89.

ACCESSIBILITY AND UTILIZATION OF E-LEARNING TECHNOLOGIES BY BUSINESS EDUCATION STUDENTS: POST COVID-19 PANDEMIC

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Abstract

This study investigated accessibility and utilization of e-learning technologies by Business Education Students in post COVID 19 pandemic era. Five research questions were raised for the study. One hypothesis was formulated and tested at 0.05 level of significance. The study employed a descriptive survey research design. The population of the study was made up of 382 Business Education students across different levels. A sample size of 115 business education students was used for the study. The instrument for data collection was a structured questionnaire titled Accessibility and Utilization of E-learning Technology for Business Education Students during Post COVID-19 Era (AUETBESPCE). It was validated by experts and a reliability coefficient of 0.78 was obtained. The data collected were analysed using mean, standard deviation (SD), and two sample independent t-test. The findings revealed among others that business education students' accessibility to e-learning technologies was high while the utilization of e-learning was low. It was recommended among others that the stakeholders of tertiary institutions should provide e-learning facilities to make the students utilize e-learning.

Keywords: Accessibility, Utilization, e-learning, COVID-19 Pandemic.

Introduction

The entire world witnessed the extensive destruction by the COVID-19 pandemic from 2019 to early 2021. As it reached the maximum intensity, almost all countries of the world were compelled into an emergency social lockdown that hindered all usual activities in the cities, towns and villages. The communicable disease caused by the coronavirus was detected in Wuhan City, Hubei Province of China in December 2019. The precipitating virus was isolated on 7th January 2020. Gradually, the deadly virus spread to other places around the world like wide fire. The spread from China to other parts of the globe affected more than 163 countries as at mid-March, 2020. As the disease spread, it made its way to Nigeria on 27th February 2020 when the index case was detected.

Incidentally, any outbreak of such deadly virus, do leave its impact on education. Epidemic of COVID 19 has its footprints on education. The outbreak of this dangerous virus across the globe forced educational institutions to shut down so as to control the spread of the virus. This phenomenon made the teaching professionals to think of alternative methods of teaching during this lockdown. Thus, it paved the way towards e-learning though unplanned in Nigeria. The media E-learning and principles of artificial intelligence are gradually gaining popularity in the world (Soni, 2020). It provided an alternative to learners who were unable to physically access the traditional means of learning due to the pandemic. In today's scenario, learning has stepped into the digital world in which teaching professionals and students are virtually connected. The accessibility and utilization of desktop, laptop, or smart phones and the internet for teaching a major component of this new normal learning methodology.

With the outbreak of Covid-19 pandemic in the later end of 2019, the accessibility and utilization of online classes, virtual classrooms, online learning, blended learning, and mobile learning are gained ground as a learning strategy in the educational system (Dhawan, 2020). Since then and even in the post covid 19 pandemic, these various e-learning methods have undergone several modifications and adjustments to help students cope with the aftermath of the pandemic (Zhang & Ma,2020). Regrettably, Nigeria is still far from undergoing a switch to this digital form of learning or better put, the educational system of the country is still far from utilizing to its uttermost digital learning space.

E-learning has become a popular way for students to complete their studies in post covid 19 period in the world today, as it allows them to study at their own pace without having to waste time on commuting or travelling from one place to another (Ugochukwu-Ibe & Ibeke, 2021). In addition to this, the use of such methodology of learning ought to helped to program most of these countries that have adopted it, a better way to prepare for any or another outbreak in the near future (Ali, 2020).

The government also realized that it needs to provide basic infrastructure and training in pedagogical computer skills right from primary schools and that business education should be offered as a vocational elective at junior secondary schools and as a pre-vocational elective at senior secondary schools, (FRN, 2014). At the undergraduate level, computer literacy a compulsory course in tertiary education is not likely to have a substantive impact on elementary principles of teaching and learning. Most faculties of education and schools of business studies appears not have adequate state-of-the-art laboratories for ICT training.

The Theoretical Framework of this study was hinged on Technology Acceptance Model (TAM) propounded by Davis, Bagozzi, and Warshaw in 1989. The Technology Acceptance Model (TAM) is a widely-used theoretical framework that helps to understand and predict individual's acceptance and use of a new technology. It was first proposed by Davis, Bagozzi, and Warshaw in 1989, and has since been refined and expanded upon by numerous researchers in various fields. It has been applied to a variety of technological contexts, including e-learning technology, to help understand the factors that influence an individual's decision to use or not use a particular technology. The concept of accessibility of e-learning in the context of the TAM is likely to be influenced by an individual's perceptions of the technology's ease of use, as well as their prior experience with using similar technologies. For example, an individual who has had positive experiences using e-learning technology in the past may be more likely to perceive it as being easy to use and accessible, while an individual who has had negative experiences may perceive it as being difficult to use and less accessible. Ease of use refers to the extent to which an individual believes that the technology is easy to learn and use. These factors are believed to be important determinants of an individual's acceptance and use of a new technology.

E-learning technology has the potential to expand access to high-quality education and training, particularly in the post-COVID-19 era when in-person learning may be limited or restricted (Khan & Zafar, 2020). The positive perception of business education as highlighted in Technology Acceptance Model (TAM), is indeed a tool to instil technological skills into business education students particularly in a post COVID-19 Era, where most learning and teaching are been done via or through online. It is important that

business education students keep abreast and utilize diverse e-learning technology in order for them to link theory to practice.

The concept of utilization of e-learning refers to the extent to which business education students utilize e-learning technologies for learning. In the context of the TAM, utilization of e-learning is likely to be actualized by students' choice of the technologies to be used, as well as the subjective norms of their social group. Various e-learning strategies, platforms, and ideas were birthed out for the utilization of this model in relation to learning.

In the past few years, the use of Google for learning has become increasingly popular. With its wide array of tools and resources, Google provides students a platform to complete projects, collaborate with peers, and extend their learning outside of the classroom. Literature reviewed hs shown that Google is used in higher education for instructional and other purposes. Google is an effective tool for providing students with efficient access to knowledge. Several studies have revealed that students are able to find appropriate content more quickly and accurately than when using traditional methods such as textbooks (Jones & Smith, 2016). Through its search engine, Google offers an extensive library of online sources which enables students to investigate topics independently or collaboratively. Additionally, websites like YouTube provide helpful instructional videos which can either be viewed directly or featured in lectures (Chen & Martin, 2019). The availability of real-time data within the Google platform means that businesses can quickly be analysed by students. Moreover, the ability to store documents in a cloud program allows them to be retrieved from any location at any time. Additionally, automated tools such as Google Forms enable instructors to easily collect survey responses or course evaluations from their students. Additionally, depending on internet speeds and network stability there may be delays which could hinder progress (Garcia *et al.*, 2018).

The use of Zoom for managing learning in business education has rapidly increased over the past few years, given its powerful features and user-friendly interface. This literature review examines how Zoom is used to facilitate tertiary business instruction while discussing the advantages and disadvantages associated with its utilization. The emergence of Zoom as a teaching medium provides students with more options to engage in class activities. It enables instructors to hold virtual classes and for students to participate remotely whilst still maintaining active involvement. Furthermore, it allows for breakout rooms which allow students to divide into smaller groups when completing assignments or working on projects. Furthermore, real-time sharing features like video conferencing offer an interesting platform for conversations and presentations, improving learning outcomes.

Despite its numerous benefits there are some obstacles associated with using Zoom in Business Education. For instance, since lectures may need to be interrupted due to technical difficulties users may find themselves feeling frustrated if they cannot connect due to poor internet speeds or network instability (Jaeger *et al.*, 2018). Additionally, it is important that instructors have sufficient technological knowledge so that they do not encounter any problems when loading materials or leading sessions (Fernandez et al., 2020). Finally, depending on the size of the class there could be issues surrounding privacy and data security which should be taken into account before utilizing this platform (Lim *et al.*, 2017).

In post COVID-19 times, there has been a shift in the way business education is taught in tertiary institutions, with the use of technology playing an increasingly important role. Skype is one such application which is becoming increasingly popular for facilitating learning. This article reviews the literature on the utilization of Skype as a platform for delivering business education.

The advantages of using Skype to facilitate business education are numerous. Firstly, it provides an interactive platform where students can interact in real-time with each other and their lecturers through voice calls, video calls and chat sessions. Additionally, a wide range of multimedia resources including documents, images and videos can be shared instantly over this platform. Furthermore, Skype sessions can be recorded which makes it an effective tool for both teaching and assessment purposes as recordings can be used for review after classes have ended.

From the perspective of teachers, Skype provides a practical solution to many common issues facing educators. The use of this technology also eliminates geographical constraints by allowing students from distant locations to communicate freely with those in the same classroom or lecture hall at any time across any distance the reasons why e-learning does not reach its potential is due to the digital divide. This is the result of different degrees of access to the Internet and mobile networks. This digital divide is due to the inaccessibility of mobile and Internet networks in middle and low-income countries (Al-Ababneh *et al*., 2020).

Various studies have been conducted on how best to utilize Skype as an educational tool (Garcia et al., 2018). The focus areas covered by these studies vary but most generally agree that Skype sessions should be tailored towards student needs depending on their individual learning objectives and must adhere strictly to established guidelines regarding content coverage (Garcia *et al*., 2016; Liou & Chang, 2017). It is also suggested that instructors should make use of session summaries so as to reinforce key topics which were discussed during each class (Garcia *et al*., 2016). The new normal requires that all should be proactive against unforeseen situation like COVID-19 as such e-learning facilities should be made accessible to both teachers and students in tertiary institutions.

Today, sizeable population of children in Nigeria appear not to be able to get access to e-learning technologies due to lack of internet facilities or gadgets. Some parents are able afford to buy students' data; e-learning gadgets; electricity supply, network connectivity while many others cannot afford them. The pandemic has also impacted on access to e-learning technologies due to its impact on people's ability and willingness/ability to work with computers as well as their jobs being affected by such conditions as alleged by stakeholders.

The situation is further exacerbated by the fact that the pandemic has adversely affected livelihoods of low-income earners who struggle to survive with basic necessities of life. The government make budget for purchase of these facilities but they seem not to be available to these institutions of learning where business education students are trained. An eye ball observation by the researcher shows that the provision of these facilities still has long way to go before they can be fully implemented. In addition, many students in rural areas have lost access to schools due to lack of internet connectivity and epileptic power supply at home. So, they are not able access e-learning platforms online for their studies even when their schools are able to connect others who may be at vantage position

will be left out. This can be as a result of the financial implication of data and other e-learning accessories.

Despite the high need for e-learning technologies in our schools. Many Nigerian tertiary institutions appear to be lagging behind and seem to be reaching a small population among business education undergraduates in Nigeria. If this is not addressed when situations like COVID-19 pandemic happens again, the students will equally suffer and the stay will be truncated. That has serious economic implications for government, students and even parents. This number varies from institution to institution. Therefore, it is important to acknowledge that e-learning has not reached all the students in Tertiary institutions in Nigeria business education students inclusive. What is still worrisome to the researcher is how accessible is this technology to various class of students? How affordable is the technology for indigent students? To this end, this study intends to determine, the accessibility and utilization of e-learning technology by Business Education students post covid-19 pandemic.

The extent to which Business Education Students Access E-learning technologies post COVID 19 pandemic era

Research Questions

The following research questions guided the study:

i.   To what extent do Business Education Students access e-learning technologies post COVID 19 pandemic era?
ii.   To what extent do Business Education Students utilise e-learning post COVID 19 pandemic?
iii.   To what extent do Business Education Students utilise Google meet post COVID 19 pandemic?
iv.   To what extent do Business Education Students utilise Zoom post COVID 19 pandemic?
v.   To what extent do Business Education Students utilise Skype post COVID 19 pandemic?

Hypothesis

One hypothesis was formulated and tested at 0.05 level of significance.

H_{O1}:   There will be no significance difference between male and female business education students in their accessibility and utilization of e-learning technologies for learning post COVID-19 pandemic.

Methodology

The research design for the study was a descriptive survey. The population of the study consist of 382 business education students in University of Benin, Benin City across all levels. The sample size comprised 115 business education students were used for the study. Since the population was manageable in size, census sampling technique was adopted.

The instrument that was used for data collection was structured questionnaire titled: Accessibility and Utilization of E-learning Technologies by Business Education Students Post COVID 19 Era (AUETBESPCE). This was validated with a reliability coefficient of 0.78. The data was administered and collected by the researcher on the sport to minimize loss

The data collected were analysed using mean, standard deviation and two sample independent t-test. The mean and standard deviation were used to answer the research questions while two sample independent t-test was used to test hypotheses at 0.05 level of significance. The decision rule for the research questions was based on any calculated mean equal or greater than 2.5 and was regarded high extent while any calculated mean less than 2.5 was regarded as low extent. On the basis of the hypothesis, the probability p-value was used. Where p-value is less than or equal to 0.05 the null hypothesis was not retained but where p-value is greater than 0.05 the null hypothesis was retained.

Results

To what extent does Business Education Students access e-learning technologies post COVID-19 pandemic?

Table 2:   Mean and standard deviation showing business education students access to e-learning technologies

S/N	Item	N	Mean	SD	Remarks
1.	I have access to computer in learning Business Education after COVID-19	115	3.31	1.003	High Extent
2.	During post COVID-19, I have access to google meet in learning Business Education	115	3.10	1.059	High Extent
3.	I have access to zoom after COVID-19 in learning Business Education	115	3.11	1.168	High Extent
4.	I have access to skype after COVID-19 for making research in business education program	115	3.10	1.158	High Extent
	Cluster		3.16	0.08	High Extent

The data in Table 1 showed that the respondents rated item one four as high extent with a mean rating ranging from 3.10 to 3.31 while the standard deviation also ranges from 1.003 to 1.168. The aggregate mean showed a mean of 3.16. With these results, the mean score showed that business education students accessed e-learning technologies during post COVID-19 pandemic to a high extent.

Research Question 2

To what extent do Business Education Students utilize e-learning post COVID-19 pandemic?

Table 2: Mean and standard deviation showing business education students utilization to e-learning technologies

S/N	Item	N	Mean	SD	Remarks
1	I utilize the computer after COVID-19 in learning Business Education courses	115	2.29	1.262	Low Extent
2	I utilize the google meet during post COVID-19 in learning Business Education courses	115	2.06	1.103	Low Extent
3	I make use of the zoom after COVID-19 pandemic in learning Business Education	115	2.17	1.187	Low Extent
4	I utilize the skype in making research in Business Education programme during post COVID-19 pandemic	115	2.20	1.171	Low Extent
	Cluster		2.18	0.06	Low Extent

The data presented in Table 2 revealed that the respondents' rated item two to four as low extent with a mean rating ranging from 2.06 to 2.29 and the standard deviation also ranging from 1.103 to 1.262. The cluster mean showed a mean of 2.18. It therefore Business Education Students utilization of e-learning technologies post COVID-19 pandemic is low.

Research Question 3

To what extent do Business Education Students utilize Google meet post COVID-19 pandemic?

Table 3: Mean and standard deviation showing business education students utilization of Google meet post COVID-19 pandemic

S/N	Item	N	Mean	SD	Remarks
1	I utilize Google meet for group interaction in the teaching and learning process of Business Education course during post COVID-19 pandemic	115	2.82	1.064	High Extent
2	Google meet is utilized often by Business Education students for learning during the post-COVID-19 era	115	3.27	.940	High Extent
3	In Business Education, students utilize Google meet for classes after COVID-19 pandemic	115	3.05	1.146	High Extent
4	I utilize Google meet in studying Business Education courses during post COVID-19 pandemic	115	2.99	1.188	High Extent
	Cluster		3.03	0.11	High Extent

From table 3. It was revealed that the respondents rated items one to four as high extent with a mean rating ranging from 2.82 to 3.27. The standard deviation also ranged from .940 to 1.188. The aggregate mean indicated a mean of 3.03. Business Education Students therefore utilize Google meet post COVID-19 pandemic to a high extent.

Research Question 4

To what extent do business education students utilize Zoom post COVID-19 pandemic?

Table 4:   Mean and standard deviation showing business education students utilization of Zoom meet post COVID-19 pandemic

S/N	Item	N	Mean	SD	Remarks
1	Business Education students make use of Zoom to improve their class participation during post COVID-19 Era	115	2.14	1.199	Low Extent
2	I utilize Zoom for group studying for my Business Education Courses after COVID-19 pandemic	115	2.04	1.127	Low Extent
3	My lecturers utilize Zoom in teaching Business Education students during post COVID-19 pandemic	115	1.92	1.109	Low Extent
4	I utilize Zoom in Learning Business Education courses during post COVID-19Era	115	1.93	1.175	Low Extent
	Cluster		2.00	0.04	Low Extent

The information in Table 4 showed that the respondents rated item one to four as low extent with a mean rating which ranged from 1.92 to 2.14 while the standard deviation also ranges from 1.109 to 1.199. The cluster mean showed a mean of 2.00. This revealed mean score showed that business education students utilized Zoom post COVID 19 pandemic to a low extent.

Research Question 5

To what extent do Business Education Students Utilize Skype during post COVID 19 pandemic?

Table 5:   Mean and standard deviation showing business education students utilization of Skype meet post COVID-19 pandemic

S/N	Item	N	Mean	SD	Remarks
1.	Students use Skype often for learning during the post COVID -19 era	115	2.77	1.266	High Extent
2.	I utilize Zoom so as to improve my learning experience in Business Education during post COVID-19 pandemic	115	1.92	1.109	Low Extent
3.	I have full knowledge on how to utilize Zoom in learning Business Education after COVID-19 pandemic	115	1.93	1.175	Low Extent
4.	I utilize Zoom in organising group class meetings for Business Education students, during post COVID-19	115	2.66	1.016	High Extent
	Cluster		2.32	0.11	Low Extent

From Table 5 the respondents rated item one and four as high extent with a mean of 2.77 and 2.66 while item two and three were rated as low extent with a mean of 1.92 to 1.93.

The standard deviation also ranged from 1.016 to 1.266. The aggregate mean showed a mean of 2.32. The mean score showed that business education students utilize Skype post COVID 19 pandemic to a low extent.

Hypothesis

There will be no significance difference between the accessibility and utilization of e-learning technology by male and female business education students during post COVID-19 pandemic.

Table 6: **The t-test analysis showing difference between accessibility and utilization of e-learning technology by male and female business education students post COVID-19 pandemic**

Respondents	N	Mean	SD	df	t-value	p-value	Decision
Male	45	2.72	.86				
				113	-.241	.810	Not Significant
Female	69	2.75	.76				

The information in Table 6 revealed mean responses of the significant difference in means as per the accessibility and utilization of e-learning technology between male and female business education students post COVID-19 pandemic. Male had a mean of 2.72 and female 2.75 and corresponding standard deviations of .86 and .76. The t-value of -.241, at degree of freedom of 113, showed a none significant p-value of .810. At an alpha value of .05, the null hypothesis was retained since the p-value is greater than alpha value. Thus, there is no significance difference in the accessibility and utilization of e-learning technology by male and female business education students post COVID 19 pandemic.

Discussion of Findings

From Table 1, the findings of research question one revealed that business education students accessed e-learning technologies post COVID 19 pandemic to a high extent. During COVID-19 a good number of students got to know the importance of e-learning technologies which was hitherto not utilized in most public universities before the Covid-19. The students and Lecturers were compelled to adopt the e-learning since schools were closed for upward eight months and the only alternative available to the school was e-learning technologies. This finding corroborates the study of Khan & Zafar (2020), who asserted that the advent of e-learning technologies is one of the most powerful tools available for addressing the need of education in the event of teacher and students' inability to physically meet teaching and learning to take place.

Table 2 finding showed that Business Education Students utilize e-learning post COVID-19 pandemic to low extent. The utilization of e-learning post COVID-19 pandemic made teaching and learning accessible to all without physical boundaries. This can be done in their various comfort zones and at their convenience. With these students have wide access to learning materials, do assignments with broad range of information and get feedbacks within a short space of time. The low utilization of e-learning technologies is not unconnected with the various challenges faced by students. This finding is in line with that of Buchoz and De-Baker, (2017) who affirmed that e-learning technologies allow

students and Lecturers in place where in use will be able to easily progress over multiple semesters during and post COVID-19 pandemic era.

Table 3 concern of the study showed that Business Education Students utilize Google meet post COVID 19 pandemic to a high extent. The Covid-19 pandemic exposed students more to using google meet for learning and this was sustained post COVID-19 pandemic era because of the ease and convenience in its use. This finding is congruent with the study of Lukie et al. (2020) who opined that google offers a helpful range and inexhaustive e-technologies that give opportunities to students and Lecturers alike to get unlimited access to unlimited information. These can enhance their skills and make them productive members of the society. Additionally, websites like YouTube provide instructional videos which can either be viewed directly or featured in lectures (Chen & Martin, 2019).

Table 4 found that business education students utilize zoom post COVID-19 pandemic to a low extent. Zoom has a good visual feature that makes students utilization more efficient since the learning and the teacher can see themselves as if they are in the face-to-face classroom. Despite this advantage that this technology offers, many business education students are not able to access zoom because of the cost of data, poor network connectivity and epileptic supply of electricity in the various areas where students reside. Since the students are not able to use it for their advantage, the result is a lacuna in the educational process in this modern era. Consequently, students of business education in Nigeria will not be able to compete favourable with their counterparts who utilize zoom. This finding is contradicted that of Mukherjee et al., (2018) that asserted that that zoom enables instructors to hold virtual classes and for students to participate remotely whilst still maintaining active involvement. This is also in agreement with Jaeger et al, (2018) that asserted that students and lectures may be interrupted due to technical difficulties which leads to user feeling frustrated if they cannot connect with internet most times due to poor network and regular power outage. It allows for breakout rooms which permits students division into smaller groups when completing assignments or working on projects as also noted by (Gopalan & Gandhi, 2019).

The finding showed that business education students utilize Skype post COVID 19 pandemic to a low extent. Although students were found to utilize skype, their usage was low. This may not be unconnected to the challenges associated with power outage, lack of data, poor network that make skype not to be tailored towards students' need to achieve it full purpose post COVID-19 pandemic. This finding corroborates the work of Garcia *et al*, (2016), Liou and Chang, (2017) that skype should be tailored towards the students' needs depending on their individual learning objectives. They must strictly adhere to establish guidelines content to coverage,

The findings revealed that though there is difference in male and female accessibility and utilization of e-learning technologies, the difference is not significance. This is because both male and female students are exposed to the same conditions of learning in nation's institutions of higher learning. Both male and female lack the adequate facilities that enhance e-learning in most Nigerian public universities.

Conclusion

Based on the findings of the study, it was concluded that business education students inadequately accessed and utilized e-learning technologies post COVID 19 pandemic due to poor learning facilities provision.

Recommendations

From the findings, the following recommendations are put forth for policy options

1. That stakeholders in education should provide good internet facilities to encourage e-learning easy accesses.
2. Students should be provided with subsidized data packages to enhance access and utilization of internet facilities.
3. Training should be organized for lecturers on effective utilization of e-learning technologies in Nigerian universities.

References

Al-Ababneh, H. A., Al-Khasawneh, A., Anoprienko, A., Alrhaimi, S. A. S., Alhosban, A., & Tomashevskaya, E. (2021). E-learning: Current trends during the covid-19 pandemic. *Journal of Management Information and Decision Sciences*, **24** (S4): 1-11.

Ali, W. (2020). Online and remote learning in higher education institutions: A necessity in the light of COVID-19 pandemic. *Canadian Centre Science Education*, **10** (3): 1115. https://doi.org/10.5539/hes.v10n3p16.

Barnard, M. (2020). Cultural capital in non-white majority schools: a critical exploration of cultural ethos and pedagogy. *Critical Studies in Education*, 1-16.

Davis, F.D. (1989). Perceived usefulness, perceived ease of use and user acceptance *MIS Quarterly*, **13** (3): 319-340.

Davis, F.D., Bagozzi, R.P. & Warshaw, P.R, (1989). User acceptance of computer technology: A comparison of two. *Management Science.* **35** (8): 982-1001.

FRN, (2014*). National Policy on Education*. (6th Edition) NERDC, Yaba, Lagos.

Garcia, R. Falkner, K. & Vivian (2018). Systematic literature review: Self-regulated learning strategies using e-learning tools for computer science. *Computer Education*, **123**: 150-163.

Lima, C. K. T., de Medeiros Carvalho, P. M., de Araújo Araruna Silva Lima, I., de Oliveira Nunes, J. V. A., Saraiva, J. S., de Souza, R. I., da Silva, C. G. L., & Neto, M. L. R. (2020). The emotional impact of Coronavirus 2019-nCoV (new Coronavirus disease). *Psychiatry Research*, **287**: 112915 Hematological

Liou, S. (2019). Introduction of key problems in long-distance learning and training. *Mobile Networks and Applications*, **24** (1): 1-4.

Khan, T.A. & Zafar, F. (2020). Haematological studying response to varying doses of ostrogen in broiler chicken. *International Journal of Poultry Science,* **4**: 748-751. https://doi.org/10.3923/ijps.2020.748.751

Soni, V.D. (2020). Global impact of e-learning during COVID-19 (June18,2020). Available at ssrn:https://ssrn.com/abstract=3630073. http://dx.do.org/10.2139/ssrn.3630073.

Sleeter, C. E., & Zavala, M. (2020). Transformative ethnic studies in schools: *Curriculum, pedagogy, and research.* Teachers College Press

Garcia, R., Falkner, K., & Vivian, R. (2018). Systematic literature review: Self-regulated learning strategies using e-learning tools for computer science. *Computers & Education*, **123**: 150–163.

Gonzalez, T., De La Rubia, M. A., Hincz, K. P., Comas-Lopez, M., Subirats, L., Fort, S., & Sach Garcia, R., Falkner, K., & Vivian, R. (2018). Systematic literature review: Self-regulated learning strategies using e-learning tools for computer science. *Computers & Education*, **123**: 150–163.

Gonzalez, T., De La Rubia, M. A., Hincz, K. P., Comas-Lopez, M., Subirats, L., Fort, S., & Sach Ugochukwu-Ibe, I.M. & Ibeke, E. (2021). E-learning and COVID-19: the Nigeria experience; challenges of teaching technical course in tertiary institutions. In Xhina, E. and Hoxha, K. (eds.). Recent trends and applications in computer science and information technology: proceedings of 4th recent trends and applications in computer science and information technology international conference 2021 (RTS).

Whang, N. Y. & Yan, L. F. (2020). Development of School Food Education: Teachers' Teaching Interventions in Urban Middle Schools of Northern Taiwan. *Education and Urban Society*, **52** (9): 1330-1350.

Zhang, Y., & Ma, Z. F. (2020). Impact of the COVID-19 pandemic on mental health and quality of life among local residents in Liaoning Province, China: A cross-sectional study. *International Journal of Environmental Research and Public Health*, **17**: 2381.

CAUSES AND CONSEQUENCES OF EXAMINATION MALPRACTICE AMONG SECONDARY SCHOOLS IN KWARA STATE

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Abstract

This study examined causes and consequences of examination malpractice among secondary schools in Kwara State. This study adopted descriptive survey type. The population of this study comprised all public senior secondary school students in Kwara State. Simple random sampling technique was used to select 10 public senior secondary schools in the state. Simple random sampling technique were used to select 20 students from each public senior secondary schools, making 200 public senior secondary school II students as respondents (sample) for the study. Examination Malpractice Scale by Ongong (2018) was used to collect necessary data. Descriptive statistic of frequency count and percentage was used to answer the demographic data of respondents, the research questions were answered by mean and ranking order while the research hypotheses were tested by t-test of inferential statistics at 0.05 level of significance. Findings revealed the causes and consequences of examination malpractice among secondary schools. It was also established that there was no significant difference in the causes and consequences of examination malpractice among secondary schools in Kwara State based on gender. Part of the recommendations stated that sound educational policy should be put in place to emphasise the supremacy of skills and professional competence over certificate. Religious and community leaders should be used to intervene on parents who insist on their children getting the best result without genuine efforts for it. School teachers should be motivated and remunerated adequately and learning environment made friendly so that they can do their work satisfactorily and cover the syllabus before examinations.

Keywords: Causes, Consequences, Examination and Examination Malpractice,

Introduction

The value and functionality of any educational system lie in its ability to actualize the goals of education. In educational systems, world over, the examination process makes the difference. The goals of national educational systems and indeed national development become like mirage if examination ethics is not encouraged and instituted (Nwadiani, 2015). Till date, examinations still remain the best tool for an objective assessment and evaluation of what learners have achieved after a period of schooling. Hence, any action that undermines examinations poses a great threat to the validity and reliability of examination results and certification.

Unfortunately, the process of examination in Nigeria secondary schools has become a "contemporary shame" (Nwadiani, 2015). This is because of the phenomenon of examination malpractice that has become endemic in the educational system. The 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 himself 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. Oluyeba and Daramola (cited in Alutu & Aluede, 2016) remarked that examination malpractice is any irregular behaviour exhibited by a candidate or anybody charged with the conduct of examination before, during or after the examination that contravenes the rules and regulations governing the conduct of such examination.

An examination is the main yardstick used for the measurement of a learner's achievement. Examinations on a wider perspective are used as an instrument for academic stratification, assessing grades, evaluating and accreditation. The end product of such a judgment is used for diagnosing placement, guidance, and certification. Examinations are also used to choose those who intend to enter into government services, state schools, and some other educational institutions. The bodies for these examinations are the West African Examinations Council (WAEC), the National Examinations Council (NECO), the Joint Admissions and Matriculation Board (JAMB), and the National Business and Technical Education Board (NABTEB). Examinations are either public or external and they are carried out on behalf of the state with opportunities given to those who meet the criteria (Akanni & Odofin, 2015). Public examinations provide an adequate basis for qualifying students' abilities and also to exert control over the attainment of the curricula across schools.

In Nigeria, all of the stakeholders of education and learners place their judgments on performance at public examinations (Anzene, 2019). Public examinations, therefore, seem to be the most popular parameter by which society judges the products of its educational system. This is because performance in public examinations is now used as a prerequisite for admission into other levels of schooling, job placements, and awards of certificate and diploma (Adegboyega, 2017).

Therefore, examination malpractice is any illegal act committed by a student single headedly or in collaboration with others; like fellow students, parents, teachers, supervisors, invigilators, printers and anybody or group of people before, during or after examination in order to obtain undeserved marks or grades (Jimoh, 2019). Examinations can be used to classify students into those with higher and lower abilities. Those with high abilities have a performance level above those with low abilities. This type of grading encourages some students to engage in examination malpractice in order to obtain good results. As such, to demonstrate that they too have high abilities, they take part in all kinds of vices, including examination malpractice (Idahosa, 2019). Examination malpractice may also be defined as any form of fraudulent activity by a learner with the mindset of getting better results than their actual level of intelligence and academics performance elaborates (Adegboyega, 2017).

Examination malpractice can be seen as any irregular behaviour (that contravenes examination rules and regulations) exhibited by a candidate or anybody charged with this type of conduct before, during, or after an examination. It is any improper action carried out before, during and after the examination with the intention of cheating or having an advantage (Idahosa 2019). It may also include exchange of the answer scripts by the candidates hence helping each other in answering a question the other is not conversant in claims. Some candidates forge results and certificates in order to better their results. With the current technological advancement some candidates also use mobile phones and other electronic gadgets into the examination hall (Nnam & Inah (2015).

In Nigeria, examination malpractice has continued to appear in different forms including the sale of examination question papers, the smuggling of relevant text materials into examination halls, impersonation, disorderliness in examination halls, and forgery of result slips (Nnam & Inah, 2015). Akanni (2015), identified a form of examination malpractice where there is a collision among the candidates and the officials in charge of the examinations where the officials leak an information in the examination to the candidates. Impersonation is another type of examination malpractice which is practiced by candidates who are daring enough where other persons with a higher intelligence sits for the examination in place of the supposed candidate who was meant to sit for the examination. Candidates also write notes on the examination desks walls or their clothes or smuggle in foreign materials into the examination hall. Giraffing is another used method for the candidates to engage in the examination malpractice today whereby a candidate stretches their neck to get access to the work of their counterpart in their answer booklet where they try to transfer the same information on their answer booklet (Okon & Adie, 2016).

In some instances students may also pay the invigilators and supervisor some amount of money in order for them to be allowed to use illegal materials which they may have smuggled into the examination hall. Also, some invigilators and supervisors add time for the candidates deliberately hence, enabling them to gain an unfair advantage over the other candidates (Uzoigwe 2016). Nnam and Inah (2015), found that some candidates forge results and certificates in order to better their results. With the current technological advancement some candidates also use mobile phones and other electronic gadgets into the examination centers. In some cases the female students may also scribble notes on their thighs and attempt to read such notes during the examination with the hope that the invigilators will not dare to watch their thighs since they could be accused of sexual harassment.

Though examination malpractice is neither a recent phenomenon nor is it peculiar to Nigeria or Africa, the alarming rate of increase is a global issue (Awanbor, 2020). The alarming rate of increase in examination malpractice in secondary schools in Nigeria calls for concern from all stakeholders in the education sector. It has been widely reported that parents and teachers aid and abet examination malpractice directly or indirectly. Parents go to the extent of bribing their way through to ensure that their wards get unearned grades while teachers encourage examination malpractice because they lack the zeal to work but want to be praised for job not done (Alutu & Aluede, 2016). According to Aluede, (2016), the value system in Nigeria has broken down completely and so adults and youths alike act without moral scruples. This is the reason why examination malpractice still thrives despite its grave consequences on the social political and economic structures of the nation.

Examination Malpractice Act No. 33 of 1999 stipulates a minimum punishment of fifty thousand naira (#50,000.00) and a maximum of five years imprisonment, without option of fine, for violators of the offences stipulated in the Act. The offences are: cheating at examinations, stealing of question papers, impersonation, disturbances at examination, obstruction of supervision, forgery of result slip, breach of duty, conspiracy and aiding, etc. Government, examination bodies, and other concerned citizens have made a lot of efforts to forestall the incidences of examination malpractice and the problems associated with the conduct of examinations in Nigeria. Although the efforts seem to be yielding some results, yet incidences of examination malpractice still feature prominently in the

school system. In 2016, the Federal Ministry of Education blacklisted and derecognized 324 secondary schools across the nation as centres for conducting public examinations from 2007 to 2010 (Awanbor, 2020).

The western knowledge acquisition system or formal education is measured on certificates. Yet, certificate is not a full proof of knowledge retention. Before certificate is awarded, the students have to be assessed or examined in the field they have been trained. Nnam and Inah (2015) notes that examination is a yardstick against which students or candidates' competence and progress are formally measured and appraised in the education sector. According to Emaikwu (2017), examination as part of evaluation in education is aimed at determining a learner's level of skill acquisition or intellectual competence and understanding after a given training. Evaluation usually enables the teacher to be effectively ready for further teaching as this forms a feedback. George and Ojonemi (2018) opines 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.

Malik and Shah (1998) cited in Akaranga and Ongong (2018) observed that examination is not only a process of assessing the progress of students but, it also motivates and helps them to know their academic strengths and weaknesses apart from providing teachers with opportunities to try new methods of teaching. But when examination is not properly conducted, the expected feedback may not result. Hence, the result of such evaluation leads to wrong decision and judgement which affect the teacher, the learner, the entire education industry, as well as the society (Ojonemi et al., 2018). Whenever there is examination irregularity or malpractice, the validity and resulting outcome is questionable.

From all the definitions, it is clear that examination malpractice tends to confer undue advantage or 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. Undoubtedly, examination malpractice has been a social problem for decades, but the rate and manner it is perpetrated nowadays calls for serious concern. The rate of this crime has become so widespread that there is virtually no examination anywhere at all levels and outside the formal school system that there is no one form of illegal practice or another, (Nnam & Inah, 2015; Ojonemi et al., 2018). Examination malpractices are common everywhere and every examination season witnesses the emergence of new and ingenious ways of cheating.

Causes of Examination Malpractice

Many reasons have been adduced to be the cause of the prevalent cases of examination malpractice. Petters and Okon (2018) identifies the causes to include fear of failure, craze for certificate, desire of parents to have their children in choice professions and university, pressure on students to pursue courses which they have no aptitude, pressure on teachers who want to gain favour of student and overcrowded sitting arrangement. George and Ukpong (2018) links the increasing rate of examination malpractice to poor teaching, ineffective preparation by students, ill-equipped library facilities, and dubious admission policy.

Akaranga and Ongong (2018) views the cause of examination malpractice to parental upbringing. They opined that because of social status and economic ability, most parents are easily persuaded to bribe their way through for the sole success of their children and self-gratification. According to Ejimogu (2020) cited in Nsisong (2021), general moral decadence and the high premium placed on achievement and certificates by Nigerians has in recent times spawned examination fraud. The overdependence on educational certificates as a measure of one's knowledge and competence has led to a mad rush by most people for educational certificates through unethical means.

The disjunction between culturally acclaimed goals and the institutionalized means of achieving these goals coupled with the cultural context of great emphasis on success-goals without equivalent emphasis upon institutional means of attaining these goals have created an environment that predisposes some students, teachers, parents and others to examination malpractice, (Jimoh, 2019). The Nigerian society today is characterized by a heavy emphasis on success and wealth without a corresponding emphasis on legitimate means and avenues to be used in achieving the success. The country has become a commercial venture and no longer a place for selfless service.

Consequences of Examination Malpractice

In a society that examination malpractice is predominant, its impact are visibly seen in the type of human resources the education system has produced. Again, educational system strives to inculcate high level of discipline, diligence, moral love for others; to the recipients where the examination is fraught with malpractice, all the important feedback mechanism becomes defaulted and the educational system becomes distorted, (The CWO Voice, 2015).

Examination malpractice leads to irreversible loss of credibility. A country that becomes notorious in examination malpractice loses international credibility. The implication is that documents or certificates emanating from such country will be treated with suspicion as is the case of Nigeria today. Such country's educational institutions are as good as dead as far as international cooperation in education is concerned (Jimoh, 2019).

Examination malpractice has grave consequences on the individuals and institutions of learning, communities and the country 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 and the nation. The guilty ones who were not caught and punished cannot defend the certificates procured not to talk of delivering at their duty posts.

The prevalent rate of bank failures, collapse of buildings, economic sabotage, vandalism, kidnapping/hostage taking for ransom, drug trafficking, fake drug manufacturing and sales are practical effects of moral decadence, emanating from examination malpractice. Effects of examination fraud are displayed in the filling stations, churches, homes, hospitals, markets and everywhere.

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 behaviour in any organization they may found 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.

Other effects of examination malpractice includes discouragement of students from hard work, low productivity and poor job performances, bribery, corruption, and certificate racketeering. 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.

Examination malpractice has proven to be a tug of war in the Nigerian educational system and this has caused some examination to lose credibility and expose the entire educational system to ridicule, to the extent that many students cannot defend their certificates and are not employable. Cheating in the examination has led to the cancellation of the results for the respective students who have been found to have cheated and hence such a student may have wasted the four years in high school.

The practice of examination malpractice also makes the public to lose faith and hope in national examination and further question the examination body for failure to execute its mandate of providing credible examination to the public. The parents for such students on the other hand may have struggled to raise the fees for such students only for the results to be cancelled and they may feel that their energy might have been wasted in raising of the fees for their children.

Examination malpractices have also discouraged the students from working hard in school since a short cut to getting good grades is available. This has also demotivated the students hence bringing about a culture of laziness in the secondary schools. Previous studies focuses on parental influence and teachers professionalism as factors of examination malpractice, not considering students perspective. Hence, this study seeks to examine the causes and consequences of examination malpractice as perceived by secondary school students in Kwara State.

Purpose of the Study

The main aim of the study is to investigate the causes and consequences of examination malpractice as perceived by secondary school students in Kwara State. Specifically, this study intends to achieve the following:

i. To find out the causes of examination malpractice as perceived by secondary school students in Kwara State.
ii. To investigate the consequences of examination malpractice as perceived by secondary school students in Kwara State.
iii. To unravel the differences in the causes of examination malpractice as perceived by secondary school students in Kwara State based on gender.
iv. To examine the differences in the consequences of examination malpractice as perceived by secondary school students in Kwara State based on gender.

Research Questions

The following research questions are raised to guide this study

i.   What are the causes of examination malpractice in Kwara State?
ii.   What are the consequences of examination malpractice in Kwara State?

Research Hypothesis

The following research hypothesis is formulated to guide this study

H_{01}:   There is no significant difference in the causes of examination malpractice secondary school students in Kwara State based on gender

H_{02}:   There is no significant difference in the consequences of examination malpractice secondary schools in Kwara State based on gender

Methodology

This study adopted descriptive survey. This was used to examine the causes and consequences of examination malpractices in Kwara State. The population of this study consisted of all secondary school students in Kwara State. Simple random sampling technique was used in this study. Ten public secondary schools were randomly sampled and 20 students were selected from each of the selected secondary schools. The participants for this were 200 randomly selected students from ten randomly selected public secondary schools in Kwara State.

Causes and Consequences of Examination Malpractice were measured by Ongong's Examination Malpractice Scale (EMS, 2018). Each of the instruments contains 10 items. The questionnaire were divided into sections A, B and C. Section A is meant to collect personal data of the respondents, Section B contained items on Causes of Examination Malpractice and Section C contains items on Consequences of Examination Malpractice. The instrument has four point rating scale; Strongly Agree(SA) =4, Agree (A)=3, Disagree(D)=2 and Strongly Disagree(SD)=1. The instrument was adapted. The set of two scores were correlated using Pearson Product Moment Correlation Coefficient and 0.72 reliability index was obtained.

The instruments for this study were personally administered by the researchers on the respondents in the sample schools. Before the administration of the questionnaire, the researcher introduced himself to the principals of the selected schools and informed them about his mission in the schools. Upon obtaining the required permissions from the authority of each school, the researcher administered the instrument on the respondents. The completed questionnaire was collected from the respondents in each of the sample schools by the researcher.

Descriptive statistic of frequency count and percentage were used to answer the demographic data of respondents, the research questions were answered by mean and ranking order while the research hypotheses were tested by t-test of inferential statistics at 0.05 level of significance.

Results

The data presented in Table 1 shows the demographic characteristics of the respondents using frequency and percentages.

Table 1: **Distribution of the Respondents by Gender, Age, Class, Religion**

Gender	Frequency	Percentage (%)
Male	97	48.5
Female	103	51.5
Total	200	100.0
Age		
13 – 15 years	57	28.5
16 -18 years	143	71.5
Total	200	100.0
Class		
SSS II	200	100.0
Total	200	100.0
Religion		
Christian	89	44.5
Muslim	111	55.5
Total	**200**	**100.0**

Table 1 revealed that out of the 200 respondents that participated in the study, 97 (48.5% of the respondents) were male, while 103 (51.5% of the respondents) were female. This implies that there were more female respondents than male respondents in this study. Also, out of the 200 respondents that participated in the study, 57(28.5% of the respondents) were between the ages 13 – 15 years, while 143 (71.5% of the respondents) were between the ages 16-18 years. This shows that the majority of the respondents in this study were between the ages 16-18 years. Furthermore, since SSS II is the target population of the study, therefore the sample were 200 (100.0%) respondents that participated in the study. More so, out of the 200 respondents that participated in the study, 89 (44.5% of the respondents) were Christians while 111 (55.5% of the respondents) were Muslims. This implies that there were more respondents that were Muslims than Christians in this study.

Research Question 1: *What are the causes of examination malpractice of secondary schools in Kwara State?*

Table 2: **Ranking Order of causes of examination malpractice secondary schools in Kwara State**

S/N	Items	Mean	Ranking
2.	High pressure for certificate causes examination malpractice	3.32	1st.
7.	lack of preparation or in-adequate preparation for examination by students causes examination malpractice	3.23	2nd
10.	Negative peer influence causes students to engage in examination malpractice	3.10	3rd
1.	Fear of academic failure causes examination malpractice	2.72	4th
3.	Desire of parents to have their children in choice of professions they wish causes examination malpractice	2.70	5th
11.	High level of moral decadence causes examination malpractice	2.66	6th
4.	Pressure on students to pursue courses which they have no aptitude	2.65	7th
9.	inadequate of viable teaching materials/ equipment causes	2.57	8th

	examination malpractice		
8.	Ill-equipped library facilities causes examination malpractice	2.40	9th
6.	Poor teaching method adopted by teachers causes examination malpractice	2.31	10th
5.	Overcrowded of students in the classroom causes examination malpractice	2.27	11th

Source: Field Survey, 2022

Table 2 indicates that 200 respondents participated in this study. The major causes of examination malpractice as perceived by secondary school students in Kwara State was 'High pressure for certificate causes examination malpractice which has a mean score of 3.32 (1st), 'lack of preparation or in-adequate preparation for examination by students causes examination malpractice' which has a mean score of 3.23 (2nd), and 'Negative peer influence causes students to engage in examination malpractice' which has a mean score of 3.10 (3rd). Also, 'Fear of academic failure causes examination malpractice which have a mean score of 2.72 (4th). ' Desire of parents to have their children in choice of professions they wish causes examination malpractice' has a mean score of 2.70 (5th), 'High level of moral decadence causes examination malpractice' which has a mean score of 2.66 (6th), Pressure on students to pursue courses which they have no aptitude' has a mean score of 2.65 (7th) and inadequate of viable teaching materials/ equipment causes examination malpractice has a mean score of 2.57 (8th) while other statements have a mean score that below the 2.50 benchmark.

Research Question 2: *What are the consequences of examination malpractice of secondary schools in Kwara State?*

Table 3: Ranking Order of Consequences of Examination Malpractice of secondary schools in Kwara State

S/N	Items	Mean	Ranking
7	It renders the goals of education invalid	3.39	1st.
3	It leads to lack of self-confidence on the obtained certificate	3.26	2nd
6	It deprives innocent student from due recognition academically	2.95	3rd
5	It discourages of good students from studying hard	2.89	4th
2	It produces candidates with low morale and academic values	2.67	5th
1	It increases lack of academic confidence among students	2.60	6th
4	It causes a lot of embarrassment for those who are caught	2.55	7th

Source*: Field Survey, 2022

Table 3 indicates that 200 respondents participated in this study. The main consequences of examination malpractice as perceived by secondary school students in Kwara State was that 'It renders the goals of education invalid' which has a mean score of 3.39 (1st), It leads to lack of self-confidence on the obtained certificate' has a mean score of 3.26 (2nd), It deprives innocent student from due recognition academically' has a mean score of 2.95 (3rd), 'It discourages of good students from studying hard' has a mean score of 2.89 (4th), 'It produces candidates with low morale and academic values' has a mean score of 2.67 (5th), 'It increases lack of academic confidence among students' has a mean score of 2.60 (6th), 'It causes a lot of embarrassment for those who are caught' has

a mean score of 2.55 (7th), and 'It leads to dissatisfaction on the part of the candidates' has a mean score of 2.50 (8th).

Hypotheses Testing

Research Hypothesis One:

There is no significant difference in the causes of examination malpractice of secondary school students in Kwara State based on gender.

Table 4: **Mean, Standard Deviation and t-test Analysis of Difference in the Causes of Examination Malpractice of secondary schools in Kwara State based on Gender**

Gender	N	Mean	SD	Df	T-cal	Sig. (2-tailed)	Decision
Male	97	37.61	10.79				
				198	1.65	1.98	Not rejected
Female	103	39.39	11.43				

P>0.05

As shown on Table 4, male respondents had a mean score of 37.61 with a standard deviation of 10.79, while female respondents had mean score of 39.39 with a standard deviation of 11.43. The calculated t-value was 1.65, while its calculated significance value was 0.11of df 198 at alpha level of 0.05. On this basis, null hypothesis one was therefore not rejected. This means that there was no significant difference in the causes of examination malpractice as perceived by secondary school students in Kwara State based on gender. The reason was that the calculated significance value (0.11) was greater than 0.05 level ($\rho > 0.05$).

Research Hypothesis Two: *There is no significant difference in the consequences of examination malpractice of secondary schools in Kwara State based on gender.*

Table 5: **Mean, Standard Deviation and t-test Analysis of Difference in the Consequences of Examination Malpractice of secondary schools in Kwara State Based on Gender**

Gender	N	Mean	SD	Df	T-cal	Sig. (2-tailed)	Decision
Male	97	15.18	2.99				
				198	0.11	0.92	Not Rejected
Female	103	15.15	3.33				

P>0.0

As shown on Table 5, male respondents had a mean score of 15.18 with a standard deviation of 2.99, while female respondents had a mean score of 15.15 with a standard deviation of 3.33. The calculated t-value was 0.11, while its calculated significance value was 0.92 of df 2/538 at alpha level of 0.05. On this basis, null hypothesis two was therefore not rejected. This means that there was no significant difference in the consequences of examination malpractice as perceived by secondary school students in

Kwara State based on gender. The reason was that the calculated significance value (0.92) was greater than 0.05 level (ρ> 0.05).

Discussion

This study examined causes and consequences of examination malpractice of secondary school students in Kwara State. From the analysis presented, the following discussions of the findings were made.

Research Question one study revealed that the major causes of examination malpractice of secondary school in Kwara State include high pressure for certificate causes examination malpractice, 'lack of preparation or in-adequate preparation for examination by students causes examination malpractice', and 'Negative peer influence causes students to engage in examination malpractice', Also, 'Fear of academic failure causes examination malpractice. Desire of parents to have their children in choice of professions they wish causes examination malpractice, 'High level of moral decadence causes examination malpractice, Pressure on students to pursue courses which they have no aptitude' and inadequate of viable teaching materials/ equipment causes examination malpractice. This finding supports that of Okon and Adie (2016) who in their studies reported that an array of factors were responsible for examination malpractice in Nigeria which included what most respondents called the "wrong value system which leads to serious quests for certification instead of knowledge and skills", These factors included laziness, a lack of preparation or in-adequate preparation for the examination, a lack of self-confidence, poor school facilities, poor invigilation, and weak parental factors.

Research Question two revealed that the main consequences of examination malpractice of secondary schools in Kwara State was that 'It renders the goals of education invalid, It leads to lack of self-confidence on the obtained certificate, It deprives innocent student from due recognition academically', 'It discourages of good students from studying hard', 'It produces candidates with low morale and academic values', 'It increases lack of academic confidence among students', 'It causes a lot of embarrassment for those who are caught', and 'It leads to dissatisfaction on the part of the candidates. This finding is congruent with that of Uzoigwe (2015) and Okon and Adie (2016) who found that candidates/students who would ordinarily be working hard to pass their examinations now depend on quick arrangements since they believe so much in such arrangements as they rarely failed.

Research Hypothesis One revealed that there was no significant difference in the causes of examination malpractice of secondary schools in Kwara State based on gender. This finding is congruent with that of Emaikwu (2017) and Petters and Okon (2018) who reported that there was no significant difference in the male and female causes of examination malpractice in secondary schools in Nigeria. More so, it found that perceptions of teachers do not differ on the causes and effect of examination malpractice in senior secondary in Enugu State based on gender.

Research Hypothesis two revealed that there was no significant difference in the consequences of examination malpractice of secondary schools in Kwara State based on gender based on age. This finding corroborates with that of George and Ukpong (2018) found that consequences of Examination malpractices breed unqualified and unskillful

product of the school system and lowers the standard of education certificate in a country. It also paints the country or state in bad light to external communities.

Conclusion

Based on the findings of this study, it was concluded that there is existing of examination malpractice and consequences as perceived by secondary school students in Kwara State, the causes include the followings high pressure for certificate causes examination malpractice, 'lack of preparation or in-adequate preparation for examination by students causes examination malpractice', and 'Negative peer influence causes students to engage in examination malpractice', Also, 'Fear of academic failure causes examination malpractice. Desire of parents to have their children in choice of professions they wish causes examination malpractice, 'high level of moral decadence. Also, examination malpractice has the followings consequences it renders the goals of education invalid, It leads to lack of self-confidence on the obtained certificate, It deprives innocent student from due recognition academically', 'It discourages of good students from studying hard', 'It produces candidates with low morale and academic values', 'It increases lack of academic confidence among students', 'It causes a lot of embarrassment for those who are caught', and 'It leads to dissatisfaction on the part of the candidates. There was no significant difference in the causes and consequences of examination malpractice as perceived by secondary school students in Kwara State based on gender.

Recommendations

The following recommendations were made based on the findings of the study.

1. Sound educational policy should be put in place with de-emphasis on the supremacy of certificates over skills and professional competence.
2. Religious and community leaders should be used to intervene on parents who insist on their children getting the best result without genuine efforts for it.
3. School teachers should be motivated and remunerated adequately and learning environment made friendly so that they can do their work satisfactorily and cover the syllabus before examinations.
4. Education officers and school heads through the school counsellor should intensify sensitisations to learners on the dangers and consequences of engaging in examination malpractices. Learners should be made to understand the effects of examination malpractice before the commencement of examinations so as to reduce the likelihood of engaging in examination malpractice.

References

Adegboyega, L. O., Okesina, F. A. & Jacob, O. A. (2017*). Family relationship and bullying behaviour among students with disabilities in Ogbomoso, Nigeria. International Journal of Instruction,* **10** (3): 241-256.

Akanni, O. O., & Odofin, B. (2015). Reducing Examination Malpractices in Nigerian Schools through Effective Continuous Assessment (C. A.) Techniques as an Alternative to One-Shot Examination in Osun State, Nigeria. *American Journal of Educational Research*, **2** (1): 91 – 101

Akaranga, S. I., & Ongong, J. J. (2018). *The phenomenon of Examination Malpractice: An Example of Nairobi and Kenyatta Universities*. Journal of Education and Practice, **4** (18): 87 – 96

Alutu, A. N. G. and Aluede, O. (2016), "Secondary school students' perception of examination malpractices and examination ethics". *Journal of human ecology, India*: Kamlar-Raj Enterprises, **20** (4).

Anzene, S. J. (2019). Trends in Examination Malpractice in Nigerian Educational System and its Effects on the Socio-Economic Development of Nigeria. *Asian Journal of Humanities and Social Sciences*, **2** (3): 1 – 8

Awanbor, D. (2020). "Credentialing process in the Nigerian educational system". Keynote Address Presented at the First Annual Conference of the Faculty of Education, Ambrose Alli University, Ekpoma

Ejimogu, A. (2020). Decentralization as panacea for Nigeria's education misadventure, A paper presented at the annual conference of Nigerian Association for Educational Administration and Planning (NAEAP) at University of Ibadan, Ibadan, 29th -31st October.

Emaikwu, S. O. (2017). Assessing the Impact of Examination Malpractices on the Measurement of Ability in Nigeria. *International Journal of Social Sciences & Education,* **2** (4): 748 – 757

Federal Republic of Nigeria (1999). *Examination malpractice act, Lagos: Government Press*

George, I. N., & Ukpong, D. E. (2013). Contemporary Social Problems in Nigeria and its Impact on National Development: Implication for Guidance and Counselling Services. *Journal of Educational and Social Research*, **3** (2): 167 – 173

Idahosa, M.C (2019). *Perceived Causes of Malpractice in Public Examinations by Fresh Students of St. Augustine's College of Education, Akoka Lagos*, from http://www.academicjournals.org/IJPC/pdf/

Jimoh, B. O. (2019). Examination Malpractice in Secondary Schools in Nigeria: What sustains it? European Journal of Educational Studies, **1** (3): 101 – 108

Nnam, M. U., & Inah, A. F. (2015). Empirical Investigation into the Causes, Forms and Consequences of Examination Malpractice in Nigerian Institutions of Higher Learning. *International Journal of Novel Research in Humanity and Social Sciences*, **2** (1): 52 – 62

Nwadiani, M. (2015). "Curbing examination malpractice in the Nigerian educational system. A lead paper presented at the First Annual Conference of the Faculty of Education, Ambrose Alli University, Ekpoma.

Ojonemi, P. S., Enejoh, W., Enejoh, A., & Olatunmibi, O. (2018). Examination Malpractice: Challenges to Human Resource Development in Nigeria. *International Journal of Capacity Building in Education and Management*, **2** (1): 91 – 101

Okon, S. U. & Adie, R. I. (2016). Examination malpractice: Causes, effects and possible ways of curbing the menace. A study of Cross River University of Technology. *International Journal of Managerial Studies and Research (IJMSR)*, **4** (1): 59-65, ISSN2349-0330 PRINT&ISSN 2349-0349 onlinewww.arcjournal.orgOnuka

Petters, J. S., & Okon, M. O. (2018). Students' Perception of Causes and Effects of Examination Malpractice in the Nigerian Educational System: The Way Forward for Quality Education. Retrieved from www.sciencedirect.com/science/article

The CWO Voice (06/04/2015). Exam Malpractice: Implication for National Development. *Retrieved from http://news2.onlinenigeria.com/-exam-malpractice--for-national development*

Uzoigwe, G. O. (2015). *Corruption in Education and Assessment Systems: The WAEC Experience in Nigeria. Retrieved from www.iaea.info/documents/paper.pdf*

TEACHERS' PARTICIPATION IN SCHOOL MANAGEMENT AND JOB SATISFACTION AMONG SENIOR SECONDARY SCHOOLS IN ILORIN METROPOLIS, KWARA STATE

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Abstract

One major goal of educational management today is effective utilization of teachers in achieving the goals of education. This study investigated teachers' participation in school management and job satisfaction among senior secondary schools in Ilorin Metropolis, Kwara State. Descriptive survey research design was used in the study. Two hundred principals and teachers were randomly selected from sampled schools. A researcher-designed instrument titled: "Teachers' Participation in School Management and Job Satisfaction Questionnaire " (TPSMJSQ) was used to obtain relevant data. The reliability and validity of the instrument was conducted. Two research questions and one hypothesis guided the study. Descriptive statistic of mean rating was used to answer the research questions, while inferential statistic Pearson product-moment correlation was used to test the research hypothesis at 0.05 level of significance. Finding indicated that a positive significant relationship existed between teachers' participation in school management and job satisfaction among senior secondary schools in Ilorin Metropolis of Kwara State. Part of the recommendations stated that teachers should be given more opportunities by their principals to be involved in school management in order to maximally contribute their quotas towards attainment of school goals and objectives.

Keywords: Teachers' participation, School management, Job satisfaction

Introduction

The responsibility of managing the school cannot be left in the hand of the principal alone without involving other personnel such as the teachers. The worth of any educational sector depends on the quality of its human resources. The teachers in senior secondary schools in Ilorin Metropolis are agents of change upon which attainment of educational goals and objectives rests upon. The involvement of teachers in school management is important because this will assist the school principals in planning, leading, directing and a number of other activities in order to achieve efficient and effective utilization of human and non-human resources (Akinnubi, 2021). Teachers' role in school administration is vital component, their general duty is the classroom instruction but aside their main teaching schedule teachers have to perform many other duties to support the administrative process of school. The duties of teachers change based on time, place and management. The successful working of school depends upon the administration for which there should be suitable environment for teachers' participation in it. This participation can influence the administrative functions of school.

The principal performs series of professional duties that include inspection of school records, curriculum planning and development, programme planning for the session, examination function, recruitment and development of teachers, provision of facilities, budgeting function to perform the virtue of his position in the school system. The principals are saddled with the administrative duties that include students' welfare, staff's welfare, regular meeting with staff and other bodies, public relations function, clerical functions, maintenance of school facilities, staff and students" discipline. It is apparent that, the principal alone cannot successfully carry out all the aforementioned duties without embracing the idea of teachers' decisional participation and delegation of duties within the staff that surround him. The principals are the chief accounting officer of the schools. They are accountable for everything that happens to the live and properties on ground in the school environment (Ayegbusi, & Ogunlade, 2020).

According to Olaleye (2013), the qualities of school personnel are vital to the operative of good schools thereby leading to their job satisfaction. Teachers not being satisfaction on their job could be traced to their non-involvement in school administration and planning which often lower their morale on the job. Migration of teachers from the teaching profession in the recent past could be as a result of their not being satisfied on the job. Job satisfaction goes in line with evaluation of people's job against issues that matters to them since emotions and feelings are involved in such assessments, employees' levels of job satisfaction may impact significantly on their personal, social and work lives, and as such, also influence their behaviour at work (Rieger & Roodt, 2012).

Rynes (2014) affirmed that one of the main elements in human resources management is measuring employee satisfaction, whereby organizations must ensure that employees are highly satisfied because it is a requirement for increasing productivity, responsiveness, quality, and attitudes towards parties. The success of each organization is indissolubly linked to employee satisfaction, which is equated with the organization and the preservation of those gifted employees. Satisfied employees can launch a chain of positive steps, which can have a great impact on improving the organizational work (Heskett, Jones, Loveman, Sasser & Schlesinger, 2014).

Teachers satisfaction is positively related to motivation, dedication, organizational behaviour, belonging, productivity and has a positive impact on satisfaction with life and social health (Judge, 2013). Employee satisfaction is usually described as satisfaction or well-being, which the employee receives based on his or her work. Employee satisfaction is recognized as one of the most important factors affecting the quality of services rendered, productivity and loyalty of employees. Satisfied workers work better, they are better motivated and have higher moral (Sekaran & Bougie, 2016). Employee satisfaction is not just a goal for itself but it is also happy worker is a productive worker. Job satisfaction can affect the level of commitment, fluctuation and financial earnings of the organization, as well as it can affect the level of performance, the readiness of employees to engage in problem-solving activities, and the intensity of effort that worker makes (Heskett, *et al*., 2014).

There is no gain saying the fact that involvement of teachers in school management will lessen the burden of activities of the school principals thereby resulting to teachers job satisfaction. Educational leaders should promote forms of participation in decision making that increase teachers' actual involvement in decisions concerning their duties and opportunities for development and also provide for more sharing on issues

concerning the school management. Teachers' participation in school administration is advantageous to the provision of good education. It is justified not only because of what it does for the staff but also because experience and research justify it to be the most effective means available to accomplish the purposes to which the schools are organized. The successful working of school depends upon the administration for which there should be suitable environment for teachers' participation in it. Hence, the influence of teachers' participation in school management on job satisfaction in senior secondary schools in Ilorin metropolis, Kwara State were succinctly investigated.

Management of secondary schools in Ilorin Metropolis of Kwara State has not been effective as teachers are being neglected in some aspects of the school activities. The teachers are the implementers of the curriculum. Their partial involvement in school administration and planning often leads to their not being satisfied on their job. Some of the principals are not too comfortable delegating authority to the teachers which often debar attainment of school goals and objectives.

Efficient and effective utilisation of both human and material resources in the school system in order to attain predetermined goals cannot be handled alone by the principals without involving the teachers. This aforementioned statement creates conflict between the principals and the teachers in senior secondary schools in Ilorin Metropolis of Kwara State. Akinnubi (2015) submitted that ineffective coordination and involvement of teachers in major school activities could lead to dissatisfaction on their job and this is not too good for the system.

Research Questions

The following research questions guided the study:

i.   What is the level of teachers' participation in school management among senior secondary schools in Ilorin metropolis, Kwara state?
ii.   What is the level of teachers' job satisfaction among senior secondary schools in Ilorin metropolis, Kwara State?

Research Hypothesis

Ho: There is no significant relationship between teachers' participation in school management and job satisfaction among senior secondary schools in Ilorin metropolis of Kwara State.

Methodology

The research design for this study was descriptive survey of correlational type. This research design allowed the researcher to make accurate record of the situation as it existed on the study variables. The population for the study comprised all the senior secondary schools, principals and teachers in Ilorin Metropolis-Ilorin-West, Ilorin-South, Ilorin-East and Asa Local Government Areas. Two hundred participants (Principals-20 and teachers-180) were randomly selected from the sampled schools. A researcher-designed instrument titled: "Teachers' Participation in School Management and Job Satisfaction Questionnaire " (TPSMJSQ) was used to obtain relevant data. The instrument was validated by experts in Educational Management and Educational Test and

Measurement. The reliability of the instrument was determined through test re-test reliability method and a coefficient of 0.89 was obtained. Thus, the instrument was adjudged reliable for the conduct of the study. The instrument was administered on the participants by the researcher and Four trained research assistants who were teachers in the sampled schools. Descriptive statistic of mean rating (Mean: Low=0.00-2.49 and High=2.50-4.00) was used to answer the research questions, while inferential statistic of Pearson product-moment correlation statistic was used to test the research hypothesis formulated in the study at 0.05 level of significance.

Results

Research Question One: What is the level of teachers' participation in school management among senior secondary schools in Ilorin metropolis, Kwara State?

Data obtained on the level of teachers' participation in school management among senior secondary schools in Ilorin metropolis, Kwara State were analysed and presented in Table 1.

Table 1: **Teachers' participation in school management among senior secondary schools n=200**

N	ITEMS	SA	A	D	SD	Mean	Remarks
1	I am involved in Time-Table planning	13	74	96	17	2.42	Low
2	I am assigned as school game master and mistress	24	110	54	12	2.73	High
3	I participate in the conduct of school examination.	65	126	7	2	3.27	High
4	I am involved in registration of students for external examinations.	15	76	98	11	2.48	Low
5	I represent my principals in meetings outside the school.	6	21	150	23	2.05	Low
6	I coordinate the school assembly	32	131	34	3	2.96	High
7	I participate in decision making.	11	76	43	70	2.14	Low
8	I supervise the lesson notes of teachers in my subject.	15	65	109	11	2.42	Low
9	I am involved in procurement of items to the school.	6	32	128	34	2.05	Low
10	I am involved in management of the school funds	20	65	88	27	2.39	Low
	Overall Mean					**2.49**	**Low**

Table 1 indicates that the level of teachers' participation in school management was low with overall mean of 2.49 points. It further revealed that teachers' participation was high in games, conduct of examinations and coordination of school assembly with mean values of 2.73, 3.27 and 2.96, respectively.

Research Question 2: What is the level of teachers' job satisfaction among senior secondary schools in Ilorin metropolis, Kwara State?

Data obtained on the level of teachers' job satisfaction among senior secondary schools were analysed and presented in Table 2.

Table 2:   Level of teachers' job satisfaction in senior secondary schools n=200

N	Items	SA	A	D	SD	Mean	Remarks
1	I like my current job	65	109	19	7	3.16	High
2	I am clear about my career direction and life purpose	34	120	43	3	2.93	High
3	It is easy for me to set goals for myself	85	111	3	1	3.40	High
4	I have no fear about changing job	23	107	65	5	2.74	High
5	I think of myself as a successful person	24	129	23	24	2.77	High
6	I have high self-esteem	87	110	3	0	3.42	High
7	My work environment meets all my needs	8	64	108	20	2.30	High
8	I am passionate about teaching	47	109	34	10	2.97	High
9	I am motivated to teach effectively	45	131	13	11	3.05	High
10	I am fulfilled as a teacher	66	127	4	3	3.28	High
11	I enjoy nearly all the tasks I perform at my work	32	154	11	3	3.08	High
12	My teaching job allows me to satisfy my personal values in life	22	163	10	5	3.01	High
13	My job did not affect my matrimonial home	33	162	3	2	3.13	High
14	I am proud to be a teacher	23	171	4	2	3.08	High
15	Teaching is the best work	10	113	45	32	2.21	Low
	Overall Mean					**2.97**	**High**

As shown in Table 2, the level of teachers' job satisfaction in senior secondary schools was high with mean value of 2.97 points. However,level of teachers' job satisfaction was low in "teaching is the best work" with mean value of 2.21 points.

Testing of Research Hypothesis

Ho: There is no significant relationship between teachers' participation in school management and job satisfaction among senior secondary schools in Ilorin metropolis of Kwara State.

Table 3:   Correlational matrices of Teachers' participation in school management and job satisfaction Correlations

		Teachers' Participation in School Management	Job Satisfaction
Teachers' Participation in School Management	Pearson Correlation	1	.781[**]
	Sig. (2-tailed)		.000
	N	200	200
Job Satisfaction	Pearson Correlation	.781[**]	1
	Sig. (2-tailed)	.000	
	N	200	200

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

From Table 3, the calculated p-value (0.000) is less than the set p-value (0.05) at 198 degrees of freedom. Thus, the null hypothesis, which states that there is no significant relationship between teachers' participation in school management and job satisfaction in senior secondary schools in Ilorin metropolis of Kwara State was rejected. This implies that there was a significant relationship between teachers' participation in school management and their job satisfaction in senior secondary schools in Ilorin metropolis of Kwara State.

Discussion of Findings

The level of teachers' participation in school management in senior secondary schools in Ilorin metropolis of Kwara State was low with mean of 2.49 points. The principal alone cannot actualise the school's aims, goals and objectives without involving the teachers in day-to-day activities of the school. Conduct of examination, assembly, decision-making and procurement of items to the school cannot be handled alone by the school principal. Thus, participation of teachers in school management remains a sine quo non. The level of teachers' job satisfaction in senior secondary schools in Ilorin metropolis of Kwara State was high with mean value of 2.97 points. A positive significant relationship existed between teachers' participation in school management and their job satisfaction in senior secondary schools in Ilorin metropolis, Kwara state.

Adeniyi (2000) opined that it benefits the manager to involve staff in decision making on fiancés of the school as this would be more beneficial to the school in all ramifications. Furthermore, the result of the current study supported other researchers in the field, such as (Adeniyi, 2000) who concluded that there was a significant relationship between leadership styles and lecturers' job satisfaction. Hameed, Ramzan, Zubair, Ali and Arslan (2014) conducted a study and found out that transformational leadership has a positive relationship with employees' job satisfaction, which also concurred well with the present study. Akinnubi's (2021) found out that effective utilisation of available human resources within the school system will make them maximally contribute their quotas towards attainment of predetermined goals and objectives. That delegation of authority and responsibility to subordinates will greatly lead to commitment as well as job satisfaction.

Conclusion

The level of teachers' participation in school management was low and their job satisfaction was high in senior secondary schools in Ilorin metropolis, Kwara State. A positive significant relationship existed between teachers' participation in school management and their job satisfaction in senior secondary schools in Ilorin metropolis of Kwara State. Teachers' decisional participation in all variables of school management positively induces their level of job satisfaction. Better participation of teachers in school management variables such as school financial management, conflict resolution examination matters, staff welfare, disciplinary matters, school academic and co-curricular activities would positively enhance the teachers level of commitment because it will no doubt lead to high level of their job satisfaction. It is noteworthy that the variables of working conditions, student- teachers' relationships and teachers – principals" relationship would help to induce the level of teachers' job satisfaction.

Recommendations

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

1. Teachers should be given more opportunities by their principals to be involved in school management in order to maximally contribute their quotas towards attainment of school goals and objectives.
2. Principals should pay more attention to teachers' job satisfaction in their schools. A good environment should be created to ensure that teaching profession does not affect matrimonial homes of teachers. That high self-esteem is maintained among the teachers.

References

Adeniyi E. O. (2000). *Participatory management, job satisfaction and commitment among secondary school teachers in Ogun State, Nigeria.* Unpublished Ph.D. Thesis, University of Ibadan.

Akinnubi, O. P. (2015). Human resource management of teaching profession in Nigeria: Challenges and prospects. *Entrepreneurial Journal of Management Sciences (EJMS),* **4**: (1): 172-184.

Akinnubi, O. P. (2021). Assessment of human resource management during COVID-19 pandemic in private universities in Kwara State, Nigeria. *Skyline Business Journal (SBJ),* **8** (2): 33-34.

Ayegbusi, E. T. & Ogunlade, L. A. (2020). Teachers' decisional participation and job satisfaction in secondary schools in Ekiti State, Nigeria. *International Journal of Educational Administration and Policy Studies,* **12** (1): 1-11.

Hameed, A., Ramzan, M., Zubair, H. M. K., Ali, G. & Arslan, M. (2014). Impact of compensation on employee performance (Empirical evidence from banking sector of pakistan). *International Journal of Business and Social Science.* **5** (2): 302-309

Heskett W.T., Jones O.O., Loveman I.B., Sasser L.P., & Schlesinger Q.P. (2014). *Principles of Self-regulation: The Nature of will power and self-control. In: Higgins, Social Psychology: Handbook of Basic Principles*. Guilford Press, New York.

Judge A.N. (2013). Motivational determinants of risk-taking behaviour in Urban und Schwarzenberg, Berlin. *Psychological Review*, **64**: 359–372.

Olaleye, F. O. (2013). Improving teacher performance competency through effective human resource practices in Ekiti State secondary schools. *Singaporean Journal of Business Economics and Management Studies,* **1** (11): 125-132.

Rieger Y. P. & Roodt, R.U. (2012). *Motivation and Action Value from Hedonic Experience and Engagement. Psychological Review,* **113**: 439–460.

Rynes N. P. (2014). Benchmarking the Motivational Competencies of Academically Qualified Teachers and Professionally Qualified Teachers in Nigerian Secondary Schools. *The African Symposium*, **5** (3): 17-34.

Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. John Wiley & Sons.

INTEGRATING INTERACTIVE VIDEO TECHNOLOGY FOR MITIGATING EFFECT OF COVID 19 ON UNIVERSITY EDUCATION IN NIGERIA

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Abstract

Interactive Video Platform is one of the emerging educational technologies that encourages self-assessment and facilitates teaching and learning process in Nigeria Universities. The need for more training of educators in the emerging technology to adapt to fast changing education system on the use of e-learning and virtual education in the post-pandemic era, has become very imperative and an integral part of the University system. This paper therefore examined the impact of Covid-19 pandemic on the educational system and the need to embrace emerging educational technology for effective teaching and learning in Nigeria Universities. Also, the paper explained emerging technology, interactive video platform and identified the relevance of emerging technologies; impact, importance and challenges of interactive video platforms in the era of Covid-19 pandemic for effective teaching and learning. Conclusively, the application of emerging educational technologies was found to be very essential to university educational system where lecturers are expected to prove their expertise by addressing the learning challenges of the students. The paper suggested that lecturers should be trained to manage the educational changes as a result of emerging technology. Government should provide the needed emerging educational technology tools to facilitate teaching and learning in Nigeria Universities.

Keywords: Covid-19 Pandemic, integrate, emerging technology, interactive video platform, University system.

Introduction

The necessity of education to the growth and development of any nation cannot be over emphasized. Education brings about innovations and creativity which are achieved through educational technology. Ngozi and Abolo (2017) opined that educational technologies are the effective use of technological gadgets such as media and networking hardware including audio, images, animation, adaptive learning, streaming and interactive video platforms to facilitate learning in educational system. One of the emerging educational technologies that encourages self-assessment and facilitates teaching and learning process in Nigeria Universities is Interactive Video Platform. According to Aboyeji (2014) interactive video platform is an educational process that guarantees that practical skills are taught using video to enhance effective teaching and learning. This means that interactive video platform facilitate instruction process, encouraged students to developed proficiency and have control over the process of learning.

Moreover, Olagundoye and Omoluwa, (2020) stated that emerging educational technologies enables educators to develop the knowledge, skills and expertise needed to

address the learning challenges of the students. This implies that emerging educational technologies provides new creative ways to lecturers to motivate and engage students to attain their educational potentials. Also, emerging educational technologies enhances access to variety of learning resources which encourages collaborative learning and facilitates e-learning and interactive video platforms in Nigeria universities system especially in the era of Covid-19 pandemic.

Covid-19 pandemic has caused a huge interruption in the educational system in Nigeria and the world at large. According to World Health Organization (WHO), Coronavirus disease (Covid-19) is an infectious disease caused by a newly discovered Coronavirus. It is referred to as illness caused by a novel coronavirus called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; formerly called 2019-nCoV). The virus was first identified amid an outbreak of respiratory illness cases in Wuham City, Hubei Province, China. It was at first reported to the WHO on December 31, 2019 and on January 30, 2020; the WHO declared the Covid-19 outbreak a global health emergency. Subsequently, on March 11, 2020, the WHO declared Covid-19 a global pandemic.

As the global pandemic caused by Covid-19 continues to spread, university system was disrupted. However, the Federal Ministry of Education, (in collaboration with its departments and agencies [MDAs], development partners, the Education in Emergencies Working Group in Nigeria (EiEWGN), and the Nigeria Education Group [NEG]), have developed a Nigeria Education Sector Covid-19 Response Strategy. The strategy sets out the framework for comprehensive and coordinated actions to alleviate the Covid-19 pandemic's immediate, medium, and long-term impact on the nation's education especially university system.

Moreover, as part of measures to curtail the impact of Covid-19 in Nigeria, the Federal Ministry of Education, through the permanent Secretary in the Ministry, on March 19th,2020 ordered the immediate closure of tertiary institutions, Secondary and Primary Schools across Nigeria. However, after several considerations by the Federal Government, on October 12th 2020, the Nigeria Ministry of Education ordered all Schools to reopen; mandating that stakeholders of schools must adhere to guideline and safety protocols provided by the Nigeria Centre for Disease Control (NCDC) which includes; maintenance of social distance, regulation on personal hygiene, use of nose mask, regular washing of hands with running water, use of an alcohol-based sanitizer, avoidance of touching of eyes, nose or mouth, covering of nose and mouth with one's bent elbow or tissue when coughing or sneezing, use of thermometer infrareds to check the temperature of University authorities, staff and students daily.

Notwithstanding the ways of providing solutions to this pandemic, University authorities have a responsibility to develop upon existing safety protocols to protect lecturers and students while remaining in compliance with the said guidelines by the Federal, State and Local Governments in Nigeria. These protocols have to drive training to ensure that everyone in University system is on the same page, actively taking ownership of personal and collective Covid-19 practices.

In other words, to effectively achieve the goals of continuous impartation of knowledge to students without person to person contact as obtainable in the conventional classroom situation in Covid-19 era, the need to embrace Interactive Video Platform for effective teaching and learning in University system in Nigeria becomes very imperative. It is

based on the above; the paper examined the impact of Covid-19 Pandemic and the need to embrace emerging technology for effective teaching and learning in Nigeria Universities.

Impact of Covid-19 on University Education in Nigeria

Covid-19 Pandemic had a devastating impact on University Education and has exposed the shortcomings of current education system. The need for more training of lecturers in emerging technology to adapt to fast changing education system has become very imperative. In the post-pandemic situation, the use of e-learning and virtual education may become an essential part of the University system. According to Khan (2020) to ensure the success of the virtual teaching method, lecturers are to acquire the requisite skills, knowledge and competence for online or interactive video teaching and learning. The shift from face-to-face teaching method to the virtual method explains the necessity for training of lecturers to develop competence on virtual education.

Also, the mandatory imposition of guideline and safety protocols provided by the Nigeria Centre for Disease Control (NCDC) which is alien and has become a new normal have contributed to the educational impediment of the Nigeria Universities. The guideline and safety protocols includes; maintenance of social distance, regulation on personal hygiene, use of nose mask, regular washing of hands with running water, use of an alcohol-based sanitizer, avoidance of touching of eyes, nose or mouth, covering of nose and mouth with one's bent elbow or tissue when coughing or sneezing, use of thermometer infrareds to check the temperature of University authorities, staff and students daily. According to Bania and Banerjee(2020) Covid-19 pandemic brought about preventing measures like maintaining physical distance and ban on public gathering which have led to the suspension of large classes and cancellation of academic activities like seminars, conferences etc. thereby causing educational tension in the Universities.

Another issue is centred on the possibilities of non-availability of electricity to run the online or interactive video programme during online teaching and learning process. This is in agreement with Miller (2016) who argued that technology might simply fail due to non-availability of electricity to run online teaching and learning programs. This explains that running videos, audios and programs on online mode and integration with the learning management system of the university might result in problems on the virtual platform.

Moreover, the sudden shift from classroom teaching and learning process to digital learning due to Covid-19 pandemic has caused a very serious impact on the access to technical infrastructure, competencies and methods used in interactive video teaching and learning process. According to Bania and Banerjee(2020) online or interactive video classes require long hours of internet service, peaceful space and one device/ phone dedicated to each student in a family, which might not be affordable for everyone. This by implication has created the digital divide between rich and poor and has raised new barriers for many students with disabilities, low-income and poor backgrounds, threatening their access to education.

More so, in a face-to-face environment, students get an opportunity to interact with their lecturers and colleagues in a classroom. Meetings with lecturers, classroom debates and discussions promote social connectedness among lecturers and students. On like the online or interactive video platforms where there is no connectedness. Thus, online

interactive video learning needs to accommodate the aspects of social connectedness in the university program design. According to Miller (2016), encouraging of cooperation and student connections is two of the principles that need to be taken into consideration in virtual education. Access to online libraries, books, journals should be created to promote remote teaching and learning since regular classes has been shifted to virtual mode of education.

Relevance of Emerging Technologies on University Education in Covid-19 era

Emerging educational technologies are crucial tools needed for learning and acquisition of skills for total development of the students. According to Olagundoye and Omoluwa (2020) emerging educational technologies enables educators to develop the knowledge, skills and expertise needed to address the learning challenges of the students. This entails that emerging educational technologies helped to empower academic staff to developed capability in effective teaching. Emerging Educational Technologies provides new creative ways of motivating and engaging students to attain their educational capacity very easily and also enhances access to variety of learning resources which encourages collaborative learning and facilitates distance education.

Interactive video platform is one of the emerging educational technologies that help in instructional delivery in Nigerian Universities especially in Covid-19 era. Interactive video platform provides easy methodology for students' comprehension, knowledge internalization and flexible instructional delivery. In the words of Etejere (2016) flexible instructional delivery service comprise any kind of learning that take place through the internet access, e-learning and interactive video platforms which was designed to complement the traditional learning process that use traditional approach like, lecturer centred approach, indoctrination methods for the teaching and learning process. One basic process that enhance effective teaching and learning as well as offers students the opportunity to access information at ease unlike the traditional face-to-face classroom methods which counteract Covid-19 safety protocols is interactive video platform instructional package.

According to Clothier, (2013) the benefits of interactive-video instructional package are the ability for the learner to play, replay, pause and rewind to any precise segment of the tape. In addition, it assists the students to deliver technical training about the procedure of carrying out a particular experiment and testing their skills. This emphasized that lecturers can effectively use interactive-video instructional package as a high-quality medium to arrest and stimulate the interest of the students.

It is therefore very clear that the emerging educational technologies are very relevance to university education system especially where university lecturers are expected to prove their expertise by addressing the learning challenges of the students in Covid-19 era.

Concept of interactive Video platform

Interactive Video is a non-linear digital video technology that encouraged students to have video educational materials re-examine each segment of the video as many times as they wish. According to Aboyeji (2014) interactive video platform is an educational process that guarantees that practical skills are taught using video to enhance effective teaching and learning. This means that interactive video platform facilitate instruction

process, encouraged students to developed proficiency and have control over the process of learning.

The Impact of Interactive Videos in the Classroom

Lynch (2020) summarizes impacts of interactive videos in the classroom as follows:

i.   **Personalized learning experiences:** Interactive videos offer students a sense of user-control in a way that allows them to design and organize their virtual learning environment and experience. They can watch and learn from these videos at their own pace without pressure from lecturers or classmates. Also, they at all times have a choice to either jump to advance contents of the topic or stick to the given basics. Interactive videos focus more on self-directory and self-decision making.

ii.   **Accessible and flexible:** interactive videos offer convenience to students and lecturers. It serves as simulations, learning sets, and support aids for teaching and learning.

iii.   **Immersive and engaging:** Interactive videos are immersive and are designed to be engaging given that students can be inconsistent at times, especially the younger generation—their attention span can be very short. They are made with certain captivating and interesting styles for students who can catch their attention and motivate them to watch and listen. Although these videos only provide second-hand learning experiences, it's a fact that students can learn so much for them. Some concepts are too hard to explain and demonstrate, and thankfully, many interactive videos are there to assist lecturers in helping students understand.

iv.   **Stronger connections**: It may sound quite ironic with the lack of face-to-face interaction, but interactive videos create strong lecturers-students connections, including emotional and social. Given the ongoing crisis, there's much less connection between lecturers and students, and technology fills that void. Students are now able to have emotional and social support from lecturers through online learning. Many interactive videos are not just for teaching but also for inspiring.

The importance of Interactive Video Platform on University System in Covid-19 era

Interactive video platform facilitates teaching and learning in university system. It involves interacting with multimedia learning materials, hardware and video disk or video tape as software to deliver the instruction. Adamu (2020) recognized the importance of interactive video platform education because of the associated benefits such that, it has flexibility in accessing the class work at their own pace, easy as self-study, submission of assignment and easy teleconference, virtual classroom and students-lecturers interaction. This explains that Interactive video platform provides easy methodology for students' understanding and flexible instructional delivery.

According to Papadopoulou and Palaigeorgiou (2016) opined that interactive video is a non-linear, digital video technology that allows students to have their full attention to educational materials and to review each section of video as many times as they wish. This means that interactive-video instructional package illustrates any form of video technology that offers opportunity to students to have several levels of interaction between the package and learners. The benefits of interactive-video instructional package are the ability for the learner to play, replay, pause and rewind to any precise segment of the tape. Interactive videos offer participants a sense of user-control

in a way that allows them to design and organize their virtual learning environment and experience.

Murray (2017) outlined four primary importance of interactive video that make teaching and learning process very easy in school as follows:

i.   Interactive video works well on any device. Teaching and learning on interactive video can easily take place through the use of PC, phone or tablet instead of using real-time streaming media servers.
ii.   Interactive video permits user-driven decision-making and a sense of user control. This can enable a more personalized learning experience and greater choice for the Students. Videos can be structured to permit lectures and students to select roles. Lecturers and students can choose how deep they want to go with the content to be used in teaching and learning.
iii.   Interactive video can engage the students in the content, encourage participation and bailout students who are feeling slow and uninteresting or are passive in teaching and learning process.
iv.   Interactive video is fast, flexible and very versatile. Video can stand on its own online as a micro learning asset. It can serve as mini-simulations, or performance support aids. It also, provides cloud-based authoring tools that are user-friendly and require short ramp-up times.

According to Papadopoulou and Palaigeorgiou (2016), interactive-video guarantee productive learning experiences and encourage self-assessment, assist learners' interactions with learning materials in which learners are allowed to move at their own pace. This means that interactive-video offers opportunity to students to have several levels of interaction between the package and learners.
Moreover, Clothier (2013) stated that interactive-video instructional package allows lecturers to provide students with recurrence of crucial stages in the production of traditional pottery by playing and replaying the interactive-video. This allows for effective teaching because of its ability to cater for the individual differences of learners.

However, Schoeffmann, Hudelist, Huber (2015) classifies video interaction methods in the following categories: capabilities to explain, tag or label segments or objects in video, capabilities to interact together with other users in a coordinated way, to interact with individual objects in the video, to support navigation inside a video, to filter video content and to generate summarized view of the content.

Challenges to Interactive Video Platform

The challenges of Interactive Video Platform can be summarized according to Weli and Ohaegbu (2017) as technological challenges, legislative challenges, epileptic challenges, behavioural challenges, disjointed instructional use, integrated instructional use, transparent integration and faculty challenges.

Some universities see interactive video platform to be a challenge due to access to network or poor signal from service providers and quality of service expected by the lecturers and students. The way students and lecturers use the technology and the genuinely to the implementation might hinder success. Also, legislatures might fail to

grasp the benefits of bringing interactive video technology to education, thus neglecting essential investments.

In a situation where the power supply is regular or constant, the possibility of using self-generated power become a very high cost to the school system. Sometime, the video may go off due to low voltage or abrupt power off and may damage the equipment. Moreover, behaviours, attitudes, expertise, and preconceived ideas can be a challenge when adopting any new technologies or teaching methods. This happens when the instructor is able to work with the technology, but is still unable to integrate it with the instructional goals of the university.

Also, integrated instructional use is a situation when the lecturer is able to integrate the technology into the instructional plans of the university, with the technology driving the instructional plans. In transparent integration, the focus moves from technology to content and instructional strategies. At this stage, the technology becomes one of many tools used by the lecturer to accomplish the educational goals of the university. Some lecturers are reluctant to teach on a camera and feel at disadvantage together with their students regarding video technology as a replay of weaknesses. However, where lecturers do not appreciate the technologies, particularly if they believe on their intellectual property it becomes Faculty challenges.

Conclusion

Emerging educational technologies are very essential to university educational system where lecturers are expected to prove their expertise by addressing the learning challenges of the students. The application of interactive video platforms by lecturers helps to make teaching more practical rather than theoretical, provide easy methodology for students' comprehension and knowledge internalization.

More so, the challenges that go with interactive video platforms such as legislature and behavioural pattern of lecturers, students and the society at large should be positively tailored towards the achievement of the university objectives. This therefore, call for urgent need for a paradigm shift from traditional methods of teaching and learning to the contemporary use of interactive video teaching and learning methods in the university education system especially in Covid-19 era.

Recommendations

The paper made the following recommendations:

1. Lecturers should be trained to manage the educational changes as a result of emerging technology.
2. Government should provide the needed emerging educational technology tools to facilitate teaching and learning in Nigeria Universities.
3. There should be regular power supply that will enhance interactive video in the universities.
4. Stakeholders should give education the financial support to enable them equip instructional resources.
5. Instructional technologies should be maintained to a sure completion of their lifespan.

6.   Interactive video should be made available to the students to ensure effective teaching and learning process in the university.

References

Aboyeji, B. O. (2014). Comparative effectiveness of video and print instructional packages for teaching basic technology concepts in Nigerian schools. Unpublished (Doctorial Thesis) submitted to the Department of Educational Technology, University of Ilorin

Adamu, A. (2020) Schools reopen in Nigeria next week. *This day newspaper 10th June, 2020.*

Bania, J. & Banerjee (2020), impact of covid-19 pandemic on higher education. A critical Review. Retrieved from www.guninetwork.org/report/import-covid-19-pandemic-higher-education-critical-review on 11th October, 2021

Clothier, P. (2013), Interactive-video. Retrieved January 20th, 2013 from, http://www.Learningsolutionsma g.com/articles/1292/interactive-video-the-next-big-thing-in-m on 10th October, 2021

Etejere, P.A.O. (2016), Social media and administrative effectiveness of secondary schools in Kwara State, Nigeria. *Al-Hikima Journal of Education*. **3** (1): 103-116

Khan, I. A. (2020). Electronic learning management system: Relevance, challenges and preparedness. *J.   Emerg.   Technol.   Innov.   Res*, **7** (5): 471–480. https://www.jetir.org/papers/JETIR2005072.pdf [Google   Scholar]   on   11th October, 2021

Lynch, M. (2020), the Impact of Interactive Videos in the Classroom. Retrieved from https://www.thetechedvocate.org/the-impact-of-interactive-videos-in-the-classroom/ on 10th October, 2021

Miller, M. D. (2016), Online Learning: Does It Work? In Minds Online: Teaching Effectively   with   Technology   (pp.   19-41).   Harvard   University Press. https://www.hup.harvard.edu/catalog.php?isbn=9780674660021&content=t oc

Murray,M (2017), four benefits of interactive video for learning. Retrieved from trainingindustry.com on 10th October, 2021

Ngozi, E. U. & Abolo, E. V. (2017) utilizing educational technology tools in the classroom: challenges and Prospects in Nigeria. In Oyebade, S. A., Bello, S. A., Oladipo, S. A., Oladejo, M. A. & Thomas, O. A. (Eds) *Managing Education for Sustainable Development in Nigeria (A book of Reading in honour of Professor A. O. O. Oguntoye)* A publication of the Department of Educational Management University of Lagos, Akoka, Nigeria.

Olagundoye, O. C & Omoluwa, O. (2020) Evaluation of the usage of modern classroom Technologies and Professional development among Secondary School teachers in Ondo state. In O.I.W. Jagusah, S.O Adegbesan, O. Akinsolu, T. Omotayo, O. Oyekan, I.D. Eyeromi (Eds.). A publication of NIEPA Ondo, Nigeria.

Papadopoulou, A. and Palaigeorgiou, G. (2016) interactive video, tablets and self-paced learning in the classroom: pre-service teachers' perceptions retrieved from https//www.reserchgate.net on 8th October, 2021.

Schoeffmann K, Hudelist M.A, Huber, J. (2015) Video interaction tools: Survey of recent works. Retrieved from file:///C:/Users/acer/Downloads/video-interaction-tools.pdf on 8th October, 2021

Weli, B. & Ohaegbulem, A. C. (2017), emerging technologies and video mediated instructional strategies in contemporary educational system in Nigeria. Retrieved from https://ijitie.aitie..org.ng on 10th October, 2021.

IMPACT OF FINLEY-JENSEN PROBLEM SOLVING MODEL ON PERFORMANCE AND RETENTION IN 3-D GEOMETRY AMONG SSII STUDENTS IN ZARIA METROPOLIS KADUNA STATE, NIGERIA

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Abstract

The study investigated the Impact of Finley-Jensen Problem-Solving Model on Performance and Retention in 3-D Geometry among SSII Students in Zaria Metropolis, Kaduna State, Nigeria. Two research Questions and two null hypotheses were formulated to guide the study. Fifteen Public Senior Secondary Schools in Zaria educational zone made up of the population of this study. Two schools were randomly selected using simple random sampling techniques as the samples. The study adopted pretest, posttest and post posttest quasi experimental nonequivalent control design. The pretest and posttest were to find out the students' performance equivalent while post posttest is to find the Retention ability. The reliability coefficient was found to be 0.74 using (SPSS) at α=0.05 level of significance. Both descriptive and inferential statistics were used. The findings shows that Finley-Jensen Problem-Solving Model enhances the Performance and Retention of Secondary School Students on 3-D Geometry concepts. Finley-Jensen Problem-Solving Model should therefore, be incorporated into the main stream of pedagogy in the teaching of Mathematics and other science subjects at senior secondary schools in Zaria Local Government, Kaduna, Nigeria.

Introduction

Mathematics is the Quantity, Structure, Space and Change. Mathematics Education is the practice of teaching and learning Mathematics along with the associated scholarly research. The teaching of Mathematics started with Arithmetic in the Southern part of Nigeria brought by the missionaries. Mathematics is a compulsory subject for both primary and secondary school students and even to some courses at tertiary levels. The concept of mathematics as a school subject had developed in Christian mission schools in the south but the subject was done in three different sections as Arithmetic, Algebra and Geometry, though at that time syllabus was planned by Cambridge syndicate WAEC. By 1956, Mathematics became one single subject in the West Africa School Certificate Examinations, but Arithmetic remained as a separate subject to Mathematics in Teacher Training College (Hassan, 2007). Mathematics has very wide application in the field of science and engineering technology and even in social sciences. Despite its importance, performance in mathematics is generally poor especially in the finishing examinations of WAEC or SSCE and NECO. Many variables had been identified as responsible for poor performance in mathematics. Such variables include Curriculum, Examination Bodies, Teachers, Students, Environment and Textbooks. Lack of interest by students toward mathematics also contributes a lot in poor performance.

Geometry from the Ancient Greek; geo "earth", -metro "measurement" arose as the field of knowledge dealing with 2-D and 3-D relationships. Geometry was one of the two fields of pre-modern mathematics, the other being the study of numbers. Numerous

studies have shown that geometry is of great important than most areas of Mathematics and also, helps students to understand and love Mathematics (Julie, 2015). Geometry is highly important so much so that, engineers apply its knowledge in construction of houses, cars, chairs and almost all equipment we use in our day-to-day activities, as such there is a need of good academic performance in the subject area.

Academic performance is the extent to which a student, teacher or institution has achieved their short or long-term educational goals. Completion of educational degrees such as higher diploma and bachelor's degrees represent academic achievement (Friedman and Mandela 2011). Academic performance is commonly measured through examinations and continuous assessments, but there is no general agreement on how it is best evaluated or which aspects are most important procedural knowledge such as skills or declarative knowledge such as facts. Furthermore, there are inconclusive results over which individual factors successfully predict academic performance, elements such as test anxiety, environment, motivation, and emotions require consideration when developing models of school achievement (Hannon & Ann 2014).

Retention is the act of keeping something in one's memory and can be seen as the ability to learn, to recall, remember and recollect a body of knowledge after passing through instruction (Yero, 2011). Retention is a Latin world. (Re, means hold and tenere means back, re-tenere meaning, back to hold), teaching for conceptual understanding can leads to longer retention of mathematical knowledge. Retention in mathematics is the power to recall, remember, and retain the mathematical concepts taught or learning in the classes.

The Finley-Jensen problem solving model (1996) is based on Dewey (1933) and Bruner (1973) theories of learning. These scholars have agreed that meaningful learning can only be achieved through active participation of learners. Problem Solving is among the methods that support constructivism theory of learning, since it allows students to be actively participating in the classroom activities, develop creativity and problem-solving skills, promotes autonomy, responsibility and independence (Bruner, 1961). In this case learners are free to select and transform information, construct hypotheses, and make decision, relying on a cognitive structure (schema and mental models) to do so, people construct their own understanding and knowledge of the world through experiencing things and reflecting on those experience. In constructivism classroom, the focus tends to shift from the expert (teacher) to the students that, the expert cannot be pouring knowledge into passive learners, who wait like empty vessels to be filled (Driscoll, 2005). In general, according to constructivism theory of learning, learners should learn through active participation and teaching method should be learners-centered. The active participation of learners in learning made learning to be real, create effective retention and also, motivate learners to discover things by themselves, while teachers remain as facilitators by guiding the learners to grasp things (Obioma, 2005). Students need regular chances to engage in problem solving so that they can become mathematically proficient.

Remillard, and Smith, (2007), opined that, mathematically proficient students exhibit problem solving behaviors such as reading problems carefully and understanding them, creating models, and making speculations about strategies and solutions. (Kilpatrick et al, 2001), stated that, children lacking mathematical proficiency demonstrate ineffective mathematical behaviors such as attempting to solve problems without making sense of the problem's context. Moreover, they are less likely to use their knowledge of mathematics content while problem solving. (Eccles, 2002), Stated that, Problem solving goes beyond

the typical thinking and reasoning students employ while solving exercises. It means thinking deeply about concepts, their associated representations, possible solution procedures, related context or cultural knowledge, and creating problem models (Mayer & Wittrock, 2006).

According to the National Council of Teachers of Mathematics (2010), problem solving facilitates the extension of students' learning and nurtures the development of students' conceptual understanding, communication, and reasoning skills. Problem solving must remain part of day-to-day teaching because, solving problems is essential to doing and learning mathematics (Schoenfield, 1985). Mathematical Problem Solving is a complex and integrative task. This task requires a learner to understand the information that is presented in the problem. Furthermore, mathematical problem solving requires a person to select and use cognitive strategies and processes that are necessary for task completion. Cognitive strategies and processes for mathematical problem solving are technical methods or tools that help individuals plan and solve a problem. Possible cognitive strategies and processes can include finding the algorithm, estimating the problem, or drawing a diagram (Montague *et al*, 2011). Many problem-solving models have been developed over the years to determine the components required for successful problem solving. For example, Polya's (1945) model outlines four problem stages:

i.   Understand the problem;
ii.   Devise a plan;
iii.   Carry out the plan;
iv.   Check the solution.

This model also addresses various heuristic strategies. Heuristic strategies are techniques that help problem solver think through the problem when he encounters difficulties. Heuristic strategies are generally posed as questions (Foong, 2007). For instance, possible heuristic strategies for the second problem stage (i.e., devise a plan) can include asking oneself the following questions:

Do I know a related problem?
Do I know a theorem that could be useful?
Can I restate the problem?
Mayer (1985) developed a related model for mathematical problem solving.

This model outlines four stages:

i.   Problem translation;
ii.   Problem integration;
iii.   Solution planning;
iv.   Solution execution.

i.   Problem translation refers to interpreting any grammatical and numerical information.
ii.   Problem integration means understanding the relationship between the components of the problem to the mathematical structure.
iii.   Solution planning: involves selecting appropriate operations,
iv.   Solution execution means calculating the final solution to the problem.

Some strategies of problem solving were adopted by several researches and pose a problem for learners to solve was formulated by (Finely & Jensen, 1996). The teacher explained a concept for a short while and allowed learners to solve the problem individually and then later discuss the similarities and differences in group.

Step I: Problem was posed to the students similar to the concept to be taught. The purpose of this step is to make students become familiar with some concepts in 3-D geometry.

Step II: Student were allowed to think and solve a challenge presented to them individually on piece of paper or any rough page. This is to allow students to be expose to 3-D geometry.

Step III: Students were allowed to discuss in pairs the similarities and differences between their answers. This is to make all learners to fully involve in the study of 3-D geometry. Teacher allowed the students to accept the views of the others while working in group.

Step IV: Here, students were allowed to share their thoughts and findings. This enhances, students to assist themselves so as to validate others' views and make reliable conclusion. Teaching material both the improvised and classical will be used, this is to allow proper delivery of the lessons and will make students to learn faster. Upon this, the study investigated the Impact of Finely-Jensen Problem-Solving Model on Performance and Retention in 3-D Geometry among SSII Students in Zaria Metropolis, Kaduna State, Nigeria.

Objectives of the Study

The main objective of this study is to determine the Impact of Finely-Jensen Problem Solving model on Students' 3-D Geometry Performance among SSII in Zaria metropolis Kaduna State Nigeria.

Determine the impact of Finely-Jensen Problem Solving model on Students' Retention ability in 3-D Geometry among SSII Students in Zaria Education Zone.

Research Questions

To guide the study, a research question was formulated:

i. Is there any significant difference in the mean performance scores of students in SSII taught 3-D Geometry concept using Finely - Jensen problem-solving model and those taught with lecture method?

ii. Is there any significant difference in the Retention ability of students taught 3-D Geometry concept using Finely - Jensen problem-solving model and those taught with lecture method?

Hypotheses:

The hypotheses are going to be tested at alpha (α) $= 0.05$ level of significance.

Ho_1: There is no significant difference between the mean performance scores of Students taught 3-D Geometry concept with Finely-Jensen problem solving model and those taught with lecture method.

Ho₂: There is no significant difference between in the Retention ability of Students taught 3-D Geometry concept with Finely - Jensen problem solving model and those taught with lecture method.

Methodology

The research design for this study is pretest-post-test and post posttest non-equivalent control design. The essence of pre-test was to determine the academic equivalence of the two groups before the treatment while post posttest was to determine the performance and retention ability of the student after the treatment. The students in the experimental group were exposed to 3-D geometry concept through problem solving model for a period of four (4) weeks and the control group were taught the same concepts using conventional lecture method. After which post and post posttest was administered to both groups.

The population of this study comprised of public Senior Secondary Schools Students in SSII within Zaria educational zone of Kaduna State, Nigeria. There are Fifteen Public Senior Secondary Schools in Zaria Local Government with the total number, of 4,021 Students out of which 2,427 are males and 1,594 are females as at the time the data were collected.

For the purpose of this study, a simple random sampling technique was used to select from the sample schools. The instrument for this study is 3-D Geometry performance test (3-D GAT), developed for the research. For the purpose of generating and analyzing data 3-D GAT comprises ten (10) items of essay test questions was developed, this is because: Essay test allow students to express their ideas with relatively few restraints. Essay involves recall and write, there are no options to select from, and therefore guessing is eliminated. The students must supply answer rather than selecting the good response, thus, it involved descriptive knowledge of students. The posttest in this study is to check the academic performance of the students on 3- D geometry Concept in Zaria local government.

Results

The result was analyzed using descriptive statistics answer the research question while inferential Statistics was used to test the null hypotheses at alpha equals 0.05.

Research Question

Research Question: Is there any significant difference in the mean performance scores of students in SSII taught 3-D geometry concept using Finely-Jensen problem-solving model and those taught with conventional method? To answer question, the mean score between the two groups was determined using descriptive statistics and the result is presented in the table below.

Table 1:   Mean and Standard deviation for performance

Group	N	Min.	Max.	Mean	SD
Experimental	93	10	43	22.26	9.99
Control	91	11	25	14.86	6.20

Table 1 shows that after exposure to Finely-Jensen problem solving model and Conventional Lecture Method. The experimental group had a mean performance score of 22.26, while the control group had a mean performance of 14.86. This shows that the students in the experimental group had some level of improvement as a result of exposure to Finely & Jensen problem solving model. The standard deviation is an indicative value of wide variability between the scores of the group.

Table 2: Mean and Standard deviation of students' retention ability of Experimental and control groups

Group	N	Min	Max	Mean	SD
Experimental	93	17	46	32.35	7.21
Control	91	2	29	14.90	6.57

The results in table 2 shows that the students in the experimental group had a mean score of 32.35 retained higher than their counterparts in the control group with a mean score of 14.90. This shows that Finley – Jensen enhances students' retention ability.

Hypotheses Testing: In this section all the null hypotheses were tested using student's t-test at $\alpha = 0.05$ significant level.

Ho1: There is no significant difference between the mean performance scores of Students taught 3-Dgeometryconcept with Finely-Jensen problem solving model and those taught with lecture method;

Table 3: test on students' performance of Experimental and Control Groups;

Group	N	Mean	SD	t_{cal}	t_{crit}	df	Remark
Experimental	93	22.26	9.99				
				10.95	1.98	182	S
Control	91	14.86	6.20				

S = significant $(p < 0.05)$

Table 3 shows that the experimental group's performance has the mean of 22.26 while for the control group the mean is 14.86. Hence, the null hypothesis one which states that 'there is no significant difference in the mean performance scores of students taught 3-D geometry concept using Finely-Jensen problem solving model and those taught using the Conventional Method of Teaching' is hereby rejected. This is therefore, means that there is a significant difference in the performance scores of students taught 3-D geometry concept using Finely-Jensen problem solving model. But from the table above we $t_{critical}$ $_{(1.98)}$ < $t_{calculated\ (10.95)}$ at α=0.05 significant level. Thus, H_{02} is rejected and the alternative hypothesis is accepted.

Ho2: There is no significant difference in the retention ability of Students taught 3-D geometry using Finely-Jensen Problem Solving model and that of those taught with conventional method;

Table 4: **T-test on students' retention ability of Experimental and Control Groups**

Group	N	Mean	SD	t_{cal}	t_{crit}	Df	Remark
Experimental	93	24.40	7.21				
				15.78	1.99	182	S
Control	91	14.86	6.57				

S=significant $(p < 0.05)$

Table 4: above shows that, the mean scores of post posttest of both the experimental and control groups with the mean of 24.40 and 14.86 respectively. The hypothesis two says "there is no significant difference between in the retention ability of students taught 3-D geometry using Finely-Jensen problem solving model and that of those taught using conventional method". But from the table above we $t_{critical\ (1.99)} < t_{calculated\ (15.78)}$ at α=0.05 significant level. Thus, Ho$_2$ is rejected and the alternative hypothesis is accepted.

Discussion of Findings

The results of the analysis related to the hypothesis one indicated that, a significant difference exists in the mean performance scores of SS II students taught 3-Dgeometry concepts with Finley-Jensen problem solving model and their counterparts taught with conventional teaching method (see table 3). This significant difference found in the performance of students taught 3-D geometry was in favour of the experimental group. The advantage of Finley-Jensen problem solving model stems from the fact that it was a task structured. Problem was posed to the students similar to the concept to be taught. The purpose of this step is to make students become familiar with some concepts in 3-D geometry. Students were allowed to think and solve a challenge presented to them individually on piece of paper or any rough page. This is to allow students to be exposed to 3-D geometry. Students were allowed to discuss in pairs the similarities and differences between their answers. This is to make all learners to fully involve in the study of 3-D geometry.

The Teacher allowed the students to accept the views of the others while working in group; students were allowed to share their thoughts and findings. This allowed the students to assist themselves so as to validate others view and make reliable conclusion. Teaching materials both the improvised and classical were used, this is to allow proper delivery of the lessons and make students to learn faster. This was why significance difference exists and a better performance was observed on students taught using 3-D geometry than those taught using chalk and talk method. As such they learn meaningfully, which in turns enhances their academic performance. This is in line with the findings of Julie (2015) and Fatoke et al (2013) who found that there is significant difference on academic performance on students that are exposed to problem solving on plane geometry and on learning numerical ability on chemistry. This is may be due to problem-Solving is "hand on approach" and it agrees with constructivism theory of learning.

Results of testing null hypothesis two shows that significant difference exist in the mean retention abilities of SS II mathematics, students taught 3-D geometry concepts with Finely-Jensen Problem Solving Model and those taught with Conventional Method of

Teaching. The analysis of the hypothesis two showed that the use of Finely-Jensen Problem Solving Model led to higher retention than the traditional method of teaching. The result of the mean scores of the student in the experimental group maintained a higher retention rates than their counterparts in the control group (see table 4).

The nature of Finley-Jensen Problem-Solving Model is learning by doing and elaborating. In Finely-Jensen Problem-Solving Model the students worked individually and later discuss their finding in pairs, where each student developed self confidence in the topic taught. The consistent elaboration of 3-D geometry concepts at Finely-Jensen Problem-Solving Model provides students who either received the explanation or those who gave the explanation with a deep understanding and a more complete retention of the concepts being learnt for a longer period of time. The post posttest was administered after two weeks and the result was showed in table 4.2. This finding agrees with the findings of Julie (2015) who found that students in the experimental group taught plane geometry concepts with Problem Solving Model had higher retention than those in control group, taught the concepts using traditional method. This is because problem-Solving in general and specifically Finely-Jensen Problem-Solving Model encourages verbalization and made Students communicate their ideas very well to classmates.

As a result of the findings in this study, it could be concluded that Finely-Jensen Problem Model enhances the Performance and Retention of 3-D Geometry concepts of secondary school students. This is because all SS II students exposed to 3-D Geometry concepts using Finley and Jensen problem solving model performed better than those exposed to conventional method.

Recommendations

On the basis of the findings and conclusion emanating from this study, the following recommendations were made;

1. The use of Finley-Jensen Problem Solving Model, seems to be appropriate in improving the performance and Retention of students in senior secondary schools Mathematics particularly in 3-D Geometry concept as investigated in this study. It should therefore, be incorporated into the main stream of pedagogy in the teaching of Mathematics and other science subjects at senior secondary schools in Zaria Local Government, Kaduna, Nigeria.
2. In-service training programmes for teachers of Mathematics in form of seminars, workshops and conferences should focus more on how to use Problem Solving Model Particularly Finely-Jensen Problem Solving Model in teaching of Mathematics concepts (3-D Geometry).

References

Brunner, J. (1961). Going beyond information given. New York: nortor: Accessed 5th November, 2016.

Brunner, J. (1973). Theory of Development: Discovery Learning and Representation. Retrieved *https://study*.com/academy/lesson/Jerome-brunner-theor-of-deveploment-discovery-leaning-representation.html.

Dewey, J. (1933). *How we think: A Restatement of Relation of Reflective thinking to the educative process*. Bostom. D. C. Health.

Discoll. M. (2005). *Psychology of learning for instruction. Allyn, Boscon & Boston*

Eccles, J. S. & Templeton, J. (2002)."Extracurricular and Other After-School Activities for Youth". *Review of Research in Education.* **26**: 113–180.

Fatoke, A.O., Ogunlade, T.O. & Ibidiran, V.O. (2013). "The Effects of Problem Solving, Instructional Strategy and Numerical Ability on Students' Learning Outcomes" *The International Journal of Engineering and Science (IJES),* **2** (Issue 10): 97-102 ||2013|| ISSN (e): 2319 – 1813 ISSN (p): 2319 – 1805. www.theijes.com The IJES Page 97.

Finely, F.N. & Jensen, M.S. (1996). Teaching evolution using a historically Rich curriculum and Paired Problem-Solving instructional strategy. *The American Biology teacher*, **59** (4): 208-212.

Foong, P. Y. (2007). Teacher as Researcher: A review on Mathematics Education research of Singapore teachers. *The Mathematics Educator*. **10** (1): 3 – 20.

Friedman, B. A. and Mandel, R. G. (2011). Motivation predictors of college student's performance and retention. *Journal of College Student Retention: Research, Theory & Practice*. **13** (1): 1–15.

Hannon, B. and Ann, M. (2014).Predicting College Success. *Journal of Education and Training Studies*. **2** (4): 46–58.

Hassan, A.A. (2007). Critical factors affecting the mathematics teacher in the21st Century: Possible Way forward. *A journal of educational research and development faculty of education Ahmadu Bello University Zaria,* **2** (1): 50-51.

Julie, M. (2015). Effect of Guided Discovery and Problem-Solving Strategy on Attitude an Performance towards Geometry among Junior Secondary School Students in Kaduna State, Nigeria. An Unpublished Dissertation Submitted to the Department of Science Education Ahmadu University, Zaria Nigeria.

Kilpatrck, J. Swafford, J. & Findell, B. (2001). Adding it up: Helping children learning mathematics. Washington National Academy Press.

Mayer, R. (1985). The psychology of mathematical problem-solving issues in research. Philadelphia P.A. Franklin institute press, www.org//educational/think/intro. National Council of Teachers of Mathematics.

NCTM (2010), *an agenda for action: Recommendation for School Mathematics of the Millenium; rest on, Viginia:www.mathsgoddies.com/articles/problem-Solving.html.*

Mayer, R. E. & Wittrock, M. C. (2006). *Handbook of educational psychology. Macmillian, New York*

Montague, M., Enders, C. & Dietz, S. (2011). Effect of cognitive strategy instruction on math problem solving of middle school students with learning disabilities. *Learning Disability Quarterly*, **34** (4): 262 – 272.

National Council for Mathematics Teachers (2000).Principals and Standards for School Mathematics. Reston, VA: the National Council of Teachers of Mathematics.

Obioma, G. O. (2005). Emerging Issues in Mathematics Education in Nigeria with emphasis on the Strategies for effective teaching and learning of word problem and algebraic expressions. *Journal of issues in Mathematics.*

Polya, G. (1975). How to solve it. Princeton University press. New York.

Remillard, J., Smith, M. S. & Stein, M. K. (2007). How curriculum influences student learning: *Research on mathematics teaching and learning,* P. 319-369.

Schoenfield, A. H. (1985). Mathematical problem solving. Orlando, Florida: Academic Press Inc. accessed September, 2022 *www.prolemsolving.com*.

EXAMINATION OF VOCABULARY LEARNING STRATEGIES USED BY THE UNDERGRADUATE STUDENTS OF ENGLISH LANGUAGE EDUCATION OF KADUNA STATE UNIVERSITY

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Abstract

The paper surveys the strategies used by undergraduate students of faculty of education Kaduna State University Kaduna, Nigeria. The purpose of the study is to investigate how frequently the students employ Schmitt's (1997) vocabulary learning strategies to acquire new words in English language. The study uses Schmitt's (1997) taxonomy of vocabulary learning strategies which are: Determination, Social, Cognitive, memory and Metacognitive strategies. Sixty (60) students were randomly selected out of the total population of one hundred and twenty (120) students. For this purpose, a questionnaire containing fifteen items selected from Schmitt's (1997) Vocabulary Learning Strategies Questionnaire (VLSQ) was administered to the participants. The instrument was used to reveal how frequently the students arrive at the meaning of new words. With regard to strategy categories, the results revealed that the students employ Memory strategies more frequently while they employ Metacognitive strategies less frequently. The findings of this study will be advantageous to language teachers to improve effective vocabulary teaching techniques and curriculum designers to provide learners with preferable vocabulary learning strategies suitable to the learners' needs and aspiration.

Keywords: Vocabulary learning strategies (VLSs), undergraduate students, determination strategies, social strategies, cognitive strategies, memory strategies, metacognitive strategies

Introduction

English is one of the essential foreign languages taught in Nigerian institutions of learning. Proficiency in English language is highly desirable and imperative in Nigerian system of education. As an international language, Nigerians are expected to have vast knowledge of the language making it possible for them to have free exchange of information with international community. Ali & Anwar (2021) believed that English language should be considered as an important international language this may bring possibilities for students to give more attention and their interest to English language. This means hat Nigerian students need practically English language rather than only for fulfilling the academic demand.

The first and foremost crucial element in the process of learning a language is words. A second language learner learns and acquires new words everyday using different strategies planned or unplanned. Namaziandost (2019) argued that people learn vocabulary before they start communication in the natural cycle of listening, speaking, reading, and writing in a first or a second language, so learners must have the vocabulary to convey or understand the meaning of the ideas. Vocabulary is the basic material to build language which plays a fundamental role in communication. No matter how well the students learn grammar or master the sounds of English language, no meaningful communication can take place without expressing a wide range of vocabulary in a meaningfull way. Thornburry (2002:13) believed that without grammar very little can be

conveyed, without vocabulary nothing can be conveyed. This means that vocabulary is the component of language for people to deliver their minds, ideas or desires. By having sufficient stock of words, they can communicate very well and effectively.

According to Marion (2008), vocabulary learning strategies are specific techniques utilised by English language learners for the acquisition of new words in a second language. These learners use these steps to gain and understand new English words. In the process of learning a second language, learning and understanding a new vocabulary comes at the beginning of the process and represents the basis for second language acquisition. McCarthy (1990:50) said, "without words to express a wider range of meanings, communication in L2 just cannot happen in any meaningful way." These strategies explain fully how new vocabularies can be learnt and retained.

Objectives of the study

The objective of this study is to investigate how frequently the students of faculty of education Kaduna State University employed Schmitt's (1997) vocabulary learning strategies to acquire new words in English language. It explores vocabulary learning strategies used by the students as well as the most and least vocabulary learning strategies used by the students. The present study about vocabulary learning strategies is the first of its nature to be conducted in this faculty. Hence, this study might present a first step towards understanding and recognising this issue for the interest of teachers and learners.

Research Questions

How frequently the students of English language Education employed Schmitt (1997) vocabulary learning strategies in learning English new words?

Literature Review

Acquisition of words in a language learning is crucial for effective communication in a second language learning and it is considered as a significant element in the formation of correct spoken and written texts. Vocabulary plays an important role in language teaching and learning without which learners will not be able to develop other skills successfully. Since knowledge of vocabulary is the raw material for all thoughts, ideas and feelings to be expressed and conveyed through the medium of language. As cited in Parvareshbar and Ghoorchaei (2016) "If language structures make up the skeleton of language, then it is vocabulary that provides the vital organs and the flesh". Vocabulary refers to the words one must know to communicate effectively: words in speaking and writing (productive vocabulary) and words in listening and reading (receptive vocabulary)" (Neuman & Dwyer 2009).

However, vocabulary is considered very important in all four English language skills since it is one of the key elements in second language acquisition essential for all stages of English language learning (Gardner, 2013). Emphasising this view, Blachowicz and Fisher (2005) argued that vocabulary knowledge affects both reading performance and students' ability to participate effectively in both social and academic classroom interactions. Nwokolo (2020) believed that vocabulary knowledge is an essential consideration especially for learners of English for specific purpose such as undergraduates and workers. Vocabulary is the first element that should be master before

the learners going to other elements of language learning. It is believed that when the learners have mastered vocabulary, they would be able to produce many sentences in both spoken and written language without much difficulties. However, when they lack vocabulary, they will find difficulty in delivering their thought and opinion effectively. Any error in vocabulary can break communication as Abu Hassan and Arifin (2017) believed that vocabulary errors are the most severe; they often lead to semantic interference resulting in miscommunication. Similarly, when the second language learners are able to acquired vocabulary effectively and have a good individual store of lexis, they will be more self-confident in both productive and receptive vocabulary.

In acquiring vocabularies, learners employ different strategies, techniques and approach which they feel it can boost their stock of words more effectively. According to Cameron (2001) vocabulary learning strategies (VLSs) are the actions that learners take to help themselves understand and remember vocabulary items. A more elaborated Schmitt (1997) defined VLS as the "knowledge about the mechanisms used in order to learn vocabulary as well as steps or actions taken by students to find out the meaning of unknown words, to retain them in long-term memory, to recall them at will, and to use them in oral or written mode" this definition sees VLS as a process of learning and understanding new words that can be stored for further uses. Rabadi (2016) defined VLS as the intended mental strategies that language learners employ to enhance vocabulary learning and retrieve easily new words. The strategies have long been supported by many scholars to facilitate learning and help enhance learners' vocabulary knowledge (e.g. Nation, 2001; Schmitt, 2000).

Vocabulary plays a very important role in English language learning, as it is the main component of language proficiency, which offers the basis for learners' performance in the use of language. Discovering the ways students used to learn vocabulary could help English language teachers develop their vocabulary teaching and enhance their students' language achievement accordingly.

Many local and international studies have been conducted to investigate how learners use different strategies to acquire new words. For instance, Parvareshbar and Ghoorchaei (2016), opined that English language learners in Pakistan employed incidental vocabulary acquisition (IVA) when learning new words. They believed that IVA is very effective method for learning English language vocabularies.

Grave (2006) suggested that English language learners should keep notebooks which they will be keeping unfamiliar or newly discovered words for future use. He further suggested a framework for successful vocabulary programmes that facilitates effective teaching. This programme consists of four parts to develop robust vocabularies. They are: providing rich and varied language experiences, teaching individual vocabulary, teaching word-learning strategies, and fostering word consciousness. These strategies can effectively promote the learners' vocabulary by creating a language rich environment which boosts vocabulary acquisition. However, this strategy which encourages learners to memorise new words, should be discouraged. According to Decarrico (2001), words should not be learned through memorization or separately without comprehending. This is because the words learned in this manner lead to overlooking of lexical features. It means that the learners only learn how to use the words in one specific form, but they do not get to know how the words are used in various contexts with some different shades of meanings in real life situations.

Taxonomy of vocabulary learning strategies

Learning is a permanent change which occurs as a result of experience and increase the potential of improved performance and future learning. Different vocabulary learning strategies have been identified by different scholars. For instance, (Hameed & Anwar, 2018) classified vocabulary learning strategies into two main groups, namely, strategies which participate straight to learning and those which participate secondarily to learning. Ismael et al. (2021), identified three categories of strategies which they named cognitive, metacognitive, and social-affective.

However, Gu and Johnson (1996) had grouped eight categories of vocabulary learning strategies: Beliefs about vocabulary learning; Metacognitive regulation; Guessing strategies; Dictionary strategies; Note-taking strategies; Memory strategies; Memory strategies (encoding); and Activation strategies.

The VLSs classification according to Cook (2001) are of two major categories: getting meaning and acquiring words. Getting meaning strategies include guessing meaning from situation or context, using a dictionary, making deductions from the word-form, and linking lexical items to cognates. While acquiring word strategies include repetition and rote learning, organizing words in the minds of learners, and linking lexical items to existing knowledge.

Nation (2001) classified vocabulary learning strategies in three main categories which are planning, sources, and processes. He posits that learning new words is a matter of cumulative process through which word meanings are enriched and extended as the learners encounter them several times.

Schmitt's (1997) identified two main types of VLSs: discovery strategies and consolidation strategies. Discovery strategies include determination strategies and social strategies while consolidation strategies encompass social strategies, memory strategies, cognitive strategies and metacognitive strategies. For the purpose of this study, the classification of VLSs by Schmitt was adopted because of its advantages. According to Akbari and Tahririan (2009) "Schmitt's (1997) taxonomy seems to be the most exhaustive and has the advantage of being organized around an established scheme of vocabulary learning strategies." The strategies are as follow:

1.   Determination strategies: They are individual learning strategies where English language students depend on themselves to identify the meaning of unknown words and use them in the following strategies; analysing affixes and roots of the unknown word, checking for an L1 cognate, analysing any available pictures or gestures to solve the meaning of the unknown words, guessing the meaning of a new word from textual context, using bilingual dictionaries to find out the meaning of the new vocabulary, using monolingual dictionaries, and using the word lists (Almutair 2020).
2.   Social Strategies: These strategies occur when the students try to seek help from social surroundings, such as asking their teacher for an L1 translation, asking the teacher for a paraphrase or a synonym of the unknown word, asking the teacher for a sentence including the unknown word, and asking classmates for the meaning. This is what Schmitt (1997) called learning new words through interaction with others.

3. Memory strategies: They are strategies, whereby learners link their learning of new words to mental processing by associating their existing or background knowledge with the new words. These strategies deal with the connection of the new word to be memorized with pre-existing knowledge using the help of imagery or grouping for better retrieval of the word; moreover, physical actions can also be used to help recall the words. One of the merits of these strategies as posited by Schmitt (2000) it consists of mental processing which enhance long-term vocabulary retention.

4. Cognitive strategies: they are strategies that do not engage learners in mental processing but is more mechanical means. According to Hedge (2000), learners use a range of cognitive strategies in order to learn words such as using keywords, making associations and learning words in group. He defines cognitive as a mental operation concerned with working on new words in order to understand, categorize, and store them in a mental lexicon.

5. Metacognitive strategies: These are strategies related to processes involved in monitoring, decision-making, and evaluation of one's progress. The strategies are used by students to control and evaluate their own learning, by having an overview of the learning process. Hedge (2000) stated that metacognitive strategies consist of planning, thinking about learning, monitoring and evaluating oneself.

The present study investigated how often the students of Kaduna State University employ Schmitt (1997) vocabulary learning strategies in learning new words.

Methodology

Population

The population of the study consisted of 120 students currently studying bachelor degrees in English Education at the faculty of education. The total number sixty (60) undergraduate students were randomly selected for the study. Out of the participants, 34 were female students (56.6%) and 26 were male students (34.3 %) with an average age range from 22 to 26. The participants are in their second and third year of four -year-programme.

Instrument

The instrument for the study is Vocabulary Learning Strategies Questionnaire (VLSQ) by Schmitt (1997). The VLSQ was utilized to expose the frequency of vocabulary learning strategies used by the participants. and to reveal the overall use of vocabulary learning strategy employed by the participants' choice of vocabulary learning strategies. Nevertheless, adaptions were made to the VLSQ to be relevant to the participants' learning environment and competence level. The written questionnaire was composed of two sections. The first section took account of personal information of the participants, while the second section was 15-item questionnaire to record the participants' responses on their vocabulary learning strategies. They were asked to rate their frequency of usage of the VLS according to a scale of four choices of modified Likert-scale questionnaire for each question. The scales are: never, seldom, sometimes, and always. The questions cut across the five sub-classes of categories of (VLS) which are Determination, Social, Memory, Cognitive, and Metacognitive.

Procedure

In order to attain the aim of the study, the following procedures were followed accordingly. The questionnaires were administered to the participants under the control of the researcher. All the participants were instructed orally on the questionnaire before proceeding on with the test. What the participants were required to do had also boldly indicated on the first page of the questionnaire to avoid any error.

Findings and Discussion

To answer the research question, the data obtained were analyzed using percentage. The only research question is: How frequently the students employed vocabulary learning strategies in learning English vocabulary?

The participants were asked to indicate how often they use determination strategy in learning new words. The table below shows their response.

Table 1:   Determination strategy employed by participants

Statement	Never	Seldom	Sometimes	Always	Total
Look up the meaning of unknown word using a dictionary.	12	21	18	09	60
check the meaning of unknown words from the glossary at the end of the textbook,	04	08	28	20	60
Guess the meaning from context to discover the meaning of new words.	03	07	09	41	60

The participants were asked to indicate how they determine the meaning of unknown words. In responding to the statement 1. where students were asked to indicate how they arrive at the meaning of unknown words. 21 respondents (35%) indicated that they seldom use a dictionary for unknown words. Statement 2. asked the respondents how frequently they check the meaning of new words from the glossary of the textbook. 28 respondents (47%) indicated that they use this medium sometimes. In response to statement 3. where they were asked to indicate the frequency of guessing the meaning of new words, 41 respondents (68%) confirmed that they always guess the meaning from the context.

It is obvious that the frequency level of strategy used in the Determination Strategies implied the usage of dictionaries; participants use dictionary find the meanings of new vocabulary items. This is quite true to English language learners, wherein dictionaries are the vital resource for obtaining information about lexis items (Ali & Anwar, 2022). Moreover, the learners are advised to refer to dictionaries to find and learn new lexical items as Hayati and Fattahzadh (2006) suggested. Miyanaga (2006) added that using a dictionary helps language learners to be more independent in learning a language as they can find proper explanation of new vocabulary items in sentences without relying on teachers' explanations. The glossary at the end of the textbook has vital roles to play in learning new words. Unlike dictionary, the glossary helps in learning new words along

with the context used. This will give a learner better explanation of the words learnt along with its context.

This aspect has to do with learning new words through interaction with others. The respondents were asked to indicate how frequently they employ this strategy in learning and mastering English vocabulary. The table below shows students response:

Table 2:   Social Strategies Employed by the Participants

Statement	Never	Seldom	Sometimes	Always	Total
Asking a teacher for an L1translation of new lexical items.	57	2	1	0	60
Communicating with teachers of English to ask for a synonym or antonyms of a new word.	9	10	25	16	60
Asking or discussing in English with classmates to know and expand the meaning of a new vocabulary item.	3	6	29	22	60

In response to questions on social strategies used by the respondents, statement 4. asked the respondents how often they ask their teachers to translate the new word into their L1. Fifty seven (57) respondents (95%) confirmed that they never ask teachers for translation of the new words into their L1. On responding to statement 5., 25 respondents (24%) affirmed that they communicate with their English teachers to ask for synonyms or antonyms of unknown words through oral conversations. Statement 6. asked the respondents the frequency of their discussing or asking their colleagues about the meaning of words. 29 respondents (48%) said that they ask their sometimes classmates.

These strategies are used inside the classrooms indicating that the participants' learning methods are quiet dependent on the teachers of the language and their co-learners. Language learners need to learn lexical items in isolation as well as in context. These employed strategies by the participants will help them to achieve their learning purposes. This kind of vocabulary learning is direct or explicit vocabulary learning as Laufer and Hulstijn (2001) refer to it. This vocabulary learning strategy is considered a conscious learning; language learners through the meaning of words in isolation or in context learn vocabulary. As for the role of language teachers, they can help language learners use the direct or explicit vocabulary learning by providing them with paired translation equivalents and synonyms of the words.

This aspect deals with the connection of the new words with pre-existing knowledge using the help of imagery or grouping for better retrieval of the word. The respondents were asked to indicate how often they employ this strategy in learning and retaining new words. The table below shows their responses:

Table 3: **Memory strategy employed by the participants**

Statements	Never	Seldom	Sometimes	Always	Total
Categorize new words according to their synonyms and antonyms.	15	8	17	20	60
Grouping new words together to learn new vocabulary.	2	5	22	30	60
Connecting pictures to the meanings of new words.	48	10	2	0	60

Table 3 presents the types and frequency of memory strategies the students employed in order to boost their vocabulary span. In response to statement 7. Twenty (20) students (33%) confirmed that they always categorise new words according to their synonyms or antonyms while eight (8) respondents (13%) said they seldom do that. In Statement 8. the respondents were asked how frequently they group new words together to learn new words. Thirty-one (31) respondents (50%) said they always do this while only two (2) respondents (3%) said they never do this. Responding to statement 9. which asked the students to show how frequently they connect pictures to label the meaning of new words, 48 respondents (80%) indicated that they never connect pictures with words.

These are essentially good ways of learning new lexical items. Memory strategies include mental techniques to imagine the situation in which the word might be used as grouping them into parts of speech as nouns and verbs, and into synonyms and antonyms. Similarly, Nwokolo (2020) believed that knowing the meaning word parts and its roots can boost the learners' vocabulary learning. So, learners can break a long words or compound word into its parts for easy understanding of the words.

Nation (2005) and Nwokolo (2020) itemise some strategies of understanding new words, these are: word meaning, word use, word form and word origin. Word meaning refers to the concept of the word, what it refers to, which words can be associated with. While word usage knowledge includes the grammatical aspects of the word such as parts of speech, word's collocation. Word form knowledge includes the knowledge of word's parts, spelling, and sound. This list of word knowledge can be achieved by using Memory strategies.

This strategy deals with the use of some mechanics that help learners to learn new words. These include using keywords, making associations and learning words in group. The respondents were asked to indicate how often they use this strategy in learning the meaning of new words. The table below presents the response of the participants:

Table 4: **Cognitive strategy employed by participants**

Statement	Never	Seldom	Sometimes	Always	Total
Using a new lexical item by writing it repeatedly in sentences.	5	10	26	19	60
Keeping a notebook for a vocabulary list with meanings and examples to learn the new vocabulary items.	35	11	9	5	60
Associating new vocabulary items with physical objects to learn the lexical items.	*45*	9	4	2	60

Statement 10. asked students to indicate how frequently they repeatedly write new words in sentences. 26 respondents (43%) confirmed that they do so sometimes while only five students said that they never write new words in sentences. In response to statement 11. Thirty-five (35) respondents (50%) indicated that they keep a notebook for vocabulary list with meaning and examples. Responding to statement 12. out of the total participants, 35 respondents (58%) indicated that they never associate new vocabulary items with physical object to learn the new words.

These strategies for vocabulary development include repetition, analysing, writing, and summarizing. According to Weaver and Cohen (cited in Ali and Anwar 2022) classify repetition as one of the six strategies for vocabulary acquisition. these strategies "enable learners to understand and produce new language through different means".

This strategy deals with one's planning on how to acquire new words. The respondents were asked to indicate the frequency of their own efforts in learning new words. The table below indicates the response of the participants:

Table 5:   Metacognitive strategies employed by participants

Statements	Never	Seldom	Sometimes	Always
Expanding the knowledge of lexical items by listening to English songs.	4	6	14	36
Learning new words by watching English-speaking movies with subtitles.	3	5	20	32
Studying new vocabulary items from advertisements, written signs, written notices, etc.	3	8	30	19

In this aspect of metacognitive strategies that the students used to learn new vocabularies, three statements presented to the respondents. Statements 13, asked the participants how frequently they increase the level of their vocabulary through listening to the English songs on radio, mobile phone etc. Thirty-six (36) respondents (60%) confirmed that they always employ this strategy in learning new lexical items.in responding to statement 14. The highest number of the respondents which is thirty-two (32) ((53%) indicated that they always learn new words through watching movies with subtitles. Statements 15. wanted to know the frequency of using adverts, signs and notice in learning new words. 30 respondents (50%) said that they sometimes apply this strategy.

It has been observed that Metacognitive strategies affect positively vocabulary learning of EFL learners (Rasekh & Ranjbry, 2003). Language learners according to Hedge (2000) are involved in regulating language-learning process as they take control of their learning without the interference of a language teacher. They will be involved in planning for learning, setting goals, deciding on and employing learning strategies, and assessing the usefulness of strategy use and learning. They will make themselves self-directed learners as they employ various VLSs which will help them to facilitate vocabulary learning effectively and pleasantly.

Conclusion and Recommendations

From the findings it is noticed that students do not always check up the meaning of the unknown words by using dictionaries. They even prefer to check the glossary at the end of the textbook they read if available. Using dictionary always when reading, slow reading speed and affect comprehension. The best way to arrive at the meaning of new words is by using context clues. Nwokolo (2020) suggests that Nigerian students can achieve best in learning English vocabulary by utilising context clues in deciphering the meaning of unfamiliar words. Looking up the meaning of the unknown word by referring to the glossary at the end of the textbook also helps. This is because only context meaning is provided at the glossary. In this regards, EFL teachers should focus on training their EFL students on how to make their learner arrive at the meaning of unknown words by checking its meaning at the glossary, if it is available.

On social strategy, it has been discovered that majority of the students used social factors and sought help from others to get the meaning of unknown words. When you take item 4 and 5 as examples, you will discover that there are still some students at this level that ask their language teacher for L1 translation or communicating with their teachers in English language to ask for synonyms or antonyms of the unknown words. Even though, the number of those who do this is insignificant, it still shows that there are few that depend on their language facilitator to arrive at the meaning. Students should be encouraged to use determination strategies and to be self-dependent when looking for the meaning of new words.

It is discovered that there are a number of strategies the students of English use to learn and improve their vocabulary. Some of them are seeking an opportunity to practice using new words in speaking and writing, exposing themselves to the language regularly through extensive reading and listening to radio programmes, watching movies with English sub-title consulting a good dictionary for more necessary information about specific words, keeping vocabulary notebooks, and asking help from teachers and friends. The findings will help the language instructors, language learners, and curriculum designers as they are informative regarding the preferable vocabulary learning strategies used by undergraduate students of the faculty of education Kaduna state university. Hence, English teachers can emphasize more on vocabulary learning strategies by drawing the attention of the language learners to these strategies. Moreover, English instructors can arrange and offer applicable situations and activities in their classes to make language learners use these neglected vocabulary learning strategies. As for curriculum designers, they can adapt different language exercises in English language pedagogical books and make them suitable for language learners to deal with unfamiliar lexical item regarding remembering the word, its meaning or spelling, etc.

Since this descriptive study was just conducted on a group of students from the same institution, similar study can be done in other institutions of learning so that more comprehensive and effective ways of learning new words can be achieved. It would have been better if further researches with Schmitt (1997) VLS had been done as experimental research to ascertain the impact of the strategies using a larger sample size. Also, more studies should be carried out to consider the effects of Schmitt VLS on students' vocabulary acquisition.

Further researches should be conducted on the students at other educational establishments so that the teacher would be able to employ the programme as an alternative way for teaching and learning English language effectively.

References

Akbari, Z. & Tahririan, M.H. (2009). Vocabulary learning strategies in an ESP context: The case of para/medical English in Iran. *Asian EFL Journal*, **11** (1).

Ali, B. J., & Anwar, G. (2021). The mediation role of change management in employee development. International Journal of English Literature and Social Sciences, **6** (2): 361– 374. https://dx.doi.org/10.22161/ijels.62.52

Almutairi, A. M. (2020). An examination of vocabulary learning strategies used by Kuwaiti EFL Students at the college of basic education. *International Journal of English Language Teaching*, **8** (6): 1-7, December 2020 Published by ECRTD-UK Print ISSN: 2055-0820(Print), Online ISSN: 2055-0839(Online).

Blachowicz, C., & Fisher, P. (2004). Vocabulary lessons. *Educational Leadership*, **61** (6): 66-69.

Blachowicz, C.L. & Fisher, P. (2005). Integrated vocabulary instruction learning point associates. *Journal of Language Teaching and Research*, **3** (6): 1258-1266.

Cameron, L. 2001. Teaching languages to young learners. Cambridge: Cambridge University Press.

Cohen, A. D. (2014). Strategies in learning and using a second language. New York, NY: Routledge.

Cook, V. (2001). Second language learning and leaching (3rd ed.). London: Arnold.

Gardner, D. (2013). Exploring vocabulary: Language in action. London, England: Routledge.

Ghazal, L. (2007). Learning vocabulary in EFL contexts through vocabulary learning strategies. *Novitas-ROYAL*, **1** (2): 84-91.

Graves, M. F. (2006). The vocabulary book: Learning and instruction. New York: Teachers College Press.

Gu, P.Y. (2003). Vocabulary learning in a second language: Person, task, context and strategies. *TESL-EJ*, **7** (2): 1-25.

Hayati, M., & Fattahzadh, A. (2006). The effect of monolingual and bilingual dictionaries on vocabulary recall and retention of EFL learners. *The Reading Matrix*, **6** (2): 125-134.

Hedge, T. (2000). Teaching and learning in the language classroom. Oxford: Oxford University Press.

Laufer, B., & Hulstijn, J. (2001). Incidental vocabulary acquisition in a second language: The construct of task-induced involvement. *Applied Linguistics*, **22** (1): 1-26. http://dx.doi.org/10.1093/applin/22.1.1.

Miyanaga, C. (2006). Anxiety, strategies, motivation, and reading proficiency in Japanese university EFL learners. Unpublished doctoral dissertation, Temple University, Philadelphia.

Namaziandost, E., Homayouni, M., & Rahmani, P. (2020). The impact of cooperative learning approach on the development of EFL learners' speaking fluency. *Cogent Arts & Humanities*, **7** (1): DOI: 10.1080/23311983.2020.1780811 .

Nation, I. S. P. (2001). Learning vocabulary in another language. Cambridge, England: Cambridge University Press.

Nation, I.S.P. (2005) Vocabulary learning through extensive reading. In G. Poedjosoedarmo (ed.), Innovative approaches to reading and writing. RELC Anthology Series 46. RELC, Singapore: 10-21.

Nwokolo C. (2020). Strategies for teaching ESP vocabulary in Nigerian Universities, *Saudi Journal of Humanities and Social Sciences*. **5** (11): 703-709 retrieved on 18th September – November, 2020.

Oxford, R. (1990). Language learning strategies: What every teacher should know. New York: Newbury House.

Oxford, R. L., & Amerstorfer, C. M. (Eds.). (2018). Language learning strategies and individual learner characteristics: Situating strategy use in diverse contexts. London, England: Bloomsbury.

Parvareshbar F. (2016). Ghoorchaei B. The Effect of Using Short Stories on Vocabulary Learning of Iranian EFL Learners. *Journal of Theory and Practice in Language Studies*, **6** (7): 1476-1483, July 2016.

Rabadi, R. I. (2016). Vocabulary Learning Strategies Employed by Undergraduate EFL Jordanian Students. *English Language and Literature Studies*, **6** (1): 2016 ISSN 1925-4768 E-ISSN 1925-4776 Published by Canadian Center of Science and Education.

Rasekh, Z. E., & Ranjbary, R. (2003). Metacognitive strategy training for vocabulary learning. *Teaching English as a Second or Foreign Language*, **7** (2): 1-21.

Read, J. (2000). Assessing vocabulary. Cambridge: Cambridge University Press.

Schmitt, N. (1997). Vocabulary learning strategies. In N. Schmitt & M. McCarthy (Eds), Vocabulary: Description, acquisition and pedagogy (pp. 77-85). Cambridge: Cambridge University Press.

Schmitt, N. (2000). Vocabulary in language teaching. Cambridge, England: Cambridge University Press.

Schmitt, N. (2010). Researching vocabulary: A vocabulary research manual. Hampshire, England: Palgrave Macmillan.

Thornburry, S. (2002). How to teach vocabulary. England: Longman.

PREDICTING THE ROLE OF ATTITUDE AND SUBJECTIVE NORMS ON YOUTH INTENTION TO STUDY MATHEMATICS EDUCATION IN NIGERIA

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Abstract

Due to serious concern and demand for trained mathematics teachers, research into mathematics teachers' continuance intention has recently emerged as an important issue in education This study adopted Theory of Reasoned Action (TRA) model with the main aim of developing a structural model that would explain and predict factors influencing Nigeria Certificate in Education (NCE) mathematics students' of colleges of education continuance intention to study mathematics education in the northwest, Nigeria. A correlational research design was used in the research. Proportionate stratified random sampling technique was employed to select 366 respondents out of a total population of 2761 NCE III mathematics students based on the Cochran formula. The instrument used for this study was a questionnaire titled Youth Intention Questionnaire (YIQ). A pilot study was conducted, the Cronbach alpha reliability value of the questionnaire for the pilot was 0.816 Data obtained were analyzed using SPSS version 25 The findings of this study revealed that attitude toward learning mathematics and social influence were found to have statistically significant effects in the intention of youth (COE students) to study mathematics education. Implications for the study and recommendations were stated.

Keywords: Youth Intention, mathematics Education Students, Learning Attitude, Subjective Norms Colleges of Education

Introduction

It is obvious that Mathematics has a distinguishing and vital role in developing human minds. Research have showed that children who had experience to early good mathematics knowledge benefited more from brain activity enhancement, which have been demonstrated to improve students' ability to perform certain academic tasks (Ayub, Yunus, Mahmud, Salim & Sulaiman, 2017). Mathematics learning is a continue process throughout one's life from childhood to adulthood due to its significant qualities and the development of individual's capability (Muhammad, Ayub, Suleiman & Abdul Manaf, 2021). The objective of teaching mathematics is to provide students with the mathematical knowledge and skills desired in everyday life to solve problems and develop plans based on problem-solving approach. In recognition of its importance to the Nigerian Government, mathematics is a compulsory subject at primary and secondary school level in Nigeria, and a credit pass in the subject is pre-requisite for admission to study at Nigerian tertiary institutions of learning (FGN, 2013).

Colleges of Education (COEs) in Nigeria are higher institutions that are saddled with the responsibility of training pre – service teachers in various courses including mathematics. COEs awards Nigeria Certificate in Education (NCE) to their students after minimum of three - year satisfactory training. NCE teachers are trained to teach in pre – primary, primary schools and junior secondary schools for some few courses depending on the demand (FGN, 2013). The mission of colleges of education in Nigeria is to produce highly motivated and trained Nigeria Certificate in Education (NCE) teachers worthy of character and learning through effective teaching, research, and public service for the Basic Education system (NCCE, 2012). In recent times, the enrolment and desire to

accept mathematics as a course of study by students at tertiary institutions and COEs in particular in Nigeria has not been encouraging (Muhammad, Ayub, Suleiman & Abdul Manaf, 2021; Salman, Yahaya & Adewara, 2011). Many studies conducted before focused on instructional strategies for teaching mathematics to the neglect of influencing factors to continuance intention of studying mathematics (Muhammad, Alkali & Hassan, 2021). In Nigeria, several studies revealed that student's attitudes toward learning mathematics is generally negative, and this negative attitude contributed to their low desire to accept mathematics as a course of study at the tertiary institutions (Suleiman & Muhammad, 2016; Salman, *et al* 2011). Based on this, many students have perceived mathematics as a very difficult school subject to study due to the negative impression they have had from their past generations who have had bad experience with unqualified mathematics teachers (Muhammad et al, 2021; Dauda, Jambo & Umar, 2016). That mathematics is the most difficult subject in school, it is not meant for everybody and not everyone passes it. Therefore, many students do not concentrate in learning the subject and spend little time practicing the subject (Dauda, *et al*, 2016).

Despite the numerous research heavily done on continuance intention (intention to continue studying a course as a chosen career) in other part of the world like America, south Africa England, such claims have yet to be given much attention in Nigeria. Conducting a study on youths' intention to study mathematics education in Nigeria is necessary as it will the mathematics educator, researchers, and stake holders in education to understand the influencing factors to youth intention to continue to study mathematics education. With the model Theory of Reasoned Action (TRA), which was adapted as the base conceptual framework to determine whether attitudes towards studying mathematics and subjective norms (social influence) have any influence on youths' intention to study mathematics education. The results of this study would assist mathematics educators in developing meaningful strategies, and in paying more attention to the relevant determinants that meet youths' expectations on mathematics learning in order to entice/encourage more of them to choose mathematics education as their future career; subsequently, improving the enrolment of mathematics education programme in our tertiary institutions of learning.

In Nigeria, the age for youths is defined as those persons between 15 and 40 years old same as in Malaysia (Yunus, 2007 cited by Ismail and Lim, 2018). However, the United Nations defines 'youth', as those persons between the ages of 15 and 25 years old (UNESCO, 2017). For this reason, students of college of education falls within the age bracket of youth.

The way students perceived a subject determines their success or failure in the subject. In Nigeria many students perceived mathematics as very difficult subject because of the negative impression passed down to them by their families, teachers, friends or senior collogues (past generations) who had bad experience with unqualified mathematics teachers (Dauda, Jambo, & Umar, 2016) That mathematics is the most difficult subject in school, it is not meant for everybody and not everyone pass it, based on this students do not concentrate in learning the subject and spent little time to practice it (Dauda et al, 2016). From above literature it is clear that social influence and attitude toward learning mathematics greatly affect students' intention to further their studies in mathematics. However, students' attitude toward learning mathematics is an important determinant of their success in future career and continuance intention. The current study intents to investigate whether colleges of education mathematics students' intention to further their

studies in mathematics are equally influenced by subjective norm (families, teachers, friends or senior collogues) and attitude toward learning mathematics.

Attitude toward Studying Mathematics

Attitude towards Mathematics is a positive or negative feeling towards Mathematics (Muhammad, Alkali & Hassan, 2021) or by a more multifaceted definition, it is "an aggregated measure of a liking or disliking of Mathematics, a tendency to engage in or avoid mathematical activities, a belief that one is good or bad at Mathematics and a belief that Mathematics is useful or useless" (Muhammad et al, 2021). Students' beliefs about the utility of Mathematics influences their attitude towards Mathematics and mathematical problem solving. Attitude towards Mathematics is influenced by many factors, which are categorized in three groups: factors related with the student, factors related with the school and teacher, and factors related with the environment and the society. Factors associated with the students include their mathematical results, their past experiences (Maio, Maio, & Haddock, 2010), their extrinsic motivation (Tahar et al, 2010),

A positive attitude is important as studies revealed that there is a relation between students' performance and their attitude to Mathematics (Muhammad, Ayub, Suleiman & Abdul Manaf, 2021; Marchis, 2011; Mohd, Mahmood & Ismail, 2011). Students with a positive attitude towards Mathematics have better problem-solving skills and like to solve more non-routine problems, they put more effort in solving a problem and they give up later in case of an unsuccessful problem solving (Marchis, 2015). Attitudes toward mathematics can be positive or negative. Positive attitudes toward mathematics may increase the tendency of the individual to continue to learn about mathematics, to regularly take advanced courses in mathematics and to choose a career or work that requires mathematics or mathematics related skills. Negative attitudes toward mathematics may increase low self-confidence and low motivation which influence career options and guide away from the field of mathematics. Negative attitudes towards mathematics may weaken students' performance in mathematics classes, reduce career options, and promote unwanted behaviour toward any activities that include mathematical operations, whether be it simple arithmetic operations or complex problems (Aljaberi, 2014). Research in the area of attitudes towards mathematics confirms the importance of developing positive behaviours towards mathematics at early age and links positive attitudes towards mathematics with good performance in mathematics (Muhammad et al, 2021). Evidence suggests that mathematics is often considered a masculine domain (Ernest, 2004) and previous studies revealed that students have relatively positive attitudes toward mathematics (Muhammad, Ayub, Suleiman & Abdul Manaf, 2021; Tezer & Karasel, 2010; Fan, Quek, Yan, Mei, Lionel & Yee, 2005).

Subjective Norms

Subjective norms are explained as the influences of social environment (social groups) on individuals that impact on their behaviour or intentions. Accordingly, these social groups play a crucial role as it is assumed to be a function of social pressures on how others think an individual should or should not perform a certain behaviour or action. Hacıömeroğlu (2018) concluded that subjective norms played a more significant role in influencing youths' intentions to enroll in mathematics classes. With closer investigation, it was found that family was the most influential factor, followed by friends. Burrus & Moore

(2016) examined the ability of mathematics belief and attitude to predict ACT mathematics test scores. The result revealed that attitude toward mathematics subjective norm and intention were all significantly correlated with mathematics course grade. In another, study by Turan, Çelik, & Turan (2014) examined whether adolescents' career exploration is predicted by percieved social support (subjective norm), participants for this study were 718 7th, 8th and 9th grade students. Results revealed that perceived family social support, and percieved friends' social support and percieved significant other social support correlated significantly with career exploration. Finding also showed that perceived family social support, and percieved friends' social support and percieved significant other social support were significant predictor of career exploration.

Theoretical Framework

Theory of Reasoned Action (TRA) is mainly concerned with behaviour. Based on Ajzen's (1985) TRA model, an individual behavioural intention is instigated by a function of two determinants: namely attitude towards behaviour and subjective norms. By focusing on attitudes and subjective norms, the TRA provides a framework for classifying and measuring the fundamental reasons for a person's intent to behave or not behave in a certain manner. Many researches conducted in different field of studies have also reported significant effects of these two determinants (Attitude and subjective norms) on behavioural intentions (Ismail & Lim, 2018; Cesareo & Pastore, 2014; Amin & Chong, 2011; Lada, Tanakinjal & Amin, 2009). Attitudes towards behaviour is the individual's positive or negative evaluation of performing the behaviour and is determined by salient beliefs that the behaviour leads to certain outcomes (Ajzen, 1985). Subjective norms are explained as the perceived opinions or expectations of pertinent (important) others about the actions being performed along with intentions to comply with these expectations (Fishbein & Ajzen, 1975). According to the TRA, an individual has a sense of belief about whether or not these persons or group of persons would approve or disapprove the behaviour. In many situations, more than one reference groups are to be considered (Fishbein & Ajzen, 1975). In line with the concept of the TRA, this study also focuses on a person's intention to behave in a certain way, youths' intention to study mathematics education. Hence, to understand the behavioural intent of youth, which is seen as the main determinant of behaviour, the TRA was utilized. The TRA looks at a person's attitudes towards the intended behaviour as well as the subjective norms of influential people/groups of people that could influence behaviour.
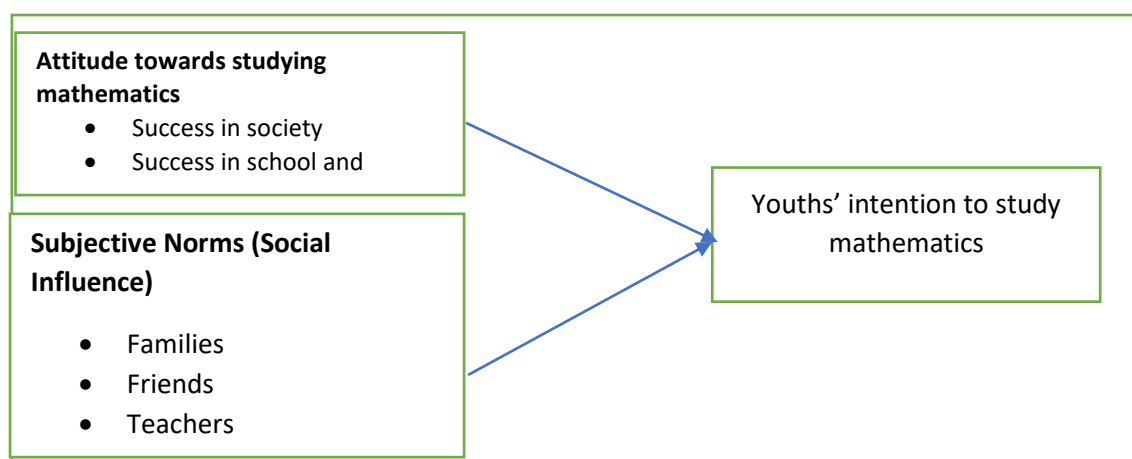
Adapted from Ismail and Lim 2018
Fig. 1: Research Framework

Researcher Hypotheses

Ho$_1$:   There is no any significant influence of Youths' attitudes towards studying mathematics on their intention to continue to study mathematics education.

H$_{O2}$:   There is no any significant influence of Subjective norms (Social influence) on youths' intention to study mathematics education

Methodology

This study employed a correlational research design to obtain a self-report of NCE Mathematics Students of Colleges of Education in the northwest, Nigeria in relation to their opinions about certain factors influencing their intention to continue to further their study in mathematics after their NCE program. According to Creswell (2012) correlational design is a procedure in quantitative research in which researchers measure the degree of association or relation between two or more variables using the statistical procedure of correlation analysis. Correlational design provides an opportunity for the researcher to predict relationship among variables. Another justification for the use of correlational design in this study is that the method allows for generalization of findings from the sample to the target population of the study (Fraenkel *et al.*, 2016).

The population of this study is 2,761 NCE III mathematics students from 12 Colleges of Education. Out of the 12 colleges of education five (5) are federal owned colleges of education with a population of 890 NCE III mathematics students while the remaining seven (7) are state owned colleges of education with a population of 1,871 NCE III mathematics students in the northwest geo – political zone, Nigeria. Therefore, the population of this study is 2,761 NCE mathematics students. Therefore, the sample size, recommended by Cochran was used for the purpose of this study because as stated by Salkind (1997) the sample is adequate for minimizing the associated error and will equally cater for the problem of non-returned of questionnaire or incomplete response. Therefore, 339 respondents were randomly selected from all the 12 colleges of Education in the Northwest geo-political zone in Nigeria using proportionate stratified random sampling techniques.

This study intends to examine factors influencing youths' intention to study mathematics education. For the purpose of this study, respondents are NCE students within the age of 18 to 26 years old. The demographic profile of the respondents is displayed in Table 1.

Table 1:   Demographic profile of the respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	256	75.5
	Female	83	24.5
Age	18 – 20	97	27.7
	21 – 23	176	51.9
	Above 23	69	20.4

Instrumentation

A questionnaire titled Youth Intention Questionnaire (YIQ) was administered to collect relevant information from NCE mathematics combination students through personal visit to all the colleges of education and distributed the questionnaires to the randomly selected students who shown interest to participate voluntarily and respond to the instrument. All measurement statements in the questionnaire were adapted from the previous studies. The questionnaire was adapted from different authors (Marchis 2015; Wu & Zhang 2014; Roca, Chiu, and Martinez 2008; Bhattacherjee 2001; Richard et al, 2012 & Lamb, Annetta, and Meldrum 2012) after written permission was granted by the original authors of the instruments The instrument has two sections. The first section consists of five questions with regards to the background information of the respondents with two closed ended questions (name of institution and gender) and three open ended questions (age of the respondent, state of institution and respondents 'course of study). The second section consisted of 22 questions to measure the three constructs of the study. All the three constructs in the second section of this questionnaire were rated using a 5-point Likert scale, labeled as 1 (strongly disagree), 2 (disagree), 3 (somewhat agree), 4 (agree) and 5 (strongly agree). The construct of attitude towards learning mathematics has 7 items, subjective norms have 7 items and intention to further study of mathematics (Continuance intention) has 8 items It was then given to expert in Mathematics Education from Faculty of education Federal University Gusau for validation after amendments were made.

To ensure reliability of the instrument {questionnaire) a pilot test was conducted prior to the actual study with 50 (14.8%) mathematics students selected from three colleges of education in the northwest geo- political zone. Namely, Federal college on Education Zaria, Kaduna State with 17 students, Zamfara state college of education Maru Zamfara state with 13 students and Shehu Shagari College of education Sokoto, Sokoto state with 20 students. The Cronbach's alpha value of the pilot study revealed acceptable value of 0.789.

Results

Ho$_1$:   There is no any significant influence of Youths' attitudes towards studying mathematics on their intention to continue to study mathematics education.

Table 2: Mean and Standard deviation of the Constructs

Construct	Mean	Standard Deviation
Youth Intention	3.8625	.56349
Attitude	2.8837	.75766
Subjective Norm	3.2343	.82447

The overall mean of attitude toward learning mathematics by colleges of education mathematics combination students is 2.88 (SD = 0.76) this revealed that colleges of education mathematics students have moderate positive attitude toward studying mathematics as it would improve their daily life activities, future ambition, and job opportunities. For subjective norm (social influence) in learning mathematics by COE mathematics students, the mean value is 3.23 (SD = 0.83) meaning that COE mathematics students learning of mathematics is influenced by friends, parents and teachers because their mean response is greater than criterion means of the scale. Generally, the mean for

the continuance intention of COE mathematics students toward learning mathematics is 3.86 (SD = 0.56) revealing that COE mathematics students have high positive intention toward learning mathematics.

Table 3: Correlation between independent and dependent variable

	Attitude	Subjective Norm
Youth Intention to study Mathematics Education	.115* P <.05	-.139* P <.05

On the correlation coefficient between independent variables and dependent variable Table 3 reveals the Pearson correlation between attitude toward learning mathematics and subjective norm as independent variables and Youth intention to study mathematics education as the dependent variable. There was a positive correlation between attitude toward learning mathematics with youth intention to study mathematics education ($r = .115$; $p < .05$) and a negative correlation between subjective norm (social influence) with intention colleges of education mathematics students to study mathematics education ($r = -.139$; $p < .05$).

Table 4: ANOVA

Model	Sum of Squares	df	Mean square	F	Sig
Regression	4.253	2	2.127	6.933	.001
Residual	103.068	336	.307		
Total	107.322	338			

To identify those factors that affect students' attitudes towards learning mathematics among colleges of education mathematics students in the northwest, Nigeria. A stepwise multiple regression was conducted. Table 5 reveals the statistics test of significance at $\alpha = .05$ ($F_{(2, 336)} = 6.933$, $P = 0.001$).

H_{O2}: There is no any significant influence of Subjective norms (Social influence) on youths' intention to study mathematics education.

Table 5: Model summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.199	.040	.034	.55385	2.015

Table 5. Indicated the multiple correlation coefficient values was .199 revealing 4.0% of the variance of the students' intention to study mathematics education among colleges of education mathematics students accounted from attitude toward learning mathematics and subjective norm (social influence).

Table 6: **Coefficient**

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
	(Constant)	3.916	.115		25.333	.000
	Attitude	.108	.040	.145	2.670	.008
	Norm	-.113	.037	-.165	-3.033	.003

Based on the result presented in Table 6. The two hypotheses formulated were answered and were all found significant. The two supported hypotheses are the influence of attitudes toward learning mathematics on youth (students') intention to study mathematics (β = .115, t = 2.670, P =.008) supported, and the influence of friends, parents, and teachers (subjective norm) on youth' intention to study mathematics (β = -.113, t=-3.033, P =.003) supported. Furthermore, the most significant contributor to students continue intention to study mathematics education among colleges of education mathematics students is attitude toward learning mathematics. The construct contributed 4.0% of the variance in COE mathematics students continue intention to study mathematics education.

Discussion

Mathematics is made a compulsory subject to all students from primary to senior secondary schools in Nigeria, and a credit pass in the subject is a pre-requisite requirement for getting admission to study any science course and some Arts and Humanity courses in Nigerian tertiary institutions of learning (FGN, 2013). This is due to the realization of the importance of mathematics in the nation-building by the government of Nigeria. However, literature have shown that student's attitude toward this important subject (mathematics) is generally negative (Awofola & Ojaleye, 2018; Suleiman & Muhammad 2016; Din, Ayub & Tarmizi, 2016; Salman, Yahaya and Adewara 2011). This study investigated factors that influence colleges of education pre-service mathematics teachers' intention to study mathematics education, the selected factors for this study were attitude toward learning mathematics and subjective norm (social influence). The study revealed that COE students' continued intention to study mathematics education is positively affected by their attitude toward learning mathematics and has significant impact on students' (youth) continued intention to study mathematics education , this finding is in harmony with the extant of literature that revealed the influence of attitude of students on their learning intention and achievement (Awofola & Ojaleye, 2018; Suleiman & Muhammad 2016; Din, Ayub & Tarmizi, 2016; Salman, Yahaya and Adewara 2011). The implication of negative or poor attitude of colleges of education mathematics students who are within the age of youth in Nigeria is that the dream of Nigeria in becoming self-reliant nation may not be actualized (FGN 2013).

On the relationship, the Pearson's correlation analysis showed that attitude toward learning mathematics and subjective norm have a significant relationship with youth intention to study mathematics education. This indicated that once youth have positive attitude in their mathematics learning, also having the belief that learning mathematics is important to their daily life activities and listen to the advice of people they think are important to them pertaining mathematics learning. Then they would develop a positive

intention toward learning the subject. This may lead to the attainment of sustainable national developmental goals (the nation-building by the government of Nigeria).

Conclusion

In sum, the analysis concluded that attitude toward learning mathematics and subjective norm influenced youth intention to study mathematics with attitude toward learning mathematics having the highest influence. This finding is in line with the findings of many earlier studies among others are Ismail and Lin (2018) in which, their findings revealed that attitude toward studying music and subjective norm are positively related to youths' intention to pursue music education. The result of this study also confirms that the Theory of Reasoned Action (TRA) model adopted is a valid model for determining youth intention to study mathematics education.

Recommendations

The following recommendations were put forward by the researcher, based findings of this study.

i.   The government of Nigeria (federal and state) and ministry of education should introduce some courses that will expose the importance of mathematics to students, right from basic education level. As this will help more students to understand the relevance of mathematics to other field of study and their daily life which will certainly improve their attitude toward learning the subject. Also building confidence in them to learn mathematics.

ii.   Curriculum implementers who are lecturers should try to instill positive attitude and confidence of learning mathematics in their students so that they can be seeing themselves as capable of handling any mathematical activity that comes their way. This can no doubt go a long way in changing their thinking and intention toward learning mathematics positively.

iii.   Community leaders and well to do individuals should support and encourage youth to study mathematics education by given them scholarship.

Implication of the Study

The implication of this research findings is that the study revealed that attitude and subjective norm (social influence) are not the major predictors to youth intention to study mathematics education because attitude toward learning mathematics being the major contributor accounted for only 4% of the variance while subjective norm accounted for only 3.7% variance. Considering the contribution of the two constructs it is evident that what was left on accounted is much more than what was accounted by the two constructs. Therefore, among other recommendations there is need to study other predictor like perceived usefulness, enjoyment, motivation and so on, to see whether they may account for more variance.

Reference

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl et al. (eds.), Action Control (pp. 11-39). Berlin, Germany: Springer-Verlag Berlin Heidelberg.

Ajzen, I., & Fishbein, M. (1973). Understanding attitudes and predicting social behaviour. Englewood Cliffs, New Jersey: Prentice-Hall.

Amin, H., & Chong, R. (2011). Determinants for ar-Rahnu usage intentions: An empirical investigation. African Journal of Business Management, **5** (20): 8181-8191.

Awofala, A. O., & Ojaleye, O. (2018). An exploration of preservice teachers' educational values of mathematics in relation to gender and attitudes toward mathematics in Nigeria, *2* (1): 1–15.

Ayub, A.F.M. Yunus, A.S.M. Mahmud, R. Salim, N.R. Sulaiman, T (2017) Differences in students' mathematics engagement between gender and between rural and urban schools *AIP Conference Proceedings* 1795,020025

Bhattacherjee, A. (2001). Understanding information systems continuance. An expectation–confirmation model. *MIS Quarterly*, **25** (3): 351–370

Burrus, J., & Moore, R. (2016). The incremental validity of beliefs and attitudes for predicting mathematics achievement. *Learning and Individual Differences*, **50**: 246–251.

Cesareo, L. & Pastore, A. (2014). Consumers' attitude and behavior towards online music piracy and subscription-based services. Journal of Consumer Marketing, **31** (6/7): 515-525.

Dauda, B., Jambo, H. E., & Umar, M. A. (2016). Students ' Perception of Factors Influencing Teaching and Learning of Mathematics in Senior Secondary Schools in maiduguri metropolis, Barno state, Nigeria, **7** (20): 114–122

Din, N.M. Ayub, A.F.M. & Tarmizi, R.A (2016). Influence of parental involvement and peer support on mathematics engagement among Malaysian secondary school students *Malaysian Journal of Mathematical Sciences*, **10**: 175-185

Federal Government of Nigeria (2013). *National policy on education.* (5th ed.). Lagos: Nigerian Educational Research & Development Council.

Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention and Behavior:An Introduction to Theory* the science interest survey, (August 2011), 643–668.

Ismail, N &Lim, J (2018). The predictive Role of Attitude and Subjective Norms on Youth Intention to Pursue Music Education in Malaysia: *Taylor's Business School. Acontemporary Business Journal*, **7** (1): 21 – 39 ISSN: 2232 – 0172.

Hacıömeroğlu, G. (2018). Examining Elementary Pre-service Teachers' Science, Engineering, and Mathematics (STEM). *Teaching Intention Technology*, **10** (1): 183–194.

Lada, S., Tana Kinjal, G. H., & Amin, H. (2009). Predicting intention to choose halal products using theory of reasoned action. *International Journal of Islamic and Middle Eastern Finance and Management*, **2** (1): 66-76.

Lamb, R. L., Annetta, L., & Meldrum, J. (2012). Measuring science interest: rasch validation of *Procedia Social and Behavioural Sciences*, **29**: 786–793. https://doi.org/10.1016/j.sbspro.2011.11.306

Marchis, I. (2011). Factors that influence secondary school students' attitude to mathematics. *and Research*. Addison-Wesley, Massachusetts.

Mohd, N., Tengku Mahmood, T. F. P., & Ismail, M. N. (2011). Factors That Influence Students In Mathematics Achievement. *International Journal of Academic Research*, **3** (3): 49–54.

Muhammad A., Ayub A. F. M. Suleiman T. & Abdul Manaf U. K (2021) Predicting Mathematics students' continuance Intention toward learning Mathematics *Asian Journal of University Education (AJUE)*, **17** (3): July, 2021. 192 – 202. https://doi.org/10.24191/ajue.v17i3.14503

Muhammad A., Ayub A. F. M. Suleiman T. & Abdul Manaf U. K (2020) Analysis of Perceived Usefulness and satisfaction as factors Influencing learning Continuance Intention: A systematic Review. *Journal of Critical Review*, **7** (13): 2020. 519 – 525. http://www.creview.com/fulltext/197-1593152579.pdf?1593274835

Muhammad A., Ayub A. F. M. Suleiman T. & Abdul Manaf U. K (2021). Influence of Perceived usefulness, Perceived Enjoyment and Self-efficacy on Students' Attitude towards learning Mathematics. *Journal of Psychology and Education (*ISSN: 0033-3077) 2021. www.psychologyandeducation.net

Muhammad A., Alkali U. M. & Hassan S. R. (2021). Examining Pre-service Teachers 'Attitude and Mathematics Self-efficacy in learning Mathematics. *West African Journal of Science and Educational Research.* **6** (1): July, 2021. 172 – 179, ISSN:978-065-9725-7.

Muhammad A., Alkali U. M. & Hassan S. R. (2021) Relationship between Expectation, Enjoyment, Satisfaction, Usefulness and Intention of Learning Mathematics among students in Colleges of Education Northwest State, Nigeria. *Zamfara State International Journal of Education (ZIJE). Federal University Gusau, Zamfara State, Nigeria.* Maiden Edition, **1** (1): 282 – 298. www.zijedufugusau.com

National Commission for Colleges of Education (2012). *Nigeria Certificate in Education Minimum Standards for Sciences Federal Republic of Nigeria Minimum Standards for* (2012th ed.). Abuja:

Salman, M. F., Yahaya, L. A., & Adewara, A. A. (2011). Mathematics education in Nigeria: Gender and spatial dimensions of enrolment. *International Journal of Educational Sciences*, **3** (1): 15-20. https://doi.org/10.1080/09751122.2011.11890004

Suleiman, B., & Muhammad, A. (2016). Survey of factors influencing students Attitude as a predictor toward their performance in mathematics and implication on economic development. *Education ABU Zaria*, **10** (2): 62 – 65.

Turan, E., Çelik, E., & Turan, M. E. (2014). Perceived social support as predictors of adolescents' career exploration. *Australian Journal of Career Development*, **23** (3): 119–124.

UNESCO. (2017). Youth – definition | United Nations Educational, Scientific and Cultural Organization. Retrieved from http://www.unesco.org/new /en/social-and-human-sciences/themes/youth/youth-definition/

Wu, B., & Chen, X. (2017). Continuance intention to use MOOCs : Integrating the technology acceptance model (TAM) and task technology fi t (TTF) model. *Computers in Human Behavior*, **67**: 221–232.

Yunus, F (2007). Youth employment and employability in Malaysia (Malaysian Youth Report 2007). Retrieved from https://www.ippbm.gov.my/jdownloads/ kertaskerja/youth-employment-and-employability-in-malaysia.pdf

Zhang, W. (2007). Why is: Understanding undergraduate student's intentions to choose an information systems major. *Journal of Information Systems Education*, **18** (4): 447-458.

Zsoldos-Marchis, I. (2015). Changing pre-service primary-school teachers' attitude towards Mathematics by collaborative problem solving. *Procedia-Social and Behavioral Sciences*, **186**: 174-182.https://doi.org/10.1016/j.sbspro.2015.04.100

MANAGING ADULT LITERACY PROGRAMMES FOR SUSTAINABLE HUMAN SECURITY IN NIGERIA

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Abstract

This paper is a discussion on managing adult literacy programmes for sustainable human security in Nigeria. Managing literacy programmes implies to applying the constitutional provisions of Nigeria and using the ethical requirements of the Nigerian National Commission for for Mass Literacy, Adult and Non-Formal Education (NMEC) to provide sufficient and qualitative human resources, sufficient fund and standardized quality assurance systems for the National headquarters, states headquarters, Local Government Area Offices and centers to efficiently manage literacy centers to ensure inclusive and qualitative adult literacy programmes delivery. The study was necessitated by observing the current conditions of insufficient funds, neglect and non-professional managers that are handling adult literacy programmes as challenges hindering adult literacy programs delivery in Nigeria. The paper reviewed the concept of adult literacy, sustainable human security, nature and scope of human security in Nigeria and managing adult literacy to ensure sustainable human security in Nigeria. It was recommended that stakeholders should ensure that adult literacy programmes are managed and administered by professionals of adult and non-formal education, human security should be incorporated in adult and non-formal education curriculum, government should ensure adequate financing of adult and non-formal education programmes at all levels, facilitators should be adequately employed and remunerated by the government to ensure their job satisfaction and to avoid capitalizing on volunteers.

Introduction

Adult literacy prgrammes in Nigeria are aimed at reforming human lives for positive and sustainable development particularly those people who were not able to attend formal school at the appropriate time and workers seeking for knowledge to become updated in the discharge of their official responsibilities. Adult literacy is a programme that takes adequate care of the economic, traditional, political, educational, medical, social and environmental problems of the adults in need. Adult literacy consequently changes the philosophical, social and psychological minds of the concerned adults, implants lost hope in them and unshackles them from their prejudgment of seeing themselves as not beings that are capable to learn. Adult literacy awakens adult learners to become cognizant of their environmental, educational, social, economic, cultural, medical and political, psychological and philosophical potentials and hidden abilities. (Onyenemezu, 2012).

Based on the above significances of adult literacy programmes particularly in a country like Nigeria and other African countries, it became mandatory to manage and administer adult literacy programmes with professionalism, adequate care and sufficient funding so as to achieve the desired goal of establishing the agencies managing adult education programmes based on the constitutional and ethical provisions. The success or failure of

any venture including adult literacy programmes isbasically associated with the configuration and style of leadership in such organization (Asaju, 2015). Adult literacy programmes in Nigeria enjoys the managerial support of not only the government, but also that of local and international Non-Governmental Organizations, as well as that of other stakeholders. They all make intensive efforts to ensure effective adult education programmes management. But, despite all these supports, there seems to be persistent and intransigent challenges and problems that have been influencing against effective adult education management in Nigeria. Adult education is a vital enterprise that touches the lives of the present and future generations.

Human security is a fragile and significant issue which conveys different meanings to scholars, analysts, policy makers and organizations across the globe. Fundamentally, security has to do with the presence of peace, safety, gladness and the protection of human and physical resources or absence of crisis or threats to human dignity, all of which facilitate development and progress of any human society. The concept of security has become a preoccupation for the decades following the end of the Cold War which could also be referred to as landmark for diverse school of thought with security studies. Security, as a concept, has diverse dimensions. It is aptly used in psychology, finance, information access, public safety, defense and military matters.

Across the world, human security and peace building strategies have increasingly assumed major policy priority necessary for good governance. In Nigeria, this has been more prominent in successive regimes' failure to adequately face the recurrent security threats affecting almost every part of the country. This means that peace is neither built on a solid foundation nor has security been achieved in Nigeria. Considering the current security situation of the country, this paper examined the interface between human security and managing literacy programmes and brought to focus how adult literacy programmes could be managed to ensure sustainable human security in Nigeria. Human security is highly needed in Nigeria in response to the complexity and interrelatedness of both old and new security threats ranging from chronic and persistent poverty to terrorism, banditry, ethnic violence, human trafficking, health pandemic, epidemics and economic and financial downturns, all the above security threats could be addressed through effective and inclusive adult literacy programmes (Bashar 22017). Enu & Ugwu, (2021) lamented that, lack of commitment by the state to address the little security challenges and economic deprivation, corruption and selfishness of some leaders and politicians forced the youth to seek alternative methods of negatively drawing government's attention towards their problems as claimed by many bandit gangs in Nigeria.

Concept of Adult Literacy

The concept of adult literacy varies, depending on social, cultural, educational and political contexts. For example, a basic literacy standard in many societies is the adults' ability to read the newspaper in any language, others consider it as the ability to read and write in English language only, others defined literacy as the ability to read and write in any language, whereas some societies require literacy with computers and other digital or modern technologies. Traditionally, literacy is considered to be the ability to read and write, or the ability to use a particular language to read, write, listen, and speak Montoya (2018). In modern contexts literacy refers to reading and writing at a level passable for communication, or at a level that allows one to successfully understand and

communicate in print society. Literacy is the ability to identify, comprehend, interpret, create, converse and compute, using printed and written materials associated with varying contexts (Alan 2005).

Sustainable Human Security

The concept of sustainable human security provides an incorporated framework for sufficiently and sustainably or continuously addressing development and collaboration in complex situations of war, violence and fragility, likewise ensuring favourable living condition for human being without turnover. As human security swings the attention from a state-centered to a people-centered approach to security, sustainable human security aims at underscoring the persistence, interdependence and universality of a set of freedoms which are essential to human life. The concept of sustainable human security is a paradigm that advocates most of the modern understandings on human security, human development, human dignity and human sustainability. It emerges from at least thirty years of reflections in line with sustainable development; human rights based development, human security and human development (Singh, & Kumar, 2018).The United Nations Commission on Human Security (2008) identified seven basic areas of human security as follows:

Economic Security

Economic security requires an assured basic income for individuals, usually from productive and remunerative work or, as a last resort, from a publicly financed safety net. In this sense, only about a quarter of the world's population is presently economically secured. While the economic security problem may be more serious in developing countries. Unemployment problems constitute an important factor underlying political tensions and ethnic violence. Yagboyaju, (2019) lamented that; poverty has being a major problem in Nigeria Like in other parts of Africa.

Food Security

Food security requires that all people at all times have economic access to basic food. According to Idris (2020) Nigeria has an estimated population of 205,323,520 persons and has 102,407,327 people living in extreme poverty (50% of the total population) are living below one dollar per day which is the world poverty line. Similarly, poverty food insecurity are twins and as such more than 50% of the Nigerian populace are facing food insecurity (World Data Lab, 2020). Nigeria is unarguably the most populous nation in Africa and ranked number 7 globally with an estimated growth rate of 2.43% per-annum and high dependency ratio of 88% (Worldometer, 2020).

Health Security

Health Security aims to guarantee a minimum protection from diseases and unhealthy lifestyles. Today, lifestyle-related chronic diseases are leading killers worldwide, with 80% of deaths from chronic diseases occurring in low- and middle-income countries. (United Nations Commission on Human Security 2018The World Health Organization conducted a health security survey in Nigeria and discovered that, out of the nineteen technical areas assessed, there was no single indicator that attained the highest-level score of five in Nigeria. Scores for national legislation, policy, and financing; zoonotic

diseases; and biosafety and biosecurity increased under the present core areas between 2017 and 2019 (Fasominu, *et al*, 2022). This indicated that, the Nigerian health system is weak and it cannot ensure health security for the entire Nigerians.

Environmental Security

Environmental security aims to protect people from the short- and long-term ravages of nature, man-made threats in nature, and deterioration of the natural environment. In industrial countries, one of the major threats is air pollution. Global warming, caused by the emission of greenhouse gases, is another environmental security issue in such nations while in some African countries like Nigeria deforestation and desert encroachment are the threats. Environmental security in Nigeria is one of the major threats to human life, considering the level of desert encroachment and environmental degradation couple with excessive deforestation in the name of charcoal production and the Niger Delta that became so prone to environmental security threats and increasingly neglected (UNDP, 2006). (The Nigerian environmental insecurity contributed a lot to fuel the resurgence of banditry, militancy, poverty, rural to urban migration, inefficient livelihoods and vulnerability (Amadi & Alapiki, 2019).

Personal Security

Personal security aims to protect people from physical violence, whether from the state or external states, from violent individuals and sub-state actors, from domestic abuse, or from predatory adults. For many people, the greatest source of anxiety is crime, particularly violent crime.

Community Security

Community security aims to protect people from the loss of traditional relationships and values and from sectarian and ethnic violence. Traditional communities, particularly minority ethnic groups are often threatened. About half of the world's states have experienced some inter-ethnic strife. According to Odegbunam, (2019) the rising insecurity in Nigeria in the recent times necessitates the calls and agitations for community security and the establishment of state police in Nigeria. The idea of community security is about partnership and cooperation between the citizens and the police to fight, control, and reduce crime. Upon all these efforts and attempts, yet Nigeria cannot secure itself which necessitates the need for strengthening human security through literacy (Mohammed & Isma'ilu, 2021).

Political Security

Political security is concerned with whether people live in a society that honours their basic needs and human rights? According to a survey conducted in March 2021 by Amnesty International, political repression, systematic torture, ill treatment or disappearance *of* persons were still practiced in 110 countries and Nigeria is among the top ranking countries. Human rights violations are most frequent during periods of political unrest, police and military brutality and injustice court ruling in Nigeria (Amnesty International, 2021).

Nature and Scope of Sustainable Human Security in Nigeria

As contained in the sustainable development goals (SDG) as it was equally accepted by the Nigerian government, that in addition to protecting the state from external and internal aggression, sustainable human security in Nigeria expanded the scope of human security to include protection from a broader range of threats, including environmental pollution, infectious diseases, and economic deprivation, hunger, social vices. Similarly, to sustainably make citizens free from illiteracy, vulnerability, fear, , shame and freedom of movement. Thus, sustainable human security involves permanently, progressively and sustainably protecting citizens from poverty, hunger, diseases, unemployment and national disaster. However, all these can only take place where citizens are literate and there is peace and stability in the polity. This exhibited an increase in poverty, diseases, acute youth unemployment, poor health care facilities, poor housing facilities, epileptic power supply and more in the Nigerian society (Orhero, 2020).

Mohammed and Isma'ilu (2021) lamented that, the collective sense of insecurity is now higher in Nigeria than any other time before, because the forces that drive insecurity remain persistent and widespread .Supporting this assertion, Njoku (2019) identified five major security challenges among others that Nigeria is currently confronted with as follow:

Militancy and Biafra Agitation: the southeastern part of Nigeria has become a death zone, particularly to Northerners and some of their Biafra indigenes who refuse to cooperate with their mission.
Boko Haram: The militant group of Boko Haram has destabilized the North-Eastern part of Nigeria since 2009 the group killed tens of thousands of people and displaced millions. About 2.5 million people fled their homes and towns, and the direct consequence of the conflict was that the North-East was plunged into a severe humanitarian crisis - as of 2018 to date been one of the worst in the world, which left about 7.7 million people in need of humanitarian aid (Bette, & Ude, 2011).
Farmer-Herder Clashes: The Middle Belt region of Nigeria faced prolonged violent clashes between farmers and cattle herders. At the core of the conflicts are disputes over access and rights to land and water resources and rapid desertification which has changed the grazing patterns of cattle. Segun (2013) identified other areas that are germane in the discussion of security and sustainable development goals in Nigeria to include: The Nature of politics, Multi-ethnic Nature of Nigeria and Religious Rivalries, Corruption, Unemployment and Poverty (Alemika, 2011), (Salawu 2010), (Egharevba and Chiazor, 2012).

Literacy and Human Security Development

The promotion of human security through literacy has become the central focus of the new development paradigm because provision of arms and ammunitions do not bring sustainable human security. Eradicating hunger, diseases, poverty and unemployment through literacy and sustainable development programmes is the global best practice today to ensure human security that can be sustained forever. Human security hold the key to an enduring national security base on the fact that, when every citizen is literate, the skills and thought acquired through his/her literacy processes could be applied to change his/her life style to the best and that is what can make the development sustainable, as such the individual could utilize the knowledge and skills to adjust

him/herself economically, socially, politically, personally, medically, and so on (Enu, & Ugwu, 2020).

It is obvious that literacy is the only key to be used to encompass and inculcate all the seven factors of human security into human life, therefore, literacy is the best and sustainable solution to ensuring human security (Orhero, 2020). This paper has confidence that for Nigeria to address the issues of human security, the seven factors for human development should be integrated into literacy programmes so as to initiate and ensure that the individual is on the part to attain absolute development not support in form of palliatives (Bette & Ude, 2011).

Managing Adult Literacy to Ensure Sustainable Human Security in Nigeria

To sustainably and functionally manage adult literacy programmes in Nigeria there is need for series of reviews and restructuring in the entire system couple with adequate financing right from National level, State level, Local Government level, ward level and center level. This is based on the fact that, there is inadequate professionalism in the management of adult and non-formal education programmes in Nigeria base on the fact that, there is no standard for appointment, promotion and transfer of staff to and from NMEC, state agencies for mass education, local Government area offices and so on. To complement the Federal Government effort to ensure the success of mass literacy campaign each state established its own Agency for Adult and Non-Formal Education . The roles of these agencies were to eradicate illiteracy within their areas of jurisdiction by providing literacy programmes that are in line with the philosophical, economic, cultural, social and political needs of the concerned people.

Upon all these efforts, illiteracy is one of the major challenges hindering human security in Nigeria, illiteracy level among Nigerians is due to managerial negligence among some of the literacy programmes managers and administrators. Based on this note this paper is advocating for effective and efficient management of literacy programmes in Nigeria so as to ensure sustainable human security in the country, because literacy programmes contained all it takes to ensure human security in Nigeria.

For efficient, effective and sustainable management of adult and non-formal education in Nigeria, there is need for efficient, regular and highly effective monitoring and evaluation system that should have the political will, capacity, dedication and patriotism to ensure qualitative system and delivery of literacy programmes in Nigeria. At the same time, similar system should be provided at the State level, Local Government, ward and centre level to ensure sustainable and efficient management and administration of adult literacy programmes in Nigeria. These teams (monitoring teams) need to be andragogically trained to ensure philosophical, functional, social, economic and culturally oriented facilitation and learning at every learning Centre. To complement these efforts, the monitoring and evaluation departments at all the levels should ensure that, all the legitimate facilitators received efficient and adequate training from NMEC, so that there would be synergy between facilitators and monitoring teams. To provide functional literacy and continuing education for adults and youths who have never had the advantage of formal education or who did not complete their primary education (Kaehler, & Grundei, 2019).

To efficiently manage adult literacy programmes in Nigeria, it is necessary to employ and maintain professionally trained managers of adult and non-formal education at all the managerial levels ranging from National level down to ward level, this will ensure professional service delivery which is a foundation to efficient and effective facilitation and learning. The non-professional managers should go for in-service professional training and they should serve as subordinates after their return. Similarly, the strategy of employing facilitators needs to be reviewed. Based on the relevance of adult and non-formal education services in our communities it is imperative to employ permanent and professional facilitators that can work reliably and selflessly. The time has gone for adult and non-formal programs to depend on volunteers and negligibly paid facilitators while the managers remain permanently paid staff. If we really mean business, facilitators should be given the top priority and should be advanced gradually to reach the managerial levels so that, they work based on the foundational experiences they acquired as facilitators to enhance service delivery and learned from their past mistakes (Ayodele, & Adedokun, 2015).

To ensure sustainable human security, in countries with high level of illiteracy like Nigeria and other African countries, it is mandatory to manage adult literacy programmes with utmost efficiency and professionalism. Human security is a vast area that covered several aspects of life ranging from political security, health security, social security, educational security, economic security and so on. It equally includes freedom from fear, freedom from want, freedom from shame, freedom from vulnerability and so on. To ensure these in an adult's life, this requires high level professionalism and technicalities; this informed us that facilitating adult class is not for SSCE graduates neither a job for volunteers nor a work to be paid with negligence or with common allowances (Tavanti, 2013). Therefore, adult and non-formal education managers should bear it in mind that, there is need for a thorough surgical operation in the system for us to be able to achieve human security in this country and other African.

When the above strategies are put in place in Nigeria, it is believed that, the adult literacy programmes would be efficiently equipped with both human and material resources that can help learners to easily learn and assimilate what they learned. The skills and knowledge they will acquire through an efficiently managed adult literacy programme will certainly modify their life styles, they are likely to become conscious of everything that concern their lives, ranging from children education, health care services, economic development, social development, personal development, cultural development, political development and other aspects of their lives. When these are injected into learners lives and been sustained through continuous education, learners will develop the critical thinking ability to carter for themselves to ensure sustainable human security in their various communities, states and the nation as a whole. Base on this fact, the only solution to the numerous challenges facing Nigeria today is to revitalize and manage adult literacy programmes efficiently to make at least 75 % of the Nigerian population sustainably literate to see how life will change in Nigeria (Kapur, 2020).

Conclusion

This chapter concluded that, management is a tactical and dynamic means of manipulating human beings to get the best from them at the same time satisfying their needs and make them feel accomplished. The management of adult literacy programmes in Nigeria is facing managerial challenges at all the levels of its management as such

professionalism is highly required in the management of adult and non-formal education in Nigeria. Human security today is beyond military action to secure society but ensuring social security, political security, food security, health security, educational security and safeguarding human freedom from fear, freedom from want, freedom from shame, freedom from vulnerability, freedom from fear, freedom from want. To ensure the above, literacy programmes need to be adequately funded, efficiently, selflessly and sustainably manage. Adult literacy programmes should be professionally, efficiently, selflessly and effectively managed to produced conscious citizens that could play all the possible roles to secure human life sustainably. Because if managed productively adult literacy programmes can produce functional citizens that that can sustainably secure human life in Nigeria forever.

Recommendations

Based on this review, it was recommended that,

1.   Stakeholders should ensure that adult literacy programmes are managed and administered by professionals of adult and non-formal education only.
2.   Human security should be incorporated into adult and non-formal education curriculum to ensure comprehensive awareness of the concept of human security and put it into practice.
3.   To sustainably and functionally manage adult literacy programmes in Nigeria, the government should review and restructure the entire system couple with adequate financing right from National level, State level, Local Government level, ward level and center level.
4.   Learning facilitators should be adequately employed and remunerated by the government to ensure their job satisfaction and welfare. Facilitators should be sufficiently employed like every civil servant to avoid capitalizing on volunteers.

References

Ake, C. (1985). *Political Economy of Nigeria* (E.D.). Longman Publishers.

Alemika R. (2011). *An Appraisal of Electoral Malpractice and Violence as an Albatross.* www.scirp.org › journal › paper information. Beijing Law Review > Vol.10 No.1, March 2011. https://doi.org/: 10.4236/blr.2019.101005

Amadi, L. & Alapiki, H. (2019) *Environmental Security Threats and Policy Response in the Niger Delta, Nigeria 1990-2016: Breakthroughs in Research and Practice.* https://doi.org/10.4018/978-1-5225-7912-0.ch035.

Amnesty International (2021) *Promoting reconciliation, accountability and human rights in Sri Lanka.* Retrieved From www.https://content/uploads/2022/03/ASA3752782022ENGLISH.pdf

Alan R. (2005). *Non-Formal Education: Flexible Schooling or Participatory Education?* https://doi.org/*10.*10070-387-28693-4.

Asaju, K. (2015). *Effective Educational Management: A Trend in the Nigerian Educational System.* Retrieved From https://www.researchgate.net/publication/292159438_Effective_Educational_

Ayodele, J. B. & Adedokun, M. O. (2015). Towards Achieving Functional Adult Literacy in Nigeria. *European Scientific Journal March edition. 8 (5). 1857–7881.* Retrieved From https://core.ac.uk/download/pdf/236409009.pdf

Bette, D. E. & Ude U. (2011). *Human Security and Sustainable Peace Building in Nigeria: The Niger Delta Perspective. Journal of Sustainable Development* 4(1). https://doi.org/10.5539/jsd.v4n1p254.

Bashar, L. M. (2017). Human Security for Sustainable Development in Nigeria: The Role of Information and Communication Technology (ICT). *Covenant Journal of Information and Communication Technology, Vol. 5 No. 2, Dec. 2017.* https://doi.org/10.5539/jsd.v4n1p254

Enu, O. & Ugwu, U. (2020). The Interaction Between Human Rights and National Security in Nigeria. *Global Journal of Politics and Law Research 2021, Vol.9, No.7*, PP 61-69. Retrieved From https://papers.ssrn.org>papers

Egharevba, M. & Chiazor, I. (2013). Political Corruption and National Development in Nigeria. *International Journal of Social Sciences and Humanities Review*. Retr..

Enu, D. B. & Ugwu, U. (2021). Human Security and Sustainable Peace Building in Nigeria: The Niger Delta Perspective. *Journal of Sustainable Development 4(1)* February 2021. Retrieved From www.ccsenet.org/j

Fasominu,O., O. Oyeronke, Christopher T. L., Atanda, A., Mamadu, I., Okudo, I., Okereke, E., Ilori, E. & Chikwe, I. C. . (2022). *Reviewing Health Security Capacities in Nigeria Using the Updated WHO Joint External Evaluation and WHO Benchmarks Tool*. https://doi.org/10.1089/hs.2021.0095

Idris, A., Otekunrin, O.A., Akinbode, S.O., & Otekunrin, O. A. (2020) *Impetus for Growth and Development Article in Journal of Agriculture Economics and Rural Development* · September 2020. https://doi.org/10.6084/M9.

Kaehler, B. & Grundei, J. (2019). *H.R. Governance, A Theoretical Introduction*. Springer Publishers.

Kapur, R. (2020). *Contribution of Adult Literacy Programs in Promoting Well-being of Individuals and Communities*. Retrieved From www.researchgate.net/publication/343064479_Contribution_of_Adult_Literacy

Mohammed, I. & Isma'ilu, A. (2021). Community Policing and National Security in Nigeria: Challenges and Prospects. *Jalingo Journal of Peace Science and Conflict Management. Volume 1, Number 1: June, 2021*. P 6 - 10 Retrieved From https://www.researchgate.net/publication/353852052_Community_Policing_

Montoya, S. (2018). *Defining literacy*. GAML Fifth Meeting 17-18 October 2018 Hamburg, Germany. Retrieved From https://gaml.uis.unesco.org/wp-content/uploads/sites/2/2018/12/4.6.1_07_4.6-defining-literacy.pdf

Njoku K, (2019). *5 security challenges Nigeria's leader must tackle*. Retrieved From https://www.weforum.org/agenda/2019/02/5-security-challenges-facing-nigerias-

Onyenemezu, E. C. (2012) Adult Education and the Challenges of the 21St Century in Nigeria. *Journal of Education and Practice. 3 (5)* P 7.

Obi, C. (2000). Globalised Images of Environmental Security in Africa. *Review of African Political Economy, 27(83), 47–62.* https://doi.org/10.1080/0305624000870443

Odegbunam, O. (2019). Insecurity: Buhari has approved community policing. *Premium Times.* Retrieved from https://.com. . Special Report. 28 March, 2020.

Orhero, A. E. (2020). Human Security: the Key to Enduring National Security in Nigeria *Journal of Public Administration, Finance and Law* Issue 17/2020 470 p. 470-473. Retrieved From

Solomon AYEGBA Usman, S. A. (2015). Unemployment and Poverty as Sources and Consequences of Insecurity in Nigeria: The Boko Haram Insurgency Revisited. *African Journal of Political Science and International Relations 9(3):90-99.* https://doi.org/10.5897/AJPSIR2014.0719.

Salawu, B. (2010). Ethno-Religious Conflicts in Nigeria: Causal Analysis and Proposals for New Management Strategies. *European Journal of Social Sciences – Volume 13, Number 3 (2010) 345*. Retrieved from https://gisf.ngo/wp-content/uploads/2014/09/0071-Salawu-2010-Nigeria-ethno-religious-conflict.pdf.

Singh, J. & Kumar, S. (2018). Sustainable Human Security: A Paradigm Shift. International *Journal of Research in Social Sciences Vol. 8 Issue 7, July 2018*. Retrieved From http://www.ijmra.us,

Segun, G. (2013). *Security and Sustainable Development Goals*. Retrieved From www.sgojahds.com › index.php › SGOJAHDS › article › view

Tavanti, M. (2013). *The Frameworks (Pillars) of Sustainable Human Security*. Retrieved From https://repository.usfca.edu/pna/17/

United Nations Commission on Human Security (2018). *Towards Development, Security and Human Rights for All* Report. Retrieved from <http://www.unescap.org/pub1ications/detajl.asp9j345

United Nations Development Programme. (1994). *Human Development Report: Redefining Security*. Oxford Publishers.

United Nations Development Programmes. (2006). Niger Delta Human Development Report. Oxford Press.

United Nations Environment Programmes. (2011). *Report of Environmental Assessment of Ogoniland.* UNEP Report. https://www.researchgate.net/profile/Philip-Agbonifo/publication/333973656_OIL_SPILLS_INJUSTICES_IN_THE_NIGER_

Worldometers (2020). *World Population Projections*. Retrieved from :https://www.worldometers premiumtimesng.info/worldpopula

https://www.jopafl.com/uploads/issue17/HUMAN_SECURITY_THE_KEY_TO_ENDU RING_NATIONAL_SECURITY_IN_NIGERIA.pdf.

World Data Lab (2020). *Food security in Nigeria: impetus for growth and development* Retrieved from: https://worldpoverty.oi/headline Accessed 5 May 2020

ASSESSMENT OF SYSTEMATIC DESENSITIZATION COUNSELLING TEACHNIQUE ON SOCIAL PHOBIA AMONG NIGERIAN UNDERGRADUATE STUDENTS

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Abstract

This research investigated the assessment of systematic desensitization counselling technique on social Phobia among Nigerian undergraduate students. Concept and dimension of social phobia (cognitive, behavioural and psychological dimension) were discussed, symptoms such as Feelings of shyness or discomfort in certain situations aren't necessarily signs of social phobia disorder, particularly among undergraduate and genetic, environmental, and parental, courses of social phobia were also addressed. Systematic desensitization counselling technique, procedure and process on how to improve the process were discussed. The researcher suggested that counsellors and teachers should be encouraged to use systematic desensitization counselling Technique in addressing social phobia behaviour among Nigerian undergraduate students and students should be given equal opportunity and exposure to the techniques in re-addressing social phobia in schools, this will help improve the active participation in class and enhance teaching and learning process.

Keywords: Systematic Desensitization, Social Phobia, Undergraduate students

Introduction

Social phobia is a fast growing phenomenon which is thought to disproportionately affect university undergraduate students. The global prevalence of Social phobia was found to be significantly higher with more than 10 million university undergraduates students in America. The symptoms of Social phobia did not differ between sexes but varied as a function of age, country, work status, level of education, and whether an individual lived in an urban or rural location and is also known for its association with depression and substance use disorder. While in case of Nigeria, university students are associated with social phobia especially at the beginning of their program. This social phobia lead to low performance and poor academic achievement among students, because social phobia is a normal situation which one should not be afraid to participate in. Many university undergraduate students usually feel uneasy, fearful and anxious some even go to the extent of illness as result of this social phobia. This situation has broad negative consequence which emanates stress in students' concentration and psychological worries. It should be noted that the poor academic performance should not be attributed to student's intellectual problems only, but the social phobia situation created in students serve as factor of poor academic achievement. Social phobia is something that almost everyone experiences to some extent in any stressful situation. For university students one of the most frequent stressful or anxiety provoking experiences is social phobia. The anxious feeling can occur while the students is about to enter the university and during

the university. Social phobia is an uneasiness or apprehension experienced before, during, and after the university. Almost every student experiences some phobia.

Social phobia is "the set of phenomenological, psychological, and behavioural responses that accompany concern about possible negative consequences, (Chapell, Blanding, Takahashi, Silverstein, Newman, Gubi, & McCann, 2015). Crozier as cited in Sola, (2014) reported that there are three separate response systems that can be used to analyze emotional behavior: the cognitive verbal, the behavioral-expressive, and the bodily-expressive system. Thus, it might be fruitful to distinguish between cognitive, behavioural, and physiological aspects of social phobia.

The Concept of Social Phobia

The term Social phobia was first coined by Wolpe (1958), who described   Social phobia is a term used to describe the excessive fear, nervousness and apprehension that , undergraduate students and other people experience in their social interactions. This can cause considerable discomfort and embarrassment and often affect the person's ability to act naturally or perform a task in front of people. Olamiji and Badru (2014), explained that Social phobia is a persistent fear of one or more situations in which others expose the person to possible scrutiny and fears that he or she may do something or act in a way that will be humiliating or embarrassing. Social phobia involves overwhelming phobia and excessive self-consciousness in everyday social situations. It is both a persistent and irrational fear of situations in which the person feels they may be closely watched and judged by others, as in public speaking, eating, or using public facilities. Feared activities may include most type of social interaction, especially small groups, parties, talking to strangers, restaurants.

Dimension of social phobia

Cognitive dimension of social phobia

Situations that can provoke anxiety include talking in groups, meeting people, going to school or work, going shopping, eating or drinking in public, or public performances such as public speaking. People with social phobia believe that social situations pose a danger. They fear negative evaluation, believing in particular that "(1) they are in danger of behaving in an inept and unacceptable fashion, and, (2) that such behavior will have disastrous consequences in terms of loss of status, loss of worth, and rejection" (Clark and Wells, 2019).

Behavioural dimension of social phobia

Behaviours are actions which are intended to reduce the risk of negative evaluation. They are problematic because they "prevent unambiguous disconfirmation of their unrealistic beliefs about feared behaviors or the consequences of these behaviors" (Adam & Ammar,2017). Non-occurrence of the feared catastrophe is attributed to the safety behavior, rather than the socially anxious person concluding that the situation is less dangerous than they had previously believed.

Physiological dimension of social phobia

Social phobia exhibit the same somatic symptoms during anxiogenic exposure as observed in other anxiety disorders (Vieira & Matos, 2015). Palpitations, sweating, hand tremor, hot flushes. These arousal symptoms stem from exaggerated activity in the sympathetic division of the autonomic nervous system, and are characteristic features of the "fight-or-flight" response (Garcia- Lopez 2016). However, facial blushing and somatic symptoms of embarrassment, which are common in social phobia, might not be simply mediated by increased sympathetic activity.

Types of Social Phobia

Wolpe (1958), as cited in Akinade (2015), stated the following as the major type of social phobia, among the undergraduate students which include the following:

1. **Generalized Social Phobia**: Generalized Social Phobia, It is normal to feel anxious from time to time, especially if one's life is stressful. However, excessive ongoing social phobia and worry that interfere with daily activities may be a sign of generalized social phobia. It is possible for university students to develop generalized social phobia. Mitchel (2019), pointed out, that the tendency of having difficulty in the learning and teaching process can aggravate nervousness, having difficulty organizing thoughts, restlessness, among others

   Those who suffer generalized social phobia have three areas of phobic behaviour:

   i.   Social interaction such as meeting friends or going to parties
   ii. Performance such as giving a presentation in front of classmate or others
   iii. Observation such as being seen by others, even just walking down a street in public

2. **Specific Social Phobia**: Mental health professionals often distinguish between generalized social phobia and specific social phobia. Specific social phobia is the intense fear, anxiety, and avoidance of a specific object or situation (e.g., flying, heights, injections, animals). People with generalized social phobia have great distress in a wide range of social situations (Musa 2014). Those with specific social phobia may experience phobia only in a few situations. The term "specific social phobia" may also refer to specific forms of non-clinical social phobia. The most common specific social phobia are glossophobia (the fear of public speaking) and stage fright (the fear of performance). Others include fears of intimacy or sexual encounters, using public restrooms, attending social gatherings, and dealing with authority figures.

3. **Agoraphobia**; According to Anastasi (2015). Agoraphobia is a type of social phobia disorder in which you fear and avoid places or situations that might cause you to panic and make you feel computable, helpless. Agoraphobia is fear of an actual or anticipated situation, such as using public transportation, being in open or enclosed spaces, standing in line, or being in a crowd. This type of social phobia is caused by fear that there's no easy way to escape or get help if the social phobia intensifies.

Symptoms and Diagnosis of Social Phobia

It's normal to feel nervous in some social situations. Giving a presentation may cause social phobia. But social phobia disorder, everyday interactions cause significant phobia, self-consciousness and embarrassment because you fear being scrutinized or judged negatively by others (Kande, 2015).

Feelings of shyness or discomfort in certain situations aren't necessarily signs of social phobia disorder, particularly in undergraduate. Comfort levels in social situations vary, depending on personality traits and life experiences. Some people are naturally reserved and others are more outgoing. In contrast to everyday nervousness, social phobia disorder includes fear, anxiety and avoidance that interfere with relationships, daily routines, work, school or other activities. Social phobia disorder typically begins in the early to mid-teens, though it can sometimes start in younger children or in adults.

According to Kande (2015), the signs and symptoms of social phobia disorder can include constant:

i.   Fear of situations in which you may be judged negatively
ii.   Worry about embarrassing or humiliating yourself
iii.   Intense fear of interacting or talking with strangers
iv.   Fear that others will notice that you look anxious
v.   Fear of physical symptoms that may cause you embarrassment, such as blushing, sweating, trembling or having a shaky voice

Causes of Social Phobia Disorder

Researches into the causes of social phobia are wide-ranging, encompassing multiple perspectives from neuroscience to sociology. Scientists have yet to pinpoint the exact causes.

1. **Genetic Causes**; Studies suggest that genetic can play a part in combination with environmental factors. According to Montesi Conner (2014), asserts that social phobia is not caused by other mental disorders or by substance abuse. Generally, social phobia begins at a specific point in an individual's life. This will develop over time as the person struggles to recover. Eventually, mild social awkwardness can develop into symptoms of social phobia.
2. **Environmental Causes**; Social Phobia is genetically transmitted disorder but some time is course by some environmental factors. The environment in which a students is raised can contribute to the kind of behaviour such a students will put up. For instance, the influences of parents, extended family, care giver, poor school performance, difficult temperament, inflated self-esteem, impulsivity, low verbal intelligence. Peer and neighborhood risk factors may play a significant in the development of Social Phobia disorder and others and therefore, Healthy environment will produce healthy students while unhealthy environments will encourage or promote SPD and other behavioural disorder. (Aderka & Hofman, 2015).
3. **Temperamental Causes**; Mussen, Conger, Kagan, and Huston, (as cited in Ahmed, 2019) defined temperament as an inborn biases towards certain moods and emotional reaction styles and they depicted two temperamental styles of

students called inhibited and uninhibited. Inhibited children are characterized by withdrawal and increased autonomic arousal in situations of uncertainty, in contrast to uninhibited students who tend to react with spontaneity and approach in these situations.

4. **Parental Causes**; Hudson and Rapee (2019) in their study found out that there is a reciprocal relationship between parent and child behaviour. They then claim that anxious students are more likely to have anxious parents whose behaviour may maintain phobia and avoidance. Also Hadi and Maryam (2015), observed that a parent with social phobia disorder is more likely to have anxious offspring, and therefore believed that the risk for social phobia disorders in offspring of anxious parents was 3.5 times that of non-anxious students.

Challenges of Social Phobia Disorder

Social phobia disorder will not only hinder our social interactions and relationships, but also have some challenge on our physiological, Cognitive and behavioral as well. These are some physiological effects that may be experienced:

i. Racing heart or tightness in chest due to nervousness
ii. Difficulties in occupational functioning
iii. Emotional detachment
iv. Extreme feelings of fear inferiority
v. Profuse sweating/shaking
vi. Difficulty initiating or sustaining relationships

Method of Controlling Social Phobia

The treatment of SPD is typically involves the following three folded process of using cognitive behavioural principles and techniques as described in MacManus (2013):

Challenging and Changing Dysfunctional Thinking. Students with social phobia disorder tend to have a lot of limiting beliefs, plus an unrealistic view of social standards and of themselves. These need to be corrected by consciously changing the way they think.

Gradual Exposure: Students with social phobia disorder need to be gradually face those exact situations they are afraid of and they typically avoid. Systematic exposure, combined with combined with combating unrealistic thinking that will set their mind and emotions on the right path.

Systematic desensitization

Systematic desensitization was developed from classical conditioning theory by Wolpe (1958) using reciprocal inhibition as a fundamental intervention. its an effective therapy strategy designed on social phobia. The students is first equipped with relaxation skills and then is asked to come up with a hierarchy of increasingly phobia-provoking stimuli or situations. When using this technique, a students is placed in a deeply relaxed state and is presented with a series of gradually increasingly phobia-provoking situations using imaginal exposure. The therapist starts with the least phobia-provoking stimulus on the hierarchy and then slowly works up to more phobia-inducing stimuli.

Steps of systematic desensitization

Adeboga 2012, cited in Ibrahim (2018). The following as the major steps uses in systematic desensitization

1.   Establish social phobia stimulus hierarchy. A therapist may begin by asking the students to identify a fear of hierarchy.
2.   Learn relaxation or coping techniques; Relaxation training, such as meditation, is one type of best coping strategies.
3.   Repeated for each level of the hierarchy, starting from the least fear-inducing situation.

Techniques used in systematic desensitization

The techniques used in systematic desensitization are delineated based on the form of real or imagined exposures implemented to achieve results. The techniques involved in systematic desensitization include in vivo, imagination, virtual reality, and interoceptive exposure. (Wolpe 1958).

In Vivo Exposure Technique: In vivo exposure, is a technique that incorporates the actual feared stimulus. So, if a students is afraid of spiders, there will be real spiders used during exposure.

1.   **Imaginal Exposure Technique**; During imaginal exposure, the therapist will prompt the students to imagine being in a situation or setting with their trigger. Through the use of guided imagery techniques, the therapist can encourage a more realistic and vivid mental picture, which helps to better recreate the fearful situation.
2.   **Virtual Reality Exposure Technique**; Technological advances are helping to bridge the gap between imaginal and in vivo exposure. Using virtual reality exposure technique, are able to reproduce the sights, sounds, and other sensations of the feared setting of course virtual reality exposures are not available for all triggers, but for students with a common fear, like flying, virtual reality exposure can reduce symptoms without the expense of buying a plane ticket.

How to Apply Systematic desensitization to university undergraduate students

Familiarize students with relaxation techniques. If students are already feeling tense and anxious, thinking about relaxing may be harder, so it's important to learn these techniques first.

List at least two items for each level of fear on hierarchy. This allows for more exposure to students social phobia.

Practice exposing students to fear each day. Even a few minutes every day can help.

Remember to stop and use a relaxation exercise when you feel anxious. The goal is to replace the anxious feeling with a relaxed state. You might have to try each step multiple times.

Try students to make the exposure exercise until they feel about half of the fear. This can be hard to gauge, but students will likely become better able to track it as you become more familiar with exposure

Types of Relaxation Exercises in Systematic Desensitization

According to Bunky (2013), cited in Sulaiman , (2016), The following are different relaxation exercises in systematic desensitization. These exercises could be used on their own or in combination with each other.

Diaphragmatic breathing. With this type, students will learn to regulate their breathing by breathing slowly and deeply through their nose, holding the breath for one to two seconds, then breathing out through your mouth.

Visualization. students will focus on a relaxing scene, picturing it in their mind and concentrating on sensory details, such as sights or smells. This includes guided imagery, which involves someone describing a scene to you.

Progressive muscle relaxation. students will learn to tense up and release muscles throughout their body. This types can reduce muscle tension and help students to recognize the difference between tense and relaxed muscles. That way, students will be able to better recognize when their muscles start tensing up in response to anxiety or fear.

Meditation and mindfulness type. Learning meditation may help students to become more aware of their thoughts and feelings as you face a fearful situation. Mindfulness helps students to notice what they are experiencing in the present moment, which can reduce anxious thoughts.

Conclusion

Many studies have revealed that Social phobia is a fast growing phenomenon which affect university undergraduate students. The global prevalence of Social phobia was found to be significantly higher with more than 10 million university undergraduates students in America. The symptoms of Social phobia did not differ between sexes but varied as a function of age, most of the problems stated above of social phobia are most likely to be manage by the systematic desensitization techniques. The resultant effects of the situation coupled with some recommendations on how to tackled social phobia among undergraduate education in Nigeria using systematic desensitization counselling technique

Recommendations

Based on the above explanation it can be recommended that,
i.   counsellors and teachers should be encouraged to use systematic desensitazation counselling Technique on re-addressing social phobia behaviour among Nigerian undergraduate students.
ii.   Students should be given equal opportunity and exposure to the techniques in addressing social phobia in schools, this will help improve the active participation in class participation and enhance teaching and learning process.

Reference

Adaka, B. J. & Hopman, G. (2015). *Effect of Systematic desensitization in the treatment of SPD among students of Federal College of Education Azare.*. Unpublished M.Ed. thesis Submitted to the School of postgraduate Studies. Bayero University, Kano.

Anastasi. A.M (2015). Cognitive restructuring on social phobia Retrieved on http://pro.psychcentral.com.

Akinade, E. (2015).*Principles of Cognitive Behavior Therapy.* Psych Central Retrieved from http://pro.psychcentral.com.

Adam G.H, & Ammar N.J, (2013).*Diagnostic and Statistical Manual of Mental Disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing

Benga, S. (2016). *Effect of Self – Management Counselling Technique on Social Anxiety among Senior Secondary School Students of Gwale Local Government Kano, State* Unpublished Master Dissertation A.BU Zaria

Bunkey , A.S. (2013). *Cognitive Behavioral Therapy Basic and Beyond* (2[nd]ed).Gullford Press.

Chapell, M.S., Blanding, M., Silverstein, B., Takahashi, M., Newman, M., Gubi, B., & McCann, A. (2015). Test Anxiety and Academic Performance in undergraduate and Graduate Students. *Journal of Educational Psychology*, **97** (2): 268 – 274.

Clark DM, Wells A. (2019) *Social phobia: Diagnosis, assessment, and treatment*. New York

Garcia R.M. & Lopez T.Y. A. (1965). *Reason and Emosion in psychology;* London; Routhledge and Kegan Paul.

Hadi M.A, & Maryam N.G, (2014) Effect of systematic desensitization technique and social skills training, for SPD among International Islamic University students of Malaysia (IIUM) *A journal of cognitive behavioural techniques*, **1** (2): **4**(5): 757 – 7758p.

Hodson D.M, & Rape. R.G,(2014).*Social Anxiety Scale: a comparison of the psychometric properties of self-report and clinician-administered formats*. unpublished M. ed Lecture Note University of Lagos

Ibrahim, S. (2018). *Effect of Systematic desensitazation Counselling Technique on Social Anxiety among Senior Secondary School Students of Wudil Local Government Kano, State* Unpublished Master Dissertation B.U.K Kanos

Kande, D. H. (2015). Social skills and social phobia: An investigation of DSM-IV subtypes. *A Journal of Behaviour Research and Therapy*, **5** (1): 48, 992-1001p.

Mitchel, S. A. (2019). Social anxiety and interpersonal perception: A social relations model analysis. *Behaviour Research and Therapy*, **41**: 1355-1371.

Musa, S. F, Garba, H. K. Hamisu, B. L. & Maryam, A. M. (2015). Effectiveness of systematic desensitization training and Coping techniques of social anxiety disorder among Saadatu Rimi College of Education Kumbotso. *Journal of Nervous and Mental Disease*, **2** (1): 173, 236–245

Mc-Manus B. (2013). In-Depth: Cognitive Behavioural Therapy. Psch Central. Retrieved on from http://psychcentral.com/lib/in-depth-cognitive-behavioural-therapy/000907.

Mitchel, M. J.; Conner, A. K (2014). What can we learn from the study of twins about genetic and environmental influences on interpersonal affiliation, aggressiveness, and social anxiety?: A meta-analytic study. *Communication Monographs*, **69**: 1-18P

Mussen, C. A. (2013). The impact of systematic desensitization for social anxiety disorder: A randomized controlled trial. *Journal of anxiety disorders,* **28** (8): 908-918.

Olamijir, G. & Oyondomoto. C. (2014). "Effect of cognitive restructuring on lying tendency among secondary school students in Awka education zone," *The Journal of Educational Psychologist,* **3** (1): **10** (1): 232-239

Vieira,& Matos. M., A. (2015). Social anxiety disorder: Questions and answers for the DSM-V. *Depression and Anxiety*, **27**: 168-189. doi: 10.1002/da.20670

Wolpe, J. (1958). Systematic Desensitization : A Confirmatory Factor Analysis of social Anxiety. *Research Article.* https://doi.org/10.1177/0013164491511024

EASE OF USE AND ATTITUDE OF PRE-SERVICE TEACHERS USE OF E-LEARNING TOOLS DURING THE Covid-19 PANDEMIC IN COE IN NORTH-WEST, NIGERIA

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Abstract

This research on ease of use and attitude of pre-service teachers' use of e-learning tools during the Covid-19 pandemic in COE in North-west, Nigeria, was guided by two objectives and two research questions. The study used a descriptive cross-sectional survey research design in the study. The researchers used mixed methods (quantitative and qualitative) for data collection. A multistage sampling technique was employed to select the sample. The total population of the study is 113,030. The total sample that was chosen is 372. The instruments used for data collection were questionnaire and data-blank which were adopted. The frequency and percentage were employed to analyze the respondents' demographic information. To answer research questions descriptive statistics (frequencies and percentages) were used. The summary of the major findings points out that, e-learning tools are very easy to run and the attitude towards the use of e-learning tools is positive by the pre-service teachers. The study affirmed that e-learning can be used as an instructional tool since pre-service teachers in colleges of education in North-west, Nigeria can run the e-learning tools and they possessed positive attitude towards them.

Keywords: Attitude; Ease of Use; E-learning Resources; Instruction; Covid-19.

Introduction

A professional teacher always is trying to possess tools that can make his/her teaching meaningful and successful, and this could be possible when a teacher can easily manipulate his/her teaching aids properly. Technological innovations change all forms of teaching and learning, gradually teaching and learning are moving from conventional learning to e-learning. Conventional teaching is bound to the classroom; e-learning can take place anywhere regardless of time. The outbreak of the Covid-19 pandemic resulted in the closure of all schools in Nigeria, this pushed the government, educationalists, NGOs, parents and students to look for another alternative, which was the reason e-learning become a hot cake. The novelty in technology demand changes in the way education is being arranged as well. More so, this entails increased involvement of information technology in all stages of the learning process, which has been known as e-Learning, or more recently as m-Learning (Ismaila, 2020).

E-learning is a computer-based educational tool or system that enables you to learn anywhere and at any time. Today e-learning is mostly delivered through the internet, although in the past it was delivered using a blend of computer-based methods like CD-ROM (Epignosis, 2014). E-learning is an educational approach that combines different types of multimedia technologies to ensure better educational experiences for students and teachers (Deperlioglu, Kose & Yildirim, (2012). E-learning is an educational approach that combines different types of multimedia technologies to ensure better educational experiences for students and teachers. Nowadays, it is a popular approach among especially teachers and educators. The e-learning method allows teachers and educators to provide educational materials and related knowledge to a wide range of

learners by using more effective and efficient communication channels (Ismaila, 2020). E-learning can be described as any technological tool/resource that can be utilized in teaching and learning without considering place and time. E-learning tools/resources are computers, the internet, podcasts, WhatsApp, Flipped, and video conferences, just to mention a few.

Mobile learning (m-learning) describes a new form of learning that merges e-learning with mobility. However, mobile learning is the new aspect of e-learning, for example, e-learning is learning supported by digital tools and media. It is also explained that mobile learning is e-learning that uses mobile devices and wireless transmission (Ismaila, 2019). Hence, many similarities can be found when comparing mobile with e-learning. Both applications came to support and enhance the learning experience by utilizing technology. On one hand, both applications further provide common services such as the delivery of the learning content, support learners and provide quizzes and assessments. On the other hand, there are some differences between the two learning forms. Mobile learning is more flexible than e-learning; Mobile learning supports the learner's mobility by providing access to the learning content anywhere and anytime while in e-learning the mobility is constrained to the weight and the size of desktop or laptop computers. Furthermore, transport mobile device has some capabilities that can be delivered with greater ease than any other electronic tools (Ismaila, 2019). Indeed, mobile phones are parts of devices useful for both mobile learning and e-learning. It was observed that the majority of pre-service teachers and their lecturers in North-west, Nigeria owned mobile phones, which is one of the e-learning resources. This study is now trying to investigate how pre-service teachers use or manipulate e-learning tools and also their attitude towards the use of these tools for their learning during the Covid-19 pandemic. The pedagogy that promotes learners' involvement is the use of technology appropriately which lead to effective teaching and learning (Tijani, 2021).

The research covered all pre-service teachers in colleges of education in North-west, Nigeria. The study delimited to the Federal College of Education, Zaria, Kaduna State (FCEZ), Federal College of Education, Kano, Kano State (FCEK), Federal College of Education, Katsina, Katsina State (FCEKK), Shehu Shagari College of Education, Sokoto, Sokoto State (SSCE) and Zamfara State College of Education, Maru, Zamfara State (ZSCEM). The reason for delimiting the research is due to time constraints and logistics problems.

Justification

All schools were closed during the 1st phase of Covid-19 in Nigeria; the measure was taken to hold the spread of the Covid-19 pandemic. This issue called the attention of our leaders, educationists and students to look for another alternative to ensure instructional continuation. E-learning could be the only universal remedy for continuous learning despite any pandemic. Covid-19 can only spread when you get in touch with people. The problem here is the pre-service teachers in colleges of education in North-west Nigeria may not use e-learning resources due to its operational processes. They may find it hard to use because of their mode of operations, it needs a lot of tools; computer or web 2.0 related tools, electricity, internet and a conducive atmosphere to mention but a few. The use of such devices can help them to have access to the network, installation of applications, and browse, and download files related to their academic activities from their lecturers and their fellow pre-service teachers. However, from their attitude toward

using e-learning tools is not known whether or not they used it for e-learning during the Covid-19 pandemic for their academic programs or other tenacities.

Objectives of the Study

i.   To examine the extent to which pre-service teachers perceived the ease of use of e-learning tools during the Covid-19 pandemic for academic purposes in colleges of education in North-west, Nigeria.
ii. To assess the attitude of pre-service teachers towards the use of e-learning for the improvement of their learning in colleges of education in North-west, Nigeria during Covid-19.

Research Questions

i.   To what extent do pre-service teachers perceive e-learning as easy to use in colleges of education in North-west, Nigeria during the Covid-19 pandemic for academic activities?
ii. What is the pre-service teachers' attitude towards the use of e-learning during the Covid-19 pandemic for learning in colleges of education in North-west, Nigeria?

Literature Review

The relationship that exists between e-learning and ICT could not be over-emphasized. E-learning is the acquisition and conveying of knowledge or skills provided by the internet through advanced ICT tools in respect of place or time. E-learning can take place anytime-anywhere; this shows that e-learning can be adopted for learning by the students as they wish. The question here is do the pre-service teachers use e-learning tools easier and what is their attitude towards the use of e-learning tools? The literature reviewed is based on the ease and attitude of pre-service teachers.

Vitoria and Nurmasyitah (2018) in their research "Students' perceptions on the implementation of e-learning: helpful or unhelpful?" the research conducted to develop an e-learning web-based module at the Primary Education Department of Syiah Kuala University in Indonesia. The study was a descriptive survey with the use of purposive sampling techniques; the data was collected using a questionnaire and interview. The questionnaire was constructed based on the Technology Acceptance Model (TAM) which suggested that two factors influencing someone's acceptance of technology were perceived usefulness and perceived ease of use. The result showed that the students perceived the e-learning web-based module to be useful in improving their understanding, independence, self-discipline, motivation to learn and interactions with each other and with the teacher. The students also agreed that the e-learning web-based module was easy to use. Their study captured only usefulness and ease of use, but this research will also capture the attitude of pre-service teachers' use of e-learning resources for learning during covid-19 in North-west, Nigeria.

Mahdizadeh, Biemans and Mulder (2013) in their study "determining factors of the use of e-learning environments by university teachers", the study was designed to identify factors that can explain teachers' use of e-learning environments in higher education. Descriptive survey research was used; the questionnaire was only used for data collection and the research was conducted at Wageningen University with the use of convenience

sampling. They found that teachers' use of e-learning environments can be explained to a high extent by their perceptions of the added value of these environments, which in turn are substantially influenced by their opinions about web-based activities and computer-assisted instruction for teaching and learning. Their study is limited to only examining teachers' use of e-learning environments, in this research pre-service teachers will be investigating the ease of use and their attitude towards the use of e-learning.

Tamta and Ansari (nd) in their "study of university student's perceptions towards e-learning" was conducted on undergraduate students of a premier State Agriculture University (SAU) in India. The study targeted to find out the perception of students towards e-Learning. An exploratory research design was used in the study with purposive sampling; a structured questionnaire was used for data collection. The findings indicated that a large majority of students have positive perceptions about e-Learning. The researchers used exploratory research design, which means they are expected to use two instruments for data collection because is a mixed method; a structured questionnaire and either checklist, interview or documentation. In this research structured questionnaire and Data-bank will be used.

Mbabazi and Ali (2016) in their research evaluation of e-learning management systems by lecturers and students in Uganda universities: a case of Muni University, aimed at "evaluating the level of user satisfaction, usability issues affecting e-learning adoption and established the factors hindering the acceptance and use of teach management systems by lecturers and students in Uganda". A cross-sectional descriptive survey research design was used through a questionnaire only. The respondents agreed that the functionality of the system is good; the system is reliable, portable, usable, maintainable and efficient. The users also showed a positive attitude to using the system and also indicated that there is no specific person available to assist the users with and lack of equipment, course quality concerns, slow speed of the e-system, power problems, accessibility problems, network connections issues, lack of usability policy, legal concerns and lack of regular training on the use of module hinder their usage of the system. Purposive sampling was used. The researchers did not touch availability of e-learning tools. In the same vein, they are not expected to use purposive sampling because they could be biased.

Innocent and Masue (2020) discussed the applicability of e-learning in Higher Learning Institutions (HLIs) in Tanzania. The research targeted to investigate availability and the challenges facing e-learning users in the teaching and learning process in HLIs in Tanzania. The study employed a cross-sectional survey research design; data were collected using questionnaires and interviews through purposive sampling techniques. The results revealed that there is limited applicability of e-learning in the HLIs. The inadequate applicability of e-learning is attributed to poor attitude, lack of skills among the users and insufficient ICT infrastructure. The study did not examine the ease of use of e-learning tools.

Mohammed (2020) in his study "Challenges and prospects of using e-learning among EFL students in Bisha University" the study investigates whether using e-learning is beneficial to EFL students in their learning English to the degree anticipated. He used descriptive survey research with the use of a questionnaire for data collection. The study results show that there are no significant differences between English as Foreign Language students' (males and females) use of e-learning for their academic activities.

The research investigated the challenges and prospects of using e-learning in learning English only, this study will examine different categories of pre-service teachers in colleges of education in North-west, Nigeria.

Tagoe (2012), in his study which is based on the Technology Acceptance Model (TAM) which was conducted in Ghana, examined students' perceptions on incorporating e-learning into teaching and learning. Survey research was used; the researcher relied on the questionnaire only for data collection using stratified sampling. Results from the study showed that students entered the university with computer skills which are critical to the introduction of e-learning; male students use it more often than female students for learning; there was a relationship between the length of time students have been using the internet and frequency of use of the internet; students preferred mixed mode and web supplemented courses in the immediate future than web-dependent and fully online courses. The study was conducted in Ghana based on TAM and they did not touch the attitude of students. This research will be conducted in North-west, Nigeria; the target is to investigate the ease of use and attitude towards the use of e-learning.

Hassan, Kouser, Abbas and Azeem (2014) in their research "Consumer attitude and intentions to adopt smartphone apps" suggested that no matter how the technology is perceived to be useful, the practicality of technology ease of use may still affect users' intention of initial adoption or continuity. However, Hassan, Kouser, Abbas and Azeem (2014) argue that there is no direct relationship between PEOU and behavioural intention, whereas easy use of technology might be influential to users' perceived usefulness and affect users' adoption intention indirectly. This result is further supported by the applications of mobile services (Hassan, Kouser, Abbas &Azeem (2014). This study revealed that easy use of technology might be influential to users' perceived usefulness and affect users' adoption intention indirectly, they did not examine the attitude of the user.

Based on the ease of use of e-learning resources, the review shows that some students used the tools easily while some needed assistance from experts; the majority of the researchers revealed that some of the students have positive attitude towards the use of e-learning tools while some have negative attitude. Therefore, there is a need for research that will find out the ease of use and attitude of pre-service teachers' use of e-learning for the improvement of students learning in North-west, Nigeria during covid-19; to favour or enhanced it up to the standard.

The Majority of the researchers that investigated the use of e-learning employed a quantitative method of data analysis with only a questionnaire serving as their instrument, and very few used mixed methods. In this research mixed methods will be employed (quantitative and qualitative methods) with questionnaires and interviews will serve as instruments for data collection. The rationale behind this choice is to get reliable and quality results without any manipulation. However, the majority of the researchers used purposive and stratified sampling techniques but, in this study, a multistage sampling procedure was used.

Methodology

A Descriptive cross-sectional survey research design was used in this study. The selection of this design allowed the researchers to collect samples from a large group based on the

opinion and perceptions of people and subject the data to analysis. The researchers used mixed-method research through the use of quantitative and qualitative modes of data collection. The design allows the researchers to collect data from the respondents by using questionnaires and interviews (Data-Bank) to know their opinion and sensitivity, so the data was imperilled to statistical analysis and interpretation. Furthermore, the researchers used a convergent mixed-method approach. This enabled the researchers to collect data separately (both quantitative and qualitative) and later compare them and see the result if the findings are the same or not.

The populations of the study are the pre-service teachers in colleges of education in North-West, Nigeria. A total of One Hundred and Thirteen Thousand, and Thirty (113,030) pre-service teachers are studying in the fourteen colleges of education in North-West, Nigeria. The details about the names of institutions and population of the pre-service teachers are presented in Table 1 (see Appendix A).

Multistage (called clustering) is a sampling procedure, involving two or more sampling techniques. So do the needful by selecting the sample from the colleges of education in North-west, Nigeria. Cluster sampling is ideal when it is impossible or impractical to compile a list of the elements composing the population (Creswell, 2014). The Colleges of Education that were selected as per the population are Federal College of Education, Zaria, Kaduna State (FCEZ), Federal College of Education, Kano, Kano State (FCEK), Federal College of Education, Katsina, Katsina State (FCEKK), Shehu Shagari College of Education, Sokoto, Sokoto State (SSCE) and Zamfara State College of Education, Maru, Zamfara State (ZSCEM). The selected are to participate as representatives of the whole, the population of each institution listed above are 14,221,15, 235, 10,151, 12,244, and 5,835 respectively. However, the total population of the sampled colleges is 372 for quantitative, which is in line with the Raosoft sample size calculator. Raosoft is software programmed to help to determine sample size. The name of institutions, population and sample size were presented in Table 1.

Table 1: Name of institutions, population and sample size for quantitative

S/N	College of Education	Population	Sample Size
1.	Federal College of Education, Zaria, Kaduna State.	14,221	**92**
2.	Federal College of Education, Kano, Kano State.	15,235	**99**
3.	Federal College of Education, Katsina, Katsina State.	10,151	**65**
4.	Shehu Shagari College of Education, Sokoto State.	12,244	**79**
5.	Zamfara State College of Education, Maru, Zamfara State.	5,835	**37**
	Total	57,686	**372**

The qualitative sample is smaller than that of the quantitative. The entire population that was chosen is 23; 5, 6, 4, 5, and 3 from FCEZ, FCEK, FCEKK, SSCE and ZSCEM respectively. (See Table: 2), the data for the qualitative sample is smaller than that of the quantitative. This is because the intent of using the qualitative method is to locate and obtain information from a small sample and to gather extensive information from the

sample; whereas, in quantitative research, a large number is needed to conduct meaningful statistics analysis (Ismaila, 2020).

Table 2: Name of institutions, population and sample size for qualitative

S/N	College of Education	Population	Sample Size
1.	Federal College of Education, Zaria, Kaduna State.	14,221	**5**
2.	Federal College of Education, Kano, Kano State.	15,235	**6**
3.	Federal College of Education, Katsina, Katsina State.	10,151	**4**
4.	Shehu Shagari College of Education, Sokoto State.	12,244	**5**
5.	Zamfara State College of Education, Maru, Zamfara State.	5,835	**3**
	Total	57,686	**23**

The reasons behind the selection of FCEZ, FCEK, FCEKK, SSCE and ZSCEM were due to the time factor and logistics problems.

The structured questionnaire was adopted to collect data for quantitative. The questionnaire by Ismaila, (2020) questionnaire on "pre-service teachers' perception on the adoption of smartphones for learning in colleges of education in North-west, Nigeria" was adopted. The reason for adopting this is; the questionnaire is based on the technological resource for e-learning. The questionnaire has two parts; parts A and B. Part A is for demographic information of the respondents which contained 7 items, while part B contains 13 items based on ease of use and attitude of pre-service teachers' perceptions towards the use of e-learning in colleges of education in North-west, Nigeria during covid-19. In Part A, respondents are to tick the appropriate answer through the spaces provided. In Part B, the respondents are to tick the appropriate option (yes or no). The responses would tell us the accurate personal opinion of the respondents.

The five institutions (FCEZ, FCEK, FCEKK, SSCE and ZSCEM) were used for data collection from 23 respondents through interviews; 5, 6, 4, 5, and 3 from FCEZ, FCEK, FCEKK, SSCE and ZSCEM respectively. The responses were analyzed one after the other, summarizing the key points of the interview by the respondents which make the researchers arrive at the right decision/interpretation.

Data were analyzed in three stages, which are: demographic information, ease of use of e-learning resources and attitude of pre-service teachers' use of e-learning for the improvement and continue learning during covid-19 were analyzed using the part B of the instrument, with the use of Statistical Package for Social Science (SPSS) version 25:0; frequency count and simple percentage to explicate the demographic data of the respondents. To answer research questions one (1) and two (2) descriptive statistics (frequencies and percentages) were used. The qualitative data collected from the individual interviews were analyzed and interpreted and the right decision was made. There are two ways of analyzing qualitative data; one of the approaches is to examine your findings with a pre-defined framework, which reflects your objectives. This slant is quite easy and is closely affiliated with policy and programmatic research which has pre-

determined interests. This approach allows you to focus on particular answers and abandon the rest. We refer to this approach as 'framework analyses' (Ismaila, 2020).

Results

The demographic information of the respondents was analyzed using frequency and percentage. The demographic information based on gender is shown in Table 3.

Table 3:   Frequency Distribution of Gender

Demographic Information	Frequency	Percentage (%)
Gender:		
a. Male	186	50%
b. Female	186	50%
Total:	**372**	**100%**

Table 3 shows that 186 (50%) of respondents were male while 186 (50%) were female. This indicates that male and female pre-service teachers' respondents were equal in colleges of education in North-Western Nigeria.

A descriptive analysis of respondents based on institutions is shown in Table 4.

Table 4:   Frequency Distribution of Respondents' Names of Institutions

Demographic Information	Frequency	Percentage (%)
Name of Institution:		
FCEZ	92	25%
FCEK	99	27%
FCEKK	65	17%
SSCE	79	21%
ZSCEM	37	10%
Total:	**372**	**100%**

Regarding the institution's frequency distribution, 92 or 25%) were from FCEZ; 99 (27%) were from FCEK; 65 (17%) were from FCEKK; 79 (21%) were from SSCE; while ZSCEM acquired the list of respondents of 37 (10%). Table 4 shows that respondents from FCEK were the majority.

Research Questions

Research Question One: To what extent do pre-service teachers perceive e-learning as easy to use in colleges of education in North-west, Nigeria during the Covid-19 pandemic for academic activities?

This research question is answered using frequency and percentage. A summary of the analysis is presented in Table 5.

Table 5: **Perceived Ease of Use E-learning**

S/N	Items	No	Yes
1.	It's easy for you to use e-learning tools for learning?	61 (16%)	311 (84%)
2.	Did your interaction with e-learning tools clear and understandable?	61 (16%)	311 (84%)
3.	Did you think you will be skillful using e-learning?	2 (1%)	370 (99%)
4.	Did you need someone to assist you while using e-learning?	174 (47%)	198 (53%)
5.	Did you use e-learning tools alone?	8 (2%)	364 (98%)
6.	Is e-learning tools available to you for learning?	267 (72%)	105 (28%)
7.	Did you have adequate electricity for better use of online learning?	361 (97%)	11 (3%)
	Cumulative Percentage	36%	64%

Table 5 established that 64% of respondents agreed that e-learning tools are easy for them to use, while only 36% of the respondents disagreed with the statement. 64% of the respondents were the majority, this show that e-learning resources are very easy for the pre-service teacher to use for their academic activities.

Research Question Two: What is the pre-service teachers' attitude towards the use of e-learning during the Covid-19 pandemic for learning in colleges of education in North-west, Nigeria?

This research question is answered using frequency and percentage. A summary of the analysis is presented in Table 6.

Table 6: **Attitude towards using e-learning**

S/N	Items	No	Yes
1.	Did you like to use e-learning during Covid-19/Pandemic?	9 (2%)	363 (98%)
2.	Using e-learning during Covid-19/Pandemic, it's a good idea?	9 (2%)	363 (98%)
3.	Is the use of e-learning a bad idea?	370 (99%)	2 (1%)
4.	Did you use e-learning before Covid-19?	198 (53%)	174 (47%)
5.	Did you use e-learning after 1st phase of Covid-19?	201 (54%)	171 (46%)
6.	Did you appreciate the use of e-learning?	51 (14%)	321 (86%
	Cumulative Percentage	**37%**	**63%**

Table 6 acknowledged that 63% of respondents agreed that pre-service teachers possessed a positive attitude towards the use of e-learning during the Covid-19/Pandemic, while 37% of the respondents disagreed with the declaration. 63% of the respondents were the

majority; this shows that the attitude of pre-service teachers towards the use of e-learning is positive.

Analysis of Individual Interview

The individual interview was held with twenty-three pre-service teachers within the colleges of education in the North-west, Nigeria that were selected randomly. There are some elements of an interview report according to Alshenqeeti (2014), which are: themes and contents; methodology and methods (from designing to interviewing, transcription and analysis); result (the data analysis, interpretation and verification); and discussion.
As you aim to condense all of the information to key themes and topics that can shed light on your research question, you need to start coding the material. A code is a word or a short phrase that descriptively captures the essence of elements of your material (e.g., a quotation) and is the first step in your data reduction and interpretation (Celano, nd). The codes that were used for this study were: male A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11 and A12, while female B1, B2, B3, B4, B5, B6, B7, B8, B9, B10 and B11.

Research Question One: to what extent do pre-service teachers perceive e-learning as easy to use in colleges of education in North-west, Nigeria during the Covid-19 pandemic for academic activities?

This research question is answered using frequency and percentage. A Summary of the analysis is presented in Table 7.

Table 7:   Perceived Ease of Use E-learning

S/N	Items	No	Yes
1.	It's easy for you to use e-learning tools for learning?	1 (4%)	22 (96%)
2.	Did your interaction with e-learning tools clear and understandable?	8 (35%)	15 (65%)
3.	Did you think you will be skillful using e-learning?	0 (%)	23 (100%)
4.	Did you need someone to assist you while using e-learning?	6 (26%)	17 (74%)
5.	Did you use e-learning tools alone?	6 (26%)	17 (74%)
6.	Did e-learning tools available to you for learning?	15 (65%)	8 (35%)
7.	Did you have adequate electricity for better use of e-learning?	19 (83%)	4 (17%)
	Cumulative Percentage	**34%**	**66%**

Table 7 affirmed that 66% of the respondents find e-learning tools very easy to use, is only respondent 34% of the respondents find online learning tools difficult to operate. The majority of the respondents were 66%, which indicated that pre-service teachers in colleges of education in North-west, Nigeria find e-learning tools very easy to operate.

Research Question Two: what is the pre-service teachers' attitude towards the use of e-learning during the Covid-19 pandemic for learning in colleges of education in North-west, Nigeria?

This research question is answered using frequency and percentage. A Summary of the analysis is presented in Table 8.

Table 8: **Attitude towards using e-learning**

S/N	Items	No	Yes
1.	Did you like to use e-learning during Covid-19/Pandemic?	0 (0%)	23 (100%)
2.	Using e-learning during Covid-19/Pandemic, it's a good idea?	0 (0%)	23 (100%)
3.	Did the use of e-learning a bad idea?	23 (100%)	0 (0%)
4.	Did you use e-learning before Covid-19?	13 (57%)	10 (43%)
5.	Did you use e-learning after 1st phase of Covid-19?	13 (57%)	10 (43%)
6.	Can you appreciate the use of e-learning?	0 (0%)	23 (100%
	Cumulative Percentage	**36%**	**64%**

On the pre-service teachers' attitude in the colleges of education in North-west, Nigeria towards the use of e-learning during Covid-19, table 8 affirmed 64% of respondents agreed that the use of e-learning will impact positively their learning. It is only 36% of respondents indicated a negative attitude towards e-learning. The result, therefore, shows that the attitude of pre-service teachers' toward the use of e-learning is positive.

The results of the study revealed that both the quantitative and qualitative are the same with regards to the ease of use and attitude of pre-service teachers' during covid-19 pandemic in the colleges of education in North-west, Nigeria.

Summary of Findings

The following are the findings of the study:

i. Pre-service teachers in colleges of education in North-west, Nigeria find e-learning tools very easy to run.
ii. The attitude of pre-service teachers in colleges of education in North-west, Nigeria on the use of e-learning is positive.

Discussion of Findings

The finding revealed that pre-service teachers in colleges of education in North-west, Nigeria find e-learning tools very easy to use, the finding is in line with the findings of Tagoe (2012); Vitoria and Nurmasyitah (2018).

One more finding indicated that the attitude of pre-service teachers in colleges of education in North-west, Nigeria on the use of e-learning is positive, which is the same as that of Mbabazi and Ali (2016); Tamta and Ansari (nd).

Conclusion

E-learning resources are the key to e-learning, without adequate provision of these tools in our various institutions of learning it could not be possible. More so, even if there is the availability of such resources, if teachers cannot use e-learning tools and their attitude is otherwise a problem in this era of technological innovations. This research indicated that pre-service teachers in colleges of education in North-West, Nigeria find e-learning very easy to use and their attitude towards e-learning use is positive. This is a great development in our educational sector, which will enable teachers and students to teach and learn irrespective of time, place and pandemic.

Recommendations

The subsequent recommendations pinched up from the results of the research:

1. The Federal Republic of Nigeria through the Federal Ministry of Education should pledge and consolidate seminars, conferences, workshops or lectures regularly to enlighten and maintain lecturers' ease of use of e-learning resources for integration of ICT-related technology especially during any pandemic.
2. The Federal Republic of Nigeria should provide adequate electricity which will enable lecturers and pre-service teachers to use e-learning anytime and everywhere to learn.
3. The Federal Republic of Nigeria and Non-Governmental Organizations should make an effort for the provision of free networks in all parts of the country which will enable access to internet service for continued improvement of learning during any pandemic.

References

Alshenqeeti, H. (2014). Interviewing as a data collection method: a critical review. *English Linguistics Research*, **3** (1). www.sciedu.ca/elr

Celano, L., (nd). Six methods of data collection and analysis. *Monitoring, Evaluation, Accountability and Learning (MEAL).* The Open University. www.open.edu>mod>resource>view

Creswell, J. W. (2014). *Research design: qualitative, quantitative, and mixed methods approaches (4th ed.).* Library of Congress Cataloging in Publication Data. Printed in the United States of America.

Deperlioglu, O., Kose, U. and Yildirim, R., (2012). Design and development of an e-learning environment for the course of electrical circuit analysis. *Interdisciplinary Journal of E-learning and Learning Objects,* **8**.

Epignosis, L.L.C. (2014). *E-learning: concepts, trends and application*. United States of America. www.efrontlearning.net

Hassan, M., Kouser, R., Abbas S. S. and Azeem, M., (2014). Consumer attitude and intentions to adopt smartphone apps. *Journal of Commerce and Social Sciences*. Pakistan.

Innocent, W. A. and Masue, O. S., (2020). Applicability of e-learning in higher learning institutions in Tanzania. *International Journal of Education and Development using Information and Communication Technology*, (IJEDICT), **16** (2): 242-249 https://files.eric.ed.gov/fulltext/EJ1268804.pdf

Ismaila, A. A., (2020). *Usefulness and attitude of the pre-service teachers' adoption of smartphone for learning in colleges of education in North-west, Nigeria*. LAP LAMBERT Academic Publishing a Trademark of International Book Market Service Ltd., Member of the Omniscriptum Publishing Group 17 Meldrum Street, Beau Bassin 71504, Mauritius. ISBN: 978-620-2-79424-4.

Ismaila, A. A., Tukur, A. K. and Gambari, I. A., (2019). *Ease and level of use of smartphone for learning amongst pre-service teachers' colleges of education in North-west, Nigeria.* International Journal on Research in STEM Education (IJRSE), **1** (1): 40-49. https://doi.org/10.31098/ijrse.v1i1.60

Mahdizadeh, H., Biemans, H. and Mulder, M., (2013). Determining factors of the use of e-learning environments by University Teachers. *Computer & Education*, Wageningen University, **51**: 142-14

Mbabazi, B. P. and Ali, G., (2016). Evaluation of e-learning management systems by lecturers and students in Ugandan Universities: a case of Muni University. *International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET),* **5** (6).

Mohammed, M. N. H. J., (2020). The challenges and prospects of using e-learning among EFL students at Bisha University. *Arab World English Journal*, **11** (1): 124-137 https://osf.io>download

Tagoe, M., (2012). Students' perceptions on incorporating e-learning into teaching and learning at the University of Ghana. *International Journal of Education and Development Using Information and Communication Technology (IJEDICT),* **8** (1): 91-103 https://files.eric.ed.gov

Tamta, P. and Ansari, M. A., (nd). A study of university students' perceptions towards e-learning. https://www.ijern.com

Tijani, S. A. (2021). *Integrated versus holistic education: constructing and connecting knowledge to real-life in Nigeria*. Ahmadu Bello University Press Limited, Zaria, Kaduna State-Nigeria.

Vitoria, L. M. M. and Nurmasyitah, N., (2018). Students' perceptions on the implementation of e-learning: helpful or unhelpful? *Journal of Physics: Conference Series*. https://www.researchgate.net

Appendix A

Table 1: **Name of Colleges and their respective Pre-service Teachers' Population:**

S/N	Name of the College	Population
1	Jigawa College of Education, Gumel, Jigawa state.	8,582
2	Federal College of Education, Zaria, Kaduna State.	14,221
3	Kaduna State College of Education, Gidan-Waya, Kafanchan, Kaduna State.	7,324
4	Federal College of Education, Kano, Kano State.	15,235
5	Federal College of Education (Technical), Bichi, Kano State.	9,983
6	Sa'adatuRimi College of Education, Kumbotso, Kano State.	8,123
7	Federal College of Education, Katsina, Katsina State.	10,151
8	Imam Sa'idu College of Education, Funtua, Katsina State.	1,105
9	Isa Kaita College of Education, Dutsin-Ma, Katsina State.	7,896
10	Adamu Augie College of Education, Argungu, Kebbi State.	7,101
11	Biga College of Education, Arkilla, Sokoto, Sokoto State.	2,80
12	Shehu Shagari College of Education, Sokoto State.	12,244
13	Federal Girls College of Education (Technical), Gusau, Zamfara State.	4,950
14	Zamfara State College of Education, Maru, Zamfara State.	5,835
	Total	**113,030**

Source: Concerned Authorities of the various Colleges of Education in the North-west, Nigeria (2022).

EFFECTS OF BRANSFORD-STEIN MODEL ON GENDER ACADEMIC RETENTION IN TRIGONOMETRY AT SENIOR SECONDARY SCHOOLS LEVEL IN KANO STATE, NIGERIA

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Abstract

The study examined the effect of Bransford-Stein Model on Senior Secondary School Students' Retention in Trigonometry in Kano State. Quasi-Experimental Design was adopted. The study comprised 9,770 SSII students from 25 senior secondary schools. A sample of 125 students of four intact classes was used. Two of the classes were from girls' schools for experimental and control groups and the remaining two were from boys' schools. One research question and null hypothesis were formulated, answered and tested at $p \leq 0.05$. Trigonometry Performance Test with reliability index of 0.86 was used for data collection. ANCOVA was the Statistical tool used. Results indicated that significant difference exists between mean retention scores of male and female students taught Trigonometry using Bransford-Stein Model and those taught using Lecture. Students taught using Bransford-Stein Model retained significantly better than those taught using Lecture Method. It was recommended that seminars be organised on Bransford-Stein Model deployment.

Keywords: Students, Bransford-Stein Model, Retention, Gender and Trigonometry.

Introduction

Trigonometry has enormous number of uses in science, Engineering and other subjects. Trigonometry is part of mathematics that is concerned with the relationship between the angles and sides of triangles Hornby (2010). Trigonometry application is highly required in other areas such as Oceanography, naval and aviation industries among others. Therefore, it is not surprise regarding the emphasis placed by Nigerian government on learning the subject as outlined in the National Policy on Education (FRN 2013).

Applications of Trigonometry concepts play a great role in science and other subjects such as Architecture, Cartography and building among others. Tuna (2013) expressed that, learning Trigonometry means always seeking the truth and willing to rectify the truth that is temporarily accepted. Despite all the roles played, Trigonometry is still considered very difficult and abstract compared to other mathematical fields, Gur (2009). Students often find errors, misconceptions, and obstacles in learning Trigonometry. For these reasons and many others, it is necessary for any student to learn Trigonometry using activity based method, so that the concepts learnt could easily be understood, remembered, retained and recall at any point in time. Unlike Lecture method, learning Trigonometry using Bransford-Stein Model provides the students with opportunity to improve their critical thinking and participate actively in the learning process.

Efforts to reduce or eliminate some of the difficulties and encourage knowledge retention in learning Trigonometry, calls for the use of an appropriate method /strategy that involves critical thinking and students' active participation in the learning process. Since Bransford-Stein Model consists of verities of students' activities and active participation in problem solving, it was hoped that positive effects on the retention ability of the students may occur when the model was used in teaching Trigonometry.

Some educators such as Suleiman, (2010), Ameen, (2013), Suleiman and Fajemidagba & Suleiman (2012) among others have tested the effect of Bransford-Stein Model on students' performance and compared the effectiveness of the model with the lecture method. However, none of them attempted to find out the effect of the model on the students' retention which is a major factor in determining the students' performance.
 Despite the importance attached to Trigonometry, the gender performance and retention in the subject is still discouraging, Maruta (2018).

In discussing the factors affecting students' retention in Trigonometry, reference should be made to gender. Due to the role of retention in learning process, Davis (1979) as cited by Abbas and Habu (2014), maintained that if the learner cannot retain the effects of the previous experiences, there could be no progress from one practice period to another. Several studies by Altiner and Dogan (2018), Hidayati (2020), Sartika and Fatmanissa (2020), Wahyuni and Widayanti (2020) amongst others showed that the students' problem in solving trigonometry tends to be high such as students do not understand the problems given, do not master the basic concept of trigonometry, have problem in determining the formula to solve the problem and performing basic arithmetic operations. Some educators such as Bichi, (2002), Abakpa, (2011) and Maruta, (2018) among others blamed the conventional method of teaching and regards it as being responsible for the poor concept retention. According to them, the inability of the students to retain and recall the concepts learnt due to lack of active participation in the learning process at an appropriate time plays a great role in their performance.

Azuka (2009). pointed out that an active learning instructional strategies can be created and used to engage students in (a) thinking critically or creatively, (b) speaking with a partner, in a small group, or with the entire class, (c) expressing ideas through writing, (d) exploring personal attitudes and value, (e) giving and receiving feedback, and (f) reflecting upon the learning process.

Retention plays a major role in the understanding, comprehensibility and application of mathematical concepts. According to Ekwue and Umukoro (2011) students learn, retain and understand better when what they are taught is linked correctly and meaningfully related to their experiences and when real life examples are used.

Educational psychologists have used knowledge retention as one of the criteria for distinguishing between short term and immediate memory (Ladan, Dantani, Ayas &Adamu, 2009). The mind acquires the materials of knowledge through sensation and perception (Chianson et al, 2011). These acquired materials in the mind needed to be preserved in the form of images for knowledge to develop. If a stimulating situation happens, retained images are stored to make memorization possible. In the context of this work, retention refers to the act of absorbing, holding, or continuing to hold or have facts or things learned.

According to Ugwuanyi (2014) the ability to remember takes place more effectively when experiences are passed to the learner through the appropriate instructional method.

For the students to have sound academic retention, the conventional method of teaching (teacher centred) needs to be discourage and change completely to students' centred method. Ezeamenyi (2004) in Nnaji (2013) contended that for improvement of retention of learned materials in mathematics, activity-based learning is indispensable. Retention, thus, depends mainly on teaching strategy adopted by the teacher. Nnaji (2013) pointed out that Research evidences have consistently indicted teaching method as a major factor determining the achievement and retention of students in mathematics. Hence, the search for better methods and newer innovations is a great challenge facing science educators. In the same vain Maruta (2018), stated that the conventional method doesn't allow students to participate actively in the learning process and discourages them to have both inductive and deductive reasoning.

According to Maruta (2018), the call for a departure from the traditional method of teaching necessitates the search for an instructional strategy that allows students active participation in the learning process. Maruta (2018) further stressed that, Bransford-Stein Model being one of the instructional models with varieties of students' learning activities has potential to improve the students' attitude, retention and performance when used in teaching Trigonometry.

The question now is how does the use of Bransford-Stein's Model affect the gender academic retention when used as an instructional strategy?

It is for this reason and considering the learning activities involved in the problem-solving Model of Bransford-Stein that the researchers selected Bransford-Stein Model, used the Model and determined the effect of the Model on gender academic retention in teaching Trigonometry. The effectiveness of the Model was compared with that of the Lecture Method.

One of the goals of Trigonometry teaching is to improve the ability of learners to recognize a problem and apply the knowledge of Trigonometry to get the solution to the problem. Learning Trigonometry will remain ineffective without an appropriate teaching strategy. For this reason, the researchers believes that, if students are allowed to experience Trigonometry through Bransford-Stein Model during Trigonometry lessons, their academic retention will improve and their fear in learning the subject will vanish leading to greater positive productivity in all examinations. Through Bransford-Stein Model, learners are given free hands and are exposed to a different strategy for solving problems. The model contains five stages namely: (1) Identification of the Problem, (2) Defining the Problem, (3) Exploring possible solutions, (4) Act on the selected strategy, (5) Look back and evaluate the effects.

An overview of Bransford-Stein Model

Stage	Component of the Problem	Students' activities
1	Identification of the Problem	Awareness that the Problem exist? What are the relevant data in the Problem? What is the relationship between the given information? Is the management of all the terms

		understood by you?
2	Defining and representing the problem	Classify the problem information, Sort out the relevant information, Understand the information given in the problem.
3	Exploring possible strategies	Is there any other approach to the problem? Look for relevant information from another angle. Retrieve knowledge relevant to the problem information from stored knowledge. Do you need a diagram, list or table?
4	Acting on those strategies	Carry out the plans. Are you using the strategies correctly? Have you used all the important information?
5	Looking back and evaluate the effects of those activities	Evaluating the result. Which of the strategy leads to the correct solution? Is the solution generalizable? Can you use the strategy for handling another problem?

Objective of the Study

The objective of this study therefore, was to examine the effects of Bransford-Stein Model on students' retention in learning Trigonometry. Specifically to find out if there is any difference between the mean retention scores of Male and Female students when taught Trigonometry using Bransford-Stein and those taught using Lecture Method.

Research Question

i. What is the difference between the mean retention scores of Male and Female students when taught Trigonometry using Bransford-Stein and those taught using Lecture Method.

Research Hypothesis

H_0: There is no significant difference between the mean retention scores of male and female students when taught Trigonometry using Bransford-Stein Model and those taught using Lecture Method

Methodology

Quasi-experimental design non-randomized was adopted for this study. The study comprised 9,770 SSII students from 25 senior secondary schools. Samples of 125 students of four intact classes were used. Two of the classes were from girls' schools for experimental and control groups and the remaining two were from boys' schools for experimental and control group. This was due to lack of adequate number of public coeducation senior secondary schools in the state. Otherwise, two intact classes from two coeducational senior secondary schools (to be used for experimental and control groups) could suffice.

Participants

The population of the SSII students in the metropolis as at the time of the study was 9,770. Two groups were involved for the study namely, experimental and control groups. The experimental groups were taught Trigonometry using Bransford-Stein Model while the Control groups were trained the same concepts of Trigonometry but using the conventional Lecture Method. The experimental group consist of 60 students (30 males and 30 females), while the control group consist of 65 students (30 males and 35 females) respectively.

Assessment of students' retention on learning Trigonometry

The instrument used to collect data for the study was Trigonometry Performance Test (TPT) with reliability index 0.86. The instrument consisting of 20 items were developed by the researcher based on the SSII Mathematics Curriculum in Trigonometry. The items were constructed using Bloom's cognitive level lower and higher order questions. The lower order questions covered knowledge and comprehension of the cognitive domain while the higher order questions covered applications and analysis. The 20 items were multiple-choice objective questions with five options (A, B, C, D& E). The TPT was scored out of 100% which means each correct answer is 5marks. The items were scrutinized and validated by the experts (Mathematics Educators) in the faculty of education, Ahmadu Bello University Zaria. The validated TPT was pretested in a pilot study and the reliability coefficient index was computed using PPMC to be 0.86. The reliability coefficient showed that the instrument was reliable and could therefore be used for the main study (Olayiwola, 2010).

Data analysis procedure

The four schools were pretested using (TPT) before the commencement of the treatment and the result was analysed using ANOVA at $P \leq 0.05$ significant level to justify that the four schools were not significantly different in ability level. Later the two groups were exposed to six weeks' treatment by the research assistants who were trained by the researchers for a period of two weeks before the commencement of the experiment. At the end of the 6-week treatments Post-test was administered to the two groups and determined the performance effect of the treatments. After two weeks of no treatment the same questions were reshuffled, administered as post-posttest and determined the retention effect.

Results

Research Question

i.   What is the difference between the mean retention scores of Male and Female students when taught Trigonometry using Bransford-Stein and those taught using Lecture Method?
ii. To answer the research question, mean retention difference scores of male and female students were used.

Table 1:   Male and Female Students' Retention Mean Difference Scores

Treatment Groups	Gender	Male Mean Post-Post-Test Score	Female Mean Post-Post-Test Score	Mean Retention Difference
Bransford-Stein	Mean	18.18	14.80	3.38
	N	30	30	
	Standard Deviation	9.538	6.359	
Lecture Method	Mean	9.77	10.86	1.09
	N	30	35	
	Standard Deviation	4.323	4.388	

The outcome of the descriptive statistics in Table 2 showed that differences exist between the Mean Retention Scores of Male and Female Students when taught Trigonometry using Bransford-Stein's Models and those taught using Lecture Method.

The mean retention scores of Male and Female students taught using Bransford-Stein's Model, were 18.18 and 14.80 respectively. While the mean retention scores of Male and Female students taught using Lecture Method, were 9.77 and 10.86 respectively. Looking at these Mean Retention Scores, it was obvious that the experimental group (Bransford-Stein Model)has higher mean retention scores for both Male and Female Students when compared with the lecture method.

The computed mean differences were 3.38 and 1.09 for the Male and Female Students in respect of Bransford-Stein Model and the Lecture Method respectively.

In order to determine how significant, the difference was, Analysis of Covariance was used and tested the hypothesis.

Hypothesis

There is no significant difference between the mean retention scores (Post-Post-test) of Male and Female students when taught Trigonometry using Bransford-Stein Model and those taught using Lecture Method.

Table 2:   ANCOVA Summary of Effects of Bransford-Stein Model and Lecture Method on Students' Retention (Post-post-test) Scores in Trigonometry

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2732.612[a]	3	910.871	22.003	.000
Intercept	44702.401	1	44702.401	1079.822	.000
Gender	81.779	1	81.779	1.975	.161
Groups	2376.233	1	2376.233	57.400	.000
Gender*Groups	311.344	1	311.344	7.521	.007
Error	10183.888	245	41.398		
Total	57139.000	250			
Corrected Total	12916.500	249			

R Squared = .212 (Adjusted R Squared = .202)

The Analysis of Covariance (ANCOVA) statistics above showed that significant differences exist between male and female students' retention scores taught using Bransford-Stein Model and those taught using the lecture method. Reasons being that the Calculated p value of 0.007 on the Gender versus study groups is lower than the 0.05 alpha level of significance and the computed F value of 7.521 is greater than the 3.000 F radical value at df 1.The mean retention scores for male and female students when taught using Bransford-Stein Model were18.18 and 14.80 respectively, while the mean retention scores for male and female students when taught using Lecture Method were 9.77 and 10.86 respectively.

Therefore, the null hypothesis which state that there is no significant difference between male and female students' retention (Post-Post-test) scores when taught Trigonometry using Bransford-Stein Model and those taught using the lecture method was rejected.

Discussion of Results

Method of teaching was implicated to be a major factor affecting students' academic retention in Trigonometry. The findings of this study revealed that significant difference exist between the academic retention scores of Male and Female students when taught Trigonometry using Bransford-Stein Model and those taught using Lecture Method.

The finding was in line with that of Umar, et al (2006) and Samuel (2013) who reported that there was a significant difference between the retention ability in favour of students taught using problem-solving when compared with those taught using Lecture Method.
The finding was also in line with that of Hoidn and Karkkainen (2014) who reported that students taught using problem-based teaching method retained more knowledge than those taught using LTM. However, the finding contradicts the findings of Wynn, Mosholder and Larsen (2014) who reported that gender effect was insignificant in the knowledge retention of students taught using problem-solving model.

Conclusion

Based on the findings of this study, it was concluded that Bransford-Stein Model has great potential to improve the academic retention mean scores of Male and Female students when used in teaching Trigonometry when compared with Lecture Method.

Recommendation

1.   Government, through the Ministry of Education should ensure the provision of adequate instructional materials at the Secondary Schools level to facilitate the use of Bransford-Stein Model in teaching Trigonometry in particular and Mathematics in general.

Reference

Abakan, B.O. (2011). Effects of Mastery learning approach on Senior Secondary School Students' Achievements and interest in geometry. Un published thesis, University of Agriculture, Makurdi.

Abbas, M. G. and Habu, G. (2014). Effect of Gender-related differences in Academic Achievement and Retention of Senior Secondary School Students taught

Geometry using Problem Solving Approach. The *Eurasia Proceedings of Educational and Social Sciences (EPESS)*, **1**: 484-488, 2014.

Altiner, E.C. and Dogan, M.C. (2018).Investigating the spatial reasoning skills of students in the context of mathematical thinking profiles. European *Journal of Education Studies,* **4** (11): 26-38.Doi: 10.5281/zenodo.1318323

Ameen, S.K. (2013). Comparative effects of two problem solving models on Nigerian secondary school students' performance in Mathematics word problems. An unpublished PhD thesis, University of Ilorin, Ilorin.

Azuka, B.F. (2009) Active Learning in Mathematics Classroom: Capacity Building Workshop for Secondary and Primary Schools Mathematics Teachers in Nigeria: National Mathematical Centre, Abuja-Nigeria.

Bichi, S.S. (2002). Effects of Problem-Solving Strategy and Enriched Curriculum on Students' Achievement in Evolution Concepts Among Secondary School Students. Unpublished Doctoral Dissertation, Department of Science Education, Ahmadu Bello University, Zaria.

Bransford, J. and Stein, B. (1984). The ideal problem-solving. A guide for improving thinking learning and creativity, New York W. H Freeman Deb (2003) problem-solving strategies retrieved on 7th March, 2007. Htt://math.about.com/cs/tetprep//rs.htm.

Chianson, M.M. Kurumeh, M.S. & Obida, J.A (2011). Effects of cooperative learning strategy on students Retention in Circle Geometry in Secondary Schools in Benue State, Nigeria. American *Journal of Science and industrial Research*. Retrieved on 06/05/2013 from www.scihub.org/AJSIR.

Ekwue, N.L. & Umukoro, P. (2011). Assessment of the level of coverage of Topics in Delta State Senatorial Districts. *ABACUS: Journal of Mathematical Association of Nigeria.* **36** (1): 149-158.

Fajemidagba, M.O & Suleiman, B. (2012). Effects of Polya and Bransford and Stein Problem Solving Models on Student's Performance in Mathematics. ABACUS: *Journal of the Mathematical Association of Nigeria (MAN),* **37** (1): 124-133.

Federal Republic of Nigeria (FRN 2013). National Policy on Education. Lagos NERDC Press.

Gur, H. (2009). Trigonometry Learning. New Horizon educ; 57(1):67-80.

Hidayati, U. (2020). Analysis of students' errors in solving Trigonometry problems. Jounal of Mathematics Education, **5** (1): 54-60. Doi: 10.31327/jme.v5i1.1181

Hoidn, S., Karkkainen, K. (2014). Review on the Effectiveness of Problem-based Learning and Teaching Behaviour. Oecd Education working papers Paris; OECD Publishing, 2014.

Ladan, A.A., Dantani, Y.S., Ayas, N.N. & Adamu, Z.L. (2009). *An introduction to psychology of learning*. Kaduna: Effective Media Services. Pp 89-96.

Maruta, S.I. (2018). Effects of Polya and Bransford-Stein Models on Attitude, Retention and Performance in Trigonometry among Senior Secondary School Students in Kano State. Un published PhD thesis of the Faculty of Education, Ahmadu Bello University Zaria, Nigeria.

Nnaji, S.O. (2013). Effects of Polya George's Problem Solving Model on Students' Achievement and Retention in Algebra. *Journal of Educational Social Research MCSER Publishing, Rome-Italy*, **3** (6): 40-48.

Olayiwola, A.O. (2010). Procedure in Educational Research. Nigeria: HANJAM Publications. Htt://www.hrdc-drhc.gc.ca/arb/Retrieved August 14, 2014

Samuel, O.N (2013). Effects of Polya George's Problem Solving Model on Students' Achievement and Retention in Algebra. *Journal of Educational and Social Research MCSER Publishing, Rome-Italy*, **3** (6): 41-48

Sartika, I. and Fatmaniissa, N. (2020). Analysis of students' error in solving trigonometric function problems which assess higher-order thinking skills. *Contemporary Mathematics and Science Education*, **1** (1): 1-10. Doi: 10.30935/conmaths/8437

Tuna, A. (2013). A conceptual Analysis of the Knowledge of Prospective Mathematics Teachers About Degree and Radian, *World J. Edc* **3**.

Ugwuanyi, C.C (2014). Meta-Analysis of studies on effect of Teaching Method on Students' Achievement, Interest and Retention in Mathematics. Ph.D Thesis submitted to the department of Science Education, Faculty of Education, University of Nigeria.

Umar, A; Egunjobi, S; Olude, A.O.; Zubairu, S. and Mu,azu, G. (2006). General Principles and Method in Education PDE/03.Kaduna National Teachers Institute.

Wahyuni, N.S and Wudayanti, E.(2020). Students' errors analysis in finishing problem-solving test based on Newman procedures in trigonometry materials. Indomath: *Indonesia Mathematics Education*, **3** (2): 78. Doi: 10.30738/indomath.v3i2.7213

Wynn, C.T.; Mosholder, R.S. and Larse, C.A. (2014). Measuring the effects of problem-based learning on the development of post formal thinking skills and engagement of first-year learning community students. Learning Communities Research and Practice. 2014, **2** (2).

EFFECTS OF PRIOR-KNOWLEDGE OF TYPEWRITING ON STUDENTS' PERFORMANCE IN WORD PROCESSING IN COLLEGES OF EDUCATION, NIGERIA

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Abstract

This study was conducted to determine the effects of prior-knowledge in typewriting on students' performance in word processing in colleges of Education in Nigeria. Two research questions were answered and two null hypotheses were tested. This study adopted a quasi- experimental design and the population was 91 NCE I students 2019/2020 of FCE Katsina. Convenience sampling procedure was used in this study. The entire population of 91NCE I business education students was used for the study. This is because the size of the population was not large and meaningful. The instrument used for the collection of data was word processing achievement test (WPAT) developed by the researcher. The instrument was face-validated by three experts from Faculty of Education, Department of Business education, Ahmadu Bello University Zaria. To ensure reliability of the instrument, a trial testing was carried out using 10 respondents comprising Business Education students of Waziri Umaru Federal Polytechnic, Birnin Kebbi. The data collected from the trial testing were subjected to statistical analysis. The resulting statistical result gave reliability co-efficient of 0.86. The research questions were answered using mean and standard deviation, while t-test was used to test the stated null hypotheses. The finding on research objective one indicated a mean difference of 11.5 between students with credit and above in Prior-knowledge of typewriting in favor of NCE 1 student who had distinction in prior-knowledge in typewriting performed better in word processing on the basis on the finding. The research concluded that distinction and pass in prior-knowledge typewriting increased students' performance in word processing. The research also made some recommendations which include the need for parents to buy computers for their children in order to develop their experience in word processing. In addition, OTM sections in COEs should ensure pre-training in typewriting for prospective candidates who seek admission into their department.

Keywords: Prior-Knowledge,   Typewriting,   Word   Processing   performance

Introduction

The development of technology as it relates to typewriting in the last two decades could aptly be described as a revolution which is still on and no one seem to know how far this revolution may go. As a results, the traditional concept of the office has been giving way to the office made up of rings of cables with interfaces and plugs in which a wide variety of equipment may be linked. In spite of these technological developments, typewriting still remains one of the most important subjects in office technology and management programme, and it has raised much concern among office technology management scholars. The typewriting which is either a mechanical or electromechanical devices is a machine that is used in acquiring typewriting skills. The typewriting is either a mechanical or electromechanical device with a set of 'keys' that, when pressed causes

characters to be printed on a paper". Typewriting is a skill essential to the development of any economy (Ezenekwe, 2010).

On the other hand, Mbaezue (2010) views typewriting skills as "the mastery and proficiency of one using the typewriting to produce document that are mail-able. These includes, reading, writing, listening, computational, operational and interpersonal". Adebisi (2011) defined typewriting as "an art of producing prints like character on paper by pressing keys on the machine called typewriting, to meet the need to communicate in the most appropriate manner by writing". From the ongoing, typewriting can be seen as 'an art' which must be learn. It is also a process of getting information on paper through operating the typewriting keyboard, by the use of mechanical or electro- mechanical contrivance which makes letters by means of types.

In teaching and learning word processing, proper teaching and learning of keyboarding cannot be overlooked because having background of keyboarding with constant practice may enhance the student's performance in word processing. Keyboarding is the gateway to all computer operations. Keyboarding helps to get all inputs into the computer. Kimberly (2010) defined keyboarding as the manipulation of the computer keyboard by touch. Aliyu (2010) explained keyboarding as the art of placing information into various types of equipment through the use of a typewriter-like keyboard. Keyboarding is a psychomotor skill that involves mental processes as well as coordinated muscular movement. Keyboarding requires stimuli to sensory receptors (eyes, ears, fingertips, muscles, tendons and joints) which are screened, transformed and organized by a neural process known as "selective perception" into modified mental images of the original stimuli.

However, Keyboarding as a skill, is typically discussed in terms of working on a computer. With the introduction of the personal computer (PC) in educational settings, interest in the area of keyboarding skills in office technology and management programme increased significantly. Whoever aspires to become a manager or teacher in the field of office technology and management needs a thorough understanding of the knowledge of keyboarding.

In view of this, a lot of arguments have been put forward regarding the difficulty of word processing as a course. Solomon (2014) opined that the issue as to whether or not word processing is difficult depends on the person in question, his disposition towards the course and his prior knowledge of the course. Solomon (2014) further argued that while word processing can be extremely difficult for some students, it is relatively easier and stress free for others. This means differences in performance in word processing by students could be as a result of a number of factors such as performance in O'level typewriting and gender.

Performance is the act of accomplishing a task successfully. Brady, Showers and Fullan (2012) stated that performance connote final accomplishment of something noteworthy after much effort. Enyi (2014) stated that performance refers to the degree of success reached or attained in some general or specific area of study. Also, it is the extent of success reached or attained in some general or specific area of study. It is the extent of success attained by a student on a task he is exposed to. Performance in this study refers to students' attainment in school courses or subjects. It includes students' excellence in academic pursuit, behavior, confidence, communication skill, punctuality, assertiveness,

social skill and the likes. Students' performance is commonly measured by their success in classroom assignment, exercise, continuous assessment test or examination.

In his view, Erich (2010) stated that gender is the capabilities and attributes assigned to persons on the basis of their alleged sexual characteristics. It comprises of all those social and cultural distinctions that differentiate men from women. Lee (2012) defined gender as ascribed attributes that differentiate feminine from masculine. The gender of a person could influence his behavior, learning, interest, likes and dislikes. In the same vein, the gender of a student can affect his level of learning and achievement in keyboarding. There has been a general view supported by research that male students perform better than their female conterparts in practical oriented courses. For instance, Anigbogu (2012) pointed out that some cultures see males to be more superior to females and that such feeling is manifested in every aspect of their lives socially, academically etc. Attesting to this, Kurumeh (2015) observed that boys perform better than girls in keyboarding and sciences while girls excel in languages. In view of this, gender sensitivity to instructional technique is key issue in teaching keyboarding.

According to Nieman (2016) most teachers have been well trained in child development while only few have adequate training in psychomotor skill development. In order to be trained efficiently, students must be guided progressively through a series of movement of eye, arm, hand and finger sequences. This will help students to develop the movement or motion patterns that are expected for effective and efficient keyboarding. It is on this note that the researcher considered it necessary to examine the interaction effect of typewriting background and gender on Kaduna polytechnic students' academic performance in word processing as it enhances the speed and accuracy of the students in typewriting.

Sani (2020) carried out a study on Effects of prior knowledge in mathematics and students' performance in Book-Keeping in Ahmadu Bello Academy Farfaru, Sokoto. Two research questions were raised and hypotheses were formulated. The population was 180 students. The entire population was used as sample using convenience sampling procedure. because the population was not large and as such manageable. Quasi experimental design was used to conduct the study and Adapted-questionnaire was use to collect data from the students. The data was analysed using mean score and ANCOVA. The study however revealed prior knowledge in mathematics enhanced students' performance in Book-Keeping. Both studies shared in common the number of research questions, hypotheses and sampling procedure. However the studies differ in the level of education the study was conducted. While this study was conducted at Post Junior Secondary School level, the current study was conducted at the tertiary institution.

Yusuf (2018) conducted a study on prior knowledge and academic performance in first year accounting course.. The paper examines the impact of prior knowledge from the conceptual and metacognitive dimensions on academic performance in the first year accounting course. Four research questions and four hypotheses to guide the study. A population of 408 students of the Federal University Dutsinma, Nigeria in the 2012/2013 to 2015/2016 academic sessions were adopted for the study and sample of same was considered. The study used Ordinal regression adopting the ordered logit procedure in STATA was carried out. Prior knowledge was found to have significant impact on the performance in the first year accounting course. Findings showed that the joint impact of conceptual and metacognitive knowledge outweighs that of either conceptual or

metacognitive. The study therefore recommend among others that a composite scoring system incorporating conceptual and metacognitive knowledge variables be designed and used for admission placement in BSc in Accounting, BSc in Management and BSc in Economics. The study relates to the current study in the variable investigated which is prior knowledge, business courses and the use of the whole population as sample. The two studies however differ in the instrument for data analysis and while this study used first year first year accounting students, the current study use first year NCE in word processing.

Mbah (2015) conducted a study on the Effects of Prior knowledge of topics and instructional objectives on students' achievement in literature-in-English. The study, two research questions were raised and two hypotheses were formulated. Quasi experimental design was used for the conduct research, a total of 6053 students in senior secondary II from Abakalik Education zone of Ebonyi state was the population and sample of the study was 120 SSII was used to conduct the research. The instrument used for the study was a researcher-designed objective test titled Literature-In-English achievement test (LAT). The data was analysed using mean score and ANCOVA. The study concluded revealed that the use of prior knowledge of instructional objectives amongst students enhanced their achievement in Literature-In-English. This study shared some similarities with present study because it the effects of prior knowledge on current tasks, both study have two research questions and two hypotheses and Quasi experimental research designed was used for the study.

The current study, which is the effects of prior-knowledge of typewriting on students' performance in word processing in colleges of education, Nigeria. intends to cover the gaps observed in the previous studies.

Computers have become an integral part of people's life all over the world. The primary means for interacting with the computer is the keyboard. Keyboarding skills are no longer vocational in nature but necessary to be able to design, communicate, extract and disseminate information. Manipulative/typing technique underlies and becomes the essential basis for the development of keyboarding speed and accuracy. Experience has shown that the achievement level among office technology students in word processing is generally low. This is evident in students' inability to manipulate computer in an orderly manner through the use of keyboarding.

Word processing is a psychomotor skill that requires proper teaching and guidance by a qualified instructor who is knowledgeable and can use appropriate methods. Despite having competent lecturer in teaching and learning ICTs, according to Onu (2012), students' performance in word processing is alarming. Appropriate instructional methods are likely to enhance learning achievement in word processing, but if students also lack background of keyboarding/typewriting there is tendency for them to perform below average.

The results of students' performance in word processing examinations in polytechnic indicated that students' performances are declining steadily. This is supported by the students results for the last four years in word processing for instance NCE 1 performance was 55% in 2015/2016 session, 48% 2016/2017 session, 46% 2017/2018 session and dropped to 40% in the 2018/2019 session. It is evident; therefore, from the summary of the results that majority of the students perform poorly in word processing which may

have been caused by many factors but the major factors that this research wants to establish are those related to lack of prior-knowledge in typewriting performance.

Objectives of the Study

The specific objectives are to:

i. determine the difference between the performance of NCE I student with prior-knowledge in typewriting and those without in word processing
ii. determine the difference between the performance of NCE I students who have distinctions in their O'level result in typewriting and those with credit in word processing

Research Questions

In line with the specific objectives, the following research questions were raised by the researcher.

i. What is the difference between the performance of NCE I student with prior-knowledge in typewriting and those without in word processing?
ii. What is the difference between the performance of NCE I students who have distinctions in their O'level result in typewriting and those with credit in word processing?

Research Hypotheses

In line with the research questions the following null hypotheses in the course of study ware tested at 0.05 level of significance.

HO_1: There is no significant difference between the performance of NCE I student with prior-knowledge in typewriting and those without in word processing
HO_2: There is no significant difference between the performance of NCE I students who have distinctions in their O'level result in typewriting and those with credit in word processing

Methodology

The research design used for this study is quasi-experimental (Osuala, 2009). The researcher used intact classes for the study. The study design comprised of experimental and control groups using post-test approach. The experimental group was exposed to practical instructions on typewriting for a period of five weeks and two weeks for word processing making a total of seven weeks. This study employs the quasi-experiment method to establish the performances of admitted students into NCE I with O'level typewriting at their Senior Secondary School Certificate Examination (SSCE). The word processing was taught to the students and examination was conducted with a view to ascertain if typing background student performances in word processing ability. The population for the study comprised of NCE I Business Education (OTM) students of FCE Katsina for the year 2018/2019 academic session. The department was chosen because of the nature of the study and its proximity to the researcher.

Based on the ground that all the NCE I OTM students constituted the intact classes for the study, all 91 students served as sample for the study. Hence, there was no sampling procedure. This was in line with view of Nwakena (2009), who indicated that in a situation where by the population is small, the whole population should be used as a sample of the study. Word Processing Achievement Test (WPAT) developed by the researcher. The instrument was face-validated by three experts from Faculty of Education, Department of Business education, Ahmadu Bello University Zaria. To ensure reliability of the instrument, a trial testing was carried out using 10 respondents comprising Business Education students of Waziri Umaru Federal Polytechnic, Birnin Kebbi. The data collected were subjected to statistical analysis using Pearson Product Moment Correlation Coefficient (PPMC). The resulting statistical result gave reliability co-efficient of 0.86. Tracy 2006 testified that, for a scale to e considered reliable, it should have an alpha level of 0.50 to 1. Word Processing Achievement Test (WPAT) was used to collect data for the study and it was designed to test 'students' ability and skills in selected topics in word processing. The items of the instrument were developed by the researcher based on the topics taught to the students as stipulated in the National Commission for colleges of Education (NCCE) curriculum. There are 5 tasks in the WPAT which are made up of one task each from the topics selected for the experiment.

The instrument was scored on a minimum of 0 and a maximum of 100 marks. The researcher chooses to use the typewriting and word processing because typewriting machine that is used in typing documents, has undergone a series of modification and technological changes, which started from the manual typewriter to the electric typewriter and electronic typewriter and subsequently into word processing computer.

In analyzing the data collected, descriptive statistics such as frequency distribution and mean and standard deviation were used to answer all the research questions. Inferential statistics of t-test was used to test the null hypotheses at 0.05 level of significance.

Results

Research Questions One: What is the difference between the performance of NCE I student with prior-knowledge in typewriting and those without in word processing?

Table 1: **Analysis of mean scores of NCE 1 students with typewriting and those without it in word processing**

Variable	N	Mean	Std Dev	MD
Students with typewriting.	33	70.20	10.436	33.6
Students without typewriting	58	36.6	16.772	

The study analysis presented in Table 1 show that NCE 1 students who had typewriting had a mean performance score of 70.20 in word processing and these without typewriting had mean of 36.6. This implies that O'level typewriting has potentials to increase students' performance in word processing. The result indicated a mean difference of 33.6 between the two groups in favor of NCE I students who had O' level typewriting

background. This is to say that students with` O' level typewriting performed better in word processing then those without it.

Research Questions Two: What is the difference between the performance of NCE I students who have distinctions in their O'level result in typewriting and those with credit in word processing?

Table 2: **Analysis of mean score of NCE 1 student with distinction in typewriting and those with credit in word processing**

Variable	N	Mean	Std Dev	MD
Credit	41	56.3	14.103	
				11.5
Distinction	50	67.8	15.847	

Table 2 above indicates the performance of NCE I students in word processing that have credit and above in O level typewriting. The analysis showed that NCE I students who had credit in typewriting scored a mean of 56.3 in word processing. While, NCE I students with distinction in O level typewriting had a performance mean score in word processing of 67.8. Similarly, the result indicates a mean difference of 11.5 between the two groups in favors of NCE I students who had distinction in typewriting. This is to say that students with distinction in O level typewriting performed better in word processing then those with credit.

Research Hypothesis One: There is no significant difference between the performance of NCE I student with prior-knowledge in typewriting and those without in word processing.

Table 3: **t-test analysis showing difference between NCE I students' performance with typewriting and those without in word processing**

ND Students with Typewriting	N	Mean	Std Dev	t-cal	Sign.
Students with Typewriting	33	70.2	16.772	4.76	0.000
Students without Typewriting	58	36.6	10.436		

Table 3 presents an independent sample t-test analysis used to compare the mean difference between the performance of NCE 1 students in word processing with typewriting and without typewriting. The analysis revealed that the mean performance score of NCE Istudents with typewriting was (70.2) and standard deviation (16.772) as against the mean performance score of ND I students without typewriting background 36.6 and standard deviation (10.436) with degree of freedom of 90 respectively. The t-value for the model was calculated at (4.76) with α p-value at (0.000). The t-cal was greater than the t-tabulated of 0.196 and the (0.000) α value was lower than the *a priori* significant p-value of (0.05). The result, therefore, shows that significant difference existed between the mean performance of NCE 1students with typewriting background and those without typewriting background, implying that there is significant difference in students' academic performance in word processing between the two groups. Hence, the null hypothesis was rejected.

Research Hypothesis Two: There is no significant difference between the performance of NCE I students who have distinctions in their O'level result in typewriting and those with credit in word processing

Table 4: **t-test analysis showing difference between NCE I students' performance with distinction and those with credit, in word processing**

ND Students with typewriting	N	Mean	Std Dev	t-cal	Sign.
Credit	41	56.3	14.103	3.893	0.001
Distinction	50	67.8	15.847		

Table 4 presents an independent sample t-test analysis used to compare the mean difference between the performance of NCE I students in word processing. The analysis revealed that the mean performance score of NCE I students with credit in O level typewriting was (56.3) and standard deviation (14.103) as against the mean of performance score of students with distinction in O level typewriting (67.8) and standard deviation (15.847) with degree of freedom of 90 respectively. The t-value for the model was calculated at (3.893) with α p-value at (0.001). The t-cal was greater than the t-tabulated of 0.196 and the (0.001) α value was lower than the *a priori* significant p-value of (0.05). The result, therefore, shows that significant difference exists between the mean performances of NCE I students with credit and above in O level typewriting, implying that there is significant difference in students' academic performance in word processing between the two groups. Hence, the null hypothesis was rejected.

Summary of the findings

Analysis of Research Question One have shown that NCE 1 students who had O'level typewriting had a mean performance score of 70.20 in word processing and these without typewriting had mean of 36.6. This implies that O'level typewriting has potentials to increase students' performance in word processing. The result indicated a mean difference of 33.6 between the two groups in favor of NCE I students who had O' level typewriting background. This is to say that students with` O' level typewriting performed better in word processing then those without it.

The analysis of Research Question Two, have shown that NCE I students who had credit in typewriting scored a mean of 56.3 in word processing. While, NCE I students with distinction in O level typewriting had a performance mean score in word processing of 67.8. Similarly, the result indicates a mean difference of 11.5 between the two groups in favors of NCE I students who had distinction in typewriting. This is to say that students with distinction in O level typewriting performed better in word processing then those with credit.

The result of Null Hypotheses One, have shown that significant difference existed between the mean performance of NCE 1students with typewriting background and those without typewriting background, implying that there is significant difference in students' academic performance in word processing between the two groups. Hence, the null hypothesis was rejected.

The result Null Hypotheses Two, have shown that significant difference exists between the mean performances of NCE I students with credit and above in O level typewriting, implying that there is significant difference in students' academic performance in word processing between the two groups. Hence, the null hypothesis was rejected.

Discussion of the Findings

This study on research question one and hypothesis one further shows that NCE I students without background in typewriting had a mean performance score of 36.6 in word processing. Again, the mean performance score of NCE I students with typewriting background was (70.20) and standard deviation of (16.772) against the mean of performance scores of NCE I students with no typewriting background (36.6) and standard deviation (10.436) respectively. The t-value for the model was calculated at (4.76) with α p-value at (0.000). This implies that typewriting background has potentials to increase students' performance in word processing. Nwaokolo (2014) reported that background in typewriting training starts from the keyboard. Therefore the keyboard operation is an indispensable activity in typewriting. Nwaokolo (year) expresses his view that "regardless of sophistication in information processing systems, keyboarding is indispensable." This view is also lauded by Ekpenyong and Inegbedion (2009) that, keyboard is a major part common to all (machines) and it plays the role of input device in all and facilitate students' learning outcome.

The findings of the study on research question and hypothesis two revealed that students with distinction background in O level typewriting performed better in word processing than those with credit. The t-cal (3.893) was greater than the t-tabulated of 0.196 and the (0.001) α value was lower than the *a priori* significant p-value of (0.05). The result, therefore, shows that significant difference existed between the mean performance of NCE I students with credit and above O level typewriting. Obioma and Uteh (2009) summit that, a student can be considered to be skilled in typewriting when performance is accomplished in less time, with less energy, greater accuracy, higher consistency, and with more flexibility and easy transfer such skills in the application of the knowledge in other business subjects.

Conclusion

It can be concluded from the major findings of this study, that background and performance in O'level typewriting as well as gender have effects on students performance in word processing in COEs, Nigeria. Therefore, knowledge of typewriting has become a must and a necessary skill for academic excellence and probably a way of life today. This is not only in schools or in the workforce, but also as a means for communicating with others, for sharing ideas, expressing thoughts, and even for utilizing entertainment through multiple technology devices such as computer, tables, gaming consoles, smart television, and even larger cell phones. Evidently, typing is the primary means of interfacing with a computer for undertaking word processing.

Recommendations

1. It is recommended that parents should buy computers for their children in order to develop their experience in typewriting and increase their skills not only in word processing but in other business subjects that might require such skills.
2. There is need for OTM Departments to ensure pre-training in typewriting of prospective candidates who seek admission into their Departments to increase the level of students' performance in word processing.

References

Adebisi, O. S. (2011). Foundation in Teaching Type writing Book 2. Pp 46-48.

Aliyu, M. M. (2010): Business Education in an Information Technology Era. Paper presented at Federal College of Education Kano on the theme: Vocational Education for sustaining Democracy and National Development.

Anigbogu D. (2012). *Effective teaching methods: research-based practice 7th ed.* Boston, MA: Pearson Education.

Enyi , J. (2014) 'The effect of class size on student performance: development and assessment of a process model', *Journal of Education for Business*, **70** (2): 104–111.

Erich, R. J. (2010). Building background knowledge for academic achievement. Alexandria, V.A, Association for Supervision and curriculum development.

Ekpenyong and Inegbedion (2009). Exploring the Gender Impact of the World Links Program: Summary of the Findings of an Independent Study Conducted in Four African Countries. (Online) Available:

Ezenekwe, F (2010) 'Mapping prior knowledge: a framework for   discussion among researchers', *European Journal of Psychology of Education*, **10** (3): 225–242. *Prior knowledge and academic performance in first year accounting course* 15

Fullan F. (2012) 'Impact of prior content and meta-cognitive knowledge on students' performance in an introductory accounting course', *Pacific Accounting Review*, **20** (1): 63–74.

Solomon R.E. (2014) 'Aptitude, instruction and individual development', *International Journal of Educational Research*, **13** (8): 869–881.

Nwaokolo A (2014) Road map to destiny. Nuggets of wisdom (Vol 3) Owerri, Encounter Press.

Obioma, G.O & Uteh C (2009). *Basic elements of Comprehension, Summary and writing skills for schools and colleges*, Lagos, BIFOCAL Publishers.

Lee, C. (2012). New Directions of ICT Use in Education. (Online) Available: http:www.en.wikibooks.org/wiki/ict

Kimberly, W. B (2010). Developing proofreading and editing skill in the Business industries in New-York (unpublished).

Mbaezue, A.N.C Aeps (2010). Typewriting: A Gateway to New horizon in secretarial profession Journal. National Association of Professional secretarial staff of Nigeria, **6** (1): 4 – 11

Nwosu, B. O. (2011). Business education in the 21st century. The challenges of technology. *Business education book of reading*, **1** (3): 8-20.

World Bank (2018). The World Development Report 2010/11.

Sani, A.M. (2020), Effects of prior knowledge in mathematics and students' performance in Book-Keeping in Ahmadu Bello Academy Farfaru, Sokoto. (unpublished)

Yohanna, A.M. (2016). The impact of lecture and demonstration methods of teaching on secondary school students' achievement in office practice in Benue State. *Unpublished undergraduate project*, Benue State University, Makurdi. Pp: 71-73

Yusuf, I., Joseph, S., and Okpe, J. U. (2016) 'Entry qualification and academic performance of first year accounting students in Federal University Dutsin-Ma', *Accounting Education, Research and Practice Proceedings of the NAA Conference*, pp.1–10.

Onu, H.J. (2012) 'A psychological theory of educational productivity', in Farley, F.H.

Nieman (2016), H. (2016): *Psychology and Education*, pp.81–108, McCutcha, Berkeley, CA.

Walberg, H.J. (2003) *Improving Educational Productivity 103*, Institute of Education Sciences (ED), Washington, DC.

Kurumah, L.K. (2015) 'A synthesis of research studies on performance of male and female

Mbah, K. (2015). *Effects of Prior knowledge of topics and instructional objectives on students' achievement in literature-in-English.*

EFFECT OF PROBLEM-SOLVING INSTRUCTIONAL STRATEGY ON ACADEMIC PERFORMANCE AND RETENTION IN GEOMETRY AMONG SENIOR SECONDARY STUDENTS IN KATSINA METROPOLIS, KATSINA STATE, NIGERIA

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Abstract

This study examined the effect of Problem-Solving Instructional Strategy on students' academic performance and retention in Geometry among senior secondary school students in Katsina metropolis. A sample of 80 students was selected using simple random sampling technique. The purposive sampling technique was initially used to select four schools which were pretested and subjected to ANOVA and Schaffer's test statistic to obtain two schools that are academically equivalent. The study used the pre-test, post-test, control and experimental group design. One school was randomly assigned the experimental group and the other as the control group. Geometry Achievement Test (GAT) was the instrument used for data collection. The results revealed that there was a significant difference between the mean achievement of students in the group taught Geometry using Problem-Solving Instructional Strategy and those taught using conventional approach. In addition, there is a significant difference between the mean retention scores of students in the experimental group and those in the control group in favor of the experimental group. It is therefore recommended that teachers should incorporate the Problem-Solving Strategy in the curriculum implementation and teaching at all levels since it enhances the academic performance and retention of students.

Keywords: *Solving Instructional Strategy, Students, Academic performance, Mean retention.*

Introduction

Mathematics is the backbone of all scientific and technological investigations as well as all other activities of human development. It is a creative endeavor, a human activity which arises from experiences and becomes an integral part of culture and society of everyday life and work (Uzo, 2002). The study of mathematics is a basic preparation for an informed citizenry and a gateway to numerous career choices in life (Galadima, 2001 & Obodo, 2002). Teaching Mathematics effectively is quite hard because sometimes, the students find Mathematics as a boring subject (Makama, 2008). According to Abubakar (2014), the task of every teacher is to help the students in problem solving process and for that to be achieved the teacher must be well grounded in the Problem-Solving Instructional Strategy. This is very important in the teaching of Mathematics. The classroom teacher can develop a scientific approach to solving problems which should be a guide to the students (Abubakar, 2014).

The teaching of Mathematics is generally a complex interactive social activity that takes place within the classroom. It consists of such activities as abstraction, theory building, concept formulation, problem-solving and generalization. Mathematics is a compulsory subject for all levels of the Nigerian educational system. Abubakar (2014) sees the subject as the process of translating a problem into a mathematical form, deciding what result is

required mathematically, doing the computation, moving from the mathematical beginning to the mathematical end point as well as interpreting the results. Mathematics in secondary schools is divided into Geometry, Algebra, Statistics and Calculus among others. Geometry, according to Obodo (2002).

Problem-Solving is an instructional strategy which can be effectively used to teach any mathematics concept especially geometry. The method engages students in effective mathematics learning. Problem-solving is a teaching method or strategy which is learner-centered and can promote students' understanding and development of active and motivated learning (Abubakar, 2014). Vande-Walle (2004) calls problem-solving a "principle instructional strategy" used to fully engage students in mathematical learning. Problem-solving based learning is a model which centers on students and it is a skill and knowledge based on deep understanding of concepts.

Academic achievement refers to an act of finishing or accomplishing the given work. In other words, anything accomplished successfully, particularly through perseverance, practice, skill or exertion in Mathematics in general and in Geometry in particular can be termed as an achievement (Abubakar, 2014). Adeyemi, (2008) viewed academic performance as the scholastic stand of a student at a given time. Musa (2010) viewed academic performance as the quality of result produced by student as reflected in the quality of their examination score. Usman and Musa (2015) also defined academic performance as the assessment of how much students have learnt, the extent to which a student has acquired certain information or mastered skills usually due to prior information or training. It is worthy to note that performance and achievement in mathematics and Geometry is a resultant effect of retention. Learning is strongly related to memory and retention is the storage of information in the brain.

In Nigeria, Mathematics is generally a compulsory subject for all students at all levels of secondary education and Geometry, an aspect of Mathematics, is an integral part of Mathematics in the Senior Secondary Certificate Examination (SSCE). However, the rate at which students fail Mathematics in SSCE is a worrisome continues to be a worrisome situation. The poor performance has always shown a perennial feature of Mathematics results in secondary schools. More so, the state of performance in Mathematics in Nigeria, especially Katsina State secondary schools is not encouraging. Table 1 illustrates the state of academic performance of students in Mathematics in Katsina metropolis, Katsina State, Nigeria.

Table 1: **Summary of Performance of Students in WASSCE General Mathematics from 2005 to 2010 in Katsina Metropolis**

Year	Number Registered	Number Passed (A1-C6)	Number Failed (D7-F9)	% Pass	% Fail
2005	2,970	389	2,581	13.10	86.90
2006	3,890	1,110	2,780	28.53	71.47
2007	4,686	1,811	2,875	38.65	61.35
2008	4,078	3,541	537	86.83	13.17
2009	5,241	1,888	3,353	36.02	63.98
2010	4,604	328	4,276	7.12	92.88

Table 1 shows the trend of students' performance in WASSCE Mathematics in Katsina metropolis. As can be observed from the table, no year except 2008 has the percentage

pass rate reached 50%. This gives an indication that something must be done to rectify the students' poor performance in the subject. The big question remains: 'When will this poor academic achievement in Mathematics come to an end?"

Objectives of the Study

The following constituted the objectives of this study: to

i.   investigate whether Problem-Solving Instructional Strategy affect students academic performance in Geometry;
ii.   determine whether Problem-Solving Instructional Strategy affects students' retention in Geometry.

Research Questions

The study sought to provide answers to the following questions:

i.   What is the difference between the mean academic performance scores of students taught Geometry using Problem-Solving Instructional Strategy and those taught the same concept using lecture method.
ii.   What is the difference between the mean retention scores of students taught Geometry using Problem-Solving Instructional Strategy and those taught the same concept using lecture method.

Hypotheses

The following hypotheses were formulated and tested at $P \leq 0.05$ level of significance:

i.   There is no significant difference between the mean academic performance scores of students taught Geometry using Problem-Solving Instructional Strategy and those taught the same concept using lecture method.
ii.   There is no significant difference between the mean retention scores of students taught Geometry using Problem-Solving Instructional Strategy and those taught the same concept using lecture method.

Methodology

The research design of this study is Quasi-Experimental, involving pre-test, Post-test, quasi-experimental and control group design using intact classes as proposed by Kelinger (I973). The study involved two groups: an experimental and a control group. Two intact classes (one as experimental and the other as control groups) were used for the study. The two study schools were selected from the four pre-tested schools out of the study population. The essence of pre-testing is to ensure selection of samples that are not significantly different in abilities in terms of performance and mean retention before the treatment. After pre-testing, two homogeneous schools were assigned into experimental and control groups.

Population of the Study

The target population for this study is all Senior Secondary School 2 students in Katsina Metropolis. There are only 10 public Senior Secondary Schools with a population of 4,900 SS2 students in Katsina Metropolis. The co-educational schools are 6 while 3 schools are only boys and 1 school only girls. The population comprises of 2,529 boys and 2,371 girls.

Sampling Procedure: Kerlinger (1986) explained purposive sampling as non-probability sampling which is characterized by the use of judgement and a deliberate effort to obtain representative samples by including typical areas or groups in the sample. In view of this, a purposive sampling technique was used to select four co-educational secondary schools within Katsina Metropolis. This was to ensure that the schools have similar environmental situation and fair representation of Boys and Girls within the sampled schools. These schools were pretested and their scores were subjected to ANOVA and Scheffe's Test statistics. Later, one class each from the two schools that were found not to be significantly different academically was selected through flip of coin. This is because SS2 students were made up of science and art classes. Only intact classes were used in each of the selected schools as recommended by Campbell & Stanley (1966). Incidentally, each of the classes has 40 students. A total sample size of 80 students was used for the study. The schools were randomly assigned as experimental and control groups represented by School A and School B respectively. Table 3 shows the summary of the sample for this study.

Table 3:   Sample of the Study

School	Group	Boys	Girls	Total
School A	Experimental	23	17	40
School B	Control	25	15	40
TOTAL		**48**	**32**	**80**

Instrumentation

The Geometry Achievement Test (GAT) was used to collect data for the study. The instrument contained 40 multiple choice questions (A-D) developed by the researcher on six topics within the concept of Geometry. Geometry was chosen for this study because it is mostly failed by students in SSCE (Mang, 2010; Achor, Imoko & Jimin, 2012). GAT was used for pretest, posttest and post-posttest. The pretest was meant to give information on the present level of the students before treatment while the posttest and post-posttest were to give information on the achievement and retention levels of students after treatment. The GAT items were altered in serial order but still retain the original content of the items before it was used as post-posttest.

Validity and Reliability of the instrument

To ensure validity, the instruments were given to two experienced Mathematics teachers from Senior Secondary Schools and two Mathematics Educators from Ahmadu Bello University, Zaria, who did the content validation. The instrument was also given to two experts in the Department of Measurement and Evaluation from Ahmadu Bello University, Zaria, who carried out the face validity. The validators were to comment on the instrument (GAT) - whether it covered the content and if the instrument was within

the ability of the subjects to ensure it tests and correlated using Pearson Product Moment Correlation (PPMc) statistic and the reliability coefficient obtained is 0.74. With this, the instrument is assumed to be reliable for use since according to Maduabum (2004), any instrument with reliability coefficient of 0.5 and above is reliable for use in data collection.

Method of Data Collection

The researchers personally administered the Geometry Achievement Test (GAT) to collect data for the study. The instrument contained 40 multiple choice questions (A-D) developed by the researcher on six topics within the concept of Geometry. GAT was used for pretest, posttest and post-posttest. The pretest was meant to give information on the present level of the students before treatment while the posttest and post-posttest were to give information on the achievement and retention levels of students after treatment.

Method of Data Analysis and Result

The Data Collected were tested using independent t-test at $P \leq 0.05$ significance level as follows:

Table 1: **Summary of t-test Analysis of Posttest Scores of the Experimental and Control Group on Academic performance**

Group	N	Mean	SD	Mean Difference	Df	t-value	p-value	Remark
Experimental	40	62.15	10.94					
				12.10	78	4.22	0.001	Significant
Control	40	50.05	14.45					

Significant at P≤ 0.05

The result from Table 1 shows that the mean academic performance scores for the experimental and control groups were found to be 62.15 and 50.05 with standard deviations of 10.94 and 14.45 respectively. The level of significance was found to be 0.001 showing that there is a significant difference in the mean academic performance of the experimental and control groups. the mean academic performance scores of students taught Geometry using Problem-Solving Instructional Strategy and those taught the same concept using lecture method in favor of the experimental group exposed to the Problem-Solving Strategy.

To test this hypothesis, the GAT post-posttest scores of both the experimental and control groups were analyzed using independent t-test statistic. Table 2 shows the results of the analysis.

Table 2: **Summary of t-test Analysis of Post-Posttest Scores of the Experimental and Control Group on mean Retention**

Group	N	Mean	SD	Mean Difference	Df	t-value	p-value	Remark
Experimental	40	61.40	10.71					
				17.65	78	8.38	0.001	Significant
Control	40	43.75	7.91					

Significant at P≤ 0.05

The result from Table 2 shows that the mean retention scores for the experimental and control groups were found to be 61.40 and 43.75 with standard deviations of 10.71 and 7.91 respectively. The level of significance was found to be 0.001 showing that there is significant difference in the mean retention scores of the experimental and control group. This means that there is a significant difference between the mean retention scores of students taught Geometry using Problem-Solving Instructional Strategy and those taught the same concept using lecture method in favor of the Problem-Solving group.

Conclusion

Based on the findings from the study, the following conclusions were drawn: Problem-Solving Instructional Strategy could effectively improve and enhance understanding of Geometry among Senior Secondary School students more than lecture method. And can also improve retention of Geometry concepts learnt better than the lecture method.

Recommendations

The level of achievement and retention depended on the approach of instructional delivery. The students that were exposed to Problem-Solving Instructional Strategy were better in academic performance than those exposed to conventional lecture method. The strategy therefore proved to be a viable option in promoting meaningful learning. Hence, it is recommended that:

1. Mathematics teachers should be encouraged to use the Problem-Solving Instructional Strategy in Teaching Geometry to Senior Secondary School students.
2. Professional bodies like the Mathematical Association of Nigeria (MAN) should organize Extensive training programs, seminars and workshops for Mathematics teachers in secondary schools across the nation on the effective use of Problem-Solving Instructional Strategy in the Classrooms.
3. Mathematics curriculum developers and teacher educators should incorporate Problem-Solving Instructional Strategy in the curriculum as well as in the training of Mathematics teachers.
4. The government should advise Mathematics textbook authors and the Nigerian Educational Research and Development Council (NERDC) to transform the existing Mathematics textbooks From the conventional style of presentation to a new style as to meet the criteria for Problem-Solving.

Reference

Abubakar, B. (2014). Effects of Problem-Solving Instructional Strategy on Academic Achievement and Retention in Geometry among Senior Secondary Students in Katsina Metropolis, Katsina State, Nigeria. *Unpublished M.Ed. Dissertation, Department of Science Education, Ahmadu Bello University, Zaria.*

Achor, E.E., Imoko, B.I. & Jimin, N. (2012). Improving Some Nigeria Secondary Students' Achievement in Geometry. *New York Science Journal*, **5** (1): 1-7.

Adeyemi, T. O. (2008). Predicting Students' Performance in Senior Secondary Certificate Examination in Ondo State, Nigeria. *Middle-East Journal of Science Research.* **3** (2): 73-81.

Galadima, I. (2001). The Effect of Heuristic Problem Solving Strategies on Senior Secondary School Students' Achievement in Algebra. *Unpublished Dissertation, Ahmadu Bello University, Zaria.*

Kerlinger, F.N. (1986). Research Design in Occupational Education. http://www.okstate.edu/ag/agedcm4h/academic/aged5980a.

Makama, R. (2008). Improving Mathematics Education for Sustainable Development. *Paper Presented at the 2nd National Conference of National Association of Female Teachers Held at Sa'adatu Rimi College of Education, Kumbotso, Kano on 11th–15th Aug, 2008.*

Mang, O. (2010). Difficulty in Further Mathematics as Perceived by Students in Katsina State. *Unpublished M.Ed Thesis Submitted to the Department of Curriculum and Teacher Education, Abia State University, Uturu.*

Maduabum, M.A. & Odili, G.A. (2002). Analysis of Students"Performance in General Mathematics at SSCE Level in Nigeria1991-2002. *Journal of Research in Curriculum and Teaching*, **1** (10): 64-68.

Tuckman, B.W. (1975). *Measuring Education Outcomes*. New York: Harcourt Brace Hovawick.

Udoh, C. (2011). Overcoming Candidates' Poor Performance in the West African Senior School Certificate. *A Presented Paper, Reported by Stella, E. www.LeadershipEditors.com/ins/indexPh. Retrieved on 4th May, 2011.*

Uzo, A.N. (2002). *Mathematics and Students: The Secret of a Solid Background in Mathematics: A Handbook for Parents Teachers and Students.* Abuja: Cradle-Crest Publishing.

Usman, M. A. & Musa L. (2015). Effect of Inquiry Teaching Method on Students' Achievement in Algebra in Bauchi Local Government Area of Bauchi State, Nigeria. A*bacus Journal of Mathematical Association of Nigeria.*

Vande-Walle, J.A. (2004). *Elementary and Middle School Mathematics: Teaching Development.* New York: Pearson Education Inc.

RATIONAL EMOTIVE BEHAVIOURAL THERAPY AND TRUANCY AMONG SENIOR SECONDARY SCHOOL STUDENTS IN NORTH WESTERN NIGERIA: IMPLICATIONS FOR COUNSELLING

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Abstract

The main objective of this research paper is to demonstrate to the students with truancy that their self-verbalizations have been and are currently the source of their emotional disturbances. Truancy is an action of staying away from school without good reason, absenteeism. It is a major problem that cuts across all levels of education, among secondary school students' in the North Western Nigeria. The root causes of truancy include drug use, membership in a peer group of truants or gangs, lack of direction in education, Teachers attitude and violence at or near school. The researchers carried out a theoretical work by using counselling techniques in tackling the problem of truancy in the North Western States of Nigerian schools, Rational Emotive Behavioural Therapy (REBT) of Albert Ellis and Behavioural Modification were used in resolving the problem of truancy in schools. Various counselling implications were discussed such as the need to form an attendance review team to deal with the problem of truancy as early as possible, provision of individualize support for the student in school, building a positive school culture to guide the student in school and focusing on the most essential behaviours which were noticeable in schools. Problem of truancy would definitely be solved if suggested techniques and skills are appropriately used by a trained professional counsellor. The paper therefore suggested that Counsellors are to create a positive classroom environment with hands on activities, group discussions and active participation.

Keywords: Counselling, Techniques, Truancy, Students

Introduction

Education is the process of gaining knowledge. It the training and developing knowledge, skill, mind and character especially by formal schooling, teaching and training. It is also considered as the process which a society consciously transmit its knowledge, skills and values from one generation to another. The school as one of the agents of socialization was established to mould, build and shape the youth to become useful to themselves and the society. Such conscious and intentional efforts usually focus in part on character development, behaviour modification and values orientation, especially among youths of the nation. School is a building where young people receive education. Innocent and Uche, (2020) view the school as centre of knowledge and it possess the power to mould and shape the character of individuals in the society. However, distortion and aberrations in the character of students are being reflected in the pattern of student's behaviour. If not checked such behaviour constitute impediment to meaningful classroom learning, school growth and development. Counselling as a process which clients learn how to make decisions and formulate new ways of behaving, feeling and thinking (Syed, 2017). Counselling is said to be a helping profession which deals with the process of helping individuals to discover and develop their educational, vocational and psychological

potentialities and thereby achieve an optimal level of personal happiness and social usefulness (Ipaye, 1995). Techniques are the major instruments used by counsellor during counselling session either in an individual or group which makes counselling differed from advice giving. Truancy is the act of shirking from responsibility and duty especially from attending school.

Behaviour modification is the systematic application of antecedent and consequences to change behaviour. It refers mainly to techniques for increasing adaptive behaviour through reinforcement and decreasing maladaptive behaviour through punishment but with emphasis on reinforcement. Interventions based on behaviour principles to change the behaviour and careful measurement of the changes. Method of behaviour modification refers to the planned ways of studying and altering behaviour. Modeling techniques are said to have been used with the impressive success in the treatment of phobias.

Concept of Truancy

Truancy is one of the antisocial discipline problems among secondary school students in Nigeria. The concept and acts of indiscipline have received a lot of attention by researchers. Peck in Oluremi, (2013) opined that the various behaviour disorders like stealing, violence, drug abuse, examination malpractice, sexual abuse and truancy have so undermined effective teaching learning processes, that some teachers have become helpless and disorganized in their lack of imparting knowledge to learners. Truancy is any intentional unauthorized or illegal absence from compulsory schoolings. It may also refer to students who attend school but do not go to classes. Truancy is non-school attendance behaviour. It is an irregular attendance of school. Truancy is the action of staying from school without good reason or without permission (Attwood and Croll 2006) and when a student intentionally misses more than the allowed number of days of school (Kristi, 2016) other names for truancy are school refusals or school phobia (Sigmon, 2001 in Innocent & Uche, 2020).

Truancy is international, unadjusted, unsatisfied, unauthorized or illegal absence from compulsory education. It is deliberate absence by a student's own free will (thought sometimes adults/parents will allow and or ignore it) and usually explicitly defined in the school's handbook of policies and procedures (Iliya, 2010). Some student whose parents are facing a lot of challenges in Kano State because Truancy, attending school but not going to class. The prevalence and correlates of truancy among school-going adolescents in three West African countries between 2012 and 2017 have shown that 8912 school going adolescent's age 11-18 years who participated in the Global School- based Student Health Survey between 2012 and 2017. The overall prevalence of past 30-day truancy in the countries were 22.9 %, 36.5 % and 45.9 % for Benin, Ghana and Liberia respectively. The findings show that boys generally reported higher prevalence of truancy than girls in the three countries. Tata, Shehu, and Aliyu, (2015) worked on Investigation into the Causes of Truancy among Public senior Secondary School Students in Azare, Metropolis of Bauchi State, Nigeria. 357 students were used and the findings showed that 232 students 65% rate of truancy were higher while 125 (35%) were low but the causes of truancy which emanate from student include low intelligence, weak physical health, social and emotional, maladjustment. It was also found out that some causes of truancy emanating from the school include fear of teachers, fear of school activities and difficulties of school subjects.

Types of Truancy

There are three types of truancy which are as follows:

i. **Habitual truancy**: This type of truancy that occurs when a truant student constantly and continually absents and the school authorities. It is mainly miss numerous full days of school days. The level has become a regular behaviour or habit.
ii. **Occasional truancy**: This type of truancy occurs when a student does not constantly and continually absent himself from school. The student's level of absenteeism from school without the permission of the parents or school authority is not regular.
iii. **Casual truancy**: this is the type of truancy that occurs when the student absents himself from school by chance. This type of truancy is not regular and constant, but happens by chance.

Causes of Truancy

Mark, (2016) describes truancy as joy us rebellion against authority and responsibility and various factors were identified according to him which includes:

Family Factor

Mark opined that inadequate supervision on the part of student's parent, too much house chores, non-intact homes such as divorce; broken, separated, living apart can cause truancy. He further expatiated that illiteracy on the part of student's parent as a result of ignorance is another cause. Mark, (2016) also pointed out that poor social economic factor on the part of the student's parent, truancy and also accepted that parenting styles can also responsible for student's truancy in school. Parenting styles include authoritarian and lazier-faire or when a student is endowed with too much freedom may also contribute.

School Influence

School as one of the agencies of socialization can also responsible for truancy on the following ways; negative peer influence, un conducive school enrolment, bullying by the student's colleagues, boredom as a result failure, overpopulation of members, poor location of school, community influences and when teachers' method of teaching is not enjoyable.

Student Factor

The students themselves are influenced and several factors are caused for their truancy include when a student is a slow learner he or she sees nothing attractive in school, emotional problem as a result of inferiority complex, lack of ambition as popularly called "No Future Ambition" (NFA), getting poor grades will discourage him or her from school and learning disabilities and difficulties would scare him or her away from school. Such a student may decide to taking of substances abuse.

Health Factor

This is another factor that responsible for truancy among students in secondary schools include illness, mental illness, mental retardation, attention deficit hyperactivity disorder (ADHD).

Effects of Truancy

Several effects of truancy on the students include:

i.   Low or poor academic performance in school.
ii.   Cheating and involving in examination malpractices
iii.   Joining of gangs
iv.   Involvement in substance abuse
v.   Involvement in crime such as stealing
vi.   Juvenile delinquency
vii.   Isolation, he or she may prefer to be alone always
viii. Involvement in sexual misconduct.
ix.   It may cause unwanted pregnancy
x.   It may result to school drop out
xi.   It may result to mental illness if persisted

Handling a Student with School Truancy

i.   Counselling is a voluntary self-help profession and the student who needs help should contact the trained counsellor for rehabilitation.
ii.   It may be a referral from the parents or teachers of the client to see a counsellor if the parent discovers that he or she needs help.
iii.   The client may submit him or herself when he or she realizes his/her challenge and might decide to seek counsellor's help.
iv.   The counsellor can notice or discover the student with the problem of truancy and decides to invite him other for counselling.

Counselling Clinic

The venue where the client and the counsellor are meeting during counselling session is called counseling clinic. The setting is attractive, containing comfortable furniture, tape recorder, files and jotters, various psychological tests or inventories for collecting data of the client during counselling session.

Pre Counselling

Before moving to counselling proper, there would be pre counselling on the part of the counsellor where he or she is expected to create a rapport establishment, asking questions concerning the bio-data of the client, guaranteeing of the client's confidentiality which involves keeping secret-secret. Seeking indulgence of the client, to jot down notes if needed to record the counseling session, especially for academic purpose and finally agreement on time and venue of meeting.

Ways of Tackling Truancy

i.   Truancy may be handled at the initial stage in the following ways if the client problem's is discovered at early stage before it becomes a perpetual truant.
ii.   They may form an attendance team (monitoring attendance daily)
iii.   Be friendly with the truant student
iv.   Celebrating the successes of the truant
v.   Joining clubs and parties participating in sports: A truant would definitely come on the day of sport if loved sports.
vi.   Instructing parents and guardians to engage in proper monitoring their wards.

Counselling Process

The task of counsellor is to work with individual who are unhappy and troubled (truancy) and show them that their difficulties are largely the result of their own distorted perception. He makes them accept that there are relatively simple, though work-requiring method of re-ordering their perceptions and re-organizing their thinking so as to remove the basic causes of their difficulties. Ellis contends that counsellors should teach their counsellees to re-think life events so as to remove the basic causes of their difficulties of truancy. Counsellors should modify their illogical thoughts, motives and behaviour. Counsellors should follow the following process:

i.   Create a positive classroom environment with hands on activities, group discussions and active participation.
ii.   Build positive relationships with student and parents.
iii.   Discuss truancy with the parents
iv.   Implement inceptives for attendance.
v.   Implement options for recovery

Implications for Counselling

Family background factor, poor academic performance, extra ordinary involvement in curricular activities, poor self-concept, poor preparation for daily or weekly tests and assignments, incomplete homework, low self-esteem and inferiority complex are the major contributory factors to truancy.

The study identified the effects of truancy as poor academic performance for the truants, their class and school, wastage of learning time, dropping out of school, poverty to the individual and family in future, involvement in delinquent behaviour, family instability Social maladjustment and in security in the family.

Conclusion

Truancy is one of the behaviour that causes examination failure in our schools. This behaviour is very perpetual in our schools and there would be need to cur bit. Many of the students that are physically and mentally sound cannot attain or achieve academic success due to truancy. If truancy is dealt with at early stage it would not harm the future of the student. Various skills and techniques can be employed in tackling the problem of truancy among students in Nigerian schools if well handled by a professional trained counsellor. The counsellor can use more than one technique to achieve the desired goal which is

behaviour modification. However, this goal cannot be achieved in a session, it might take some weeks or months depending on the gravity of the maladaptive behaviour (in this case truancy needs to be dealt with since it can ruin the career of a students in the future).

Recommendations

i.   Parents should put more effort to ensure that their student are adequately provided for and give them moral character guidance.

ii.   Peer group factor, that is bad company, classmates joke, friendship with trouble making students and invitation from outsider friends are the major factors that causes a student to exhibit truancy.

iii.   There is need for proper enlightenments and orientation by the school counsellors to the students on the dangers inherent in truancy.

iv.   There is needed to form an attendance review team by the school management in collaboration with the school counsellor to tackle problem of truancy as early as possible.

v.   There is need for the school counsellors to provide individualize counselling support by using REBT and other techniques that will help student with behaviour disorder in the school.

vi.   There is need for the counswellors to build a positive school culture that will guide students in their school life.

vii.   There is also need for the counsellor to focus on the most essential behaviours that are noticeable and used techniques like REBT in tackling truants in the schools.

viii.   School administrators and Counsellors should organize and invite parents of truants for conference with a view to reducing the menaces of truancy in the schools.

References

Ellis, A. (2000). *How to Control Your Anxiety before it Controls You*. Citadel, ISBN 978-0806521367.

Attwood, G. & Croll, P. (2006).Truancy in Secondary School Students. Prevalence, trajectories and pupil perspective. *Research papers in Education*, **21** (4): 467-484.

Iliya, H. G. (2010). *Counselling Theory"*. School of Education. Federal College of Education. Printed by Centino Press. No. 10 Pankshin Road, P.O.Box 209 Mangu, Plateau State, Nigeria. *ISBN 978-36022-6-8.*

Innocent, E. and Uche, E. (2020). Factors influencing Truancy among Public Senior secondary School Students in Port Harcourt Metropolis, Rivers State. Implication for Counselling. *International Journal of Innovative Social and Science Education Research* **8** (4): 98.118.

Ipaye, B. (1995). *Guidance and Counseling in Nigerian Schools*. Ilorin: Chayoobi Printers & Publishers.

Kristi, S. (2016). *What are the Effects of Truancy*. Retrieved from October 22, 2016.https://www.soapbocie.com.social.issues.

Oluremi, F. (2013). The Impact of family disruption and students academic performance. *Journal of Arts and Social Science*, **15** (3): 20-28.

Mark, T. (2016). *Mark Twain Middle School/Home ofthe Tigers/Fair false county Public Schools.* Retrieved July, 2016 from www.https://twains.fcps.edu

Tata, U. S, Shehu S. & Aliyu, A. D. (2015). Investigation into the causes of truancy among public senior secondary school students in Azare metropolis of Bauchi State, Nigeria. *Journal of Research & Method in Education,* **5** (5): 40 – 45.

THE ROLES OF SCHOOL COUNSELLORS IN THE CHOICE OF CAREER IN SECONDARY SCHOOLS IN WAMAKKO LOCAL GOVERNMENT AREA, SOKOTO STATE

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Abstract

The study examined the roles of school counsellors in the choice of career in secondary schools of Wamakko Local Government Area, Sokoto State. The study becomes necessary looking at the fact that secondary school leavers are still found roaming the streets as jobless youths and engaging in inappropriate behaviours such as prostituting, stealing and kidnapping to list but few some. The research adopted a descriptive survey research design. Questionnaire was designed to solicit responses from the respondents. A purposive sampling technique was used in selecting five (5) secondary schools within Wamakko Local Government Area. Research advisor table for sampling was used in selecting (322) sample of respondents. Data collected was analyzed using simple frequency distribution table and the mean average. Findings revealed that, the role played by counselors with regards to career choice in secondary schools of Wamakko Local Government are very limited. The study therefore recommended that vocational administration in the schools should work in collaboration with the school counselor and provide all the necessary support needed by the counselor to help students in the choice of career.

Keywords: Counselor, Career, Perception and Roles

Introduction

The primary goal of career guidance and counselling is to make it possible for an individual to see and explore his or her unlimited endowed options. it is an undeniable fact that the major service areas of guidance and counselling are, educational guidance and counselling which assists students in their choices of career, Vocational guidance and counselling which assists the individual to choose and prepare for an occupation that is compatible with his interests and aptitudes, and personal and social guidance and counselling which assists the individual to behave appropriately in relation to other members of the society (Odeck 1999 ; Ipaye, 1995). Supporting literature on career development provide insight to the fact that career counselling is being challenged to meet the needs of a society that is experiencing vast changes in the work place that is rapidly becoming more diverse (Zunker, 2002). The changes in counselling needs have occurred because there is theneed for quality work performance which is so pervasive in the lives of individuals since it influences all our life roles. This has expanded the role and scope of the career counsellor to include more than just helping someone find a job. Even though, finding an optimal career is of outmost importance, career counselling now provides a broad spectrum of concerns such as mental health issues that restrict career, changes in the work place and matching the needs of workers in a competitive global economy.

Guidance counsellor is a professional educator with a specialized graduated level training in counselling and related guidance services, whose major concern is for normal developmental needs and problems of all the pupils for whom he is responsible. He further said that Guidance counsellor is an integral part of the school staff, a member of the pupils' personnel service team (Ezeji, 2001). Sowemino (2012) referred to guidance counsellor as one who utilizes both individual and group counseling to shape and remoulds students in Nigeria education from their academic, vocational and social personal problem. Ifelunni (1997) referred to guidance counsellor as a trained expert who is exposed to enough psychology necessary to understand and predict human behaviour. Ifelunni 1997 further posited that guidance counsellor's role in the guidance programme must succeed; he is a trained personnel in test construction and administration, practicum as well as enough theories needed to understand clients' problems and being in a position to proffer assistance.

Career awareness is the degree to which individuals in the target population are aware of the target field as a possibility for long term employment and growth, and knowledge of what they must do to enter and progress in the career field. It includes an understanding of the world of work (Cronin 2014). Anderson (2011) defined career awareness as the degree to which individuals in the target population are aware of the target field as a possibility for long term employment and growth; and knowledge of what they must do to enter and progress in the career field. Career awareness therefore means an effectively based programme using simulations to allow participants experience in career planning and decision making concept.

The high rate of unemployment, poverty and crime among secondary school leavers tend to have been attributed to lack of possession of career skills required in the world of work. Most of these students do not possess entrepreneurial skills that will enable them establish and manage small business enterprises so as to become self-employed and self-reliant on graduation. This observed deficiency in secondary school graduates have necessitated the positing of secondary schools Guidance Counsellors who are professionally trained to render guidance services among which is career information and other activities which are aimed at enabling them broaden their career knowledge, skills and attitude towards entrepreneurship education. It is worrisome to observe that despite Federal Government of Nigeria effort at improving career development of students through the posting of Guidance Counsellors to secondary schools as stipulated in the National Policy on Education, secondary school leavers are still found roaming the streets as jobless youths and engaging in inappropriate behaviours such as prostituting, stealing and kidnapping to list but few some. Although, school Guidance counsellors are expected to be involved in career awareness creation roles in schools for students, the researcher is uncertain if the counsellors actually do so, the perception students have about the role of counsellor and students acceptability level of career education. It is against these concerns that this study was carried out.

Objectives of the Study

i. To examine the students of Secondary schools in Wamakko Local Government of Sokoto state on their view or perception of the roles of school Counsellors and counselling in Secondary schools as it relates to their career choice.
ii. To examine the contribution of schools to the guidance programme in Wamakko local government Area.

iii. To find out whether the students are aware of the duties and roles of Counsellors in the senior secondary schools in Wamakko local government

Research Questions

i. Are the students aware of the roles and duties of Counsellors in their respective schools in Wamakko local government Area?
ii. What are the contributions of schools to guidance and counselling programmes in Wamakko local government Area?
iii. What roles do Counsellors play in career choice of secondary school students in Wamakko local government Area?

Methodology

The study adopted a descriptive survey design. This design was considered suitable for the study because it accorded the researcher the opportunity of collecting data from a sample considered to be representative of the population for describing systematically the counselor roles in the choice of career among students. The populations of the study consist of male and female SS II students of both boarding and day schools from ten (10) senior secondary schools in Wamakko Local Government with a population of 2,051 as shown in table 1.

Table 1: Population of the Study

S/No	Names of Schools	Male Students	Female Students	Total
	Government Technical College Farfaru	215	-	215
	Ahmadu Bello Academy	188	-	188
	Sani Dingyadi Unity Secondary School	230	-	230
	Badon Barade Government Day Secondary School	90	85	175
	Government Day Secondary School Arkilla	115	110	225
	Government Girls Islamic School Wamakko	_	215	215
	Government Day Secondary School Wamakko	100	98	198
	Yahaya Abdulhakim Secondary School	106	100	206
	Government Secondary School Gumbi	96	92	188
	Government Secondary School Dundaye	116	95	211
	Total	**1256**	**795**	**2051**

Research Fieldwork 2022

The sample of the study was drawn from the five (5) Secondary Schools using research advisor table 2016 techniques where (322) students were selected as respondents and the five (5) schools were selected using purposive sampling techniques because all of them were in Wamakko Local Government Area. Role of school counselors and counseling in students' choice of career questionnaires (RSCCSCCQ) was used as an instrument for data collection.

Data Presentation and Analysis

Results

Are the Students Aware of the Roles and Duties of Counselors in their Respective Schools?

Table 2:   **Duties and Roles of Counselors**

	Items	Sample	SA		A		D		SD	
			F	%	F	%	F	%	F	%
1	Guidance and Counselor is important in Secondary School	322	114	35.4%	207	64.2%	1	0.4%	0	0%
2	Through guidance service one makes appropriate choice of career	322	200	62.1%	109	33.7%	11	3.4%	2	0.8
3	Students are satisfied with the role of counselor in the school	322	91	28.2%	221	68.6%	10	3.2%	0	0%
	Total		**41.9%**		**55.5%**		**2.3%**		**0.3%**	
	Average Mean		**97.4%**				**2.6%**			

Source: Research Field Work 2022

The above table 2 seeks to identify the duties and roles of counselors. From the sample of 322 respondents 144 (35.4%) strongly agreed on the importance of guidance and counseling in Secondary Schools, 207(64.2%) agreed on its importance while only 1 (0.4%) respondent disagreed. 200 respondents representing 62.1% strongly agree that trough guidance services they make appropriate choice of career, while 109 respondents with 33.7% agreed, 11 respondents with 3.4% disagreed and only 2 respondents representing 0.8% strongly disagreed. When ask on the satisfaction of the role of counselor in the school 221 (68.6%) and the highest respondents agreed on having satisfaction with the role of counselor, 91 (28.2%) strongly agreed while 10 respondents representing 3.2% disagreed and none of the respondents strongly disagreed and therefore represent 0%.On the total mean average 97.4% of the respondents agreed that guidance and counselors perform their duties and roles. 2.6% of the respondents with the lowest percentage disagreed. Therefore, from the total average, we can conclude that students are aware of the roles and duties of counselors in schools of Wamakko Local Government.

What are the Contributions of Schools to Guidance and Counseling Programme in Wamakko Local Government?

Table 3:   **Contributions of School to Guidance and Counseling Programme**

	Items	Sample	SA		A		D		SD	
			F	%	F	%	F	%	F	%
1	There is a period allocated for guidance and counseling programme	322	0	0%	10	3.2%	207	64.2%	105	32.6
2	The counseling center in the school has all the necessary facilities	322	10	3.1%	13	4.0%	200	62.2%	99	30.7

	Items	Sample	SA		A		D		SD	
3	The School contribute to guidance programme in the school	322	70	21.7%	190	59%	59	18.3%	3	1
	Total		8.2%		22%		48.3%		21.4%	
	Average Mean		30.3%				69.7%			

Source: Research Field Work 2022

The above table 3 is based on the contributions of school to guidance and counseling programme. 207 respondents representing 64.2% of the respondents disagreed that there is a period allocated for guidance and counseling programme, and 105 (32.6%) strongly disagreed while 10 of the respondents representing 3.1% agreed. On the issue of facilities in the counseling center, 200 respondents representing higher percentage of 62.1% disagreed, 99 (30.7%) strongly disagreed on having facilities in the counseling center. The third item is based on contribution of school authority to guidance programme where 190 (59%) respondents agreed that school contribute on the programme, 59 respondents representing 18.3% strongly agreed and lastly 3 respondents representing 1% strongly disagreed. From the total mean average 69.7% of the respondents indicated that school are not contributing to guidance and counseling programme in secondary schools of Wamakko Local Government while 30.3% of the respondents agreed that school are contributing to guidance and counseling programmes in schools. Therefore, from the above information, we can conclude that the secondary schools in Wamakko Local Government are not contributing to guidance and counseling programme in schools.

What Roles do Counselors play in Choice of Secondary Schools Students in Wamkko Local Government?

Table 4:   Roles of Counselors in Career Choice of Students

	Items	Sample	SA		A		D		SD	
			F	%	F	%	F	%	F	%
1	The choice of career is an important aspect in one's life	322	320	99.3%	2	0.7%	0	0%	0	0%
2	My intended career choice are made by my school counselor	322	0	0%	38	11.8%	84	26%	200	62.2%
3	I was guided by the school counselor in making choice of subjects	322	17	5.2%	39	12.2%	221	68.6%	45	14%
	Total		34.8%		8.2%		31.5%		25.5%	
	Average Mean		43.0%				57%			

Source: Research Field Work 2022.

Table .4 is based on counselors roles in students career choice, from the first item, 320 respondents representing 99.3% agreed on choice of career as important aspect in one's life, 2 (0.7%) strongly agreed with none of the respondents disagreed. On the role of counselor on students intended choice of career 200 of the respondents representing highest percentage of 62.2% strongly disagreed, 84 (26%) respondents disagreed while 38 of the respondents with 11.8% strongly agreed. When ask of guidance counselor in the choice of subjects, 68.6% of 121 respondents disagreed on counselors guidance in the selection of subject while 39 (12.1%) strongly agreed and 17 respondents representing 5.2% agreed which indicated that the school counselors in Wamakko Local Government does not guide students in the choice of subjects. On the total average 57% of the respondents with the highest percentage disagreed on the role of counselors in student's choice of career while 43% of the respondents agreed. From the above information, we

can conclude that there is lack of roles played by counselors in career choice of students in Wamakko local government and there is need for the counselors in secondary schools.

Conclusion

Based on the data collected and analyzed, the following conclusion is made that:

i.   Students are aware of the roles and duties of counselors in schools of Wamakko Local Government. The finding was based on the data interpreted in table 1 of the study.
ii.   The secondary schools in Wamakko Local Government are not contributing to guidance and counseling programme in schools. The finding is based on the data in table 4.2 where majority of the respondents agreed with the statement.
iii.   The roles played by counselors with regards to career choice in secondary schools of Wamakko local government are very limited. The conclusion was based on the data in table 3 of this study.

Discussion of Findings

The study has shown that, Students are aware of the roles and duties of counselors in schools of Wamakko Local Government. The finding is in line with that of Maxwell (2014): Teachers perception of the roles of guidance counselors in secondary schools in Rivers State. The researcher adopted descriptive survey design and a total population of 5,300 school teachers and sample of 370 male and female teachers was used for the study. The findings revealed that male and female school teachers perceived roles of school counselors to be leading the teachers and students to have significant different in their perception.

The study has revealed that the school administrators in secondary schools of Wamakko Local Government are not contributing to guidance and counseling programme in their schools. The finding have agreed with that of Shift and Lisa (2006) who carried out study on principals' perceptions of school counsellor roles and satisfaction with school counselling services. The design of the study was survey design and sample survey of the study consisted of 500 certified principal across the United State. The surveyed principals were 303 in number across the nation and the instrument for data collection was an open-ended questionnaire. The findings of the study revealed that one third of the principals surveyed were very dissatisfaction with school counseling services in the area of multicultural counseling/diversity awareness, programme evaluation/accountability, public relation/community outreach and parent education.

The roles played by counselors with regards to career choice in secondary schools of Wamakko local government are very limited. The conclusion was based on the data collected. The finding is in line the study conducted by Peter and Pamela (2004) titled: Perception of the role of the guidance and counseling programme on Kenya secondary school students career decision making. The researchers adopted survey method of research. The total population of the sampled secondary schools, while 2,259 students in public secondary schools, while 250 female sample of students were selected. The findings revealed that guidance counselors helped the students to attain spiritual growth, vocational, health and marital awareness.

Recommendations

The following recommendations were generated from the findings:

1.   Students should be enlightened on the role of the counselor in the school especially with regard to career choice.
2.   Government should provide all the necessary funds and facilities needed for the counselors in the school.
3.   The vocational administration in the school should work in collaboration with the school counselor and provide all the necessary support needed by the counselor to help students in the choice of career.

References

Amazue, L. O. & Okoli, L. C. (2004). Influence of locus of control, socioeconomic

status and gender on vocational choice. *International Journal of Art and Technology Education*, **6** (2): 28-46.

Agi, C.W. (2014). Evaluation of students perception of school counselling and their attitudestowards its programme. *Arabian Journal of Business and Management Review* (Nigerian Chapter)

Biswalo, P. M. (1996). *An introduction to guidance and counseling indivers' African context*. Dar-saaam. Dar-salaam University Press.

Brown & Denga D.I. (2011). Counseling for entrepreneurship development at secondary school Education level in Akwa Ibom state, Nigeria. *Journal of Counseling Association of Nigeria* (CASSON), **1** (29): 90-100.

Cronin (2014). Creation of Awareness: *ICT International Journal*, **513**: 388-389

Denga, D. I. (2001). Counselling for entrepreneurship development at secondary school education level in Akwa Ibom state,Nigeria,. *Counselling journal*

Dike, V. E. (2009). *Technical and vocational education*: Key to Nigeria's development.

Ezeji, S.C.O. A. (2001). *Guidance and Counselling in Education*. Nsukka: Chiulbson International Press

Ifelunni, C. S. I. (1997). *Psychometric and ethical consideration in counseling*. Enugu: Auto Century Publisher Company.

Ifelunni, C. S. I. (2003). *A counseling guide for secondary school students*. Nsukka: Chukka Educational Publishers.

Igwe, E. U. (2013). Effect of individual and guidance counselling in Abia State. *African Research Review*, **7** (2): 277-293.

Iwuama, B. C. (1999). *Foundations of guidance and counseling*. Owerri: Joe Mankpa's Printer.

Natalie, M. F. (2007). *Factor influencing career choices of adolescents and young adults in rural pennsylvanio* NMF3Q Psuredy. Retrieved fromwww.nmf3qpsuredy on 30th March 2014.

Nwoje, C. F. (2001). *Guidance and counselling: A functional approach*. Lagos: Joisland Enterprises.

Nworgu, B. G. (2006). *Educational Research: Basic issues & Methodology (second Edition).* Nsukka: University Trust Publishers.

Obunadike, A. L. (2013). Relevance of teachers' attitude and willingness in implementation and integration of entrepreneurship education into secondary school curriculum for quality Assurance. *International Journal of Educational Research*, **12** (2): 280-292.

Okon, S.E. (1984). *Guidance for 6-3-3-4 system of Education.* Zaria ABU.

Oladele, J. O. (1987). *Guidance counseling: A functional system in Lagos*

Omeje J. S. (2002). *Educational and occupational information in counseling: A fundamental Approach,* Enugu: chidube educational books.

Owuamanam, T. O. (2003). *A handbook of guidance and counseling*. Lagos: Bababy publishers.

Salawu A.A (2000). *Introduction to Guidance and Counseling Reading in Education*, **1**: 39-60

Sowemino, V. (2012). *Regular teachers' preparation for inclusive education of children with visual impairment.* The exceptional child, **14** (1): 13-18.

Uzoeshi, K. C. (2004). *Guidance and counselling foundation and practice*. Port Harcourt: Port Harcourt Paragraphies.

EMOTIONAL INTELLIGENCE AND MARITAL STABILITY AS CORRELATES OF ACADEMIC PERFORMANCE OF SANDWICH STUDENTS OF AL-HIKMAH UNIVERSITY, ILORIN

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Abstract

This study investigated emotional intelligence and marital stability as correlates of academic performance of Sandwich Students of Al-Hikmah University, Ilorin. Descriptive survey design was used in the study. One hundred (120) respondents were selected randomly from two programmes in each of the three departments of Faculty of Education, Al-Hikmah University. The respondents were measured with relevant standardized scale (instruments) and data obtained was analyzed using the percentage and Pearson Product Moment Correlation (PPMC) and Multiple Regression. Four research Hypotheses were formulated and tested at 0.05 level of significance. The result showed that there was significant relationship between emotional intelligence and academic performance of sandwich students of Al-Hikmah University Ilorin (r=.739; p<0.05), there was significant relationship between marital stability and academic performance of sandwich students of Al-Hikmah University Ilorin (r=.677; p<0.05), when emotional intelligence and marital stability pulled together have significant effect on academic performance of Sandwich students. The value of R (adjusted) =.689 and R2 (adjusted) =.570. The analysis of variance performed on the multiple regressions yielded an F- ratio value of 44.57 and was found to be significant at 0.05 level. In view of these findings, it was recommended that counseling psychologist should intensify effort in organizing workshop for educational stakeholders on the implications of the study.

Keywords: Emotional Intelligence, Marital Stability, Academic Performance and Sandwich Students.

Introduction

Education no doubt remains the most outstanding development priority area in the world today. The core purpose of education, unquestionably, is human development. This simple fact explains why researchers and scholars, all over the world, continue to do research in to ways of improving human knowledge and development. Debates on education and human development more generally can hardly be a boring exercise. The socio-political, economic and technological developments, which bring about a high frequency of innovations and reforms, have all combined to make discussions or debates on education and human development trendy, exciting and unending (Ogundokun & Adeyemo, 2010).

Student academic performance measurement has received considerable attention in previous research, it is challenging aspects of academic literature, and science student performance are affected due to social, psychological, economic, environmental and personal factors. These factors strongly influence on the student performance, but these factors vary from person to person and country to country (Mushtaq and Khan, 2012).The trend in the academic achievement of students in Nigeria in the last two decades has become a major source of concern to all stakeholders in the education sector. This is so

because of the great importance that education has on the national development of the country (Nwadinigwe and Azuka-Obieke, 2012). One of the variable of interest is emotional intelligence. According to Coleman (2008), emotional intelligence (EI) is the capability of individuals to recognize their own and other people's emotions, to discriminate between different feelings and label them appropriately, to use emotional information to guide thinking and behaviour and to manage and/or adjust emotions to adapt environments or achieve one's goal(s). Corroborating this, (Mayer, Salovey and Caruso 2008) defined emotional intelligence as the ability to engage in sophisticated information processing about one's own and others' emotions and the ability to use this information as a guide to thinking and behaviour. That is, people who are emotionally intelligent pay attention to how they relate with others in order to have harmonious relationship. Relatedly, marital stability is of interest to this researcher. Stability is the state of being consistent, upright, tranquil, well established. Instability, on the other hand, means the direct opposite of stability. A stable family is one which is united, members accept others' shortcomings, understand and appreciate the contribution of each member, always ready to assist, forgive and think on how to see the progress of each member and the entire family. On the other hand, instability is the complete state of disunity, chaos, anarchy and confusion, capable of changing at any time. Structurally, a family can be broken into two types; stable (intact) and unstable (broken) family.

The family lays the psychosocial, moral and spiritual foundations in the overall development of the child. A closely knitted family, solidified by love, understanding and respect for each other is certainly more likely to bring up a child well-disciplined and socially upright than a disagreeable family. (Anyakoha 2000) reported that family instability is the degree to which families fail to provide continuity, cohesiveness and stability for children, while those that are able to do so are said to be stable. A cordial and healthy relationship is expected to exist between the husband and the wife, sharing common interest, goals in life, good and bad times and in most cases the general philosophies of life. Such unity or coexistence has been responsible for the wellbeing and social upliftment of mankind. One of the leading institutions that strengthened togetherness is the marriage institution. Edinyang (2012) defined academic performance as the outcome of education which reveals the extent to which a student, teacher or institution have achieved their educational goals. Academic performance or achievement is commonly measured by examinations or continuous assessment (Abdulhamid, 2013). For a child to be able to achieve this, he/she must be in the best state of mind; psychologically, mentally, physically, morally, spiritually and emotionally. These are attributes that are systematically built through the process of upbringing by the immediate family.
A stable marriage tends to assist in all-round development. No wonder, this researcher is interested in emotional intelligence and marital stability as correlates of academic performance of sandwich students of Al-Hikmah University, Ilorin.

The government has implemented several measures at various levels towards improving the academic performance of the students. A general family atmosphere of peace, harmony and cohesion strongly influences the overall development of the child, just as an atmosphere of anger and discord has a greater impact on children. Therefore, the successful passage through the process of educational attainment is partly dependent on the entire family assistance. Marital stability can be a strong determinant of students' academic performance in school, the opposite of which can be disastrous (Hassan, 2016).

Marital instability can cause parent to become more inconsistent and ineffective in parenting and may reduce responsiveness to children cognitive needs, diminishing the quality of the emotional relationships and attachment between parents and children. This will consequently promote less parental involvement in school work, less or no attention given to early and regular attendance at school and less supervision outside the home. These children are more likely to drop out of school: disengagement from school is associated with low parental involvement and educational aspirations (Hassan, 2016). The associations between emotional intelligence, social and behavioral outcomes, and importantly, academic performance, promotes the idea that assessing emotional intelligence in children can lead to conclusions about their current and future academic success.

However, there have been a limited number of studies looking at emotional intelligence and marital stability on academic performance of sandwich students. Thus, this study is looking to fill the gap in research related to emotional intelligence and marital stability as correlate of academic performance of sandwich students of Al-Hikmah University, Ilorin.

Purpose of the Study

The purpose of this study was to investigate emotional intelligence and marital stability as correlates of academic performance of sandwich students of Al-Hikmah University, Ilorin. Specifically, the `researcher intends to achieve the following purpose:

i.   to investigate the relationship between emotional intelligence and academic performance of sandwich students of Al-Hikmah University, Ilorin.
ii.   to assess the relationship between marital stability and academic performance of sandwich students of Al-Hikmah University, Ilorin.
iii.   to determine the joint contributions of emotional intelligence and marital stability to academic performance of sandwich students of Al-Hikmah University, Ilorin.
iv.   to determine the relative contributions of emotional intelligence and marital stability to academic performance of sandwich students of Al-Hikmah University, Ilorin.

Research Hypotheses

Based on the research purpose, the following null hypotheses were formulated:
1.   There is no significant relationship between emotional intelligence and academic performance of sandwich students of Al-Hikmah University, Ilorin
2.   There is no significant relationship between marital stability and academic performance of sandwich students of Al-Hikmah University, Ilorin
3.   There is no joint contribution of emotional intelligence and marital stability to academic performance of sandwich students of Al-Hikmah University, Ilorin
4.   There is no relative contribution of emotional intelligence and marital stability to academic performance of sandwich students of Al-Hikmah University, Ilorin

Methodology

The study adopted descriptive survey design. Descriptive survey design attempts to fragment and delimit phenomena into measureable or common categories that can be applied to all of the subjects or wider and similar situations (Winter, 2000). The

descriptive survey method is appropriate for this study since it focused interest in collecting information from a representative sample on emotional intelligence and marital stability as correlates of academic performance of sandwich students of Al-Hikmah University, Ilorin. The population for this study comprised of all sandwich undergraduates of Al-Hikmah University. All 1,267 students in the 3 departments in the Faculty of Education are the population of this study. However, simple random sampling technique was used in selecting One hundred (120) respondents from two programmes in each of the three departments of Faculty of Education, Al-Hikmah University.

The research instruments that was used for this study were three. The first instrument was adapted questionnaire, titled '' Marital Stability Questionnaire '' (MSQ). The second instrument was Emotional Intelligence Scale (EIS) which used to measure self-awareness and social skills, while their last CGPA was used to determine their academic performance. The instrument contained three sections A, B, & C. Section A consisted of personal information and Academic level of the respondents, section B sought information on marital status, section C consisted on information on the level of their Emotional Intelligence. The section contained 15 items and Likert-Type format of Strongly Agreed (SA) Agreed (A) Strongly Disagreed (SD) and Disagree (D). This enables the respondents to indicate the extent of agreement or disagreement to the items. In order to ascertain the reliability of the instrument, the same instrument were applied to same set of students from population outside the area of study after two week (2) interval. The finding revealed that the study was reliability coefficient obtained on analysis was 0.82.

The instruments for this study were personally administered by the researchers on the respondents in the sample departments. Before the administration, a letter of introduction was collected from the Head of Department of the selected departments for the administration of the questionnaire. The respondents were informed of the purpose of the study and their consent was sought before the administration of the instruments. They were assured of the confidentiality. The respondents were asked not to write their names and Matric numbers. Data was collected by the researchers. Before the administration of the questionnaire, interaction was held with the respondents so as to create rapport with them.

The data obtained in the study were analysed statistically using percentage for the demographic section of the instruments. Also Pearson's Product Moment Correlation Coefficient was used to establish relationship among the variables, to answer Hypothesis 1 and 2, while Multiple Regression was used to established joint and relative contributions of Independent Variables to Dependent Variable, also to answer Hypothesis 3 and 4. Out of 120 questionnaires that were distributed only was retrieved and used for data analysis.

Results

Results: Hypotheses Testing

Hypothesis One: *There is no significant relationship between emotional intelligence and academic performance of sandwich students in Ilorin*

Table 1: **Significant relationship between emotional intelligence and academic performance of sandwich students of Al-Hikmah University Ilorin**

Variable	Mean	SD	DF	N	R	p	Remark
Emotional Intelligence	44.03	15.65	98	100	.739	.001	Significant
Academic Performance	40.13	13.23					

Table 1 showed that there was significant relationship between emotional intelligence and academic performance of sandwich students of Al-Hikmah University Ilorin (r= .739; p<0.05). The implication of this showed that emotional intelligence had significant influence on academic performance of sandwich students of Al-Hikmah University Ilorin.

Hypothesis Two: *There is no significant relationship between marital stability and academic performance of sandwich students in Ilorin*

Table 2: **Significant relationship between marital stability and academic performance of sandwich students of Al-Hikmah University Ilorin**

Variable	Mean	SD	DF	N	R	p	Remark
Marital Stability	41.98	14.44					
Academic Performance	40.13	13.23	98	100	.677	.002	Significant

Table 3showed that there was significant relationship between marital stability and academic performance of sandwich students of Al-Hikmah University Ilorin (r=.677; p<0.05). The implication of this revealed that marital stability has significant influence on academic performance of sandwich students of Al-Hikmah University Ilorin.

Hypothesis Three: *There is no joint contribution of emotional intelligence and marital stability to academic performance of sandwich students in Ilorin.*

Table 3: **Multiple Regression Analysis on Students' Academic Performance of Sandwich Students Data**

Multiple R(adjusted)=.689
Multiple R^2(adjusted)=.570
Standard error of estimate= 3.599

Analysis of Variance				
	Sum of square (SS)	DF	Mean square	F
Regression	230.86	2	115.43	44.57
Residual	251.14	97	2.59	
Total	482.00	99		

Table 3 showed that the independent variables (emotional intelligence and marital stability) when pulled together have significant effect on academic performance of Sandwich students. The value of R (adjusted) =.689 and R^2 (adjusted) =.570. The analysis of variance performed on the multiple regressions yielded an F- ratio value of 44.57 and was found to be significant at 0.05 level.

Hypothesis Four: *There is no relative contribution of emotional intelligence and marital stability to academic performance of sandwich students in Ilorin.*

Table 4: **Relative Contribution of Independent Variables to the Predictions**

Model	Unstandardized coefficients	Standardized coefficients		t	P
	B	Standard error	Beta		
Constant	1.21	1.34		.01	p<0.05
Emotional intelligence	.34	.07	.41	4.96	p<0.05
Marital Stability	.39	.10	.32	3.91	p<0.05

Table 4 showed that each of the independent variables (emotional intelligence and marital stability) made a significant contribution to the prediction of academic performance of Al-Hikmah University Ilorin. In term of magnitude of contribution, emotional intelligence made the most significant contribution (Beta= .41; t= 4.96;p<0.05) to the prediction follow by marital stability (Beta= .32; t= 3.91;p<0.05).

Discussion of Findings

The first research hypothesis showed that there was significant relationship between emotional intelligence and academic performance of sandwich students of Al-Hikmah University Ilorin. The implication of this showed that emotional intelligence had significant influence on academic performance of sandwich students of Al-Hikmah University Ilorin. This is in support with the findings of Richardson (2012), examined the relationship between Emotional Intelligence and academic performance as part of a wide-sweeping meta-analytic review of 42 non cognitive correlates of academic performance. They reported a slightly smaller relationship between EI and academic performance but included only 14 studies and did not differentiate between ability scales and rating scales.

The second research hypothesis showed that there was significant relationship between marital stability and academic performance of sandwich students of Al-Hikmah University Ilorin. The implication of this revealed that marital stability has significant influence on academic performance of sandwich students of Al-Hikmah University Ilorin. This is in support with the finding of Coleman (2001), states that parents involvement in learning activities has substantial emotional and intellectual benefits for children. He observed that supportive and strong families are significant for school success. And it is generally accepted that the quality of family interactions has associations with children's and adolescents academic motivation and achievement, and with young adult's eventual educational and occupational attainment.

The third research hypothesis showed that independent variables (emotional intelligence and marital stability) when pulled together have significant effect on academic performance of Sandwich students. The analysis of variance performed on the multiple regressions yielded an F- ratio value and was found to be significant at 0.05 level. This is in support with the finding of a number of studies which have shown that separated and divorced couples experience greater risk for mental and physical health problems (Amato, 2010; Wang, 2015), as well as can have strong negative consequences for their children, such as impacting their children's mental health, emotionally, academic and social performance (Schramm, 2006; Amato, 2007; Lansford, 2009).

The fourth research hypothesis showed that each of the independent variables (emotional intelligence and marital stability) made a significant contribution to the prediction of academic performance of Al-Hikmah University Ilorin. In term of magnitude of contribution, emotional intelligence made the most significant contribution to the prediction follow by marital stability. This is in support with the finding of Mayer, Salovey & Caruso, (2004), state that Emotional Intelligence has been found to account for overall success in life, good physical health, mental wellbeing, developing healthy relationships, conflict resolution skills and effective leadership, (Sculderi, 2013).

Conclusion

Based on the findings of the study the researcher drew the conclusion that Sandwich Students with high emotional intelligence will perform better academically. Stability is also a vital factor in any kind of association, let alone family set up, a stable marriage tends to assist in all-round development and when pulled together with Emotional Intelligence it has more significant effect on academic performance of Sandwich students.

Recommendations

In view of the research results and the conclusions drawn, the following are recommended.

1. Since the researcher discovered that academic performance of sandwich students from stable marriages was better than that of those from unstable marriages, couples should hence know that stability is a must, and endeavour further to maintain stability within them for their overall benefit.
2. Every family must inculcate the habit of understanding, tolerance and forgiveness in order to avoid instability. This is because instability has negative effect on academic performance of students.
3. Emotional intelligence factors should incorporate in to regular human development programme to help improve safety performance of students.
4. Counseling psychologist should intensify effort in organizing workshop for educational stakeholders on the implications of the study.

References

Abdulhamid, H. (2013). Effect of Teaching method on Retention of Agricultural Science Knowledge in Senior Secondary Schools of Bauchi Local Government Area, Nigeria. *International journal of science and Technology*, **4** (4): 63-69.

Abimbola, Y. M. & Abolade, H. (2009). Research methodology for business and management. New York: *Maxwell Macmillan, Inc.*

Akai, Z. (2002). *Impact of Work-Family conflict and burnout of Performance of Accounting Professionals.* MPM Yayinlari, No: 473, Ankara.

Ajai, I. & Ipaye, F. (1997). The Right of Women and Children in Divorce. *Family Relations An Interdisciplinary Journal of Applied Family Studies, ***49** (1): 13–24.

Akinboye, J. O. (2006). *Definitions of Emotional Intelligence from Creativity Paradigm.* CYFO Behavioural Services. Department of Guidance and Counselling, University of Ibadan, Ibadan.

Akinboye, J.O. (2003). *Creativity, Innovation and Success.* Stirlin-Horden Publishers (Nig.) Ltd.

Ali, N. (2009). The Factors Influencing Students' Performance at University Technology MARA Kedah, Malaysia.

Ali,N., Jusoff, K., Ali, S., Mokhtar, N. & Salamat, S. A. (2009). *The Factors Influencing. Students' Performance at University of Technology* Kehda Malaysia.

Amato, P. R. (2010). The consequences of divorce for adult and children. *Journal of Marriage and Family,* **62**: 1269-1287

Anyakona, (2000). The effects of change in family structure and income on dropping out of middle and high school. *Journal of family issues* **21**.

Ashkanasy, N. M. & Daus, C. S., (2005). The case for an ability-based model of emotional intelligence in organizational behavior. *Journal of Organizational Behavior,* **26**: 453-466. doi:10.1002/job.321

Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Clinical and Social Psychology,* **4**: 359-373.

Bakiev, E. (2011). *Determinants of Interpersonal Trust, Organizational Commitment for Performance within Kyrgyz National Police,* University of Central Florida, Orlando (unpublished dissertation).

Bar-on, R. & Parker, J.D. (2000). The Bar-On model of Emotional-social Intelligence (ESI). Psicothema, **18**: 13-25.

Bayram, I. (2006). Factors Affecting Student's Academic Performance. *Global Journal of Management and Business.*

Booth, F. (1983). Theory and Application, Revised and Enlarged Ed. *The International Journal of Electrical Engineering.*

Brackett, M. A., &Rivers, S. E. (2014). *Transforming students' lives with social and emotional learning.* In R. Pekrun& L. Linnen brink-Garci (Eds.),*Educational psychology handbook series. International handbook of emotions in education* (p. 368–388).

Brackett, M. A. & Mayer, J. D. (2007). Emotional intelligence and emotional creativity. *Journal of Personality*, **75***i* 199-235.

Bradbury, T. N. (Ed.) (2000). The Development Course of Marital Dysfunction. *Cambridge: Cambridge University*

Braithwaite (2016). Forgiveness and Relationship Satisfaction Mediating Mechanisms *Journal of Family Psychology,* **25** (4): 551-9.

Brown, L. & Clair B. (2004) Moving cohabitation to marriage : Effects on relationship quality. American standard of living. *Social Science Research*, **33**: 1-19.

Carlson, M. J. & McLanahan, S. S. (2017). Strengthening unmarried families: Could enhancing couple relationships also improve parenting? *Social Service Review,* **80**: 297-321.

Carlson, M. J. & Furstenberg, F. (2001). Marital success and dominions of social support in long term relation: Journal of marriage and family. *United nation University conference on poverty. International Migration and asylum.*

Cherniss, C. (2010). Emotional intelligence: Toward a clarification of a concept. *Industrial and Organizational Psychology*, **3**: 110-126, https://doi.org/10.1111/j.1754-9434.

Chaudhry, A.H., Shafiq, M.,& Berhanu, G. (2011). Factors affecting students' quality of academic performance: A case of secondary school level. *Journal of Quality and Technology.*

Ciarrochi, J., Chan, A. Y. C. & Caputi, P. (2000). Emotional intelligence: A new student development model. Paper presented at the 2004 National conference of the American College Personnel Association, Philadelphia, Pennsylvania.

Col, G. (2008). Burnout-The Cost of Caring, Prentice Hall, Inc., Englewoo Cliffs, New Jersey.

Coleman, P. K, (2001). Parenting self-efficacy among mothers of school-age children: Conceptualization, measurement, and correlates. *Family Relations An Interdisciplinary Journal of Applied Family Studies,* **49** (1): 13–24.

Collins N. (2009. Research Methodology in Behaviour Sciences Lagos: *Longman Nigeria Plc.*

David, P., & Stafford, L. (2015). A relational approach to religion and spirituality in marriage: The role of couples' religious communication in marital satisfaction. *Journal of Family Issues,* **36** (2): 232–249.

Durlak, J.A., Weissberg, R. P., Dymnicki, A., Taylor, R. D., & Schellinger, K.B (2011). The impact of enhancing students' social and emotional learning: *A meta-analysis of school-based universal interventions. Child Development*, **82**: 405-432.

Eccles, S.J. & Barber, L.B (2004). Student Council, Volunteering, Basketball, or Marching Band: *Adolescent Research ,***14** (1)*.*

Elias, N. (2007). Involvement and Detachment, Collected Works, *Vol.8, Dublin: UCD Press.*

Exline, J. J., & Baumeister, R. F. (2000). Expressing forgiveness and repentance: Benefits and barriers. In M. E. McCullough, K. I. Pargament, & C. E. Thoresen (Eds.), Forgiveness: Theory, research, and practice (p. 133–155). Guilford Press.

Farooq, (2003). Emotional Intelligence and Academic Achievement among Students at the Higher Secondary Level. *International journal of emotion and social*

Fincham, (2007).Transformative Processes in Marriage: An Analysis of Emerging Trends.

Furstenbarg, F.F & Andrew, C. (2005). Divided families, what happens to children when parents part. *Cambridge Harvard University press. Gale encyclopedia of psychology(2001)*

Goleman, D. (1998). Working with emotional intelligence. New York: Bantam. *Global Journal of Management and Business Research*, **12** (Issue 9) Version1.0 June 2012 Type: Double Blind Peer Reviewed International Research Journal Publisher: Global Journals Inc. (USA) Online ISSN: 22494588 & Print ISSN: 0975-5853.

Goleman, D. (2015). Emotional intelligence. Why it can matter more than IQ.*https://scholar.google.com/scholar?oi=bibs7cluster=7421010301681845343&btnl=1&hl=en*

Hall, J. & Fincham, F. D. (2006). Forgiveness in marriage: Current status and future directions. *Family Relations*, **55**: 415-427.

Hassan, M. (2016). Predicting marriage stability based on marital adjustment and sexual self-disclosure by the mediating role of emotional intelligence".

Hassan, B. L. (2016). Influence of stability and Instability on School Attendance and Academic Performance of Secondary School students in Zamfara State.

Hoffman, L.C. (2000). Risk Factors for Academic and Behavioural Problems at the Beginning of School.

Hijazi, Syed Tahir and Naqvi, S.M.M. Raza. (2006). 'Factors Affecting Students' Performance: A Case of Private Colleges'. *Bangladeshe-Journal of Sociology: 3* (1).

Gottman, J. S. (1999). *The marriage survival kit: A research-based marital therapy. Preventive approaches in couples therapy* (p. 304–330). Brunner/Mazel.

John Payton (2008) The Positive Impact of Social and Emotional Learning for Kindergarten. *Journal of applied psychology,* **88** (3): 483-495.

Karney, B. R.,& Bradbury, T. N. (1995). The longitudinal course of marital Quality and stability: A review of theory, methods, and research. *Psychological Bulletin*, **118**: 3-34.

Kerlinger, F. N. (1990). *Foundation of Behavioural Research, 2nd Edition N.Y.: Holt Renehat and Winston, Inc.*

Law, K. S., Wong, C. S.,& Song, L. J. (2004). The Construct and Criterion Validity of Emotional Intelligence and Its Potential Utility for Management Studies. *Journal of Applied Psychology,* **89** (3): 483–496.

Mayer, J.D., Salovey, P., & Caruso, D. R. (2000). Models of Emotional Intelligence. In *Handbook of Intelligence. Cambridge, UK: Cambridge University Press.*

Mayer, J.D., Salovey, P., & Caruso, D. R. (2000). Mayer – Salovey-Caruso Emotional Intelligence Test (MSCEIT).

Mayer, J. D., Salovey, P., & Caruso, D. R. (2004).Emotional intelligence: Theory, findings, and implications. *Psychological Inquiry*, **15**: 197-215.

Mehta, S. & Singh, N. (2013). A review paper on emotional intelligence: Models and relationship with other constructs. *International Journal of Management & Information Technology*, **4** (3): 342-352.

Melissa, L. (2006). Impact of Hostility and withdrawal in Interparental conflict on parental Emotional Unavailability and Children's Adjustment Difficulties. *Child development*, **77** (number 6).

Miliotis, D. & Masten, A.S. (2003). Parenting as a Protective Process for School success in children from homeless families, Early Education & Development, 10.

Mushtaq, I . & Khan, S. N. (2012). Factors Affecting Student's Academic Performance. *Global Journal of Management and Business.*

Narad and Abdullah (2016). The influence of University for Development Studies school environment on student learning

Nwadinigwe, I. P. & Azuka-Obieke, U.(2012).The impact of emotional intelligence on academic achievement of senior secondary school.

Ogundokun, M. O., & Adeyemo, D. A. (2010). Emotional intelligence and academic achievement: The moderating influence of age, intrinsic and extrinsic motivation. In *The African Symposium*, **10** (2): 127-

Ojukwu, M. O. (2013). The influence of mate selection preferences on marital stability among Abia married persons. *Unpublished Ph.D. Dissertation, Michael Okpara University of Agriculture, Umudike.*

Ojukwu, M. O. (2014). The impact of Gender and Mate Selection Preferences on Marital Stability. *International Journal of Educational Psychology and Sports Ethics*, **16**: 1177 – 1199.

Ojukwu, M. O. (2015). The influence of Length of Marriage and Mate Selection Preferences on Marital Stability. *Journal of Sustainable Agriculture and the Environment*, **15** (2): 399 – 411.

Ojukwu, M. O. (2016). Perception of students on causes of poor performance in Chemistry in External Examinations in Umuahia North Local Government ofAbia State. *International Journal of Education and Literacy Studies*. **1**: 67-73.

Olu, O.C. (2000). An Introduction to Educational Research for Student Teachers. *Hiennemann Books (Nigeria) Limited. Ibadan*, **7**.

Osborn, C. (2007). Partnership instability and child well-being, Princeton University, center for research on child-being.

Pardilla, B. S. (2013). Self-Esteem and family challenge: an investigation of their effects on Achievement. *Youth and Adolescence*, **32** (1).

Peker, R. (2002). Can emotional intelligence be schooled? *A Critical Review. Educational Psychology*, **37** (4): 215-231

Peterson, G.W. & Leigh, G. K. (1990). The Family and Social Competence in Adolescence

Petrides, K. V., Frederickson, N. & Furnham, A. (2003). Emotional Intelligence And Academic Self-efficacy as Predictors of Academic Performance Among Senior Secondary School Students in Oyo State, Nigeria

Reis, H. T., & Gable, S. L. (2003). Toward a positive psychology of relationships.

Reynolds, C.R. & Kamphaus, R. W. (2000). Basic Behavior Assessment System for Children Manual: *Circle Pines M. N. American Guidance Service, Inc.*

Rodgers, K.B., & H.A. Rose,(2007): Risk and Resiliency Factors Among Adolescents Who Experience Marital Transitions.

Rono, R. (2013). Factors Affecting Pupil's Performance in Public Primary schools at Kenya Certification of Primary Education Examination (KCPE) in Emgwen Division.

Sahin, I. (2010). Organizational Social Capital and Perceived Performance of Drug Law Enforcement Departments: *A Case Study of Turkey, University of Central Florida, Orlando (unpublished dissertation).*

Salami, S.O & Ogundokun, M.O (2009).Emotional Intelligence and Academic Self-efficacy as Predictors of Academic Performance Among Senior Secondary School Students in Oyo State, Nigeria

San, F., Jossey-Bass, Kashani, L., Azimi, L. & Varziri, S. (2012). Relationship between emotional intelligence and educational achievement. *Procedia Social and Behavioral Sciences*, **69**: 1270-1275. 1.061

Santrock, J.W. (2016). A Topical Approach to Life-Span development (7th Edition.)

Schutte, N. S., Malouff, J. M.& Bhullar, N. (2009). The Dynamics of Engagement in Work and Family Roles. *Administrative Science Quarterly*, **46**: 655-684.

Shek, D. T., Chan, L. K. & Lee, T. Y. (2008). Pereptions of Parental Styles and Parent Adolescent with low Academic Achievement in Hong Kong social Behaviour and personality. *International journal of Adolescent Medicine and Health*, **9**.

Smith, D.G,&Segal, M.W, (2013) - Visions of the 21st century family: Transforming.emerald.co

Salami, S.O. Ogundokun M.O. (2009). Emotional intelligence and self-efficacy a predictors of academic performance. *Perspectives in Education,* **25** (3): 175-185.

Shuib, N., Ishak, N., Amat, S. & Ahmad, I. (2018). Emotional intelligence and academic achievement of primary school students in Malaysia. *Social Science and Humanities Journal*, **2** (9): 594-601.

Tejumaiye T. D. (2003). The role of sampling in clinical trial design. *Psychotherapy Research. 2011*, **21**: 243-251.

Van Rooy, D. L.& Viswesvaran, C. (2004). Emotional Intelligence: A meta-analytic investigation.*https://scholar.google.com/scholar?oi=bibs7cluster=7421010301681845343*

Winter, E. G. (2000), Education Learning from the Master Teacher. Canada, Pacific Press Publishing Association Oshawa.

Worthington, EL. (2005). Forgivingness, vengeful rumination, and affective traits.*https://scholar.google.com/scholar?oi=bibs7cluster=7421010301681845343&btnl=1&hl=en*

Zeidner, M., Roberts, R. D. & Matthew, G. (2002).Emotional intelligence effect on academic performance. *An empirical study of university students, Tourism Research Institute*, **15** (1): 151-162.

LEARNING AND UNDERSTANDING THE CONCEPT OF IONS AND IONIC BONDING IN SENIOR SECONDARY SCHOOL CHEMISTRY CURRICULUM WITH THE AID OF COURSEWARE

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Abstract

The maturity of digital technologies has given way to new design methods that now allow institutions to more effectively address the unique set of specific learner needs in order to sustain their academic journey. Today, instructional software like courseware is designed to address specific challenges in learning and understanding a concept. Courseware is a collection of teaching materials in digital format delivered through software, multimedia, and data transmission systems. It is software containing educational content, instruction, and instructional strategies. Hence, courseware was used to compare the performance of students who received direct instruction to those who received instruction through courseware to see how well students understood ions and ionic bonding. It adopted a quasi-experimental research design where 32 students participated in the activities. The performance of these students was evaluated before and after receiving interventions. The results reveal that those students who received instruction through courseware understood the concept of ions and ionic bonding better than those who received direct instruction. Chemistry learning is heavily reliant on students' abilities to comprehend microscopic descriptions of how substances are formed and what functions they serve. Other difficult areas of chemistry, such as solubility, equilibrium, covalent bonds, hydrogen bonds, molecule geometry, the element activity concept, chemical equilibrium, dissolution, electrolyse, and batteries, necessitate courseware testing.

Keywords: Ions, Ionic bonding, Courseware, Chemistry, Learning

Introduction

The learning and understanding of the basic concepts in chemistry relies on the conceptualization, comprehension, and understanding of chemical bonding, including how, why, where, and when it will occur. Unfortunately, both teachers and students perceived the teaching and learning of the concept of chemical bonding as challenging or difficult due to its abstract nature, leading to misconceptions. The task of learning chemistry at the macroscopic, microscopic, and symbolic levels by the chemistry triplet requires the student to make use of subject-specific as well as highly abstract verbal and nonverbal thinking skills. Thus, in a "regular" classroom setup, teachers try to transform abstract chemical content into a teachable form, mainly through verbal explanations accompanied by parallel symbolic representations of content on the board. Students must simultaneously pay attention to both the verbal expressions and visual input and, through their integration, make sense of them (Marchak et al., 2021). This reveals that chemistry constitutes the core of the metacognitive processes needed to understand a concept and apply it to any form of problem solving. As it affects the learning and teaching of both

theoretical and experimental concepts of the subject, visual understanding is a conceptual competence based on verbally mediated sense-making processes. These representational competences are essential for assigning the correct meaning to abstract chemical content through visualization and generating correct mental models, and they cannot be overlooked.

The concepts of chemical bonding that involve the teaching, learning, and understanding of ionic bonds, molecules, ions, and giant lattices are highly abstract, and in order to fully understand these concepts, students must be familiar with the mathematical and physical concepts and laws that are associated with the bonding concept, such as orbitals, electro-negativity, electron repulsions, polarity, and Coulomb's law. Therefore, many of these misconceptions, according to Nahum et al. (2010), are caused by the oversimplified models used in textbooks, the use of traditional pedagogy that paints a rather constrained and occasionally inaccurate picture of the problems related to chemical bonding, and the assessment of students' achievement that affects the way the topic is taught. Essentially, the notions of chemical bonding must be given in a way that is both true to scientific principles and understandably simple for the learners. This is due to the fact that knowing about chemical bonding enables the learner to predict and explain the physical and chemical characteristics of substances.

Particles at the submacroscopic level—atoms, ions, electrons, and molecules—are not like more familiar particles such as salt or sugar grains. Most chemistry teachers, according to Nahum et al. (2010), use a set of models that are now known to be incomplete representations of the structure of matter; they refer to this well-liked but incorrect conceptual toolkit as "folk molecular theory" (FMT). Some of these theories include:

i.   Because of its metallic interaction with delocalized electrons, copper conducts electricity.
ii.   Because covalent interactions between its atoms are so tightly intertwined in a lattice, diamonds have a high melting point.
iii.   Due to the crystal's strong ionic bonds, which also allow the ions to form bonds with water molecules when hydrated, sodium chloride is soluble in water but insoluble in benzene.
iv.   Because it contains tiny covalent molecules, water evaporates quickly.
v.   Water forms a lattice of hydrogen-bonded molecules, which causes it to expand as it freezes.
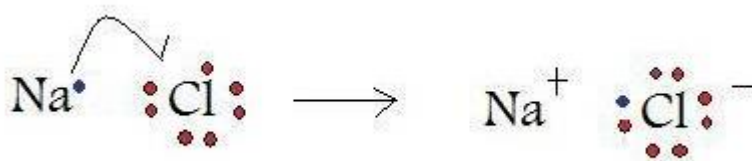vi.   A charged rod can divert a stream of water because the molecules' polar bonds create a dipole moment.

Figure 1:   Formation of anion and cation of Chlorine and Sodium

Concept of Ions and Ionic Bonding in Secondary School Curriculum

There are two different kinds of ions. Positive ions called cations are created when electrons are lost. To become a sodium cation, Na+, an electron is removed from a sodium atom, for example. Anions are the negative ions created by electron gain. Anions are termed with the suffix "-ide"; for instance, chloride is the name of the anion of chlorine (Cl-). Electron transfer is the process whereby one atom loses an electron and another atom gets that electron. Figure 2 shows a clear illustration of electron transfer between sodium and chlorine atoms.
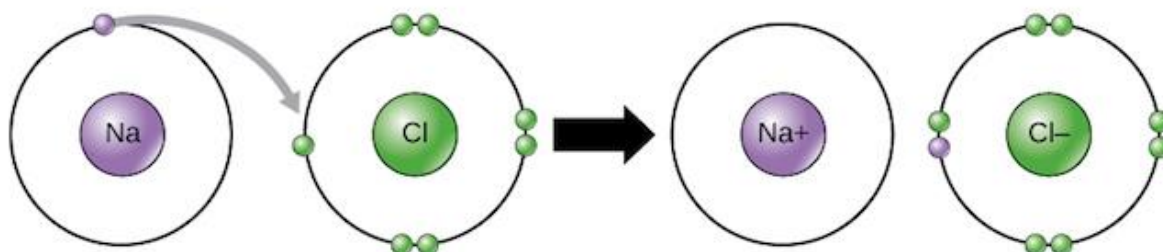

Figure 2:   Transfer of electron between atom of Chlorine and Sodium

Ionic bonds are bonds formed between ions with opposite charges. For instance, positively charged sodium ions and negatively charged chloride ions attract each other to make sodium chloride, or table salt. Table salt, like many ionic compounds, doesn't consist of just one sodium and one chloride ion; instead, it contains many ions arranged in a repeating, predictable 3D pattern (a crystal), as indicated in Figure 3.
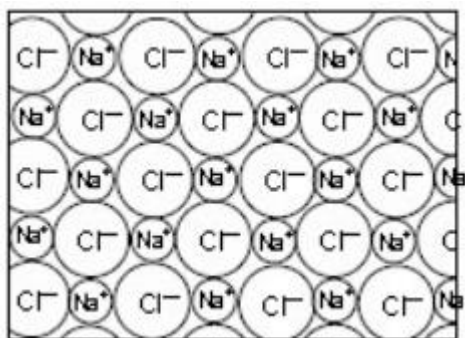
Figure 3:   Crystal arrangement of ionic bonding formed between Sodium and Chlorine

Cations and anions are arranged in a regular, ordered array in the crystal of ionic substances. Ionic bonding holds the structure together by attracting electrostatic forces between each ion and all of its oppositely charged neighbors. In this way, ionic bonding is the net cooperative effect acting over the entire crystal (Vladušić et al., 2016). Chemical species in a substance are held together by bonds, which are attractive forces. These forces come into play when species with opposing electrical charges, such as ions, atomic nuclei, and electrons, are attracted to one another (Vladušić et al., 2016). Ionic bonding is an idealised form of bonding that relies on the attraction of diamagnetic ions that form when electrons are transferred between atoms with very different tendencies to lose or gain electrons (Luxford & Bretz, 2013).

In a chemical molecule, the electrostatic attraction between ions with opposing charges results in a interaction known as an ionic bond, also known as an electrovalent bond. When the valence (outermost) electrons of one atom are permanently transferred to another atom, a bond of this kind is created. If an atom receives electrons, it becomes a negatively charged ion (cation), but if it loses them, it becomes a positively charged ion (cation) (anion). Ionic or electrovalent compounds are produced via ionic bonding, and the compounds generated between nonmetals and alkali and alkaline-earth metals serve as the best examples of this type of compound. The electrostatic forces of attraction between opposite charges and repulsion between comparable charges orient the ions in these types of ionic crystalline solids so that every positive ion is surrounded by a negative ion, and the opposite is true. In other words, because of the way the ions are structured, the positive and negative charges alternate and balance one another, leaving the substance overall with no charge. In ionic crystals, electrostatic forces have a considerable magnitude. These substances thus tend to be solid and nonvolatile.

Application of Courseware in teaching chemistry

Courseware is instructional content that is typically packaged for use with a computer and is designed as tools for teachers or trainers or as tutorials for students. It is a piece of digital educational content created to aid in teaching. However, it might be an online tool that enables the "packaging" of several course components, such as content, communication, and grading. In other words, "courseware" is a software package that students use to supplement or replace traditional course activities. It is also a collection of teaching materials in digital format that are delivered through software, multimedia, and data transmission systems. Courseware is a web-based software programme that includes educational materials, instructions, and teaching techniques.

As observed from various interpretations of courseware, scholars consider it as a software (Centre & Park, 1996; Gettys et al., 2000 and Pavlinic et al., 2000), web-based tool (Brusilovsky et al., 1998; Getty et al., 2000; Vassileva & Deters, 1998), multimedia (Talib et al., 2019; Tsoi et al., 1999) used in training understanding of difficult concepts. These justify the diversity of technological tools authors called courseware.

Many academics have previously created interactive courseware to aid in chemistry instruction. For example, Gettys et al. (2000) created courseware to teach crystallographic concepts to undergraduate chemistry students; Wang et al (1998) develops a courseware for teaching organic chemistry laboratory; Shao et al (1996) develops courseware for teaching introductory analytical chemistry; To help students grasp organic chemistry and experimental methods in terms of its three levels of representation, Tsoi et al. (1999) developed courseware.; Johnson & Morris (1997) created courseware for general chemistry to emphasise the connection between macroscopic observations and microscopic representations of chemistry concepts as these concepts are taught in the lecture and the laboratory.

Theoretical Framework

Given that it is complicated and abstract in nature, chemistry is a challenging topic for both students and teachers to master and teach. For instance, the creation of the majority of chemical concepts and explanations of chemical processes, or an understanding of the microscopic world—which is connected to the phenomenological world and is

necessarily transferred through the use of symbols. The capacity to describe and interpret chemical problems utilising macroscopic (observable), molecular (particulate), and symbolic forms of representation thus forms part of the conceptual understanding of chemistry (Stawoska, 2012). Johnstone (1991, 1993, 1997, 2000, 2006) presented a model of thinking in chemistry that consists of three modes, referred to as "levels of thought": the macro, the sub-micro, and the symbolic. This is because chemistry is such a complex subject. This multi-level way of thinking can be symbolised by the edges of a triangle, shown in Figure 1, with the sub-micro and symbolic modes at the base and the macro mode at the tip.
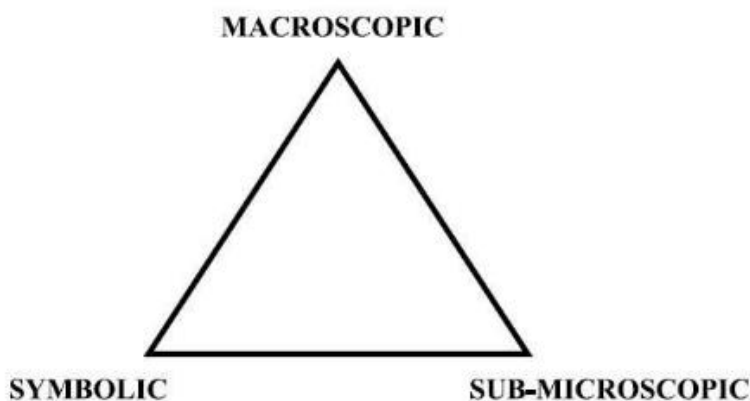

Figure 1: The three representational levels in chemistry (Johnstone, 1991)

The macroscopic, submicroscopic, and symbolic domains of Johnstone's Multiple Levels of Representation (Johnstone, 1991, 2010), with an emphasis on the latter two the macroscopic domain consists of observable characteristics, such as the solid in a salt shaker's white, crystalline form or laboratory studies of physical or chemical characteristics. The white crystals would best be described in the sub-microscopic domain (also known as the particulate domain) as an ordered lattice of alternating sodium ions and chloride ions and the nature of the interactions between these ions. Lastly, knowledge of this same substance in the symbolic domain would consist of the formula NaCl and attractions between Na+ and Cl⁻ ions known as ionic bonds.

Chemical phenomena, which are studied at the macroscopic level, can also be studied at the sub-microscopic level but are generally described at this level in order to solve some complicated problems. The same occurs at the symbolic level. However, students are apparently able to understand complex ideas when asked to express the relationships between all the representational levels. According to Campos dos Santos & Arroio (2012), the utilization of visual tools (pictures, concrete models, photos, graphics, diagrams, computational programs, and other kinds of visualization tools) in teaching chemistry is required to promote visualization capacities and understanding of the representations.

Justification

As it relates to visualising the atom, molecule, ions, and the interaction of these particles, chemistry is complicated and challenging for learners to learn because it incorporates concepts involving invisible and intangible particulate matter (Demissie et al., 2013). The process of studying chemistry presents a number of difficulties for learners, despite the fact that teachers expect their learners to understand and remember the various names,

definitions, and classification schemes they met (Mamlok-Naaman et al., 2010 and Luxford & Bretz, 2013). Thus, the complexity of chemistry has implications for the teaching of chemistry today.

The fundamental premise behind traditional teaching methods is that the information that mankind has amassed in the past must be transmitted to students in its current state. Therefore, lecturing has long been the primary method of achieving this goal, and as a result, pupils have developed a passive attitude, both physically and cognitively.

Chemistry students are expected to understand the scientific ideas at the particulate level of matter in a manner that can be used to explain the properties of matter and different types of changes that take place in a vast array of chemical phenomena. Thus, it is crucial for teachers to maximise the impact of their instructional strategy in order to promote deep, high-quality student learning and engaged learning of the subject matter. A chemist can see a chemical bonding at the macroscopic level, what the reaction will appear like to the student's eye, and at the particulate level, what changes are occurring among the particles, with the aid of Technology Driven Pedagogy (TDP), which uses animation, simulation, and video integrated with student-centered learning to visualise complex and abstract concepts of chemistry (Demissie et al., 2013).

Chemical bonding occupies a crucial aspect of chemistry, in which understanding the concepts leads to understanding other more complex chemical processes like chemical reactions in both organic and inorganic chemistry. Many scholars investigate the concept of chemical bonding (Luxford & Bretz, 2013; Mamlok-Naaman et al., 2010; Nahum et al., 2010 and Vladušić et al., 2016).

In order to look into Croatian students' understandings of bonding in ionic substances, Vladui et al. (2016) undertook a study titled "Understanding Ionic Bonding: A Scan across the Croatian Education System." The participants adopted a questionnaire called "The Truth About Ionic Bonding (TTAIB)," created by Taber (2002). This instrument is a set of 20 assertions that describe mental models that are compatible with either the molecular or electrostatic frameworks of ionic bonding. The findings indicate that a significant percentage of students—and even teachers—appear to have alternative conceptions. The majority of high school and college students and teachers think that the formation of a bond in sodium chloride is caused by the transfer of electrons from a sodium atom to a chlorine atom. It is not understood that oppositely charged ions throughout the crystal exhibit reciprocal and multidirectional electrostatic attractions. The writers came to the conclusion that a significant portion of students, as well as a substantial number of teachers, do not fully comprehend the secondary school curriculum. The teachers and the textbooks are the most evident sources of learners' understandings, whether they are good or bad. The biggest misconception about ionic bonding in sodium chloride is that it happens as a result of an electron transfer and creates a bond between the donor and the acceptor.

Moving Beyond Definitions: What Student-Generated Models Reveal about Their Understanding of Covalent Bonding and Ionic Bonding was the title of a study done by Luxford & Bretz (2013) to explore students' descriptions of ionic and covalent bonding beyond definitions in order to explore students' knowledge about chemical bonding. Students are asked to use art tools to make models that illustrate and explain covalent and ionic bonding during the interview. Despite the fact that students were able to recall

definitions, analysis of the student-created models and the explanations that accompanied them revealed numerous errors concerning covalent and ionic bonding.

All challenges generating misconceptions about chemical bonding were associated with the way teachers teach (pedagogy, contents, and text-books) and the way students learn, which led to students' misconceptions. Mamlok-Naaman et al., (2010) stressed that for the chemistry students to improve their understanding of chemical bonding, it is essential to revise the scientific content, the pedagogical approach, and the assessment methods.

Objectives of the Study

Chemistry learning largely depends on students' ability to understand the microscopic descriptions: how substances are formed and what are the functions of the substances. These microscopic worlds are usually not related to the students` everyday experiences. Therefore, external representations are the only way to overcome these barriers and enable students to visualise and understand ionic bonding from a particular point of view, to see why and how the change takes place. Such a visualisation would include not only the nature of the substances involved but also other aspects of the mechanism by which the reaction takes place. Thus, the study intends to evaluate students' understanding of ions and ionic bonding by comparing their performance between those taught with direct instruction and those taught with the aid of courseware.

Methodology

The research was quantitative and used a quasi-experimental design. Ions and ionic bonding are a subtopic of a concept called "chemical bonding" in the chemistry curriculum. Chemical bonding is the fifth topic in Senior Secondary School 1 (SS1) or Form 4 under the theme "the chemical world." Thus, SS1 students are appropriate respondents for the study. About 32 SS1 students of Government Day Secondary School Arkilla participated in the study. These students belong to the same class, making it the only science class in SS1 block. This whole class of 32 students was split into two groups using random sampling to enable fair distribution and representation of the strengths of all students in both groups. While the first group was tagged "the experimental group," the second group is "the control group," both consisting of 16 students each. The control group learned about ions and ionic bonding through a traditional instructional approach, while the experimental group learned the concept with the aid of courseware. Each group was evaluated before and after the intervention using a similar assessment tool.

Initially, function analysis and engineering product design were deployed to design and develop courseware for facilitating the learning of ionic bonding. Later, a flexible guideline for building an effective instruction and performance support tool called the ADDIE model was used to design the instruction conveyed by the courseware. The acronyms stand for analysis, design, development, implementation, and analysis, representing steps taken during the design and development of instruction. Each step has an outcome that feeds into the subsequent step.

Table 1:   Plan of the Experiment

Group	Pre-evaluation	Intervention	Post-evaluation
Experimental	Pre-test	Courseware	Post-test
Control	Pre-test	Traditional instruction	Post-test

"The truth about ionic bonding" (TTAIB) developed by Taber (2002) was used for this study. It consisted of 20 statements that identify ways of thinking that are consistent with either of Taber's molecular or electrostatic frameworks of ionic bonding. Respondents were asked to decide whether each statement was true or false.

Results

Student scores were computed in Microsoft Excel, which was later imported into Statistical Package for Social Sciences version 25 for the analysis. The analysed data is represented in the table below.

Table 2: Paired-group t-test for the pre-and-post tests of the control and experimental groups

Group	Pre-test Mean scores	Post-test Mean scores	T-test
Control	1.4	13.6	0.00
Experiment	1.9	22.6	0.00

It can be observed from Table 2 that there is a difference between the mean scores of the pre- and post-test of both the control and experimental groups. This can be further confirmed by the significance value of 0.00, which indicates that there is a significant difference between the pre- and post-tests of both the control and experimental groups. Although both approaches had an effect on the participants' performance, the result revealed that students in both groups performed better after the intervention. To confirm this finding, further correlation testing was conducted by the researchers.

Table 3: Spearman's rho correlation between post-tests of control and experimental groups

			Mean_Experimental	Mean_Control
Spearman's rho	Mean_Experimental	Spearman Correlation	1	.212**
		Sig, (2-tailed)		.000
		N	32	32
	Mean_Control	Spearman Correlation	.212**	1
		Sig, (2-tailed)	.000	
		N	32	32

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

It can be observed from Table 3 that the result indicated that although both groups had their students' performance increase after the invention, the correlation coefficient was 0.00, which indicated that there was no significant relationship between the scores of the experimental and control groups. Thus, the result indicated in Table 2 is confirmed by this test for correlation. The students taught with the aid of the courseware performed better than those taught with a traditional approach (without the courseware).

Discussion

The result goes in favour of the experimental groups for performing better than the control group. Courseware is software that provides students with visual aids when learning abstract concepts such as ions and ionic bonding, allowing them to gain a better understanding of the concept. This finding is not surprising because this is not the first time courseware has been reported to be effective in facilitating the learning of chemistry. A similar finding was made by Talib et al. (2018), who used courseware to determine the concise and effective usability of interactive courseware in overcoming misconceptions in learning acid-base chemistry. Their result indicated that interactive courseware can be concise and effective in overcoming misconceptions in learning chemistry.

Pavlinic et al. (2000), investigated students' experiences on chemical concepts using four courseware conveying varying topics within the chemistry curriculum. The finding reveals that courseware, as an instructional designed software; it's flexibly matches the diverse needs of student in learning chemical concepts. Centre & Park (1996) usable and intuitive interface of the courseware help students understand spatial chemistry. Gettys et al. (2000), created a courseware to teach crystallographic concepts to undergraduate chemistry students.

Ions and ionic bonding are among the chemical concepts Üce & Ceyhan (2019) consider to be abstract, complex, and hard to understand for students in the field of chemistry education. Thus, Luxford & Bretz (2013) emphasised that students need to understand ionic bonding beyond definitions. A significant number of teachers have demonstrated inadequate understanding of the accepted model of ionic substances. Consequently, understanding chemical bonding is fundamental and essential for the understanding of almost every topic in chemistry. Vladušić et al. (2016) reported that the most obvious sources of students' understandings, whether good or poor, are the teachers and the textbooks. As a result, teachers must create courseware to help students understand ions and ionic bonding.

Conclusion

The study compared the performance of students who received direct instruction to those who received instruction through courseware to see how well students understood ions and ionic bonding. It adopted a quasi-experimental research design where 32 students participated in the activities. The performance of these students was evaluated before and after receiving interventions. The results reveal that those students who received instruction through courseware understood the concept of ions and ionic bonding better than those who received direct instruction. Chemistry learning is heavily reliant on students' ability to comprehend microscopic descriptions of how substances are formed and what functions they serve.

We cannot keep teaching those microscopic chemical processes with imagination and assumptions, just as we can't teach the way we were taught due to changes in the brain structures of children born in this millennium. Teachers of chemistry must take advantage of technological advancements by creating instructional activities that provide visual aids for abstract microscopic chemical processes. Through this, one can guarantee the production of secondary school graduates that understand chemical processes to the fullest, like real scientists. Courseware has been once again proven to be effective in

facilitating the learning of chemical concepts, especially microscopic. It is now left for teachers to develop their intellectual abilities and computer skills toward instruction design in the system of chemistry education.

Recommendations

The following recommendations were generated from the finding:

1. Science teachers should be encouraged to teach chemistry students with the aid of the courseware so that students can perform better. It has been empirically established that those taught with a traditional approach do not perform very well.
2. Government and school authority must make sure that up to date courseware for teaching chemistry in schools are adequate available and utilized.

Reference

Brusilovsky, P., Eklund, J., & Schwarz, E. (1998). Web-based education for all: A tool for development adaptive courseware. *Computer Networks*, **30** (1–7): 291–300. https://doi.org/10.1016/s0169-7552(98)00082-8

Campos dos Santos, V., & Arroio, A. (2012). The Representative Levels in Chemical Education. In C. Paweł, M. Nodzyńska, & I. Stawoska (Eds.), *Chemistry Education in the Light of the Research* (First Edit, pp. 7–10). University of Krakow.

Centre, M., & Park, O. S. (1996). The evaluation of integrated courseware: Can interactive molecular modelling help students understand three-dimensional chemistry? *Computers & Education*, **26** (4): 233–239.

Demissie, T., Ochonogor, C. E., & Engida, T. (2013). Effects of Technology Driven Pedagogy Application on the Comprehension of Comprehension of Complex and Abstract Concepts of Chemical Equilibrium. *American Journal of Chemistry Education*, **3** (2): 57–75.

Getty, N. K., Burd, B., Burns, S. K., & Piele, L. (2000). Using courseware to deliver library instruction via the Web: four examples. *Reference Services Review*.

Gettys, N. S., Kastner, M. E., Leary, P., Grieves, J., Dimarco, K., Braun, J., Kastner, M. E., Vasbinder, E., Kowalcyzk, D., Jackson, S., Giammalvo, J., Braun, J., & Dimarco, K. (2000). Crystallography Collection. *JCE Software*, **77** (9): 1246–1248.

Johnson, J. F., & Morris, K. M. (1997). Courseware is the key: Bridging lecture and laboratory in general chemistry. *Journal of Computing in Higher Education*, **8** (2): 109–125. https://doi.org/10.1007/BF02948605

Johnstone, A. H. (1991). Why is science difficult to learn? Things are seldom what they seem. *Journal of Computer Assisted Learning*, **7** (2): 75-83.

Johnstone, A. H. (1993). The development of chemistry teaching: A changing response to changing demand. *Journal of Chemical Education*, **70** (9): 701–706.

Johnstone, A. H. (1997). Chemistry teaching-science or alchemy? 1996 Brasted lecture. *Journal of Chemical Education*, **74** (3): 262–268.

Johnstone, A. H. (2000). Teaching of chemistry-logical or psychological? *Chemistry Education Research and Practice*, **1** (1): 9–15.

Johnstone, A. H. (2006). Chemical education research in Glasgow in perspective. *Chemistry Education Research and Practice*, **7** (2): 49–63. https://doi.org/10.1039/B5RP90021B

Johnstone, A. H. (2010). You can't get there from here. *Journal of Chemical Education*, **87** (1): 22–29.

Luxford, C. J., & Bretz, S. L. (2013). Moving beyond definitions: What student-generated models reveal about their understanding of covalent bonding and ionic bonding. *Chemistry Education Research and Practice*, **14** (2): 214–222. https://doi.org/10.1039/c3rp20154f

Mamlok-Naaman, R., Hofstein, A., & Nahum, T. L. (2010). Teaching and learning the concept of chemical bonding. *Studies in Science Education*, **46** (2): 179–207.

Marchak, D., Shvarts-Serebro, I., & Blonder, R. (2021). Teaching Chemistry by a Creative Approach: Adapting a Teachers' Course for Active Remote Learning. *Journal of Chemical Education*, **98** (9): 2809–2819. https://doi.org/10.1021/acs.jchemed.0c01341

Nahum, T. L., Mamlok-Naaman, R., Hofstein, A., & Taber, K. S. (2010). Teaching and learning the concept of chemical bonding. *Studies in Science Education*, **46** (2): 179–207. https://doi.org/10.1080/03057267.2010.504548

Pavlinic, S., Wright, A. H., & Buckley, P. D. (2000). Students Using Chemistry Courseware — Insights from a Qualitative Study. *Journal of Chemical Education*, **77** (2): 231–234.

Stawoska, I. (2012). *Chemistry Education in the Light of the Research* (C. Paweł, M. Nodzyńska, & I. Stawoska (eds.); First Edit). University of Krakow.

Taber, K. (2002). *Chemical misconceptions: prevention, diagnosis and cure*, **1**. Royal Society of Chemistry.

Talib, C. A., Aliyu, H., Malik, A. M. A., Siang, K. H., & Ali, M. (2018). Interactive Courseware as an effective strategy to overcome misconceptions in Acid-base Chemistry. In *2018 IEEE 10th international conference on engineering education (ICEED)* (pp. 240–245). IEEE.

Talib, C. A., Aliyu, H., Malik, A. M. A., Siang, K. H., & Ali, M. (2019). Interactive Courseware as an effective strategy to overcome misconceptions in Acid-base Chemistry. *Proceedings of the 2018 IEEE 10th International Conference on Engineering Education, ICEED 2018*, *March 2020*, 240–245. https://doi.org/10.1109/ICEED.2018.8626941

Tsoi, M. F., Goh, N. K., & Chia, L. S. (1999). Practical Multimedia Courseware Design for Learner ' S Difficulties in Chemical Education. *Annual Meeting of the Australian Association for Research in Education and the New Zealand Association for Research in Education*.

Üce, M., & Ceyhan, İ. (2019). Misconception in Chemistry Education and Practices to Eliminate Them: Literature Analysis. *Journal of Education and Training Studies*, **7** (3): 202. https://doi.org/10.11114/jets.v7i3.3990

Vassileva, J., & Deters, R. (1998). Dynamic Courseware Generation on the WWW. *British Journal of Educational Technology*, **29** (1): 5–14.

Vladušić, R., Bucatb, a R. B., & Ožićc, M. (2016). Understanding ionic bonding – A scan across the Croatian education system. *Royal Society of Chemistry*, **17** (4): 685–699. https://doi.org/10.1039/C6RP00040A

ASSESSMENT OF SCHOOL FACILITIES IN THE ADULT LEARNING CENTRES OF THE AGENCY FOR ADULT AND NON-FORMAL EDUCATION, SOKOTO STATE, NIGERIA

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Abstract

This study assessed the provision and utilization of facilities of the Agency for Adult and Non-Formal Education, Sokoto State, Nigeria. The population of this study comprised the entire supervisors and facilitators of the Agency, in the twenty three (23) Local Government Areas of the state. The local governments are grouped into three Senatorial Zones. Multistage sampling techniques was used in selecting the sample from the population. Two Hundred and Seventeen (217) respondents were selected from the target population of 400. To obtain the sample size, cluster sampling techniques were used. Proportionate sampling techniques were used in selecting four local governments from each cluster in the state. This gives a total of twelve local governments. Simple Random sampling techniques were used in selecting individuals from each centre in the state. The instrument used for data collection for this study was researcher designed questionnaire title Provision and Utilization of Facilities Questionnaire (PUFSF) with reliability index of 0.75. The statistical tools used for data analysis were frequencies and simple percentages. The findings of the study revealed that the extent of the agency on the provision of educational facilities to adult learning centres in Sokoto State was low and the level of utilization of facilities in the centres was very poor in Sokoto State.

Keywords: Provision, Utilization, School facilities, Adult Learning Centre and Non-Formal Education

Introduction

Educational facilities are important tools for qualitative and quantitative education. Usuji (2016) reported that no matter how the quality and quantity of human resources in the system, it does not function effectively without required facilities. Lack of these facilities can affects negatively the academic performance of learners and the productivity of the teachers. Teaching and Learning process take place easier and faster in an environment that has adequate facilities. Oni (2007) opined that; facilities serve as one of the strategic factors in the management of any organization including school. He further stated that the availability, adequacy and relevance of school facilities can enhance effective teaching and learning process. Ukeje (2000) precisely pointed out that poor performance often experienced by students in any institution is always connected to lack of facilities such as classrooms, libraries, laboratory, basic infrastructure, furniture, teaching aids among others.

Manga and Ogundele (2019) described educational facilities as material resources which are provided to school in order to complement teaching and learning. These facilities include school buildings, furniture, playground and infrastructure among others. Olagboye (2004) described educational facilities as a form of instructional and physical resources. Instructional resources are resources used in teaching and learning. For example, audio and visual aids, graphics, printed materials, display materials, and consumable materials. The physical resources are immovable resources such as land, building, furniture, equipment, machinery, vehicles, electricity, water supply, and other infrastructure.

The situation of some adult learning centres in Sokoto State is getting worst in terms of educational facilities. Some centres faced shortage or lack of classrooms, offices, toilet, chairs and tables among others which make teaching and learning boring. In some centres, children tables are being used as adult seaters for the class activities while others are using mats to sit on. The researchers observed that most of the adults study under shade, no classroom at all. Some classrooms had dilapidated building with broken doors and windows, leaking roofs, broken furniture items, no light, while some have blown off roofs without repair. From the above-mentioned points, we can deduct that the provision of these facilities is not adequate and utilization of the existed ones are poor. There are no libraries or study room in most of the centres. In most of the study rooms, there are no lighting facilities and provision for cross ventilation, due to that effects reading cannot take place. Thus, the extent to which these facilities are provided and utilized in the Adults Study Centres need to be critically assessed. Therefore, this necessitated the current study to assess Facilities of the Agency for Adult and Non-Formal Education, in Sokoto State, Nigeria.

For effective teaching and learning process to take place there is need to provide accessible, adequate, and relevant facilities that are conducive for adult learning in order to achieve the objectives of the programme. Many studies conducted shown direct relationship between availability of school facilities and students' academic performance. For instance, Okoroma, Edo and Okonko (2022) on their study on the influence of infrastructural facilities on academic performance of adult learners in non-formal and adult education centers in Rivers State, Nigeria found positive relationship between provision of instructional facilities and students' academic performance. They confirmed that lack of such facilities can have negative effect on students' performance.

Adults, like any other learners, need to be provided with learning facilities that will facilitate his learning activities. Bunya in Lughalo (2016) observed that in some Adult Learning Centres, adults used small and uncomfortable disks that were meant for children, especially the classes held in nursery schools' buildings. Adults also used low improvised benches that have no back support and flat form for writing on. In fact, Mbadiwe-Woko, Ogwo and Taylor (2019) confirmed that in some adult learning centres, adult learning only takes place where and when all other activities in the conventional settings are over. With this mode of operation, it will be difficult to achieve the desired objectives of the programme. Lughalo (2016) condemns and criticize this mode of operation when he described that to achieve the desirable objectives of the adult and non-formal education programme, it is necessary to a have distinctive atmosphere of adulthood in educational facilities use for adult learning.

Mbadiwe-Woko, Ogwo and Taylor (2019) conducted a study on relevance of physical facilities in enhancing adult learning in continuing education programmes in tertiary institutions in Rivers State, Nigeria. They used a descriptive survey design with a population of 1,198 adult learners. The sample size of eight hundred and nine respondents (809) were selected representing 70% of the population. The researchers used stratified random sampling technique. The findings of the study indicated that there were no adequate facilities that can enhance adult learning. The researchers explained number of factors responsible for non-availability of relevant facilities that can enhance adult learning in higher institutions of Rivers State which include poor funding among others.

The main purpose of supplying educational facilities to Adult Study Centres is to ensure that they are utilized to serve the purpose for which they are being provided. According to Manga (2007) the assumption underlying the provision of educational facilities is that if properly and fully utilized, it will bring about significant improvement in the processes of teaching and learning. Whenever facilities are made available in the study centre, it is necessary for such resources to be effectively utilized. Osaruchi (2021) suggested that when utilization of facilities is below the standard, the expectation from such investment may become short, equally, where the facilities are over utilized the tendency is that, lifespan of that facilities may not be long.

Lackney in Manga (2007) investigated the impact of utilization of the school plant on teaching in urban school in Wisconsin. He used stratified random sampling to select 180 secondary schools ranging from science, technical and grammar schools. He used self-designed and validated instruments to test students' performance in sciences, technical and arts subjects. The aggregate of these indices was used to determine students' performance. Out of the total sample of 180 schools, he studied 120 over crowded public and private schools and 60 schools with low utilization rates of classrooms, laboratories, libraries and workshops. He used the UNESCO (1982 and 2000) standards to determine space and time wise utilization rates as less than 50% for underutilization, 50-100% as moderate utilization and above 100% as over utilization. He applied Pearson's product moment correlation coefficient at .05 level of significant at 999 degrees of freedom to test the relationship between over utilization, moderate utilization and underutilization of facilities and students' academic performance. He found positive and significant relationship between utilization of facilities in general and students' academic performance.

The duty of every educational institution including Adult Study Centre is to make effective use of available facilities for attaining school outcomes. Adeboyeji (2000) strongly suggested that every school should aim at attaining optimum utilization of facilities for maximum benefits. This connotes effective use of available facilities in the process of teaching and learning. Manga (2015) asserted that an intelligent student who has not been exposed to the use of relevant facilities may not perform well, while it is possible to improve the performance of a weak student by exposing him to the opportunity of making use of appropriate instructional facilities. In order to get maximum benefit out of the school plant, the facilities in the Adult Study Centre must be carefully utilized in line with policy guidelines regulating the manner and the extent to which various structures and facilities could be utilized for effective teaching and learning. Manga added that proper utilization of facilities prolong their lifespan by reducing the rate of their depreciation.

Objectives of the Study

Objectives of this study are as follows:

i. To find out the extent to which Agency for Adult and Non-formal Education Provide Educational Facilities to the Study Centres in Sokoto State.
ii. To find out the level of Utilization of Facilities in the Centres for Adult and Non-formal Education in Sokoto State.

Research Questions

i. To what extent the Agency for Adult and Non-formal Education Provide Educational Facilities to the Study Centres in Sokoto State?
ii. What is the level of Utilization of Facilities in the Centres for Adult and Non-formal Education in Sokoto State?

Methodology

The research design for this study is a descriptive survey. The population of this study is 400 participants which includes facilitators and supervisors of the agency for mass literacy, adult and non-formal education, in the twenty-three Local Government Areas of the state. These local governments were divided into three zones. The centres were classified under three senatorial zones. The senatorial zones are Sokoto East, Sokoto North, and Sokoto South. Multistage sampling techniques was used in selecting the sample from the population. Two Hundred and Seventeen (217) respondents were selected from the target population using Research Advisor (2006) table for determining sample size. To obtain the sample size, cluster sampling techniques were used. Proportionate sampling techniques were used in selecting four local governments from each cluster in the state. This gives us a total of twelve local governments. Simple Random sampling techniques were used in selecting individuals from each centre in the state. The instrument used for data collection for this study was self-designed questionnaire titled, "Management of Facilities Questionnaire (MFQFS)" for facilitators and Supervisors. The instrument were submitted to the expert in Educational Management from Faculty of Education and Extension Services, Usmanu Danfodiyo University, Sokoto. There comments, observations, corrections made the instrument to be valid for study. The reliability of the instrument was obtained through test-retest method at interval of 3 weeks and reliability index of 0.78 was obtained.

Findings

Research Question One

To what extent did the Agency for Adult and Non-formal Education provide educational facilities to the Study Centres in Sokoto State? This research question was answered in table

Table 1: Mean Rating of Respondents on Provision of Educational Facilities to the Study Centres in Sokoto State

S/N	Item Statement	SA	A	D	SD	N	Sum	Mean	SD	Decision
		Responses								
1	Adult learning centres are provided for adult literacy program in the area.	81	107	15	9	212	684	3.23	0.75	Agree
2	Classes used in this centre are mainly provided for adult learning.	34	15	151	12	212	495	2.33	0.81	Disagree
3	Chairs, tables, and desks are adequately provided in the centre for adult learning.	8	12	121	64	212	381	1.80	0.71	Disagree
4	Teaching and learning materials for adult literacy are sufficiently provided in this centre	17	12	61	122	212	348	1.64	0.91	Disagree
5	The agency provides adequate lighting in this centre.	5	8	134	65	212	377	1.78	0.62	Disagree
	Total	145	154	482	272	1060	2285	10.78	3.8	

The result on table 1 reveals that adult learning centres are provided for adult literacy program in Sokoto State with mean score of 3.23 and Standard Deviation of 0.75. The other items were disagreed. The mean for the provision of adult literacy classes was 2.33 and standard deviation 0.81, chairs, tables, and desks had a mean score of 1.80 and standard deviation 0.71, teaching and learning materials 1.64 and standard deviation of 0.91, and finally lightening is not adequate in the centre.

Research Question two

What is the level of utilization of facilities in the centres for Adult and Non-formal Education in Sokoto State?

Table 2: Mean Rating of Respondents on Level of utilization of facilities in the centres for Adult and Non-formal Education in Sokoto State

S/N	Item Statement	SA	A	D	SD	N	SUM	Mean	SD	Decision
		Responses								
6	Necessary measures are put in place in order to ensure proper utilization of classroom facilities in the study centre.	49	57	43	63	212	508	2.40	1.10	Disagree
7	The existed staff room is well utilized by facilitators in the study centre.	91	61	29	31	212	636	3.00	1.07	Agree
8	There is proper utilization of library facilities in my study centre	27	39	53	93	212	453	2.14	1.12	Disagree
9	Necessary measures are put in place in order to ensure proper utilization of available instructional materials in the centre.	76	61	42	33	212	604	2.85	1.07	Agree
10	Adults in the study centre used available text books properly.	51	49	52	60	212	515	2.43	1.13	Disagree
11	There is optimal utilization of chairs, tables desks in the study centre.	49	46	59	58	212	510	2.41	1.12	Disagree

12	Toilet facilities are utilized properly in the study centre	61	57	46	48	212	555	2.62	1.12	Agree
13	There is proper utilization of electricity facilities that facilitate teaching and learning in the study centre.	27	39	54	92	212	425	2.00	1.06	Disagree
	Total	**431**	**409**	**378**	**478**	**1696**	**4206**	**19.85**	**8.79**	

Source: Field Survey, 2022

The result on table 2 reveals the level of utilization of facilities in adult learning centres for adult literacy program in Sokoto State. The respondents reported that there was improper utilization of facilities in the centres with the means score and standard deviation as follows: proper utilization of classroom (2.40, 1.10), library and reading room (2.14, 1.12), relevant textbooks (2.43, 1.13), availability of chairs, desk, tables etc. (2.41, 1.12), and availability of electricity (2.00, 1.06). These had mean less than the criterion means of 2.5. The respondents agreed that there was well utilized staff room (3.00, 1.07), functional instructional materials (2.85, 1.07), available drinking water (2.62, 1.06). These had the means above the criterion mean of 2.5.

Discussion

Research question one revealed that although adult learning centres are provided for adult literacy programme in Sokoto State, however, respondents indicated that classes used in the most centres were not mainly provided for adult learning. Chairs, tables, and desks were not adequate. The result also indicates that teaching and learning materials provided for adult literacy were not sufficient and lightening is not adequate in most of the centres. This finding concurred with the findings of Mbadiwe-Woko, Ogwo and Taylor (2019) who found that there were no adequate facilities that can enhance adult learning in their study area. The researchers explained number of factors responsible for non-availability of relevant facilities that can enhance adult learning in higher institutions of Rivers State which include poor funding among others.

Research question two indicated that the participants agreed that facilitators utilized the existed staff room properly in the study centres and necessary measures are put in place in order to ensure proper utilization of available instructional materials in the centres. In addition, toilet facilities are utilized properly in the study centres. However, the question revealed that there was improper utilization of class room and library facilities. It was either under-utilized or not utilized at all. Also adults were not using available textbooks properly. This finding concurred with findings of Ogbonna, Uzaru and Nnanna (2012) who found that some of the facilities in Abia State primary schools were over-utilized while others were under-utilized. They maintained that the academic performance of pupils will be better when school facilities utilized properly.

Conclusion

Based on the findings obtained from the study it could be concluded that the Agency for Adult and Non-formal Education, Sokoto State does not provide required educational Facilities to the Study Centres. It was discovered that some of the class rooms used in the centre were not mainly provided for adult learning. However, most of the available facilities were under-utilized due to poor attendance of the adults. For effective teaching and learning process to take place there is need to provide accessible, adequate, and

relevant facilities that are conducive for adult learning in order to achieve the objectives of the programme.

Recommendations

The following recommendations were made based on the findings of the study:

1.   Government should provide more school facilities to the adult learning centers and class rooms should be build which purposely main for the programme.
2.   The Agency for Adult and Non-formal Education should take necessary measures in order to ensure proper utilization of available facilities in the study centres.
3.   Government should employ more staff so as to achieve the aims of the programme.
4.   Government should ensure that library is built in each centre to improve adult education programme.

References

Adeboyeji, R.A. (2000). *Management of School Physical Facilities*. Ibadan: Foundation Publications.

Ogbonna, N.E, Uzaru, G.O. & Nnanna, O. (2012). Availability and utilization of physical facilities in Abia State primary schools. *Journal of resourcefulness and distinction*. **2** (1): 214-222.

Mbadiwe-Woko, E.F., Ogwo, P.N. & Taylor, I. (2019). Relevance of Physical Facilities in enhancing Adult Learning in Continuing Education Programms in Tertiary Institutions in Rivers State, Nigeria. *International Journal of Innovative Psychology and Social Development*, **7** (2): 21-26.

Lughalo, F. (2016). *Engaging with Adults*. The case for increase support to Adult Basic in Subsaharan Africa Region. Washinton DC, World Bank.

Manga, S.D. (2007). *Relationship among School Plants Construction, Utilization, Maintenance and School Effectiveness in Kebbi State Secondary Schools, Nigeria*. Unpublished Ph.D. These University of Ilorin, Ilorin, Nigeria.

Manga, S.D. (2015). *Introduction to Educational Management.* Sokoto: Usmanu Danfodiyo University, press.

Manga, S. D. & Ogundele M.O. (2019). *School Administration.* Solace Press. Jos, Nigeria.

Okoroma, N.S, Edo, B. & Okonko (2022). Influence of Infrastructural facilities on Academic Performance of Adult Learners in Non-formal and Adult Education Centers in Rivers State, Nigeria. *International Journal of Research Publication*, **3** (7): 3367-3373

Oni, J.O (2007). *Resource and Resource Utilization as Correlates of School Academic Performance.*UnpublishedPh.D Thesis, University of Ibadan, Nigeria.

Olagboye, A.A. (2004). *Introduction to Educational Management in Nigeria*. Ibadan: daily graphics (Nigeria) Limited.

Osaruchi V.S. (2021). Availability and Utilization of School Reading Facilities and Student Academic Achievement in Rivers State University. *International Journal of Innovative Social and Science Education Research*, **9** (2): 128-141.

Usuji, B.S. ((2016). *Impact of School Facilities on Students' Academic Performances in Public Secondary Schools in Giwa and Zaria Education Zones*, Kaduna State,

Nigeria. Unpublished M. Ed Dissertation, Ahmadu Bello University, Zaria, Kaduna State.

Ukeji, B. (2000). Universal Basic Education in Nigeria Logistic and Implementation Strategies. *Journal of Social Science,* **2** (3): 81-92.

ASSESSMENT OF ALMAJIRI SYSTEM OF EDUCATION IN SOKOTO STATE, NIGERIA

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Abstract

The study examined the situation of Almajiranci in Sokoto state, Nigeria. Three objectives were set to be achieved among which include determined reasons parents still send their children to Almajiri school in Sokoto state? The study employed descriptive design and purely qualitative with a sample size of 36 respondents. The targeted respondents are; parents of Almajirai, Almajirai and their teachers (mallams) within the study area. Convenient or purposeful sampling was used. Two local government areas were selected with 18 respondents each. 3 sets of interview guides were used. Almajiri Interview Guide for the Assessment of the Almajiri System of Education in Sokoto State (AIGAASESS), MIGAASESS and PAIGAASESS were used as the instrument for data collection and data analysis was done through transcription, coding and the use of themes and sub-themes for detail explanation of each research question. The findings of the study revealed that, the major reason behind parents sending their children for Almajiranci is poverty. Mallams are motivated by searching for paradise and God's blessings, similarly they like to inherit the work of their fathers. It further revealed that Almajirai were admitted at tender age, they have various sources of food and they undergo various trouble and hardship during Almajiranci. The study therefore, recommended that, Sokoto state government should consider the process of formalizing Almajiri Qur'anic Schools in the state. The government should introduce a scheme named Poverty Reduction for Rural Areas (PORRA) the programme should target only rural dwellers who are in poverty. Preferably, parents should consider the trouble and hardship undergone by their children during Almajiranci and allow them to learn at home so that they can learn at the same time enroll them into formal school without disruption and watch the growth of their morality at formative age.

Keywords: Almajiranci, Almajiri, Mallam, Almajiri Parents, Qur'anic School.

Introduction

Muslims' children in Hausa land pursue Islamic knowledge in three types of schools. These include; Qur'anic Schools, Islamiyya Schools and Almajiri Qur'anic Schools. In Qur'anic Schools, children learn Qur'an using slates (Allo in Hausa) under the guidance of a male teacher (Mallam) or female teacher (Modibbo or Mallama). Usually after the Qur'anic teaching before closing, children will learn some basic aspects of worship like; Suratul Fatiha, Tahiya, Ayatal Kursiyyu, ablution and prayer with their obligatory and Sunnah aspects, among others. In Islamiyya schools, children learn Qur'an and Hadith without using slates. Other aspects of religion are learned through books just like a formal school system using subject teachers and periods. Qur'anic memorization is highly encouraged in the schools. In Almajiri Qur'anic Schools, children learn in the same pattern with those in Qur'anic Schools, the only difference is that in Almajiri Qur'anic Schools the children left their home towns and villages and sometimes even the mallam is emigrant. The popular practice is that children do not hold any provision during the studies, but they beg for food, clothes and money moving around with dirty and tattered clothes to attract public sympathy and get alms. A reasonable number of Muslims' children in Sokoto state are attending Qur'anic and Islamiyya schools but the reflection of

other children in Almajiranci do attract the attention of members of the public thereby having different perceptions about the children and their communities.

Almajiri system in Nigeria used to be a decent and reputable scheme that produced eminent scholars and policy makers. The Almajiri system gathered support and solidarity from all stakeholders and boosted the nation to fortunate status in literacy, social, diplomatic and economic spheres, to mention a few. Its prominence however took a plunge with the arrival of the imperialists who hijacked the administrative power in the land and relegated all religious and traditional structures to the background (Abdulazeez and Musa, 2015). The upshot of this scenario paved the way for all forms of adulteration being smeared on the system today, which denigrates the whole structure.

The term *Almajiri* in Nigeria is used to describe those children or youths who left their home towns in search of Islamic education. According to Abdulqadir (2003), this system started in the 11th century as a result of the involvement of Borno rulers in Qur'anic literacy. Over seven hundred years later, the Sokoto caliphate was founded principally through an Islamic revolution based on the teaching of the holy Qur'an. These two empires rum similar Qur'anic learning system which over time came to be known as the *Almajiri* system or Almajiranci.

In *Almajiri* system of education during the pre-colonial era, pupils lived with their parents for moral upbringing. All the schools were located within the immediate environment from where the pupils came from. The Danfodiyo's revolution brought with it some modifications like, the establishment of an inspectorate of Qur'anic literacy. The inspectors reported directly to the emirs of the province, concerning all matters relating to the schools. This was seen to be the height of Qur'anic education in northern Nigeria. The schools were maintained by the state, communities, the parent, zakkah, waqf and supplemented by the teachers and students. Begging (*bara* in *Hausa*) as it is known today, is completed unheard of (Abdulqadir, 2003).

With the arrival of colonialist in Nigeria, *Almajiri* education system lost its prestige. The education was rendered insignificant by the imperialists government because western education was placed above it and *Almajiri* and their teachers *(Mallams)* were left in hunger because their guardians were either dethroned, killed or changed ideology of leadership. This phenomenon compelled the teachers and pupils (*Almajiri*) to resort to begging (*Bara*) and menial jobs in order to survive. Yahaya (2004) added that the problem of Qur'anic schools started with the colonial invasion of the northern Nigeria, which led to the relegation of Islamic education to the background. This led to the gradual eroding of the Islamic educational system. Curriculum contents, teaching methods, teachers' qualification, infrastructure and administration have been compromised, therefore the Qur'anic schools has remained archaic.

The manner by which *Almajiri* education is pursued in Northern Nigeria raises alarm from different perspectives. The pupils and their teachers (*Mallans*) mostly appear untidy sending a message of poverty, hardship, child abuse and diseases. In the process of searching for food through begging (*Bara*) or menial jobs, the *Almajiri* endanger both their lives and health, mostly through exposure to rituals, bad gangs and street violence. Eventually after graduation this group of people is considered unskilled and therefore unemployable. Mostly their lives and families (dependents) continued in misery. Goodluck and Juliana (2017) stated that the Federal Government of Nigeria is making

attempts to integrate western education with Islamic education so as to transform the *Almajiris* to functional members of society. In order to improve enrolment of *Almajiris* in schools, the federal government has built ultramodern schools as well as declared free education across states where *Almajiris* exist.

Northern part of Nigeria is lagging behind compared to its counterpart in the south, this might be connected with low enrolment of pupils right from primary school, whereby a large number was enrolled into Qur'anic schools for *Almajirci* (i.e *Almajiri* education). Health survey data cited by Goodluck and Juliana (2017) revealed that parents/guardians in the south-south, south-east, and south-west Nigeria have the highest literacy rates of 74, 73 and 72 percent respectively. On contrary, the north-west has 39%, north-east 43.6% and north-central 59.5%. Reports from various educational departments indicated that the north suffers a serious decline in education. For example, in 2000 the six states with lowest number of applications in the university matriculation examination (UME) were from the north. These states had a combined total of 6729 applications or 1.45% of the national total (National Population Commision, In Goodluck and Juliana, 2017). Although the Jonathan's administration designed a programme under which a few *Almajiri* Model Boarding Schools were established by the Federal Government intervention, which was aimed at integrating conventional western education into Islamic education only turned out to that the programme did not properly address the problems of the Almajiri children. Less than five percent were captured by the federal government's programme, which was meant to remove the *Almajiri* off streets (Abaro, 2016).

In their struggle to live during Almajiranci, the children lost focus or direction regarding to their quest for knowledge. They search for money and food at all cost, sometimes led the Almajiris to die in violence, in the hand of ritualists, thugs, as well as killed by diseases and hunger. Those who make it, graduate their reading of Qur'an and become traders or traditional herbalists, those who could not make it are condemned to menial jobs because they have no skills.

Objectives of the Study

The objectives of the study are, to;

i.   examine the reasons why parents send their children to Almajiri Education in Sokoto state.
ii.   examine the reasons why Almajiri teachers (mallams) continue to move Almajiris out of their parents' domain for Qur'anic education in Sokoto state.
iii.   find out the problems encountered by Almajiris in the course of Almajiri Education in Sokoto state

Research Questions

The research questions of the study are;

i.   what are the reasons why parents sending their children to Almajiri school in Sokoto state?
ii.   what are the reasons why Almajiri Teacher (mallams) continue to move Almajiris out of their parents' domain for Almajiri Education in Sokoto state?

iii.   what are the problems encountered by Almajiris in the course of Qur'anic Education in Sokoto state?

Methodology

The study is purely qualitative using descriptive survey design. The number of population for the study cannot be ascertained but all parents of Almajiris, Almajiris and their teachers (mallams) in Sokoto state constitutes the study population. convenient or purposeful sampling was used for the study. Two local government areas were sampled to represent the state. They were Sokoto North and Yabo local government areas. To determine the number of schools to be selected for the study, each LGA has six Qur'anic schools, in each Qur'anic school one teacher (mallam), one Almajiri and one parent were selected. 18 respondents were selected from each LGA 36 respondents for the entire study. Stratified random sampling was used to select the respondents. Table 1 described the distribution of the sample size for the study;

Table 1:   Sample of the Study

S/N	L/ Govt.	Schools	Mallams	Almajiris	Parents	Total
1.	Sokoto North	6	6	6	6	18
2.	Yabo	6	6	6	6	18
		Total	**12**	**12**	**12**	**36**

The instrument used for data collection is structured interview i.e Almajiri Interview Guide for the Assessment of the Almajiri System of Education in Sokoto State (AIGAASESS), Mallam Interview Guide for the Assessment of the Almajiri System of Education in Sokoto State (MIGAASESS) and Parents of Almajiri Interview Guide for the Assessment of the Almajiri System of Education in Sokoto State (PAIGAASESS). The structured interview enabled the researchers to be focused and not to deviate from the stated research questions in the process of data collection. The instrument was validated by senior colleagues in the Faculty of Education Sokoto State University, Sokoto. The method for data collection for the study is face to face contact between the researchers (interviewers) and respondents (interviewees). The researchers met every respondent in his domain and interviewed him. The data collected was transcribed, coded and arranged according to themes and sub-themes with detailed explanation on each theme and sub-themes as revealed by the study.

Data Presentation and Analysis

The data collected from 36 respondents for the study was presented and analyzed under the following themes and sub-themes;

Almajiris' Parents and Almajiranci in Sokoto State

Almajiris' parents enjoyed certain benefits and advantages in sending their children for Almajiranci. These differ from individual to individual and community to community. The following sub-themes provided the detail expiations;

1.   Reasons Parents Send Children to Almajiri Qur'anic School in Sokoto State
Almajiri parents gave reasons behind sending their children to Almajiri Qur'anic schools in Sokoto state. Poverty is one of the reasons.

Table 1:   Reasons Parents Send Children to Almajiri Qur'anic School

S/N	Respondents	Reasons
1.	Resp.; 22, 36	Opportunity to educate their children.
	21, 30, 31, 34	Relief from responsibilities
	23, 32,	Warranted by condition
	24	Free charges made it easy for enrolment
2.	Resp.; 29,	Eye opener for the process of acquiring Islamic Education
3.	Resp.; 22, 33	Banditry makes both formal and Qur'anic Schools to close. We must send them for Almajiranci.

This shows that the major reason behind parents sending their children for Almajiranci is poverty. Other reasons include banditry and Almajiranci as foundation for seeking Islamic knowledge.

2.   Impact of Sending Children to Almajiri Qur'anic School

Parents of Almajirai highlighted certain impact attached to sending their children for Almajiranci. Some parents believed that children learned better at Almajiranci than at home.

Table 2:   Impact of Sending Children to Almajiri Qur'anic School

S/N	Respondents	Impact
1.	Resp. ;21, 32, 34,	Children pay more attention to learn at Almajiranci than at home.
	7, 29, 36,	Children do not pay attention at home
	24,	We need the progress of the children educationally.
	30,	It tradition in our family to send children for Almajiranci.
2.	Resp,; 23, 33	Relief from the present cost of living.
	35,	Almajiranci is the only option for our children education.
3.	Resp.; 31	Our children learn Qur'an and other aspects of religion like; purity, prayer, ablution, among others.

This shows that, children learned better at Almajiranci than at home it is also a relief to the cost of living and also as a source of Islamic knowledge.

3.   Subsidized Family Running cost

Parents were subsidized on family running cost when children are sent for Almajiranci.

Table 3:   Almajiranci and Family Running Cost

S/N	Respondents	Description
1.	Resp.; 21, 22, 30, 33, 34. 36, 31, 23, 24 & 29	Subsidized family running cost, therefore it is considered as relief on family expenditure.

This shows that, Parents were subsidized on family running cost when children are sent for Almajiranci while few parents believed in the destiny of the children's affairs not as their own making.

4.   Assistance of Almajiris during Almajiranci

Parents supposed to assist their children while away for learning, in the case of children on Almajiranci majority of the parents do not provide such assistance to their children but the children struggled to take care of themselves during Almajiranci.

Table 4:   Assistance of Almajiris during Almajiranci

S/N	Respondents	Description
1.	Resp.; 21, 31, 24, 30, 34, 33, 22, 32 & 23	No assistance used to be rendered to Almajiris by parents during Almajiranci.
2.	Resp.; 29 & 30, 35	Certain assistance used to be rendered by parents to Almajiris during Almajiranci.

This shows that, majority of the parents do not provide assistance to their children on Almajiranci only few parents provided such care.

5.   Almajiranci and Formal School

In this regard parents have divergent stance. Some have their children in Almajiranci and formal school, that is when at home during the rainy season they went formal school and during the dry seasons they left for Almajiranci. The second category are those who are completely out for Almajiranci without attending formal school.

Table 5:   Almajiranci and Formal School

S/N	Respondents	Description
1.	Resp,; 21, 22, 30, & 23	Children attend both formal school and Almajiranci. When at home during rainy season (formal school) and when it is dry season (Almajiranci).
2.	Resp.; 24, 29, 35, 34, 33, 32, 36 & 31	Children do not attend formal school.

This shows that, children on Almajiranci mostly do not attend formal school because even those who partially attend formal school do not take it serious because there was no consistency.

According to the study, the major reason behind parents sending their children for Almajiranci is poverty. Other reasons include banditry and Almajiranci as foundation for seeking Islamic knowledge. Parents also enjoy certain impact from Almajiranci they revealed that, children learned better at Almajiranci than at home, it is also a relief to the cost of living and also as a source of Islamic knowledge to their children. Parents were also subsidized on family running cost when children are sent out for Almajiranci while few parents believed in the destiny of the children's affairs not as their own making, as such is not a problem. Almajiri parents who mostly lived in poverty majority of them do not provide assistance to the children on Almajiranci only few parents provided such care. Lastly, children on Almajiranci mostly do not attend formal school because even those who partially attend formal school do not take it serious because there was no consistency.

Mallams and Almajiranci in Sokoto State

Mallams play central role in the continued existence of Almajiranci in Sokoto state and northern Nigeria in general. They enroll, teach and provide accommodation to Almajirai who left their home towns and villages for Islamic knowledge. The subsequent sub-themes provided detail explanation on this theme;

1. **Motivation of Mallams Towards the Establishment of Almajiri Qur'anic School**

A motive is a reason for doing something. Motivation is concerned with the strength and direction of behaviour and the factors that influence people to behave in certain ways. The term 'motivation' can refer variously to the goals individuals have, the ways in which individuals chose their goals and the ways in which others try to change their behaviour. Mallams must have motives for continuation of receiving children for Almajiranci which made the system to be what it is today.

Table 6:   Motivation of Mallams in the Establishment of Almajiri Qur'anic School

S/N	Respondents	Motivation
1.	Resp.; 1, 12,	Orientation and need for continuation.
	2, 9,	Inheritance and need for continuation of the school.
	6, 13, 18, 7, 20,	Seeking for God's blessings.
	16, 25,	Need for the school continuation.
	28.	Passion for teaching in Almajiri Qur'anic School.

This shows that mallams are motivated by searching for paradise and God's blessings, past efforts not to be in vain, Inherit The Work of their fathers, emulation of good mallam behaviour and passion for teaching.

2. **Impact of Almajiranci**

Mallams derived certain impacts from Almajiranci which make it difficult for them to surrender. They are seeking for knowledge and Almajiranci is the way through which Islamic knowledge is acquired and disseminated.

Table 7:   Impact of Almajiranci

S/N	Respondents	Impact
1.	Resp.; 1, 7,	Means for seeking Islamic knowledge
	16, 9, 12	Almajiranci triples learning at home.
	7,	Integration of Almajiri and formal education might have better impact.
	20, 6, 13, 25, 28.	Prophet Muhammad (PBUH) said one can go anywhere and learn.

Therefore, Almajiranci to mallams is considered as the way through which knowledge can be acquired and acquiring knowledge through Almajiranci is faster than learning at home.

3.   Benefits Derived in teaching Almajirai

Ideally, it is expected that mallams should derive certain benefits for taking much of their time teaching and controlling Almajirai under them.

Table 8:   Benefits of in teaching Almajirai

S/N	Respondents	Benefits
1.	Resp.; 5, 1, 18, 7, 6, 13, 20, 25, 9, 12, 28	Teaching for the sake of God. Teaching for the sake of God and sometimes parents presented gifts to mallams.
	2.	Working with some Almajirai in mallam's farm to produce food for mallam's family and Almajirai in the year round.

The respondents revealed that, there is no fix charges for Almajirai on Almajiranci but certain amount is paid in the name of *sadaqat* (gift), though it was reported that in some schools, weekly dues used to be paid. But in another way senior Almajiri were used to work in mallam's farm during the rainy season and the food would be use feed mallam;s family and the working Almajirai throughout the year including medication.

Mallams are motivated by searching for paradise and God's blessings, past efforts not to be in vain, inherit the work of their fathers, emulation of good mallam behaviour and passion for teaching. Therefore, Almajiranci to mallams is considered as the way through which knowledge can be acquired and acquiring knowledge through Almajiranci is faster than learning at home. The respondents revealed that, there is no fix charges for Almajirai on Almajiranci but certain amount is paid in the name of *sadaqat* (gift), though it was reported that in some schools, weekly dues used to be paid. But in another way senior Almajiri were used to work in mallam's farm during the rainy season and the food would be use to feed mallam;s family and the working Almajirai throughout the year including medication.

Problems Almajiris Encountered During Almajiranci

Almajiris left their home towns and villages to other places in search of Islamic knowledge, in that process of learning several problems are encountered. The problems were discussed in the following sub-themes;

1.   Age and Period spent in Almajiranci

The age range of Almajirai who responded to the study are mostly within the age of 7 to 22 years. For instance, respondent 4 stated that, I started Almajiranci with 7 years. Respondent 10 and 11 added that, they were 19 years old. Other respondents' ages; respondent 12 was 10 years old, resp. 14 has 7 years, resp. 15 has 22 years, resp. 26 has 11 years, resp. 27 was 13 years old. Only respondent 19 was found to be out of the range that is 37 years old. This shows that some Almajiris were sent out at tender age but majority of the respondents started at reasonable age.

The study further examined the period spent in Almajiranci. Respondent 4 stated that I have 13 years in Almajiranci. Respondent 10 added that I have 2 years in Almajiranci. Others are resp. 11 has 2years, resp. 12 has 11years, resp. 14 has 1 year, resp. 15 has 2 years, resp. 27 has 3 years. Only respondent 19 has 30 years because he started at the age of 7. The highest number of the respondents spent between 1 to 3 years in Almajiranci. Only few spent above 10 years.

2.   Problem of Feeding

Food is one of the basic necessities of life. Therefore, Almajirai cannot do without food during Almajiranci. The study examined the sources of food for Almajirai.

Table 9:   Problem of Feeding during Almajiranci

S/N	Respondents	Sources of Food
1.	Resp.; 4, 10, 27,	Food through begging and house work.
	14, 12, 7,	Food through begging.
	17, 11, 19,	Food from house masters.
	15. 26,	Work in fadama & firewood.
	3.	Working in mallam's farm.

Based on this study, the sources of Almajiris food are; begging, house work, fire wood, fadama work and some Almajiris worked in mallam's farm for their yearly consumption.

3.   Hazards and Accident

Almajiris are sometimes affected by hazards and accident during Almajiranci. For instance, respondent 3 narrated that, there are incidence of hazard that occurred to Almajiris presently in this school we have two Almajiris who are fractured, before is one but recently another one got his accident.

Table 10:   Hazards and Accident During Almajiranci

S/N	Respondents	Types of Hazards
1	Resp.; 3, 7,	There is incidence of fracture.
	14, 12,	Sickness.
	15, 26, 27, 17	Hurt legs in the bush.
	4, 10, 15, 19.	Could not recall hazard or inconvenience, it has come and go.

Based on this information, majority of the Almajirai fall victims of road accident, bush accident and sickness during Almajiranci. But for few Almajiris such hazards and inconvenience are no longer an issue.

4.   Embarrassment and Social Stigmatization

Begging, pleading for work and appearance in dirty cloth and body are the common features of many Almajirai. Those features do not exert respect from many people, as such Almajirai undergo different embarrassment and social stigmatization.

Table 11:   Embarrassment and Social Stigmatization

S/N	Respondents	Types of Embarrassment
1	Resp.; 4, 7, 3,	People harass Almajirai because of dirty.
	11, 12,	Shouting at Almajirai.
	17, 27,	Abusing Almajirai.
	14,	Attempt to beat Almajirai.
	15,	Lower price of goods and services from Almajirai.
	26,	Teasing the Almajirai.
	10, 19.	No embarrassment.

Almajiris faces Embarrassment and Social Stigmatization for instance, people do harass them, shout on them, abuse them, throw their bowls away and go, devaluation of their goods, pretend beating them and teased them.

5.   Sleeping and Learning Environment

Accommodation is another basic necessity of life. Almajirai who left their parents' home must find a place to sleep no matter the condition. They also required learning environment which is usually provided by the mallam. Mostly there are complains about the poor condition of the places.

Table 12:   Nature of Sleeping and Learning Environment

S/N	Respondents	Nature of the Environment
1	Resp.; 4, 17,	Unconducive sleeping and learning environment.
	10,	Congested sleeping and learning environment.
	7,	No definite sleeping environment.
	3, 11, 12, 14, 15, 19, 26, 27.	Learning and sleeping environment has no problem.

Based on the respondent views majority of their learning and sleeping environments are good and few of them admitted that it is not good.

6.   Sickness and Medication

Sickness and medication are inevitable in the human lives, Almajirai who are not directly under the care of their parents how do they manage their sickness and medication?

Table 13:   Sickness and Medication

S/N	Respondents	Sponsors of Treatment
1.	Resp.; 4, 19, 14, 26, 27, 17,	Almajiris used to pay for their treatment.
	7,	Community members do assist.
	3, 11, 12, 10,	Mallam is responsible for the treatment of Almajiris.
	15.	House masters do assist in the treatment.

Treatment of the Almajiris' sickness was a joint action, but main medication used to come from the Almajirai themselves, mallams, house masters and Members of the community do assist at lesser extent.

7.   Violence and Trouble Attack on Almajirai

Life in Almajiranci consist of different encounters including violence and trouble attacks.

Table 14:   Violence and Trouble Attack on Almajirai

S/N	Respondents	Sponsors of Treatment
1.	Resp.; 4, 14, 12, 7,	Escape area boys' attacks.
	3, 17,	Only sickness.
	15, 10, 11, 19, 26,	No violence or trouble during Almajiranci.
	27.	

Based on the data collected, Almajirai used to crossed trouble especially from area boys, others fall into severe sickness, while some were opportune not fall victims of such incidence.

Summary of the Major Findings

The major findings of the study are;

According to the study, the major reason behind parents sending their children for Almajiranci is poverty. Other reasons include banditry, and Almajiranci as foundation for seeking Islamic knowledge. Parents also enjoy certain impact from Almajiranci they revealed that, children learned better at Almajiranci than at home, it is also a relief to the cost of living and also as a source of Islamic knowledge to their children. Parents were also subsidized on family running cost when children are sent out for Almajiranci while few parents believed in the destiny of the children's affairs not as their own making, as such is not a problem. Almajiri parents who mostly lived in poverty majority of them do not provide assistance to the children on Almajiranci only few parents provided such care. Lastly, children on Almajiranci mostly do not attend formal school because even those who partially attend formal school do not take it serious because there was no consistency.

Mallams are motivated by searching for paradise and God's blessings, past efforts not to be in vain, inherit the work of their fathers, emulation of good mallam behaviour and passion for teaching. Therefore, Almajiranci to mallams is considered as the way through which knowledge can be acquired and acquiring knowledge through Almajiranci is faster than learning at home. The respondents revealed that, there is no fix charges for Almajirai on Almajiranci but certain amount is paid in the name of *sadaqat* (gift), though it was reported that in some schools, weekly dues used to be paid. But in another way senior Almajiri were used to work in mallam's farm during the rainy season and the food would be use to feed mallam;s family and the working Almajirai throughout the year including medication.

This shows that some Almajiris were sent out at tender age but majority of the respondents started at reasonable age. The highest number of the respondents spent between 1 to 3 years in Almajiranci. Only few spent above 10 years. Based on this study, the sources of Almajiris food are; begging, house work, fire wood, fadama work and some Almajiris worked in mallam's farm for their yearly consumption. Majority of the Almajirai fall victims of road accident, bush accident and sickness during Almajiranci. But for few Almajiris such hazards and inconvenience are no longer an issue. Almajiris

faces Embarrassment and Social Stigmatization for instance, people do harass them, shout on them, abuse them, throw their bowls away and go, devaluation of their goods, pretend beating them and teased them. Based on the respondent views majority of their learning and sleeping environments are good and few of them admitted that it is not good. Treatment of the Almajiris' sickness was a joint action, but main medication used to come from the Almajirai themselves, mallams, house masters and Members of the community do assist at lesser extent. Based on the data collected, Almajirai used to crossed trouble especially from area boys, others fall into severe sickness, while some were opportune not fall victims of such incidence.

Discussions

According to the study, the major reason behind parents sending their children for Almajiranci is poverty. Parents' poverty affects the choice of parents on where their children should learn. Any learning that involve spending money whatever the meager amount some parents cannot afford, that was the reason many parents send their children for Almajiranci which cost them nothing. According to Ali (2022) mallams usually take Almajiris away from their homes to distant places without any provision for their boarding, feeding and even clothing by their parents, where they end up resorting to begging to make ends meet. Other reasons include banditry, this situation made government to officially declared schools in high risk areas closed and people of the areas disperse to various places as refugees. Almajiranci was considered as foundation for seeking Islamic knowledge. To many parents Almajiranci was considered as the only way through which Islamic knowledge can be acquired, such parents have no any other option than Almajiranci.

Parents also enjoy certain impact from Almajiranci they revealed that, children learned better at Almajiranci than at home, parents believed that some children do not pay attention to learn better at home because of certain distractions at home which are not found outside their home towns. Mohammed and Yusuf (2015) supported the assertion, they described that, Almajiranci was also known where students study outside their home with a generally held belief that they will concentrate more in learning. It is also a relief to the cost of living and also as a source of Islamic knowledge to their children. Parents were also subsidized on family running cost when children are sent out for Almajiranci as such is not a problem. Almajiri parents who mostly lived in poverty majority of them do not provide assistance to the children on Almajiranci only few parents provided such care. Lastly, children on Almajiranci mostly do not attend formal school because even those who partially attend formal school do not take it serious because there was no consistency. Mohammed and Yusuf (2015) described that, many poor families sent out their wards to neighboring countries of the West African sub-region (Ghana, Chad, Niger, Mali, Cameroon, Nigeria, and Senegal) to acquire this type of education without any recourse to the implications to security, economy and social problems (ECOWAS in Mohammed and Yusuf, 2015)

The study reveals that, mallams are motivated by searching for paradise and God's blessings, many mallams were on teaching for the sake God in order to get His blessings. This was supported by Abdulazeez and Musa (2015) who described that, those who were operating Almajiri Education Programme during its heyday were doing so in response to the clarion call made by the Prophet that "the best amongst you are those who learn the Qur'an and teach it to others. This assertion by the Prophet (PBUH) attracted many

mallams into the teaching of Almajirai. Though this was challenge by some scholars considering greediness level of the present day mallams. Past efforts not to be in vain, some mallams continued as mallam in order to uphold the existence of the schools. Inherit the work of their fathers, emulation of good mallam behaviour and passion for teaching. Therefore, Almajiranci to mallams is considered as the way through which knowledge can be acquired and acquiring knowledge through Almajiranci is faster than learning at home.

The respondents revealed that, there is no fix charges for Almajirai on Almajiranci but certain amount is paid in the name of *sadaqat* (gift) because even the mallams have the own family to take care and the present society has no care over their affairs, Hilda and Ibrahim (2014) observed that, to make ends meet, some of these mallams began to impose on the Almajiris what is called "kudin sati", weekly fees for the lessons they derived. This in contrary to the findings of Abdulazeez and Musa (2015) who explained that, sadly enough, majority of those operating the system today lack prudence. They want to live flamboyantly at the expense of their pupils and the society. The departure of the A*lmajiri* operators from the traditional life of dedication to their calling to a life of greed and over-ambitiousness. But in another way senior Almajiri were used to work in mallam's farm during the rainy season and the food would be used to feed mallam's family and the working Almajirai throughout the year including medication. This is in contrary with Sulaiman (1996) who stated that, Almajiris are exploited by their mallams, which include going to farm, fetching water for his domestic use, collecting fire wood and sometimes bringing even part of what they get from begging. The present study reveals that the Almajiris were paid in return of those services by feeding them and medication from what was obtained from the farm without going out to beg for food.

The study reveals that, some Almajiris were sent out at tender age but majority of the respondents started at reasonable age. The highest number of the respondents spent between 1 to 3 years in Almajiranci. The issue of sending under aged children for Almajiranci is a source of concern by the public, Ali (2022) lamented that the current situation was worrisome because not only adult members of the population engaged in such acts, but even the under aged children. Only few spent above 10 years. BBC (2022) reported that, the Almajirai-based schools admit children as young as five, and they are expected to give their teachers the token sum of 100 naira ($0.13) every Wednesday the last day of the week in Islamic schooling. Based on this study, the sources of Almajiris food are; begging, house work, fire wood, fadama work and some Almajiris worked in mallam's farm for their yearly consumption. The various sources of Almajiris' food indicated that, nowadays Almajiris began to have alternative sources of food other than begging. It also indicated that the age long tradition in Almajiranci can drastically change. Majority of the Almajirai fall victims of road accident, bush accident and sickness during Almajiranci. The struggle by Almajiris to survive during Almajiranci made them to fall into various accidents. Almajiris faces Embarrassment and Social Stigmatization for instance, people do harass them, shout on them, abuse them, throw their bowls away and go, devaluation of their goods, pretend beating them and teased them.   Based on the respondent views majority of their learning and sleeping environments are good and few of them admitted that it is not good. Babagana, Idrisu, Ndagi, Danjuma and Kuchi (2018) observed that Almajiris are children living under horrific conditions. Treatment of the Almajiris' sickness was a joint action, but main medication used to come from the Almajirai themselves, mallams, house masters and Members of the community do assist at lesser extent. Based on the data collected, Almajirai used to crossed trouble especially

from area boys, Babagana et al (2018) described that, the Almajiris come across various kinds of dangerous juvenile and adolescent peer. Others fall into severe sickness, while some were opportune not fall victims of such incidence. Babagana et al (2018) asserted that, most Almajiris withdraw due to hardship that is encounter during the training, they have not only become a source of concern to Islam and their parents but the society at large.

Conclusion

The situation of Almajiranci in Sokoto state concerns parents of Almajiris, mallams and Almajiris themselves, these three remain the major actors in Almajiranci in Sokoto state. Reasons and impacts were identified by parents regarding their continuation of sending their wards for Almajiranci. Some of the reasons include poverty, children learn better at Almajiranci, parents were subsidized on family responsibilities. Mallams on the other hand were mostly teaching because God with the anticipation to be rewarded by God. Other reason includes, the need to maintain the schools after their predecessors, passion in teaching Islamic knowledge. Almajirai have different means of getting their food, in the process of Almajiranci, Almajirai got different accidents, they also used to cross trouble and violence they face Embarrassment and Social Stigmatization. Therefore, collective effort is required to make Almajiranci better, restructure it or proscribe it in Nigeria so that alternative Qur'anic schools and Islamiyya schools can be use.

Recommendations

The study therefore recommends the following;

1. Sokoto state government should consider the process of formalizing Almajiri Qur'anic Schools in the state. This would give it a full control and good knowledge of the activities going on in the schools. The government should introduce a scheme named Poverty Reduction for Rural Areas (PORRA) the programme should target only rural dwellers who are in poverty. Alternatively, government or non-governmental organization can engage in sensitization and material support to rural dwellers on dry season farming so that people are engaged all year round. All interventions should be carried out with full sincerity and political will.

2. Government and Muslim philanthropists should assist to ensure most villages in the state have functional Qur'anic Schools or Islamiyya where children of the village can stay at home and learn Holy Qur'an. This can be a replication of the then Governor Bafarawa Administration in Sokoto state, where he built Juma'at Mosques in most of the towns and villages in Sokoto state. The Qur'anic school teachers should enjoy monthly allowances that can hold them and stay at home for the whole year round. In the appointment of the mallam or teachers in the established school consider those who have the history of such school in their families or those with passion in teaching Islamic knowledge.

3. Parents should fear God not send their children to Almajiranci at tender age and mallam should also fear God not to admit children at tender age, at least 10 to 12 years should be the minimum years of entry into Almajiri Qur'anic School. Preferably, parents should consider the trouble and hardship undergone by their children during Almajiranci and allow them to learn at home so that they can at

the same time enroll them into formal school without disruption and watch the growth of their morality at formation stage.

References

Abaro, H. (27TH March, 2016). The Almajiri: Abused, neglected. The guardian newspaper.

Abdulazeez B. S. & Musa A. O. (2015). Situations of the *Al-Majiri* System of Education in Contemporary Nigeria: Matters Arising. *Ilorin Journal of Religious Studies, (IJOURELS),* **5** (2): 37-46 37

Abdulqadir, I.A. (2003). The Almajiri system of education in Nigeria today. Paper presented at 21 convocation ceremony of BUK kano.

Ali, M. (26th Dec. 2022). Almajiri should be banned, commission not needed. Punch Newspaper, retrieved from; https://punchng.com/almajiri-should-be-banned-commission-not-needed-group/

Babagana, M; Idris, U.S.B; Ndagi, M; Danjuma A. M & Kuchi, A. M. (2018). Assessment of Almajiri System of Education: It's Implication for Child, Family and National Development in Minna Metropolis, Niger State, Nigeria. *Research on Humanities and Social Sciences* www.iiste.org ISSN 2224-5766. **8** (4): 8-13

Babangida. I. (1993). Comparative studies between Traditional Quranic schools and modern Quranic schools in Katsina state. Unpublished thesis submitted to Department of Islamic Education Ahmadu Bello University, Zaria.

BBC (16th May, 2022). Coronavirus in Nigeria: The child beggars at the heart of the outbreak. Retrieved from; https://www.bbc.com/news/world-africa-52617551

Christian, P. (2010). "Nigeria's Almajiri Children Learning a Life of Poverty and Violence,"
http://edition.cnn.com/2010/WORLD/africa/01/07/nigeria.children.radicalization/ (Retrieved on January, 18, 2020)

Dairo, A.M. (1999) Empowering Women Through Employment for Sustainable Livelihood. *Journal of Women in College of Education* **3** (1).

Danbuzu (2012, June 9). Origin of Almajiri Education System – Dialog NG.*Danbuzu*.Retrievedfromhttps://danbuzu.wordpress.com/2012/06/09/originof-almajiri education-system-dialog-3/.

Fafunwa, A.B. (1992). *History of Education in Nigeria*, New edition. London: George Allen and Unwin Ltd. /IPS Educational Publications

Garba, I. (1996). Qur'anic Schools and their roles in U.P.E scheme in Gumel, Jigawa State. Unpublished thesis submitted to Department of Islamic Education Ahmadu Bello University, Zaria.

Gomment, T.I. & Esomchi, O.S. (2017). Nigeria: Breeding future terrorists. A case study of Almajiri of northern Nigeria and Islamic militia. *Journal of conflict studiesquarterly.* (18): 80-92.

Goodluck, I.I. & Juliana,j.i.(2017). Provision of formal education to Almajiris: theroles of libraries. *European scientific journal* (8) 15:97-108.

Hilda, I. O. & Ibrahim, M. A. (2014). Contemporary Issues in Nomadic, Minority and Almajiri Education, Problems and Prospects. Journal of Education and Practice, **5** (24).

Hubpages (2014). The Concept of Education. Retrieved October 18th, 2014 from http://en.wikipedia. Org/wiki/education

Kabir, G. (2002). Almajiri school system, 4th edition. Ibadan, hills publication limited.

Kano State Government (2012). Report of Kano State Committee on Almajiris

Mahuta, M. G. (2007). *An Introduction to Sociological Foundation of Education.* Sokoto But-bass Educational Book Publishers.

Mohammed, I. & Yusuf, (2015). The Almajiri educational system: origin, dynamics and challenges. *Taraba Journal of Political Science and International Relations*. **2** (1&2): 1-12

Njoku**,** G. **(**2020**).** Children Adjust to Life outside Nigeria's Almajiri System. UNICEF Nigeria**.**

Salis, T. (1995). Impact of Islamic Education in Kano Metropolitan Nursery school on Muslim Children. Unpublished thesis submitted to Department of Islamic Education Ahmadu Bello University, Zaria.

Sarkingobir, Y; Sahabi, M; Saadu, A; Bello, M. M & Bakwai, M.S. (2019). Assessment of Food Insecurity among Almajiri in Sokoto Metropolis and Selected Environs (Gwadabawa And Kware), Sokoto State, Nigeria. DOI: https://dx.doi.org/10.4314/jasem.v23i9.3

Sulaiman, J. (1996). Health impact of street beggers. J. Med. Food 10(4):70-87.

Sule, M. (1994). Situation of Almajiri in Nigeria. *Res. J. Educ*. **4** (10): 23-30

Teke, A. M., Katami, N. A. & Khalid, M. (2019). Assessment of the Integration of *Almajiri* Education to the Main Stream Nigerian Education System in North West Geo-Political Zone. Lambert Academic Publishing, Germany.

Yahaya, (2004). The Almajirai and the right of the child to education towards sustainable Development: education for sustainable Development in Nigeria, A book of readings vol.1 minna: Niger state college of education.

Yakubu T. M. (2017). The Almajiri Palaver in Northern Nigeria: How Islamic? *Saudi Journal of Humanities and Social Sciences* ISSN Dubai, United Arab Emirates Website: http://scholarsmepub.com/

Yusuf. M, A, (2020). Almajiri System of Education and Radical Islamism in Northern Nigeria: Interrogation of the Issues. Available at SSRN: https://ssrn.com/abstract=3609722 or http://dx.doi.org/10.2139/ssrn.3609722

APPENDIX A

Almajiri Interview Guide for the Assessment of the Almajiri System of Education in Sokoto State (AIGAASESS)

The following guide were used for the conduct of the interview;

How old are you? For how long are you in Almajiranci?
How do you feed?
Do you face any hazards or inconvenience during begging? If yes explain how?
Do you use to face any embarrassment or social stigma during begging? If yes, how?
Are you comfortable with your learning and sleeping environment? If no explain the condition.
How do you take treatment during ailment?
Do you escape any violence or trouble attack as an Almajiri? If yes give narration.
Is there anything you observed as going wrong in the Almajiri system of education in Sokoto state? If yes, give narration.
Apart from sending children for Almajiranci, what do you think is the best way of seeking Islamic knowledge?
What do you consider as way forward for effective Almajiri education or seeking Islamic knowledge?

Mallams' Interview Guide for the Assessment of the Almajiri System of Education in Sokoto State (MIGAASESS)

The following guide were used for the conduct of the interview;

For how long are you a teacher (mallam) in Almajiri Qur'anic school?
By estimate how many pupils (Almajirai) do you have?
How do you gather or enrolled the pupils in your school?
Do you stay in one place (town) or move from place to place? If you do give reasons for that.
Do you inherit the school from your father or you established it by yourself?
What have motivated you to continue/establish the Qur'anic Almajiri school?
Is Almajirci the best way of seeking Islamic knowledge? If yes explain.
Do you enjoy any benefit for being a mallam?
Is there anything you observed as going wrong in the Almajiri system of education in Sokoto state? If yes, give narration.
How do you think stakeholders can have alternative to Almajiri education in Sokoto state, so that children can stay with their parents for proper upbringing?
What do you consider as way forward for effective Almajiri education or seeking Islamic knowledge?

Almajiri Parents' Interview Guide for the Assessment of the Almajiri System of Education in Sokoto State (APIGAASESS)

The following guide were used for the conduct of the interview;

How many children do you have in Almajirci?

For how long has/have he/they been in the system?

Do the children attend formal school?

What are the best ideas behind sending the children to Almajirci?

Does the absence of the children subsidize your responsibilities as a household?

Do you support the children with any provision that will take care of them while leaving your home for Almajirci?

Is sending children for Almajirci more religious than other means of acquiring Islamic knowledge?

Is there anything you observed as going wrong in the Almajiri system of education in Sokoto state? If yes, give narration.

How do you think stakeholders can have alternative to Almajiri education in Sokoto state, so that children can stay with their parents for proper upbringing?

What do you consider as way forward for effective Almajiri education or seeking Islamic knowledge?

APPENDIX B

Numerical Identity of the Respondents

S/N	Parents of Almajiris	Mallams	Almajiris
1.	21	1	3
2.	22	2	4
3.	23	5	7
4.	24	6	10
5.	29	8	11
6.	30	9	12
7.	31	13	14
8.	32	16	15
9.	33	18	17
10.	34	20	19
11.	35	25	26
12.	36	28	27
TOTAL	**12**	**12**	**12**

QUALITY ASSURANCE AND STUDENTS' ACADEMIC PERFORMANCE IN NORTH WESTERN STATE UNIVERSITIES IN NIGERIA

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Abstract

This study examined the perspectives on quality assurance and students' academic performance in North Western State Universities in Nigeria. It is essentially a pilot study and the problematic of the study focused on such research objectives as to assess the impact of quality assurance on students' academic performance in the Universities under study; to ascertain the influence of students' enrolment on students' academic performance as well as examine the effect of physical facilities on students' academic performance in North Western States Universities in Nigeria. Employing General Systems Theory, the study adopts survey research method of an ex post facto type to elicit data from respondents using structured questionnaire, unstructured oral interviews and focus group discussions (FGDs) as research instruments which were complemented by a review of extant body of literature on quality assurance. The major findings of the pilot study revealed that quality assurance has direct stimulating impacts on students' academic performance in North Western States Universities in Nigeria and that specifically, it has negative impacts on students' academic performance in North Western States Universities in Nigeria as it significantly depressed students' academic performance in the Universities under study. More so, the work finds that students' enrolment has direct significant influence on students' academic performance in the state's universities in North Western Nigeria. Moderate Students' enrolment is found to promote students' academic performance in North Western States Universities in Nigeria as high level of Students' enrolment negatively affects students' academic performance in the Universities. Consequently, it was also found that physical facilities have no significant effects on students' quality academic performance in North Western States Universities in Nigeria as the facilities have not stimulated students' quality academic performance nor have serious bearing on students' academic performance in North Western States Universities. The results further imply that there are no good physical facilities to improve students' academic performance in North Western States Universities in Nigeria. The paper recommends that quality assurance activities should be reorganized and redesigned to have positive impacts on students' academic performance in North Western States Universities in Nigeria. Moderate Students' enrolment should be encouraged to promote students' academic performance in North Western States Universities in Nigeria as high level of Students' enrolment negatively affects students' academic performance in the Universities. Universities in the areas under study and beyond should improve on physical facilities to have significant effects on students' quality academic performance in North Western States Universities in Nigeria.

Keywords: Quality Assurance, Students, Academic performance, State Universities, North West Nigeria.

Introduction

The main aim of establishing university education in any country is to ensure the effective teaching, learning and research works take place in a serene environment. It is aimed at equipping the students with appropriate skills required for human capital development (Nzokurun and Agala, 2019). Effective learning and research play very pivotal and polar role in the overall development of individuals and the entire society. (Eriaga, 2013).Where the satisfying stimuli are lacking, teaching, learning and research activities pose a big challenge. Nzokurun and Agala (2019) have alleged that lack of stimuli in the teaching; learning and research environment have significantly affected universities in Nigeria.

Eriaga (2013) argues that lecturing facilities are grossly inadequate in most of our universities, and that such few facilities are not even conducive in most cases; teaching staff are too few and are overloaded. Outstanding graduates are not retained, but ill-equipped graduates are employed. Yet the number of both undergraduate and post graduate admissions keeps on increasing. The universities in Nigeria are plagued with several quality assurance problems. In universities, quality assurance is measured based on the quality, skills and performances of the graduates that are produced from the system. It is also measured in terms of academic performances in various internal and external examinations by the students'. It is also measured at job placement interviews, performances on the job among others. In addition, there is a minimum standard for university students' performance in the world. It is expected that graduates all over the world meet up with the minimum threshold. This means that the university system has to establish standards that will turn out graduates who will meet up with the needs of the society (Obadara and Alake, 2013).

This paper examines the perspectives on quality assurance and students' academic performance in North Western States Universities in Nigeria. The study is based on such specific research questions as what is the impact of quality assurance on students' academic performance in North Western States Universities in Nigeria?, What is the influence of students' enrolment on students' academic performance in North Western States Universities in Nigeria?, What is the effect of physical facilities on students' academic performance in North Western States Universities in Nigeria?. It is on record that most Nigerian well intended programmes and projects failed due to lack of proper implementation. Many Scholars acknowledged these facts and concluded that Nigerians can recognize need areas, but find it very difficult to adequately provide for the need, resulting to poor implementation. Nigerians are in addition know to be very good critics of project and programmes, but not very good at proffering solutions to the problems. As a matter of fact, the National University Commission (NUC) that was established to ensure quality education in the Nigerian universities is appeared to be failing in its responsibility, as can be seeing from the graduates from the universities and the continuous public outcry concerning the poor quality of the Nigerian university graduates.

Review of Related Literature

Quality assurance has been defined as a process centered approach for certifying organizational needs of providing the best possible products and services for their customers. It is a process that focuses on enhancing and maintaining the appropriate procedures, that are used to create the desired results, rather than focusing on the results itself (Ranson-Yusuf in Asiyai, (2013). However, Kisilowska (2002) defined quality assurance in universities, as the capability of the university to meet the expectations of the users of human capital regarding the quality of skills imparted in their graduates. Kis (2005) sees quality assurance in university system as composing of three distinct related concepts: accreditation, assessment and audit. Both accreditation and assessment are concerned with monitoring the quality of teaching, learning and research works. However, audit is primarily concerned with internal monitoring of the educational programmes with the aim of ensuring that the target and set basic standard is not only attained but maintained.

Obtaining an accreditation means obtaining a permission to mount certain programmes of study in the university. The result of an accreditation is either a yes or no answer (Dill,

2000). The authority in charge of accrediting universities and their progrmmes in Nigeria is the Nigerian Universities Commission (NUC). Adeyemi and Adeyemi (2020) have explored the impact of Quality Assurance on Students Performance in senior secondary school examination, using Ilesa West Local Government Area Osun State, Nigeria. A Sample of 250 randomly selected teachers from secondary schools was applied. The study uses descriptive survey research design. The study uses likert rating scale with 4 grading system A-D. The result shows that out of eleven (11) quality assurance areas, the respondents were only aware of three (3). The three (3) areas the respondents were aware of oneself classroom environment, school's mission, and monitoring of student's successes. The study establishes that Quality Assurance improves student's performance.

Ajibade and Ajibade (2020) study the impact of Quality Assurance based on Monitoring and evaluation on student's academic performance in Ondo State. The study uses purposive sampling method. The samples composed of 300 senior secondary school two (2) students and twenty (20) schools teachers and administrators. The result shows that Quality Assurance through monitoring and evaluation improves student's performance. It moves the state performance to 33rd position in 2009 to the 7th position in 2016 in West African Certificate examination (WAEC). Philemon (2020) has evaluated the contribution of Quality Assurance and Control on Student's Academic Performance in state owned Secondary Schools Missenyi District, Kagera, Region, Tanzania. The study was guided using three theories: the institutional theory, Labour market theory and scientific management theory. The sampling method was based on simple random sampling, with one hundred and thirteen (113) participants. The results show that Quality Assurance does not significantly impact on student's academic performance. The reasons given are: in-adequate funds, transportation and communication problems. There were also in-adequate human resources used in the implementation of quality assurance. Kagochi, Kimosop and Mbugua (2019) have evaluated the impact of internal Quality Assurance practices on Student's Academic performance in Secondary schools using Nyeri County, Tanzania. The study employs descriptive survey design. The sample of the study was targeted at 1004 respondents. The study uses purposive sampling method. The result shows that Quality assurance practices have significantly impacted on student's academic performance. Mwinyipembe and Orodho (2014) have studied the effectiveness of Quality and standard officer's supervisory roles on academic performance in national examination in Nakuru District, Kenya. The study has four objectives to find out: Level of training of quality assurance standard officers before employment, access the factors affecting the quality of school's Standard assessment, find out teachers' perception towards the usefulness of Quality Assurance standard officers, establish the effectiveness of Quality Assurance standard officer's assessment reports and their impact on student's performance in national examination. The study uses descriptive survey research design. The study uses a random sampling design to select 46 schools and 82 teachers, out of 818 teachers. The Quality Assurance standard officer's reports have significantly impacted on student's academic performance.

Kagochi, Kimosop and Mbugua(2019) evaluated the influence of internal Quality Assurance practices carried out by principals on students' academic performance in secondary schools in Nyericounty. The study was guided by supervisory-matrix centered theory by Frawley-O. Dea and Sarnat. The study employed the descriptive survey research design and it targeted 1004 respondents, comprising 56 principals, 944 teachers and (4) four sub-county Quality Assurance officers (SQASOS). A sample of 18 principals, 290 teachers and two (2) SQASOS were drawn. Purposive sampling method

was used to select principals and SQUASOS, while stratified random sampling was used to sample teachers according to their administrative duties. Questionnaire and interview schedule was used to collect data. Validation of the research instruments was done by experts view from the supervisor and others. A pilot study was conducted in two schools outside Kieni constituency, which produced a Cronbach Alpha coefficient of 0.82. the study find out that the practice of examining professional documents, such as scheme of work, lesson plans, and records of work, lesson notes and lesson attendance registers were related to the academic performance of the students. That the more frequently the practice is carried out, the better the academic outcomes of the learners. That prudent management of teaching/learning resources, such as libraries, ICT equipment, science laboratories as well as sporting equipment, by the school administration to ensure adequate supply and maximal utilization was found to be closely related to the academic performance of the students. That the frequency at which the principals gave feedbacks to the teachers on the internal quality assurance activities was found to correlate to the academic performance of the students. The frequency at which the principals review and monitor the coverage of the syllabus was found to be linked to the academic performance of the students. The principals' who closely monitor the extent and depth of coverage of the syllabus was found to enhance better academic performance by students in their schools.

Bassey, Owan and Agunwa (2019) have assessed the Quality Assurance practices and students' performance evaluation in universities of South-South Nigeria, using SEM approach. Three (3) null hypotheses guided the study. The study used factorial research design, using stratified random sampling technique. A sample of 878 academic staff was drawn from sampling frame of 15 universities in South-South Nigeria. Quality Assurance practices student's performance evaluation scale (QAPSPES) with split half reliability estimates ranging from 86-92 was used as the instruments for data collection. Multiple regression and confirmatory factor analysis (CFA) were used for the analysis of data, model building, and testing of hypothesis at 0.5 alpha level. The findings show a significant composite and relative influence of school management, staff and student Quality Assurance practice or students' performance evaluation. The result also indicated that they were positive and significant covariances between the four variables of the study.

Theoretical Framework of Analysis

This study employs general system's theory to analyze the perspectives on quality assurance and student's academic performance in Nigerian universities. Systems Models are almost always normative, meaning that they say how the system or an organization should behave if it were to follow the model for success. Systems theory comes from the general systems theory propounded by the Biologist, Ludwig Von Bertalanffy, who recognized a compelling need for a unified and disciplined inquiry in understanding and dealing with increasing complexities that are beyond the competence of any single discipline. The systems theory, therefore, investigates the competence of a phenomenon so as to understand the interaction between or among the component parts and the relationship of the component parts to their larger environment.

Implicitly, the general system's theory relates to the issues of quality assurance and students' academic performance in North-Western state universities in Nigeria in a variety of ways to include the fact that the standard of quality assurance in North-Western state universities in Nigeria in the areas of accreditation of academic programmes,

physical facilities for teaching and learning, admission quota, students' enrolment and academic staff qualification are the component parts that relate to the standard of students' academic performance in North-Western state universities in Nigeria. The relationship between accreditation of academic programmes and students' academic performance, the relationship between physical facilities for teaching and learning and students' academic performance, admission quota and students' academic performance, students' enrolment and their academic performance, academic staff qualification and students' academic performance in North-Western state universities in Nigeria all form part of the necessary requirements for enhanced quality assurance in the university system which makes for the significance of systems theory in this research.

The implication and relevance of systems theory to this study is that no system or individual would do everything alone and become self-sufficient in life. In this case, no system of education would be perfect on its own without necessarily depending on some internal and external expertise for perfection and improvement, in order to accomplish to the set goals. By implication, therefore, quality assurance can improve student's academic performance. Quality assurance is designed and made to improve students' performance in order to achieve the desired goals of setting up like universities.

Materials and Methods of the Study

This pilot study was conducted in State Universities in North-Western Nigeria. The population of the study consists of 3282 academic staff of the states owned Universities in North West Nigeria which include Kaduna State University, Kaduna; Kano State University of Science and Technology, Wudil; Umar Musa Yar'Adua University, Katsina; Zamfara State University, Gusau; Sokoto State University, Sokoto; and Sule-Lamido University, Kafin Hausa. Using Morgan and Krejcie (1970) table for sample selection, a sample of 381 was selected from the population of 3282. About 381 copies of the questionnaires were administered while only 375 copies returned for analysis as shown on the tables that follow in the analysis. Thus, the study has applied questionnaire method to collect the data needed for the research work as data collected were analyzed using frequency counts and Likert scale analytical methods. The mode of presentation is thematic in nature. In this regard, relevant issues are systematically considered under selected themes and sub-themes designed to address declared objectives of the paper.

Results and Discussions on Quality Assurance and Students' quality of Academic Performance in North Western States Universities in Nigeria

In this section, efforts are made to analyze results of the pilot study and discussions on quality assurance and students' academic performance in North Western States Universities in Nigeria. The tables that follow are drawn in line with the research questions and hence the declared objectives of this paper:

Table 1: **The impact of quality assurance on students' academic quality performance in North Western States Universities in Nigeria**

S/N	impact of quality assurance on students' academic performance in North Western States Universities in Nigeria	Rating					TWV	IQAI
		1	2	3	4	5		
1.	Quality assurance has direct stimulating impacts on students' academic performance in North Western States Universities in Nigeria	54	47	77	100	93	1, 244	3.4
2.	Quality assurance has negative impacts on students' academic performance in North Western States Universities in Nigeria	48	62	55	104	102	1, 251	3.4
3.	Quality assurance has significantly depressed students' academic performance in North Western States Universities in Nigeria	56	57	80	87	91	1, 213	3.3
4.	All of the above	49	45	49	118	110	1, 308	3.5
5.	None of the above	95	93	76	56	51	988	2.7
	AIQAI = ∑ANCI / 5	AIQAI = 16.3 / 5 = 3.3						

Source: Pilot Study, 2022

As shown on Table 1, the respondents were asked to express their opinion on the things that constitute the impact of quality assurance on students' academic performance in North Western States Universities in Nigeria. The Likert Scale of strongly agree, agree, undecided, disagree and strongly disagree were employed with the weight value of 5,4,3,2, and 1 accordingly. The Average Impact of Quality Assurance Index (AIQAI) was found to be 3.3 while the opinions of the respondents on the impact of quality assurance on students 'academic performance, indicate that quality assurance has direct stimulating impacts on students' academic performance, (IQAI=3.4) and that specifically, quality assurance has negative impacts on students' academic performance (IQAI=3.4). The results further show that quality assurance has significantly depressed students' academic performance in the Universities under study (IQAI=3.3). This implies that quality assurance has direct stimulating impacts on students' academic performance in North Western States Universities in Nigeria and that specifically, it has negative impacts on students' academic performance, which significantly depressed students' academic performance in the Universities under study.

Table 2: **The influence of students' enrolment on students' quality of academic performance in North Western States Universities in Nigeria**

S/N	influence of students' enrolment on students' academic performance in North Western States Universities in Nigeria	Rating					TWV	ISENI
		1	2	3	4	5		
1.	Students' enrolment has direct significant influence on students' academic performance in North Western States Universities in Nigeria	53	50	84	90	94	1,235	3.3
2.	Moderate Students' enrolment promote students' academic performance in North Western States Universities in Nigeria	50	50	47	109	115	1,302	3.5
3.	High level of Students' enrolment negatively affects students' academic performance in North Western States Universities in Nigeria	74	64	50	91	92	1, 176	3.2
4.	All of the above	58	55	69	93	96	1, 227	3.3
5.	None of the above	97	93	75	58	48	980	2.6
	AISENI = $\frac{\sum \text{AISENI}}{5}$	AISENI = $\frac{15.6}{5}$ = 3.1						

Source: Pilot Study, 2022

Table 2 shows how the respondents were asked to express their opinion on the influence of students' enrolment on students' academic performance. The Likert Scale of strongly agree, agree, undecided, disagree and strongly disagree were employed, with the weight value of 5,4,3,2, and 1 assigned. The Average Influence of Students' Enrolment Index (AISENI) was found to be 3.1 while the opinions of the respondents on the influence of students' enrolment on students' academic performance, indicate that students' enrolment has direct significant influence on students' academic performance , (ISENI=3.3). Moderate students' enrolment promote students' academic performance, (ISENI =3.5) as high level of students' enrolment negatively affects students' academic performance in the universities (ISENI = 3.2). The implication of the foregoing findings on the influence of students' enrolment on students' academic performance in North Western States Universities in Nigeria is that Students' enrolment has direct significant influence on students' academic performance. Moderate students' enrolment is found to have promoted students' academic performance, as high level of students' enrolment negatively affects students' academic performance in the Universities.

Table 3: The effects of physical facilities on students' quality academic performance in North Western State Universities in Nigeria

S/N	effects of physical facilities on students' quality academic performance in North Western States Universities in Nigeria	Rating					TWV	EPFI
		1	2	3	4	5		
1.	No idea	97	107	60	52	55	974	2.6
2.	Not interested to comment on University education in Nigeria	101	111	60	50	49	948	2.6
3.	Physical facilities have not stimulated students' quality academic performance in North Western States Universities in Nigeria	55	50	51	106	109	1, 277	3.4
4.	Available physical facilities have no serious bearing on students' academic performance in North Western States Universities in Nigeria	52	50	57	111	101	1,272	3.4
5.	There are no good physical facilities to improve students' academic performance in North Western States Universities in Nigeria	50	50	56	110	105	1,283	3.5
	$AEPFI = \dfrac{\sum AEPFI}{5}$	$AEPFI = \dfrac{15.5}{5} = 3.1$						

Source: Pilot Study, 2022

As indicated on table 3, likert Scale of strongly agree, agree, undecided, disagree and strongly disagree were employed with the weight value of 5,4,3,2, and 1 assigned. The respondents were asked to express their opinion on the effect of physical facilities on students' quality academic performance in North Western States Universities in Nigeria. The Average Effects of Physical Facilities Index (AEPFI) is found to be 3.1 while the opinions of the respondents on the effects of physical facilities on students' quality academic performance, indicate respondents had no idea to be insignificant (EPFI = 2.6) as others who equally had no interest to comment on the issue were with an index of EPFI= 2.6. Incidentally, most of the respondents argued that physical facilities have not stimulated students' quality academic performance in North Western states universities in Nigeria (EPFI = 3.4); available physical facilities also have no serious bearing on students' academic performance, (EPFI = 3.4) and that there are no good physical facilities to improve students' academic performance. (EPFI = 3.5). This implies that physical facilities have no significant effects on students' quality academic performance in universities studied, as the facilities have not stimulated students' quality academic performance nor have serious bearing on students' academic performance. The results

further imply that there are no good physical facilities to improve students' academic performance in North Western States Universities in Nigeria.

Conclusion

Based on the result of the analysis and findings, the study drew the following conclusions:

1. The study established that quality assurance has not significantly contributed to students' academic performances in the North-Western state universities.
2. The study also established that students' enrolment significantly promote students' academic performance in the North -Western state universities studied.
3. Staff qualification has significant impact on students' academic performance in the universities studied.
4. Physical facilities have no significant effect on students' academic performance in the universities that were studied.

Recommendations

1. The paper recommends that quality assurance activities should be reorganized and redesigned to have positive impacts on students' academic performance in North Western State Universities in Nigeria.
2. Moderate Students' enrolment should be encouraged to promote students' academic performance in North Western States Universities in Nigeria as high level of Students' enrolment negatively affects students' academic performance in the Universities.

References

Adeyemi, S. B. & Adeyemi, O. O. (2020). Teachers' perception of implementation of Quality Assurance on Senior Secondary School Students' Academic Performance in Ilesa West local government area, Osun state. *Kampala International University (KIU) Journal of Humanities*, **5** (2): 183-188.

Ajibade, A. O. &Ajibade, I. V. (2020). Influence of monitoring and evaluation on students' academic performance as relate to education trend in Ondo State: *International Journal of Education and Evaluation*, **6** (2): 18-35.www.iiardpub.org

Asiyai, R. I. (2013). Challenges of higher education in Nigeria in the 21st century. *International Journal of Educational Planning & Administration*, **3** (2): 159-172.

Bassey. A. B., Dwan, J. &Agunwa, J. N. (2019). Quality assurance practices and students' performance evaluation in universities of South-South Nigeria. *British Journal of Psychology Research*, **7** (3): 1-13.

Dill, D. D. (2000). Designing academic audit: Lessons learned in Europe and Asia, *Quality in Higher Education,* **6** (3): 187-207.

Greene, W. H. (2012). *Econometric analysis.* Boston: Pearson.

Kagochi, E. N., Kimosop, M. & Mbugua, Z. K. (2019). Influence of internal quality assurance practices on students' academic performance in secondary schools in Kiem constituency, Kenya. *International Journal of Innovative Research and Development*, **7** (8): 93-103.Dol, 10.24940.

Kis, N. (2005). Quality assurance in tertiary education: Current practices in OECD countries and literature review on potential effects. An OECD Thematic Review of tertiary education. www.oecd.org/edu/tertiary/review.

Kisilowska, M. (2002). Quality assurance in higher education in the field of library and information science. Retrieved 2/4/2018 at http://ebib.oss.wroc.pl/english/grant/kisilowska.php

Mwinyipembe, M. M., &Orodho, J. A. (2014), Effectiveness of Quality Assurance and standards officers school supervisory roles in enhancing students' Academic Performance in National Examinations in Nakuru District, Kenya. *Journal of Education & practice*, **5** (16): 69-80.

Nzokurum, J. C., & Agala, H. O. (2019). Quality Assurance in the Management of University Education, **6** (8): 240-247. DOI:10.14738/assrj.68.6872.

Obadara, O. E. & Alaka, A. A. (2013). Accreditation and Quality Assurance in Nigerian Universities. *Journal of Education and Practice*, **4**: 13-41.

Oparaji, C. I., Igbokwe, I. C., Anyanwu, A. N. & Ugwude, A. C. (2020). Quality assurance as indices correlates of students' academic achievement in Public secondary schools in Imo State. *International Journal of Scientific Research Publications*, **10** (9): 498-504. Doi.org.10.29322/ijsRP.10.07.2020.010558. www.ijsrp.org.

Phillymon, D. (2020). The contribution of quality assurance and control on students' academic performance in public secondary schools in Missenyi District, Kagera Region, Tanzania: The Open university of Tanzania, Directorate of Post Graduate Studies. https://www.out.act 2

CAUSAL RELATIONSHIPS BETWEEN COHESIVE EDUCATION AND ALL-INCLUSIVE PERSONALITY DEVELOPMENT OF *ISLAMIYYAH* STUDENTS IN NORTH-CENTRAL NIGERIA

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Abstract

The primary aim of this paper is to empirically test whether the hypothesized model fit the data collected using path analysis of structural equation modeling. This was investigated by simultaneously exploring causal relationships between cohesive education factors (exogenous variables) and all-inclusive factors (endogenous variables) in Islamiyyah madrasah in North-Central Nigeria. The quantitative research design was used in this paper. The population used in this study was 10,371. The total number of 371 was randomly selected as respondents to the survey questionnaire at selected Islamiyyah madrasah in the seven states that constitute the North-Central part of Nigeria. Nonetheless, the total number of 344 was used for the final analysis. For the data analysis, both SPSS (version 16.0) and AMOS (version 20.0) were employed. The findings show that the fit statistics of the revised model, especially the significant difference between Chi-Square (179.669) of the initial hypothesized model and the Chi-Square (1.231) of the revised model and also RMSEA of 0.000 less than .05 suggest better improvement of the model fit. This was a justification for retaining the model and proved that the collected data fit the hypothesized model. The results from the model indicated that there was interrelatedness among the exogenous variables but they were distinctive (between curriculum and pedagogy; r=.54; between pedagogy and technology for teaching and learning; r=.69; and between curriculum and technology for teaching and learning, r=.59). Such exploration of exogenous and endogenous variables into the hypothesized model as an attempt to provide paradigm shift to address the stagnation and disintegration between Islamic and Western education has not been empirically explored before in the context of Islamiyyah madrasah in Nigeria. By exploring the dimensions of the integrated and holistic education model, it will be helpful to harmonize Islamic and western contents in Islamiyyah madrasah in the country. The paper will be beneficial to researchers, educationists, stakeholders, government agencies, ministry of education and the officials of National Board of Arabic and Islamic Studies (NBAIS) in making further improvements in Islamiyyah madrasah in the country.

Keywords: Curriculum, dialogical pedagogy, technology for teaching and learning, spiritual, cognitive, affective and psychomotor domains

Introduction

The event of September 11, 2001 terrorist bombing of WTC at the US has posed a big challenge to Islamic religious education in Muslim countries. Of such challenge is the attribution of rigidity and stagnation to Islamic education system in Muslim nations. It is of less attention in the literature the amount or extent of literacy that *madrasah* promotes in Muslim nations. However, the system has negatively and wrongfully taken with cynically pessimistic skepticism and skeptical pessimism as grooming grounds for terrorism. *Boko Haram* insurgency or terroristic activities is a testimony to this assertion in Nigeria (Adesoji, 2011). It is not an exaggeration to posit that there is no enough empirical evidence justifying the paradigm shift from traditional *madrasah* system to integrated and holistic education model in addressing the skepticism, rigidity and stagnation of Islamic education especially in *Islamiyyah madrasah* in Nigeria. With this assertion and wrongful assumption ascribed to *madrasah* education, despite the criticisms, it is not arguable to assert that *madrasah* promotes knowledge and literacy

among Muslims in north-central Nigeria in particular and the entire country in general (Philips, 2012).

Alexander (2006) asserts that there is need to interact closely, study and understand the system. In spite of the agitation by Alexander (2006) to observe and understand the system of *madrasah*, less attention has been given to integrated curriculum that promotes knowledge and literacy in *Ilmiyyah* or *Islamiyyah* schools in Nigeria. Contrary to the *Qur'anic* schools as the primary level of education, *Ilmiyyah* or *Islamiyyah madrasah* are secondary Islamic schools commonly established in sub-Sahara Africa in general and Nigeria in particular where various religious subjects along with a few non-religious ones are taught. Opeloye (1994) submits that *Ilmiyyah* schools have greatly contributed to the teaching and learning of Arabic and Islamic studies in Nigeria. Further, Adetona (2011) asserts that *Ilmiyyah* schools have been playing significant educational roles since post-independence in the country. Adebayo (2005) posits that integration between Islamic and Western education began in the 1960s in the country. Despite lengthy period, Rosnani (2007) contends that, there is a need to improve traditional Islamic education in the Muslim countries including Nigeria in order to make the learners contribute meaningfully to all spheres of human endeavours.

In line with the advocacy of Rosnani (2007), integrated and holistic education is ultimately paramount. Literature asserts that integrated education provides harmonized curriculum while holistic education is an educational paradigm aimed at addressing traditional education through harmonious and balanced personality of learners in the aspects of spiritual, cognitive, affective and psychomotor domains. Until today, it is an ongoing educational paradigm, specifically it is gaining momentum in addressing stagnation of Islamic education especially in *Ilmiyyah* or *Islamiyyah madrasah* in Nigeria. It is unfortunate that, the extent by which there are causal relationships between the exogenous and endogenous variables measuring integrated and holistic education factors remain unequivocal, especially in the context of *Islamiyyah madrasah.* With this therefore, this paper examines the causal relationships between integrated and holistic education factors in order to identify the strengths of the hypothesized model towards unifying the contents of Islamic and Western education in the context of *Islamiyyah madrasah* in the country.

Conceptualization of Cohesive Education

The concept of cohesive education also refers to integrated education. Educational integration is a process of unifying or harmonizing two things or two concepts. Indeed, Muslim educationists, scholars and intellectuals at the 1977 Makkah Conference revived the discourse in providing integrated education towards holistic and harmonious personality development among Muslim students (Conference Book, 1977). This trend is also captured among Nigerian Muslim intellectuals and educationists in the recent past.

In addition, it is asserted that the integration between revealed and acquired knowledge must be based on the Qur'anic educational worldview (Ahmad & Awang Mat, 2013b). In so doing, integrated education paradigm is regarded as one of main approaches to foster the system. This approach has been successful in some Muslim countries such as Egypt whereby the curricula of Islamic and Western education were harmonized (Bradley, 1999). This paper expands the existing literature beyond integration between Islamic and Western contents by incorporating dialogical pedagogy and technology for teaching and

learning. Therefore, three factors of integrated education (curriculum, dialogical pedagogy and technology for teaching and learning) are conceptually elaborated.

Firstly, curriculum specifically unifying the content of Islamic and Western subjects is growing in Nigeria. Recently, Oloyede (2012) insists on the review of curriculum of Arabic language and Islamic studies; however, the direction for the review is not explicitly elaborated. Nonetheless, it is explained that the National Board of Arabic and Islamic Studies (NBAIS) has provided the curriculum that integrates religious and non-religious subjects (Oloyede, 2012). In addition, recent study contends that it is important to harmonize various educational orientations that result in the emergence of terroristic thought and ideas (Ahmad and Awang Mat, 2013a). In other words, Ahmad and Awang Mat (2013a) posit that it is essential to harmonize various educational orientations in order to address the stagnation of *madrasah* education in Nigeria.

Secondly, pedagogical technique for the implementation of an integrated curriculum which involves learners in the teaching and learning process is important to activate their potentials. Nonetheless, Boyle (2002) shows that despite the growing interest in Qur'anic schooling, the pedagogical approach has been marginalized in some Muslim countries like Morocco. This raises the issue of whether the learners should be involved in the decision making of the schools or not. Blossing (2005) submits that learners must be involved in the school's decision-making. However, this has not been academically captured in the context of *Islamiyyah madrasah.* Invariably, for students to be able to involve in the school's decision-making, methods and techniques of teaching must be collaborative, interactive and cooperative in the classroom setting. In addition, studies have shown that teaching techniques that involve the learners during the instructional strategy are important in the learning environment (Az-Zarunuji, 1947; Oloyede, 2003; Az-Zarnuji, 2003). It is posited that, progressive educational ideas that holistic education promotes cannot be achieved without finding an alternative in education which fosters learner-centered, cooperation and collaboration between teacher and students and among the students themselves (Martin, 2002). Similarly, other studies have identified the significance of pedagogical approach in fostering the holistic aspect of learners' character and virtues development (Peter & Seligman, 2004).

Thirdly, the integration of technology is an important educational tool to be used in the classroom setting. The use of ICT is effective in teaching Islamic subjects in many countries such as Brunei (Maimun Aqsha Lubis *et al.,* 2011). In addition, many other studies (Bala, 2009; Oladimeji, 2009; Oloyede, 2009) have asserted that the use of technology has contributed to the preservation of knowledge in the Nigerian context. Adebayo (2010) asserts that in spite of the susceptibility ascribed to the use of modern cyber-technology; there are many opportunities that the teachers of Islamic studies can explore in the use of technology for teaching and learning in the country. It is corroborated that information technology plays significantly essential role in promoting peaceful coexistence in the country (Saba, 2007). Findings have shown the significance of technology in enhancing instructional strategy in the classroom setting (Bala, 2009; Oladimeji, 2009; Oloyede, 2009; Maimun Aqsha Lubis *et al.,* 2011). These factors therefore are conceptually put together in promoting integrated education in *Islamiyyah madrasah* in the country.

Conceptualization of All-Inclusive Education

The word all-inclusive education otherwise refers to holistic education. 'holistic' linguistically refers to 'whole'. Inferably, it is a concept that attempts to develop the wholesome personality of learners. This development is done through the process of learning. Since contemporary discourse on holistic education emerged in the 1970s in North America, it was traceable to ancient period where education was emphatically stressed to promote social justice (Miller, 2006). In addition, it is noted that, in the medieval Islamic civilization in Damascus, knowledge served as social practice in daily life of the people (Chamberlain, 1994). Consequently, several studies have been conducted to investigate the concept in Western setting especially focusing on integrated curriculum in promoting holistic learning among students (Miller, 2005; Miller, 2007); however, there is less empirical study hypothesizing the model of integrated and holistic education in *Islamiyyah madrasah* in Nigeria. In this paper, the factors of holistic education are narrowed into four, namely spiritual, cognitive, affective and psychomotor domains.

Firstly, spiritual domain is regarded as divine proximity which must be cultivated and activated in learners. There are two important sub-divisions of this domain which are internal and external. The internal spirituality is the awareness and consciousness of Almighty God through His existence, essence and attributes. For instance, the six articles of faith can be regarded as internal spirituality. The extent of the internal consciousness can be manifested in the external spirituality. This could be seen in the servility of obedience to God through the daily worship. For example, the proclamation and practicality of the five pillars of Islam can be regarded as external spirituality. Studies have shown the vitality of developing spiritual domain in the curriculum (Rohana & Rozian, 2010); however, Sidek (2009) claims that spiritual domain was not identified in Bloom Taxonomy of learning which can be regarded as a prime importance of education in Islam.

Secondly, cognitive domain refers to the thinking and awareness of the learners about themselves and the environment they live in. Inferably, cognitive domain is a process that develops the intellectual ability of the learners. It is not arguable that this domain has been stressed in the literature to be reflected in the curriculum design. It is asserted in the Bloom Taxonomy that this domain is significant to be cultivated in learners (Bloom *et al.* 1956; Bloom, 2007; Sidek, 2009). In *Islamiyyah madrasah*, both religious and non-religious subjects can foster the cognitive development of the learners. Nonetheless, the current trend of cognitive domain in *Islamiyyah madrasah* is mostly relating to the accessibility and retrieval of information; less attention is given to the interpretation of the content by connecting to the real-world experience of students by the teachers.

Thirdly, affective domain refers to the process of internalizing a set of values that enables students to respond to multifarious issues within the educational system in particular and the society in general. In addition, affection relates to emotional development. Undoubtedly, it is an important domain that directly or indirectly relate to spiritual and cognitive development which must be cultivated in the learners. The literature contends that affective domain relates to wisdom and compassion. The development of wise personality is through rigorous intellectual activity while the activation of compassion is directly related to internal spirituality. Therefore, praiseworthy and pro-social behaviours must be imbibed by the learners in order to have a balanced and harmonious personality.

Hence, a set of values to be internalized by the learners must promote societal harmony and progress in all spheres (Chamberlain, 1994).

Fourthly, psychomotor domain relates to the use of organs of the body as well as skills and abilities to use a particular machine or gadget. Undoubtedly, this has been extensively identified in the taxonomy of learning (Bloom *et al.*, 1956; Bloom, 2007). This domain must develop the physical strength of the students through various hands-on activities. Nonetheless, less attention is given to this domain, especially in the context of *Islamiyyah madrasah*. Hence, it can be asserted that psychomotor skills of the learners must be given priority in the system.

Based on the foregoing findings, it should be reiterated that early studies have examined the integrated education factors explicitly and specifically to show how the curriculum must be designed in such a way that the factors of holistic education (spiritual, cognitive, affective and psychomotor domains) are taken into account (Sidek, 2009; Ahmad & Awang Mat, 2013b). However, Bloom Taxonomy has identified three factors of taxonomy of learning (cognitive, affective and psychomotor domains) as an integral part of holistic education factors without taking spiritual domain into consideration (Bloom *et al.* 1956; Bloom, 2007; Sidek, 2009). The recognition of three identified taxonomies along with the vitality of pedagogy and technology has prompted researchers such as Sidek (2009) to argue and point out the shortcoming of the taxonomy of learning identified by Bloom *et al.* (1956) with the exclusion of spiritual domain from the taxonomy of learning. But curriculum design is important to be holistic (Miller, 2007) through which spiritual, cognitive, affective and psychomotor domains of the learners are developed. Nonetheless, studies have shown that curriculum design must take all the components into account specifically spiritual education which can be developed as an integral part of holistic educational approach (Rohana & Rozian, 2010).

Methodology

Respondents

The population of this study was 10,371 and according to the sample size calculator, the sample size drawn from the entire population is 371. Therefore, the respondents were drawn across the selected *Islamiyyah madrasah* in the seven states of North-Central geo-political zone of Nigeria. The aim of the study was conveyed to the management and the intent of study was explained to the students as the respondents of the study. With an exclusion of the unreturned questionnaire and those with missing data, the final sample used in this study was 344. The data reveal that male respondents were 246 (71.5%) while females were 98 (28.5%). With this discrepancy between male and female respondents, the researchers did not make an attempt to do invariant analysis. That is, no attempt was made to do a comparison between males and females because the gap of percentage is considered as unsuitable for the multi-group comparisons.

Measures and Analytic Approach

Measures are identified in the survey questionnaire employed. A 4-point Likert scale (1=Strongly Disagree (SD); 2=Disagree (D); 3=Agree (A) and 4=Strongly Agree (SA) was used seeking the responses of the respondents whereby the measures were subjected to validity and reliability of the instrument. Content validity was used whereby the

opinions of the experts were sought regarding the simplicity of the item wordings ensuring that they would be easier for the respondents to understand. Similarly, the Cronbach's Alpha was used for the reliability of the measures by establishing the internal consistency of the instrument for the seven identified constructs. Table 1 shows the Cronbach's Alpha for internal consistency of the constructs.

Table 1:   Cronbach's Alpha for the Internal Consistency of Constructs

S/N	Exogenous / Independent Variables	No. of items Measuring each Dimension	Report of Cronbach's Alpha
1.	Curriculum	7	.812
2.	Dialogical pedagogy	6	.766
3.	Technology for teaching & learning	8	.816
S/N	Endogenous / Dependent Variable	No. of Items Measuring each Dimension	Report of Cronbach's Alpha
4.	Spiritual domain	8	.724
5.	Cognitive domain	9	.825
6.	Affective domain	7	.831
7.	Psychomotor domain	9	.872
	Total number of items	54	

Furthermore, for the analytic approach, both statistical package for social science (SPSS) version 16.0 and analysis of moment of structure (AMOS) version 21.0 were used. More so, prior path analysis using structural equation model, various dimensions in the instrument were re-affirmed using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) which were used to validate the instrument (Pallant, 2011). In one hand, for the exploratory factor analysis (EFA), the seven constructs were re-confirmed however, 37 items were properly loaded on the constructs. This means that the total number of 17 items out of initial 54 items either with loadings less that .04 or cross loadings were deleted in the final analysis. On the other hand, for the measurement model, convergent validity was used before testing structural model. For the measurement model, to determine the construct fit to the model, there were error covariances. There are no mediating variables in the hypothesized model which might be considered as controls on the model.

Consequently, the path analysis using the structural equation modeling (SEM) in testing the hypothesized model was used. This has been substantiated in the literature that once the dimensions are established and the measurement model is validated, it is important to carry out the SEM (Bryne, 2001; Bryne, 2010). Thereafter, the covariances among the three identified exogenous variables were taken into account in order to determine interrelatedness and synchronous relationships among them (Sahari, 2004; Bryne, 2010; Sahari, 2011). With the establishment of the measurement model, it was therefore concluded that there was a strong foundation for the assessment of the causal relationships between integrated education factors (exogenous variables) and holistic education factors (endogenous variables) explored in the study.

Results

Revised Model of Hypothesized Cohesive and All-Inclusive Education Model

The hypothesized model systematically tests path structural models by simultaneously exploring causal relationships between exogenous integrated factors (exogenous variables) and holistic factors (endogenous variables). Certain criteria such as fit statistics were taken into account when the model was subjected to the structural equation modeling testing the causal relationships among the identified variables. The data output of the initial model showed the need for revision because it did not meet up with the required thresholds. For instance, the results from the fit statistics indicated as follows: (Normed-Chi Square=29.945; RMSA=.290; X^2 value=179.669; DF=6; CFI=.888; TLI=.609) as show in Table 2.

Moreover, the baseline model of cohesive (integrated) and all-inclusive (holistic) education with the revised model indicate a good or adequate fit with the following thresholds (Normed-Chi Square=.615; RMSA=.000; X^2 value=1.231; DF=2; CFI=1.000; TLI=1.005). With the baseline model or path analysis of the revised model, it can be concluded that the fit indices indicated that the model reasonably fit the collected data. This is as a result of the fact that there was a significant difference between the Chi-Square (179.669) of the initial model and the Chi-Square (1.231) of the revised model which is a clear indication that there is an improvement in the model fit which is a justification for retaining the path analysis of the model.

Furthermore, as the causal relationships are examined, the path analysis of the model identifies various findings. The inter-factor relationships among the exogenous variables indicate positively statistical significance (between curriculum and pedagogy; *r=.54*; between pedagogy and technology for teaching and learning; *r=.69*; and between curriculum and technology for teaching and learning, *r=.59)*. The inter-factor relationships glaringly show that the exogenous factors measuring integrated education are distinctive, and interrelated. In other words, there is positive correlations among the three identified exogenous variables examined in this study. It is indicated that curriculum has relative statistical significance with spiritual domain (.16). It is further noted there is a high positive statistical significance between curriculum and affective domain (.20).

In addition, value obtained with regard to the curriculum and cognitive domain is (.13) while there is a positive causal relationship between curriculum and psychomotor domain (.57). Nonetheless, the finding shows the moderately low value (-.15) which consequently indicates effect of spirituality on students' cognitive domain. It is shown that spiritual domain has moderate causal relationship with psychomotor domain (.14) while there is a highly positive relationship between affective and psychomotor domain (.44). Even more, it is interesting to note that dialogical pedagogical instructional strategy is positively and statistically significant in enhancing the spiritual cultivation of the learners (.29). In addition, the pedagogical approach shows high causal relationship with affective domain (.40) while on the other hand, it is noted that technology for teaching and learning indicated highly causal relationship (.29) with spiritual aspect of the learners. Similarly, technology for teaching and learning is interrelated with learners' cognitive development (.40). With affective domain, it also shows high causal relationship (.30). Nonetheless, there is negative effect (-.20) of technology for teaching and learning on the students' psychomotor domain. Figure 1 indicates the revised hypothesized model.
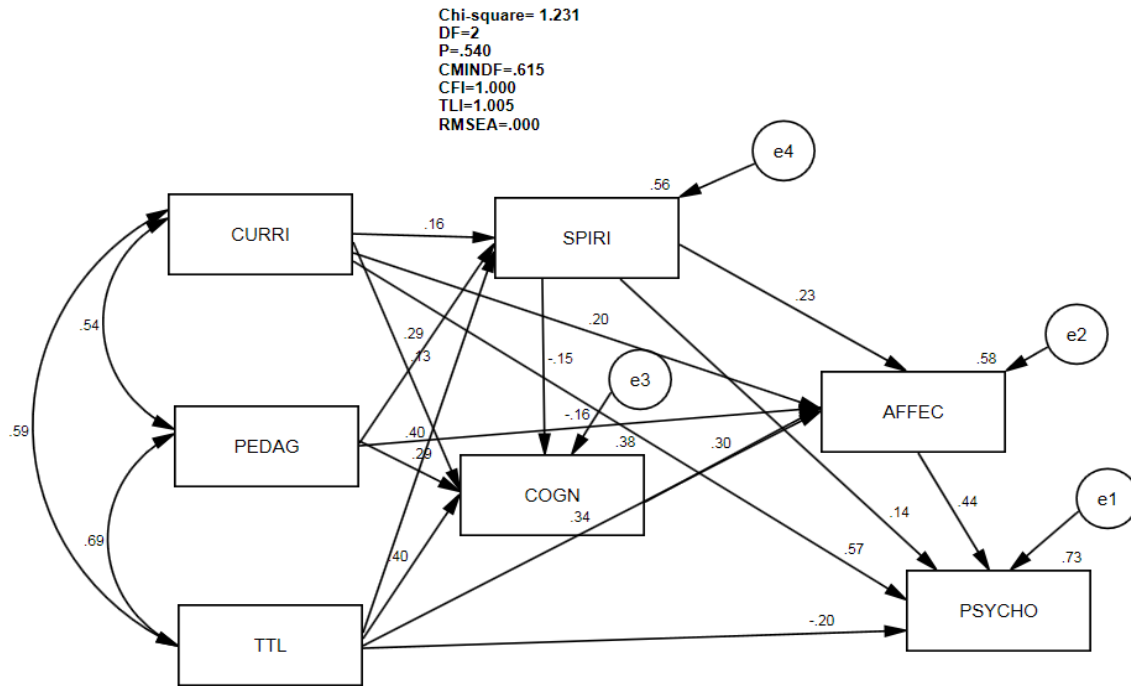
Figure 1:   Revised Model of Hypothesized Cohesive and All-Inclusive Education Model

Based on the above hypothesized, it is shown that the root means square error of approximation (RMSEA) (.000) is less than the required threshold of (<.05) which is a strong indication that the data fits the hypothesized model. Also, all other fit statistics meet up with the required thresholds. Therefore, the below Table 1 shows the goodness of fit for hypothesized integrated and holistic education model:

Table 2:   **Goodness-of-Fit for Hypothesized Integrated and Holistic Education Model (AMOS graphic version 20.0)**

Fit Indices	Thresholds
X^2 Value for the Hypothesized Model (Degree of Freedom)	1.231
Normed Chi-Square for Hypothesized Model	0.615
Comparative Fit Index (CFI)	1.000
Root Mean Square Error of Approximation (RMSEA)	.000
Tucker-Lewis Coefficient Index (TLI)	1.005

Major Findings of the Study:

The following are the summary of the major findings of the study:

i.   There are inter-factor relationships among the exogenous factors (curriculum, pedagogy and technology for teaching and learning) while measuring cohesive (integrated) education are distinctive but they are interrelated.

ii.   There are positive causal relationships between indicators of cohesive (integrated) education factors and all-inclusive (holistic) education factors in *Islamiyyah madrasah* in Nigeria.

iii.   There is positive effect of spirituality on students' cognitive domain while spiritual domain has moderate causal relationship with psychomotor domain.

iv.　　　There is a high positive relationship between dialogical pedagogical instructional strategy is positively and statistically significant in enhancing the spiritual cultivation of the learners.

v.　　　Pedagogical approach shows high causal relationship with affective domain (.40) while on the other hand, technology for teaching and learning indicated high causal relationship with spiritual aspect of the learners.

vi.　　　Similarly, technology for teaching and learning is interrelated with learners' cognitive development while there is negative effect of technology for teaching and learning on the students' psychomotor domain.

Discussion

The causal relationships between integrated factors and holistic factors remain persistently required for empirical investigation. In this study, the baseline has shown that the model possesses constructs that can enhance the teaching of religious and non-religious subjects; the pedagogical approaches and the use of technology during instructional strategy to a certain extent are reliable to foster *Islamiyyah madrasah* in Nigeria. The findings of previous studies have indicated that several attempts have been made to improve the curriculum design in *Islamiyyah madrasah* in the country (Adebayo, 2005; Adetona, 2011; Oloyede, 2012). However, the extent of this in improving learners' spiritual, cognitive, affective and psychomotor domains was not empirically shown.

This study therefore has shown that with the current curriculum implementation in *Islamiyyah madrasah*, the cultivation and inclusion of spiritual aspect in the subjects taught to the students is relatively low compared to other domains or factors of holistic education despite an assumption that the curriculum of *madrasah* focuses on spiritual development. This finding has rejected assumption that *madrasah* develops learners' spiritual development because there is less attention to intellectual development in order to foster spiritual activation among the learners. It is of no wonder then that, the current crisis or insurgency by the so called *"Boko Haram"* in the country is attributed to the product of *madrasah* as a result of the fact that God-consciousness emphatically stresses on nurturing moral virtues. Adesoji (2011) asserts that *Boko Haram* has posed the challenges of Islamic revivalism in the country. With these challenges posed by the sect, Ahmad and Awang Mat (2013a) assert that harmonization of educational orientations is essential in the context of *madrasah* in the country in order to cultivate the sense of religious tolerance, social harmony and above all God consciousness.

Thereby, it must be reiterated that both internal spirituality and external spirituality must be activated through the teaching of various religious subjects such as *Tawheed, Tafsir, Hadith, Sirah* etc. in order to address the problem of the lack of spiritual enhancement in the context of *Islamiyyah madrasah* in the country. In addition, the negative causal relationships between spiritual and cognitive domains indicate that since Islam emphasizes on the importance of knowledge, it is through knowledge and intellectual development that spirituality is activated and cultivated. This has been supported by the finding of Rohana and Rozian (2010) that knowledge is a prerequisite for the spiritual education development in the formulation of Muslim educational system.

The baseline model measuring casual relationship between exogenous and endogenous variables suggests that to a certain extent, there is a stabile validity and reliability among the constructs of the hypothesized model. Undoubtedly, there is a tendency of having

persistence with the model regardless of the extent of the influences. However, the correlations between constructs of integrated and holistic factors are relatively low. With this, it is further indication to postulate that previous studies are not specific on the extent of causal linkage between the constructs of integrated and holistic education factors hypothesized in this study. Nonetheless, there are stronger relationships among the exogenous factors indicating the distinctiveness but interrelatedness of the factors.

Further, this study's findings are consistent with a number of studies that examined the constructs of integrated education having causal relationships with holistic education factors (Sidek, 2009) as hypothesized in this study. For instance, it has been substantiated in the literature which suggests for the integrated curriculum, unification between Islamic and Western conceptions of education; and harmonization of educational orientations (Bradley, 1999; Miller, 2007; Ahmad & Awang Mat; 2013a); dialogical pedagogy (Az-Zarnuji, 1947; Oloyede, 1990; Boyle, 2002; Az-Zarnuji, 2003; Ahmad, 2011) and the use of technology in fostering teaching and learning in order to develop balanced and harmonious personality (Bala, 2009; Oladimeji, 2009; Oloyede, 2009; Maimun Aqsha Lubis *et al.,* 2011). Nonetheless, it is contrary to few studies (Rohana and Rozian, 2010) that stress on the spiritual education instead of cognitive or intellectual development towards enhancing spiritual development.

Based on the findings, as noted in the study by Oloyede (2012) that the curriculum of Islamic and Arabic language must be reviewed; thereby, it is essential that the curriculum review takes learners' spiritual domain into the account. However, cognitive development must be emphatically stressed in order to foster learners' spirituality. Similarly, there are a number of prophetic traditions that emphasizes on the importance of psychomotor domain; however, the finding of the study shows that spirituality of the learners is not directly related to the development of their psychomotor skills. Also, the negative effect of technology on psychomotor domain indicates that the objective of the use of cyber-technology in teaching Islamic studies as noted by Adebayo (2010) is not meant for the enhancement of their psychomotor skills.

However, the strength of the model has been indicated from the fact that curriculum has positive correlation with students' affective domain. This shows that the learners are able to internalize some positive values, characters and virtues from the teaching and learning process. In addition, it is also noted that the curriculum emphasizes on the significance of the psychomotor domain. Similarly, the affective domain is positively correlated with psychomotor domain. Rohana and Rozian (2010) stress on the paramount significance of spiritual education, however, to what extent the dialogical pedagogy contributes to this was not shown. This study therefore shows that the chosen pedagogy in delivering the contents of either religious or non-religious subjects is important to foster learners' spiritual domain. Similarly, this study in support of previous findings that indicate that technology is useful for the preservation of Islamic knowledge especially towards enhancing learners' spiritual development (Bala, 2009; Oladimeji, 2009, Oloyede, 2009). Technology is also useful to improve learners' cognitive and affective domains.

For the causal relationships between the integrated and holistic factors, studies have empirically indicated interrelationships among the constructs. It is not arguable that the literature which asserts that spiritual component is an integral part of holistic development; unfortunately, the curriculum of *Islamiyyah madrasah* emphatically stresses on the spirituality and neglects other aspects. Thereby, this development is

important to individual students and the society in general. It has been acknowledged that students give priority to spirituality instead of intellectual development which can be acquired through the teaching and learning process and consequently fosters their spiritual domain. The path analysis results show moderate evidence of causal relationships between exogenous and endogenous variables. The negative effects of spiritual domain on cognitive domain and technology for teaching and learning and psychomotor indicate that, there is a need to stress on knowledge -intellectual development- rather than spiritual domain if truly learners' inward and outward spirituality must be cultivated. As a result, it is essential to emphasize on the vitality of knowledge which is expected to trigger spiritual activation of the learning. Generally, the literature asserts that the frameworks for the integration of knowledge and management of *Islamiyyah* schools have been provided in most northern states in Nigeria (UBEC, 2002; Umar, 2003; UBEC, 2010). Based on the foregoing explanation of the findings, the below Figure 2 shows the interrelatedness and inter-systemic scope of exogenous and endogenous factors of Integrated and Holistic Education (IHE).
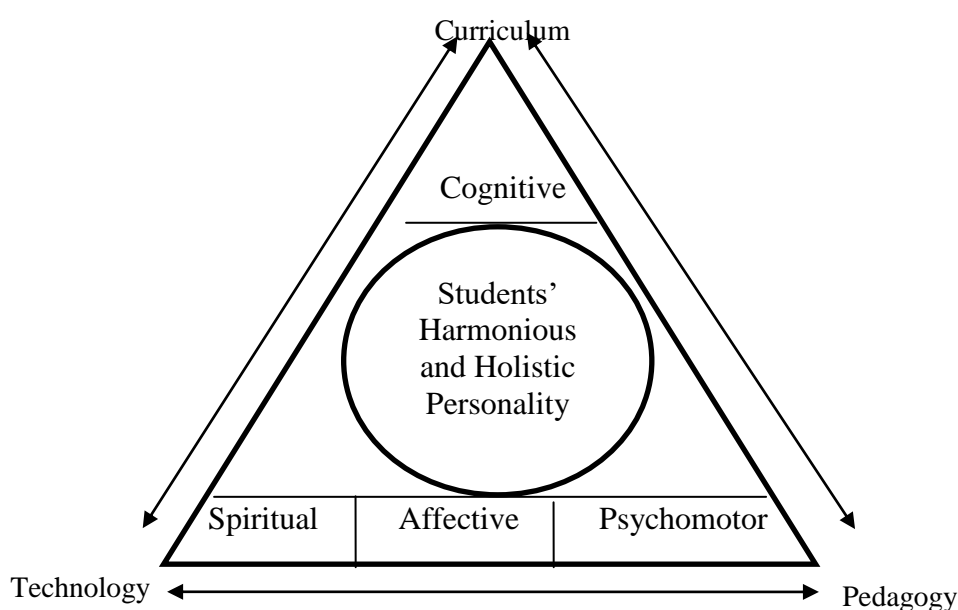

Figure 2:   Interrelatedness and Inter-Systemic Scope of Exogenous and Endogenous Factors of Integrated and Holistic Education (IHE)

Limitations of the Study

The empirical testing of the hypothesized model provides the strengths of the study using path analysis. Nonetheless, the selective report of the analysis might be regarded as one of the limitations of the present study. Also, the sample selected is restricted to only one out of six geo-political zones of the entire country. As a result, it is essential that subsequent studies replicate the hypothesized model in other geo-political zones. Also, this study is not a longitudinal study using a big sample in order to have a concrete response from the respondents across the other geo-political zones in the country. Despite the result of the limited empirical studies examining integrated and holistic education, this study has offered a substantial contribution that can give further and more stimulating research on the untapped hypothesized model. Undoubtedly, it is not arguable to assert that the study helps in filling up a gap in the existing theoretical studies in the Nigerian context.

Thereby, the study helps in addressing the stagnation of *Islamiyyah madrassh* in Nigeria. Since this paper is limited in its scope, hence further research in this area may attempt to examine the invariant analysis, especially investigating the effect of the model on gender role expectation and the level of the students' experience in *Islamiyyah madrasah* (*'Idādiyyah* and *Thānawiyah*) in the country. Also, instead of implicit and theoretical assumption, this study has explicitly, articulately and empirically tested the hypothesized model mainly to provide empirical data towards addressing the perceived stagnation of *Islamiyyah madrasah* in the country.

Conclusion and Recommendations

The paper has elucidated that several studies on integrated and holistic education paradigm have been conducted in the western settings since the 1970s. Similarly, the paper has noted that as the consequence of the First World Conference on Muslim Education held in 1977 in Makkah, integrated and holistic educational paradigm is gaining prominence in Muslim countries including Nigeria. The paper examines causal relationships between integrated and holistic education factors. Despite the fact that the World Conference on Islamic education held in Makkah captured integrated and holistic education factors (Conference, 1977) and Adebayo (2005) submits that integration between Islamic and Western education in the 1960s in Nigeria, nonetheless, the concept and approaches to integrated and holistic education remain an ongoing process. The finding has shown that the correlations between curriculum and spiritual domain are relatively low. Nevertheless, this educational approach is important and it is an ongoing area of research in the context of *Islamiyyah madrasah* in the country toward enhancing the system. As a result, this study is a new theoretical framework that establishes the validity of the conceptual hypothesized model. It is therefore essential that the following recommendations are made based on the overall findings of the study:

1. The conceptual basis is moved forward and replicated in other geo-political zones especially North-West, North-East and South Western Nigeria where *Islamiyyah madrasah* is given prominence among Muslim parents.
2. In order to solidify the future direction regarding the reliable model to be used in fostering *Islamiyyah madrasah* in the country, it is paramount to create an opportunity to expand the model beyond the scope of this study in order to have plausible option that will go beyond myopic assumptions ascribed with rigidity of Islamic education and *Islamiyyah madrasah* in the country.
3. It requires herculean task by the stakeholders, government agencies, ministry of education and the officials of National Board of Arabic and Islamic Studies (NBAIS) to make further improvement on *Islamiyyah madrasah* in the country.
4. It is fascinating that the baseline model has shown causal relationships between integrated and holistic education factors, however, it needs further improvement in order to enhance holistic personality development of the learners.
5. The study has built up a necessary model in harmonizing Islamic and non-Islamic knowledge towards harmonious and balanced personality development of the learners in the *Islamiyyah madrasah* in particular and the country in general, thus, the government should strengthen the curriculum of religious and non-religious subjects in *Islamiyyah madrasah*.

References

Adebayo, R.I (2010). The challenges and opportunities of Islamic Studies in the World of modern cyber-technologies: The Nigeria example. *Being a paper presented at the International Conference on Knowledge Integration held in Putra Jaya, Malaysia*.

Adebayo, R.I. (2005). Muslim educational reform in south-western Nigeria. in Baffa A.U. *et. al* (eds) *Muslim Educational Reform Activities in Nigeria.* Kano; IIIT Nigeria and Faculty of Education, Bayero University.

Adesoji, A. (2011). The Boko Haram uprising and Islamic revivalism in Nigeria. *Africa Spectrum*, *GIGA German Institute of Global and Area Studies, Institute of African Affairs*, **45** (2): 95-108.

Adetona, L. M. (2011). The *Ilmiyyah* schools in the post-independence Lagos. *Muslim Educational Quarterly*, **24** (3 & 4). The Islamic Academy, Cambridge. U.K., pp.60-68.

Ahmad, T. S. & Awang Mat, M. Z. (2013a). Harmonizing educational orientations among madrasah students in Nigeria: Addressing issues in rigidity of Islamic education. *Proceedings of the 3rf international conference on Islamic education (ICIED), held at EPF Institute, Kejang, Selangor Malaysia.*

Ahmad, T. S. & Awang Mat, M.Z. (2013b). Classification and integration of knowledge: The Qur'anic educational model. *Journal of Revelation and Science, Inter-Disciplinary Journal of Intellectual revival*, **3** (2): 09-22.

Ahmad, T. S. (2011). *Discussion method versus students' competence in collaborative learning: The role of Halaqah-study circle- in developing learners' personality traits and critical thinking skills.* Germany: Lambert academic publishing.

Alexander, E. (2006). *Understanding Madrasahs*. Works for the British Foreign and Commonwealth Office. Published January/February 2006 Issue, *Foreign Affairs*. Retrieved from http://www.cfr.org/publication/9461/understanding_madrasahs.html on 29th October, 2012.

Az-Zarnuji B. D. (1947). *Ta'lim muta'allim tariq alta'allum*. Trans. G.E. von Grunebaum and Theodora M. Abel. New York: King's Crown Press.

Az-Zarnuji, B. D. (2003). *Instruction of the student: The method of learning* (3rd edn). New York: McGraw-Hill.

Bala, A. A. (2009). The contributions of information and communication technology (ICT) to the preservation and dissemination of hadith literature. In Y.O. Imam (editor), *Public administration and in Information Communication Technology (ICT) through the lenses of Arabic and Islamic Studies*. A Publication of the Nigeria Association of Teachers of Arabic and Islamic Studies (NATAIS), Shebotimo Publication, Ijebu-Ode: Nigeria, pp. 134-141.

Bloom, B.S. *et al*. (1956). *Taxonomy of educational objectives.* New York: Longman

Bloom's Taxonomy (2007). *Learning domains*. Retrieved from http://www.nwlink.com/~donclark/hrd/bloom.html 25/09/2012.

Blossing, U. (2005). Big change question: Should pupils be able to make decisions about school change. *Journal of Educational Change*, **6** (4): 381-387.

Boyle, H.N. (2002). The growth of Quranic schooling and the marginalization of Islamic pedagogy: The case of Morocco. *Paper presented at the annual meeting of the Comparative and International Education Society*, Orlando. FL.

Bradley, J.C. (1999). Islamic versus Western conceptions of education: Reflection on Egypt. *International Review of Education*, **45** (3/4): 339-357.

Bryne, B.M. (2001). *Structural equation modeling with LISREL, PRELIS and SIMPLIS*: *Basic concepts, applications and programming*. Mahwah, New Jersey: Lawrence Erlbaum Associates.

Bryne, B.M. (2010). *Structural equation modeling with AMOS: Basic concepts, applications and programming*. London, Routledge: Taylor and Francis Group.

Chamberlain, M. (1994). *Knowledge and social practice in medieval Damascus, 1190-1350*. Cambridge: Cambridge University Press.

Conference Book (1977). *First World Conference on Muslim Education*. King AbdulAzeez University: Kingdom of Saudi Arabia.

Lucila, T. & Rudge, M.A. (2008). *Holistic education: An analysis of its pedagogical application*. Unpublished PhD Dissertation, Ohio State University.

Maimun A., *et al.* (2011). The use of ICT in teaching Islamic subjects in Brunei Darussalam. *International Journal of Education and Information Technologies*, Issue 1: 79-87.

Martin, R. A. (2002). Alternatives in education: An exploration of learner-centred, Progressive, and holistic education. *A Paper presented at the AERA*, New Orleans, LA.

Miller, J. (2005). Introduction: Holistic learning. In *Holistic Learning and Spirituality in Education: Breaking New Ground*, edited by J. Miller, S. Karsten, D. Denton and J. C. Kates, Albany, N.Y: State University of New York Press, pp. 1-6.

Miller, J. (2006). Ancient roots of holistic education. *Encounter: Education for Meaning and Social Justice*, **19** (2): 55-59.

Miller, J. (2007). *The Holistic Curriculum.* Edited by Ron Miller, Brandon, VT: Holistic Education Press, Toronto: OISE Press.

Oladimeji, L.F (2009). Utilizing Information and Communication Technology (ICT) in the Teaching of Fiqh (Islamic Jurisprudence) in Akintola, Is-haq *et.al* (eds) *Correlates of Islam*; Zaria, Ahmadu Bello University Press.

Olagunju, H.I (1985). *Translation with commentaries of Shaykh Adam's Nizam Ta'lim al-Arab was tarikhu fil alam al-Islami*. Unpublished Doctoral thesis, University of Ibadan, Ibadan: Nigeria.

Oloyede, I. O. (1990). Utilizing the principles of *Ta'lim-Muta'llim* for the Islamization of modern techniques of learning. *Muslim Education Quarterly*, **7** (3): 21-36.

Oloyede, I.O. (2009). Islamic studies in the World of information and communication technology (ICT): Opportunities and Challenges in Y.O. Imam (editor), *Public administration and in information communication technology (ICT) through the lenses of Arabic and Islamic Studies*. A Publication of the Nigeria Association of Teachers of Arabic and Islamic Studies (NATAIS), Shebotimo Publication, Ijebu-Ode: Nigeria, pp. 89-101.

Oloyede, I.O. (2012). Trends, development and challenges of Arabic and Islamic Studies in Nigerian Universities: The contributions of Shaykh Adam Abdullah Al-Ilory in R.D Abubakr (Editor), *Shaykh Adam Abdullah Al-Ilory in the Tableau of immortality*, **II**: 45-67.

Opeloye, M.O. (1994). An assessment of the contributions *ilmiyyah* schools to Arabic and Islamic learning in the southwestern Nigeria. *Muslim Education Quarterly*, **11** (2): 31-42.

Pallant, J. (2011). *SPSS survival manual: A step By step guide to data analysis using SPSS for Windows (Version 10)*. Open University Press: Chicago, Illinois: USA.

Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: A handbook and classification.* Washington, DC: American Psychological Association.

Philip O. (2012). *A survey of the Muslims of Nigeria's north central geo-political zone.* NRN working paper No. 1, Nigeria Research Network (NRN), Oxford Department of International Development, Queen Elizabeth House, University of Oxford, pp. 1-57.

Rohana H. K. M. I. & Rozian M. J. (2010). Spiritual education development model. *Journal of Islamic and Arabic Education,* **2** (2): 1-12.

Rosnani, H. (2007). Intellectualism in higher Islamic traditional studies: Implications for the curriculum. *The American Journal of Islamic Social Sciences*, **24** (3).

Saba, M. D., (2007). The Role of information technology in promoting Religion as an instrument of peace in Nigeria, in Folorunsho, M.A, Oyeneye, I.O. & Adebayo, R.I. (eds), *Religion and Modernity;* National Association for the Study of Religions and Education (NASRED).

Sahari, M.N. (2004). Teachers' orientation towards students' note taking strategy: Scale validation. *Journal Pendidikan Universiti Malaya*, pp. 61-70.

Sahari, M.N. (2011). Evaluating measurement model of lecturers Self-Efficacy. *International Conference on Management and Service IPEDR*, **8**: IACSIT.

Sidek, B. (2009). The integrated approach in Malaysian education: The International Islamic University as a model. *Journal Pedidikan Islam*, **13** (2): 87-99.

UBEC (2002). Report of the technical committee on the integration of Qur'anic   schools into Universal Basic Education Programme. *Report of the technical Committee on Madrasah system.* Abuja: Nigeria.

UBEC (2010). *National framework for the development and integration of Almajiri education into UBE Scheme*. Abuja: Nigeria.

Umar, B.A. (2003). Appraising the Management of Integrated Qur'anic/Islamiyyah Schools: A Case Study of Selected Northern Nigerian States. *Being a Paper Presented at a 2-day workshop on the integrationn of Quranic schools system with Conventional Schools Curriculum by the Northern Education Research Project, Arewa House*. Kaduna: Nigeria.

INFLUENCE OF PARENTS EDUCATION LEVEL AND OCCUPATION ON THE PERFORMANCE OF BUSINESS EDUCATION STUDENTS IN SHEHU SHAGARI COLLEGES OF EDUCATION SOKOTO AND ADAMU AUGIE COLLEGE OF EDUCATION, NORTHWEST NIGERIA

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Abstract

The purpose of the study was to examine the influence of parents education level and occupation on performance of business education students in Shehu Shagari colleges of education Sokoto and Adamu Augie college of education Argungu in northwest, Nigeria. The study had two objectives and two research questions were used to guide the study, while two null hypotheses were formulated and tested at 0.05 level of significance. Ex-post facto research design was adopted in conducting the research. The population of the study comprise 56 NCE Two business education students from the two colleges. Twenty (20) students from Shehu Shagari college of education Sokoto and thirty six (36) from Adamu Augie college of education Argungu. The entire 56 NCE two business education students for 2021/2022 academic session from two colleges of education were used as sample of the study. A five item questionnaire design by the researcher was used to collect students' bio data and a session academic record was used. Mean and standard deviation were used to answer the stated research questions. Regression analysis was used to test the two null hypotheses. The finding of the study revealed, among others that parents education level and occupation have influence on the academic performance of business education students in the two colleges of education. In view of the findings, part of the recommendations made are that the parents in low occupation ladder should be advice and encouraged to provide the children with needed resources so that they can be psychologically balanced to face the academic stress.

Introduction

Parents by virtue of their position in homes and families as the most experienced in terms of social issues and tend to exert considerable influence on the lifestyle and behaviours of their children. This influence expresses itself either expressly as in giving verbal instructions and directives or impliedly by conduct. Parents are seen influencing the decision of their children on who to associate with and who not, what courses to read at school, what career to pursue and even what type of men or women to marry. In an implied sense parents influence their children by their own penchant for education and acquisition of knowledge, the zeal and interest in their respective occupation. In family, parents are the most important aspect of socialization process, they mold and shape moral character of their children and dictate the occupation their children should pursue in later life (Li and Lerner 2019). Parent's educational level can be a motivational factor on how far their children can go in the education ladder. It is not uncommon to see children trying to match their parent's educational level or even to overtake it. Parental level of education can be an important indicator of parent's level of involvement in their children's educational pursuits.

The educated mind' usually has a penchant to support and encourage their children in moral and material sense and such can positively influence academic performance. On the contrary, the educationally uninitiated mind' could care less about the educational pursuits of their children and the result is poor performance of such children.

Musgrave (2020) highlighted that parents with more than minimum level of education are expected to have a favoured attitude to their children's education and to encourage and help them with schoolwork. However, Parent with low level of education may not feel capable of assisting their child or playing a role in his/her academic life as they may not understand the material or feel comfortable with their abilities. (Hill, Castelo, Lansford, Nowlin, Dodge, Bates & Pettit 2012). Parent's socio-economic status which is usually a reflection of their profession, vocation or trade can attract significant impact on the academic pursuits of their children. High and middle-income group parents are easily disposed to financially support their children at school and this could have salutatory effects on their performance, this is in most cases absent in the homes of low income bracket. Akanle (2007) in Yusuf (2016) concurred with the above assertion; he identified that parental income in his work to be a cogent factor upon which the academic /vocational successes of secondary school student's life depend. He further said that a child that is deprived of the essential needs may be found to perform poorly in his school work.

In every academic environment it is normal for students to be assessed from time to time to ascertain what they have retained of the learning experiences they have undergone. This is done by standardized test or performance assessment in a formative or summative sense on a grading system. Grades of students are then encoded and assigned numerical values which are summarized into a significant index called a grade point average for a particular semester or a cumulative grade point average for more and consecutive semesters. Such summarized data represents the academic standing of a student within a scale as being good performance or poor performance. As a result, the study investigates the influence of parents education level and occupation on performance of business education students in Shehu Shagari college of education Sokoto and Adamu Augie College of education Argungu in northwest Nigeria.

Studies on the influence of parents' educational level and environment have received a major focus in terms of research work in recent years by researchers. Researchers that contributed to the study of these variables among others include:

Onijingin, Alokan and Osakilen (2015) conducted a study on "The Influence of Parents' Educational Background and Study Facilities on Academic Performance among Secondary School Students in Ondo State". The objective of the study was to examine the influence of Parents' Educational Background and Study Facilities on Academic Performance among Secondary School Students in Ondo State. Two hypotheses were formulated for the study. The researchers used descriptive research design of survey type. Stratified random sampling was used to draw out the sample. Three schools were chosen randomly from urban areas and three schools were also randomly chosen from rural areas. In each school, 40 students of both sexes were selected, making a total of 240 students. A self-designed questionnaire called Academic Performance Questionnaire (APQ) was used for the study. The results of the external and uniform Junior Secondary School Certificate Examination were collected from the principal of the schools. The data generated were analyzed using t-test for the two hypotheses. The hypotheses were tested at 0.05level of

significance. The results of the findings revealed a significant difference between academic performance of students from parents with high educational background and students from parents with low educational background.

A significant difference was also found between the academic performance of students having study facilities at home and students with no study facilities at home. It was concluded from the results that parental educational background and having study facilities at home have great influence on academic performance.

This present study is similar to the past study since parental educational level was among the determinant factor in examining students' academic performance, nature of data used and the statistical tools used in testing hypothesis. However, the present study involved tertiary institution students as subjects under investigation which was not the case in the past study, and the area of study is larger. So the researcher intends to bridge the gap in the area of how academic performance of tertiary institutions students would be influenced by the factors under investigation and also as bases for generalization which the previous study lacks.

Muruwei (2016) conducted a study on "Parents' level of Education and Senior Secondary Students' Academic Performance in English Language in Bayelsa State, Nigeria." The main objective was to examine parents' level of education and senior secondary school students' academic performance in English Language in Bayelsa State Nigeria and four objectives, research questions and hypotheses for the study were formulated. Descriptive Survey and a sample of the study were 250 students were randomly selected from forty secondary schools in Bayelsa State. The instrument used for this study was a 20 item-questionnaire. Oral interview and practical observations made as complementary tools. The formulated hypotheses were tested using independent t-test analysis.

The result of the findings showed that, though parents' level of education affects children's academic performance, other variables such as facilities and the learning environment are also very important. This present study is similar to the past study since parental educational level was among the determinant factor in examining students' academic performance, nature of data used and the statistical tools used in testing hypothesis. However, the present study involves students of tertiary institutions as subjects under investigation covering a wider geographical location which was not the case in the past study.

Another research study was conducted by Akinsanya, Ajayi, and Salami (2017) in Ogun state on the "Relative Effects of Parents' Occupation, Qualification and Academic Motivation of Wards on Students' Achievement in Senior Secondary School Mathematics". The objective of the study was to determine the extent to which Relative effects of parents' occupation, qualification and academic motivation of wards on student's achievement in senior secondary school mathematics. One of the null hypotheses stated for the study. The study employed ex-post facto type of research and the sample was selected using the multi-stage sampling technique. Two thousand four hundred students from 60 selected schools in nine local government areas within Ogun State, Nigeria were involved and two research instruments namely; Students' Questionnaire and Mathematics Achievement Test were used. Data were analysed using multiple regression at 0.05level of significance.

The result reveals that parents' education has the highest significant influence on the academic achievement of students in Mathematics while the effect of academic motivation had the least effect among the variables which exerted significant effects on students' academic achievement in Mathematics. This present study is similar to the past study since parental educational level and occupation were among the determinant factors in examining students' academic performance. Also the study shares similarities in research design and sampling technique. The present study explored the variables under investigation independently which the past study did not do. And also, the present study involved students from tertiary institutions as subjects under investigation which was not the case in the past study. So the researcher intends to bridge the gap in the areas.

The result of the findings showed that, though parents' level of education affects children's academic performance, other variables such as facilities and the learning environment are also very important. This present study is similar to the past study since parental educational level was among the determinant factor in examining students' academic performance, nature of data used and the statistical tools used in testing hypothesis. However, the present study involves students of tertiary institutions as subjects under investigation covering a wider geographical location which was not the case in the past study. So the researcher intends to bridge the gap in these areas as lacked by the previous study.

Having gone through previous work in this area, there is very little if any evidence-based research that isolates each variable and judges the influence of each on the academic performance of students in business education. Majority of the past studies focus on secondary schools. The current study covered areas of parents' educational status and occupation in colleges of education and students' academic performance.

It the desire of every parent to see his/her children putting brilliant and outstanding performance in their academic pursuits. This informs parents doing the most they can to ensure that their wards excel in school and graduate with good result to be able to secure jobs that will made them assume the commanding heights of society. Parents are seen running head over heels in trying to ensure that they adequately provide and support their children's academic pursuits in a financial sense also offering moral encouragement. In reorganizing education as the key to development for many nations, various governments over the years have initiated and undertaken various educational programme and projects that will give access to schooling and better the lot of the people. It is believed that with a good system of education in place, vocational manpower skills would be provided and the productivity of the people will rise and their standard of living improved. Against this background therefore, Nigeria has since independence put in place policy initiatives that are geared towards; Development of human resources, Reduction of unemployment, Stimulation of economic growth and Improvement of the lifestyle of the people. In spite of the launching and implementation of these laudable educational programmes to take education to a higher level poor academic performance still remains a household word. Investment in education both on the part of parents and government do not seen to go in tenant. Performance does not justify investment, there seems to be a gap that is ever widening. The standard of education including business education has been derailed from what it ought to be. Effiong (2016) states that some years ago the cry of many Nigerians was falling standard of education and no one can say empirically that the Nigerian standard of education has 'risen' since then. Certainly, speaking of the standard in education one can say that it is getting worse. This has been corroborated by Jeinbiaje

(2011) in Yusuf (2016) who asserts that poor academic performance is a re-occurring decimal in both secondary and tertiary institutions in Nigeria.

Reports and observations from the institutions in the study area have also indicated that success and high academic achievement have become a herculean task to attain among business education students for three consecutive years (Examination Office, Shehu Shagari College of Education Sokoto and Adamu Augie College of Education, Argungu 2021, 2022 & 2023). This has affected the attainment of the objectives for the provision of competent business education teachers at Junior Secondary School level, which is one of the primary aims for establishment of the colleges of education in the country. The abysmal of students' performance in colleges of education in Nigeria has been and is still a source of concern to researcher's educators, government, parents and students. All over the country there is a consensus of opinion about the fallen standard of business education in Nigeria. Many researchers have sought to find out the reasons for the downward trend in the academic performance of business education students.

In their views, the parents/guidance education and parent's occupation may be responsible for the poor performance of business education students colleges of education. The extent to which these factors are responsible for poor academic performance has, however, not been clear. It is as a result of this that, the study in establishing the influence of parent's education and occupation on the performance of students of business education would have addressed the missing link in investment in education and academic performance especially as it pertains to business education.

Objectives of the Study

The objectives of this research work are to:

i.   assess the influence of parents' education level on the academic performance of NCE (business education) students in Shehu Shagari Colleges of Education and Adamu Augie College of Education Argungu.
ii.   find out the influence of parents' occupation on the academic performance of NCE (business education) students in Shehu Shagari College of Education and Adamu Augie College of Education Argungu.

Research Questions

In line with each specific objective, the following research questions were raised:

i.   What is the influence of parents' education level on the academic performance of NCE (business education) students in Shehu Shagari College of Education and Adamu Augie College of Education Argungu?
ii.   What is the influence of parents' occupation on the academic performance of NCE (business education) students in Shehu Shagari College of Education and Adamu Augie College of Education Argungu?

Research Hypotheses

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

H0$_1$:   There is no significant influence of parents' education level on the academic performance of NCE (business education) students in Shehu Shagari Colleges of Education and Adamu Augie College of Education Argungu.

H02:   There is no significant influence of parents' occupation on the academic performance of NCE (business education) students in Shehu Shagari College of Education and Adamu Augie College of Education Argungu.

Methodology

Ex-post-facto research design was used for the study.   Ex-post facto research design or after research is generally a design in which investigation starts after facts have occurred without interference from the researcher.

The population of the study consisted of 56 NCE II Business Education students from the two colleges of education comprising 20 students from SSCOE and 36 from AACOE. All the 56 students were used as sample for the study because Glenn (2009) cited in Adamu (2014), recommended that at Precision level of 3% for population of less than 1,000, all of them should be use.

The instrument was validated in Test and Measurement Department of Faculty Education Ahmadu Bello University Zaria; a reliability coefficient of 0.78 was obtained using Kuder Richard (K12).

Data was generated through the administration of questionnaire and academic records of the students (2021-2022 session). Mean and Standard deviation were employed to answer research questions. T. test was used to test null hypotheses. According to Anthony (2016), simple regression should be employed where is one independent and dependent variables that are categorical.

Findings

This section presents analyses of the data collected in the study in order to answer the two research questions raised for the study. For clarity, the analysis was done taking the research questions one after another.

Research Question One: What is the influence of parental education on the academic performance of business education students in Shehu Shagari College of Education and Adamu Augie College of Education Argungu?

To answer this research question, the data collected on Parents' educational level and corresponding students' academic performance (CGPA) from the two colleges of education were sorted and analysed using descriptive statistics of Mean and Standard deviation on SPSS version 23.0 and the results are presented in Table 1.

Table 1: **Mean and Standard Deviation between Parental education level and the academic performance of business education students in SSCOE and AACOE**

Variables	N	Mean	SD	Mean Difference	Decision
Parents' Education	56	2.9286	.99411	0.1619	Influenced
CGPA	56	3.0905	.85104		

Source: Result of fieldwork 2021/2022

Table 1 presents the descriptive statistics of mean and standard deviation analysis conducted to establish the influence of parents' educational level on academic performance of business education students in SSCOE Sokoto, Sokoto state and AACOE Argungu, Kebbi state. The data analysis revealed a negligible amount of mean difference of 0.1619 between mean score of parents' educational level (N=56, Mean=2.9286 & SD=0.9941) and students' CGPA (N=56, Mean=3.0905 & SD=0.85104) which indicated that Parents' level of education has high level of influence on academic performance of students in Business education in the two colleges of education.

Research Question Two: What is the influence of parental occupation on the academic performance of business education students in Shehu Shagari Colleges of Education and Adamu Augie, Argungu?

To answer this research question, the data collected on Parents' occupation and corresponding students' academic performance (CGPA) from the two colleges of education were sorted and analysed using descriptive statistics of Mean and Standard deviation on SPSS version 23.0 and the results are presented in Table 2.

Table 2: **Parents' occupation and academic performance of business education students in Shehu Shagari Colleges of Education and Adamu Augie, Argungu?**

Variables	N	Mean	SD	Mean Difference	Decision
Parents' Occupation	56	3.0629	.91267	0.0276	Influenced
CGPA	56	3.0905	.85104		

Source: Result of fieldwork 2021/2022

Table 2 presents a summary of the descriptive statistics of mean and standard deviation analysis conducted to establish the influence of parents' occupation on academic performance of bussiness education students in SSCOE Sokoto, Sokoto state and AACOE Argungu, Kebbi state. The data analysis revealed a very negligible amount of mean difference of 0.0276 between mean score of parents' occupation (N=56, Mean=3.0629 & SD=0.91267) and students' CGPA (N=56, Mean=3.0905 & SD=0.85104) which indicated that Parents' occupation has a very high level of influence on academic performance of students in Business education in the two colleges of education.

Test of Hypotheses

This section presents analysis of the two null hypotheses formulated in the study. The analysis was done electronically on SPSS version 23.0 and the results are presented in Table 3

Table 3: **Model Summary, ANOVA and Coefficients table for Multiple Regression analysis between for the Influence of Parental Education and Occupation on Academic Performance of Business Education Students' in SSCOE Sokoto, Sokoto state and AACOE Argungu, Kebbi state**

Model Summary and ANOVA tables

Model	R	R Square	Adjusted R Square	F-Cal	df	Sig.
1	.834[a]	.696	.684	60.662	(2, 53)	0.00

Coefficients Table

Model		Unstandardized		Standardized		
		B	Std. Error	Beta	t-Cal	Sig.
1	(Constant)	.754	.229		3.294	.002
	Parents Education	.475	.100	.554	4.768	.000
	Parents Occupation	.309	.108	.331	2.849	.006

a. Predictors: (Constant), Parents Occupation, Parents Education
b. Dependent Variable: CGPA

Table 3 is a summary of multiple regression analysis conducted to establish the degree of influence of parents' education and occupation on academic performance of business education students in SSCOE Sokoto and AACOE Argungi, kebbi state. The analysis revealed that the independent variables (parents education and parents occupation) significantly predicted academic performance of business education students $F(2, 53)=60.662$, $p< 0.001$ in SSCOE Sokoto and AACOE Argungu, which indicates that the two factors (parents education and parents occupation) have statistically significant influence on academic performance of Business education students in the two schools. Moreover, the $R^2 = .696$ depicts that the model explains 69.6% of the total variance in academic performance (CGPA). Therefore, the null hypothesis 1 is rejected.

Null Hypothesis 1 (H0₁): There is no significant influence of parental education on the academic performance of NCE Business Education Students in SSCOE Sokoto, Sokoto state and AACOE Argungu, Kebbi state

To analyze this null hypothesis, coefficients table in Table 3 was further assessed to determine the significance of the influence of parents' educational level on the criterion variable (academic performance in terms of CGPA). The results revealed that parents educational level has statistically significant positive influence on academic performance in terms of CGPA of Business education students in SSCOE Sokoto and AACOE Argungu (Beta = 0.475, t = 4.768, p =0.001). Hence, the null hypothesis 1 was rejected

Null Hypothesis Two (H0₂): There is no significant influence of parental occupation on the academic performance of NCE Business education students in SSCOE Sokoto and AACOE Argungu.

To analyze this null hypothesis, coefficients table in Table 3 was further examined to ascertain the influence of parents' occupation on the criterion variable (academic performance in terms of CGPA). The results revealed that parents occupation has

statistically significant positive influence on academic performance in terms of CGPA of business education students in Shehu Shagari College of Education, Sokoto and Adamu Augie College of Education, Argungu (Beta = 0.309, t = 2.849, p =0.006). Hence, the null hypothesis 2 was also rejected

Discussion of Major Findings

The major findings of these studies were chronological presented in the following manner:

With reference to research question one and null hypothesis one (HO)1, the results have revealed that parents' education influenced the academic performance of NCE business education students' in Shehu Shagari Colleges of Education, Sokoto and Adamu Augie College of Education Argungu.

The study discovered that there exist a positive relation between parents' education and the academic performance of business education students in the studied area. This implies that the more educated parents are, the higher students' tends to perform academically. This finding concurred with what was obtained by other researchers by Musgrave (2020) who opined that a child that comes from an educated home would like to follow the steps of his/her family and by this, work actively in his/her studies. He said further that parents who have more than a minimum level of education are expected to have a favourale attitude to the child's education and to encourage and help him/her with school work. Equally Tavani and Losh (2018) posited that parental education plays a significant role in the amount of parental involvement.

Research question two and null hypothesis two (HO)2 revealed that parents' occupation influenced the academic performance of NCE business education students' in Shehu Shagari Colleges of Education, Sokoto and Adamu Augie College of Education, Argungu. A Strong and direct relationship existed between parents' occupation and the academic performance of NCE business education students in the studied area. This by implication also means that, the higher the parents' occupational status, the higher that students' tends to perform better academically.

This finding agreed with the result obtained by Akanle, (2017) who observed that Parental income in his work to be a major factor upon which the academic/vocational successes of school students' life can thrive. He also found that parental occupation to a large extent affects the psychological balance or homeostatic balance in the class room

Conclusion

Based on the four objectives that the research work addressed, the researcher concluded:

i.   that parents' education and parents' occupation influenced students' academic performance. The inference of the study is that the possibility of highly educated parents tends to get more involved in their children academic pursuit than the less educated ones. Students whose parents were highly placed in the occupational ladder tend to be more psychologically balanced to face academic stress and as well may not lack necessary materials that boost their academic performance.

Recommendations

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

1. Parents with low education should as matter of importance be advice to provide a conducive background variable which could be interacting with students' academic activities.
2. Parents in low occupation ladder should be advice and encouraged to provide
3. the children with needed resources so that they can be psychologically balanced to face the academic stress.

References

Akinsanya, O. O., Ajayi, K. O. & Salomi, M. O. (2017). Relative Effects of Parental Occupation, Qualification and Academic Motivation of Wards on Students Achievement in Senior Secondary School Mathematics in Ogun State. *British Journal of Arts and Social Science, 3* (2): 242 - 252.

Akanle, O. B. (2017). *Socio-economic Factors Influencing Students Academic Performance in Nigeria.* Retrieved from http://www.The free library.

Anthony, J. O. (2016). Linking Research Question with to Mixed Method Data Analysis Procedure. From http//www.nova edu/sss/QR/QR11-3/onwuegbuzie.pdf: Retrieved on20/11/2011.

Castillo, R., Ruiz, J. R., Chillón, P., Jiménez-Pavón, D., Esperanza-Díaz, L., Luis A., Moreno, F & Ortega, B. (2011). Associations Between Parental Educational/Occupational Levels and Cognitive Performance in Spanish.

Douglas Y. (2006). *Principles of Determining Sample in Educational Research.* Unpublished reading Material in Research

Effiong, R. (2016). *Competency-Based Education: A Solution to Examination Problems in Schools: A case for U.B.E system.* Paper presented at the 2001 National Conference of AAVEN, AKS College of Education, 22-26.

Hill, N.E., Castellino, D.R., Lansford, J.E., Nowlin, P., Dodge, K.A., Bates, J.E., & Pettit, G.S. (2012). Parents Academic Involvement as Related to School Behavior, Achievement, and Aspirations: Demographic Variations Across Adolescence. *Journal of child development, 7* (5): 1491-1509.

Li, Y., Lerner, J., & Lerner, R. (2019). Personal and Ecological Assets and Academic Competence in Early Adolescence: The Mediating Role of School Engagement. *Journal of Youth Adolescence, 3* (9): 801-815.

Muruwei, M. (2016). *Parents' Level of Education and Senior Secondary Students' Academic Performance in English language in Bayelsa State, Nigeria.* Retrieved from http://www.ajol/journal/jorind.

Musgrave, C. B. (2020). Environmental Factors Affecting Attitude towards Science and Mathematics. *Journal of Educational Psychology*, **91** (1): 382 – 394.

Onijingin, E. O., Alokan, F. B. & Osakinle, E. O. (2015). The Influence of parents' educational background and study facilities on academic performance among secondary school students in Ondo State. *Ozean Journal of Social Sciences, 6* (2): 78-89.

Tavani, C. M., & Losh, S. C. (2018). Motivation, Self-Confidence, and Expectations as Predictors of the Academic Performances Among our High School Students. *Child Study Journal*, **3** (5): 141-151.

Yusuf G. B. (2016). *Influence of Parents' Economic Background and Academic Performance of Business Education Students in Colleges of Education in Northwest Geo Political Zone, Nigeria.* An Unpublished Theses.

EFFECTS OF COMPUTER- BASED INSTRUCTION ON STUDENTS' PERFORMANCE AND RETENTION ON TRIGONOMETRY AMONG SENIONR SECONDARY SCHOOLS IN SOKOTO STATE, NIGERIA

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Abstract

This study examined the effects of Computer-Based Instruction (CBI) on students' performance and retention on Trigonometry among Senior Secondary School Students in Sokoto state, Nigeria. The study was guided by two research questions and two null hypotheses. Quasi experimental research design involving two groups (experimental and control) was used. The population of the study was twenty seven thousand eight hundred and seventy six (27,876) comprised of Senior Secondary School Two (SS 2) students of the public senior secondary schools in Sokoto Metropolis in Sokoto state. Two (2) coeducational schools were selected using the simple random sampling technique for the study. Two intact classes of SS 2 students were used for the study which involves (52 males and 50 females) respectively. The instrument used for data collection was Trigonometry Performance Test (TPT). The hypotheses were analyzed using the t-test at P ≤ 0.05 level of significance using Statistical Packages for Social Sciences (SPSS). The results showed a significant difference in performance in favour of the CBI group. Also, the CBI group was observed to have better retention ability compared with their counterpart in the control group. Based on the finding's it was recommended that teachers should employ CBI in the teaching of Trigonometry at the SS level to enhance students' performance and retention. Finally, workshops and seminars for mathematics teachers should be organized by the Ministry of Basic and Secondary Education for each educational zone in Sokoto State on the use of CBI.

Keywords: Computer-Based Instruction (CBI), Performance, Retention and Trigonometry

Introduction

Education is considered to be the most powerful tool for all-round development of the human beings. As such, the enlightened nations have to assign priority to education system. The utility of Mathematics made it an inevitable course of school life all over the world. But what a great misfortune with such a significant subject that the majority of school going population is afraid of it (Susan, 2006). This dread of Mathematics is due to callous and weak approach of teaching mathematics. Students who are bright and shining in almost all other subjects of their study should not be blame for this discrepancy. Mathematics taught at secondary level is not compatible with the needs of students and in line with the prevailing boom of technology in Nigeria (Sulman, 2006).

Development of any society comes from educational development in which frequent changes have been made in the pattern of education from time to time to meet the needs of society. The remarkable progress of science and technology and the economy have not been only causing great changes in every aspect of society but also bringing crucial changes in education (Anderson, 2007). Although the textbooks elaborate the concepts logically, comprised of numbers of solved examples, illustrations and exercises, the situation of teaching of mathematics in typical schools of Nigeria is that there is no room for participation, intellectual development, expositions of incorporating derivation, and

theorem-proving exercises in which students verify mathematical facts in a symbolic computation environment. Learning mathematics include solving various types of problems, from those which require performing arithmetical operations to those which require problem solving skills. Students are faced with mathematical trigonometrical problems consisting of both word and numbers as early as the pre-school age and also later in school age. Effective performance and retention of trigonometrical problems requires affective approach (Anderson, 2007).

Mathematics which has been aptly described by many individuals as the queen and servant of all subjects has been of great importance to mankind very many years ago. In contrast to other disciplines, the knowledge of mathematics has a boundless limit in terms of application and usage. In fact, one would regard mathematics as a basic tool in realizing global aspiration in the areas of science and technology. Azuka, and Harbour, (2000) all stressed the importance of Mathematics. They maintained that Mathematics is the foundation of science, and science as the bedrock of modern development is the foundation of technology. Hence for any nation to achieve meaningful technological development there must be effective teaching and learning of Mathematics in the school system.

Neuman (2008) described Mathematics as the language of nature which can satisfy a wide range of interests and abilities. It develops the imagination, and trains individual in a clear and logical thought. It is a challenge with a variety of difficult ideas and unsolved problems, because it deals with questions arising from complicated structures. Today more than ever before, all fields of knowledge are depending on mathematics for solving problems, stating theories and predicting outcomes. It is an indispensable tool in creating new knowledge. Nigeria like any other developing nation is making a swift move towards technological development. However, any loud able achievement in technological development will be hampered if the potential Scientists, engineers and technologists are not fully equipped with sound knowledge of mathematics. Daves (2006) was of the view that new technologies have the potential to support education across the curriculum and provide opportunities for effective communication between teachers and students in ways that have not been possible before. Several studies such as Hussain & Safdar (2008), Groff (2013) and Scott (2015) argued that the use of new technologies in the classroom is essential for providing opportunities for students to learn and operate in an information age.

It is evident, as Daves (2006) argued that traditional educational environments do not seem to be suitable for preparing learners to function or be productive in the workplaces of today's society. She claims that organizations that do not incorporate the use of new technologies in schools cannot be seriously claimed to prepare their students for life in twenty-first century. Due to the importance of computer in our classrooms and the entire school system, the possible obstacle to the integration of these technologies in schools would be an important step in improving the quality of teaching and learning. However, current research would suggest that the use of computer will necessarily transform science education. The improvements in the capabilities of computers and advances in telecommunication technology tools have important implications for education in mathematics and technology. The ever-increasing sophistication in computing and telecommunications technologist has led to questions that challenge the spatial and temporal boundaries (Jonassen, 2005).

Information and communication technology (ICT) now offers the possibility for learning and teaching to take place in new settings and to inspire and facilitate lifelong education. The Information and Communication Technology (ICT) has become the basis of any other technology, mode of delivery communication and interaction. According to UNESCO (2002), Information and Communication Technology is defined as the combination of informatics technology (technological applications of informatics in society) with other related technologies, specifically communication technology. Therefore, making use of computer, internet, websites, e-mails chatting, online programs and educational software comes under Information and Communication Technology (ICT). Information and Communication Technology (ICT) enables students to work at their own pace with continuous assessment, in contrast to the traditional teaching methods which can be described as batch-processing with episode assessment. Continuous assessment allows teachers to pinpoint the areas where students falter- and incase of some multi-media programs, those areas trigger further practice automatically so that students receive more instructions "just in time" when they need it most (Susan, 2006).

Studies of the scholars such as Akcay and Unal (2009) and Wekesa (2017) reported that CBI improves students' learning outcomes especially in science- based subjects like mathematics. Also Olga, (2008) and Gambari, Falode & Adegbenro (2014) asserted that innovative methods involving CBI enhances students' retention of trigonometry concepts of senior secondary school students. It will be quite imperative to look for a computer related teaching approach which could make the teaching of mathematics more useful, interesting and meaningful. Hence Trigonometry should be taught with a computer related teaching approach.

The persistent poor performance of senior secondary school students in terminal and Senior Secondary School Certificate Examination (SSCE) in mathematics and trigonometry in Sokoto state, Nigeria has been a major concern for parents, Science educators and Government who spent a lot of money in funding education but to no avail. Also, other problems comprise blaming the curriculum, mathematics teachers and methods of teaching rather than student's lack of capacity to learn. The selection of teaching technique is not an easy task this is because there is no single method that seems to work well for everyone and all situations. In addition, every mathematics teacher should identify appropriate methodology based on the nature of the subject matter and instruction to be given. Most Mathematics teachers use irrelevant and ineffective methods of teaching which are among other factors contributed to students' poor performance in trigonometry which may lead to not having good results to mathematics in general.

The need to find reliable ways of improving students' performance and retention in trigonometry and mathematics is becoming an international issue, this is because the conventional lecture method of teaching mathematics is no longer effective (Bolaji, Kajuru & Timayi, 2015). Consequently, the study explored Computer-Based Instruction (CBI) on student's retention and performance in algebraic word problem an area of mathematics students' have shown lack of understanding.

Objectives of the Study

The following objectives were to determine the:

i.   effects of Computer-Based Instruction on the Performance Senior Secondary School Students taught trigonometry and those taught using lecture method in Sokoto Metropolis in Sokoto State, Nigeria.
ii.   retention ability of Senior Secondary Schools Students taught trigonometry using Computer-Based Instruction and those taught using lecture method in Sokoto Metropolis in Sokoto State, Nigeria.

Research Questions

The following are the research questions:

i.   What is the difference in the Performance of Senior Secondary School Students taught Trigonometry using Computer-Based Instruction and those taught using lecture method in Sokoto Metropolis in Sokoto State, Nigeria?
ii.   What is the difference in the retention ability of Senior Secondary School Students taught Trigonometry using Computer-Based Instruction and those taught using lecture method in Sokoto Metropolis in Sokoto State, Nigeria?

Research Hypotheses

The following null hypotheses were tested at 0.05 alpha level of significance:

H_{01}:   There is no significant difference in the Performance of Senior Secondary School Students taught Trigonometry using Computer-Based Instruction and those taught using lecture method in Sokoto Metropolis in Sokoto State, Nigeria.
H_{02}:   There is no significant difference in the retention ability of Senior Secondary School Students taught Trigonometry using Computer-Based Instruction and those taught using lecture method in Sokoto Metropolis in Sokoto State, Nigeria.

Methodology

The study utilized the pretest, posttest and post posttest using quasi experimental design involving two groups (experimental and control groups). The population of this study covered all the SS 2 students in Sokoto Metropolis with total of 27,876 students. Two schools were selected using intact classes which comprised of (52 experimental and 50 control) students were used for the study. The selected schools were homogenous with very similar conditions in terms of staffing, provision of equipment, instructional materials and enrolment.

The instrument of Trigonometry Performance Test (TPT) developed by the researchers was validated by experts in mathematics education and was also used for data collection. TPT had a reliability index of 0.789 from the Persons' Product Moment Correlation (PPMC). The treatment period lasted for six (6) weeks after which the post test was administered. The post-posttest was administered two weeks after the posttest. The research questions were answered from the mean and standard deviations scores while the hypotheses were tested using the t-test statistics at $P \leq 0.05$ level of significance by the aid of the computer software Statistical Packages for Social Sciences (SPSS).

Results

The research questions and the corresponding hypotheses were answered and tested using one table. These are presented as follows:

Research Question One

What is the difference in Performance of Senior Secondary School Students taught Trigonometry using Computer-Based Instruction and those taught using lecture method in Sokoto Metropolis in Sokoto State, Nigeria?

Research Question Two

What is the difference in retention ability of Senior Secondary School Students taught Trigonometry using Computer-Based Instruction and those taught using lecture method in Sokoto Metropolis in Sokoto State, Nigeria?

Hypothesis Testing

H_{01}: There is no significant difference in Performance of Senior Secondary School Students taught Trigonometry using Computer-Based Instruction and those taught using lecture method in Sokoto Metropolis in Sokoto State, Nigeria.

The posttest data generated from TPT were subjected to t-test statistics to test hypothesis one. Summary of the analysis is shown in Table 1.

Table 1: **Summary of t-test Analysis of Posttest Mean Score of Experimental and Control Groups**

Groups	N	Mean	S.D	df	t-value	P-value	Decision
Experimental	52	58.94	18.78				
				101	4.79	0.001	Reject $H0_1$
Control	50	39.71	20.92				

*Significant at P≤ 0.05

Table1 shows that the experimental group had a mean performance score of 58.94 while the control group scored 39.71. In addition, their respective standard deviation (SD) is 18.78 and 20.92. Clearly, the experimental group outperformed the control group with a mean difference of 19.23. This implies that Computer-Based Instruction as a method of teaching trigonometry in senior secondary schools is more effective compared to the lecture method of teaching trigonometry in senior secondary schools in Sokoto state and Nigeria in general.

The result also revealed that the t-value of 4.79 and P-value of 0.001 were observed at 96 degree of freedom. Since the P-value (0.001) is less than the alpha value of 0.05, it means that there is significant difference between the two groups in terms of their mean performance. Therefore, the null hypothesis one is hereby rejected. It is concluded that the experimental group performed better than the control group in senior secondary schools in Sokoto State, Nigeria.

Research Hypothesis Two

H₀₂: There is no significant difference in retention ability of Senior Secondary School Students taught Trigonometry using Computer-Based Instruction and those taught using lecture method in Sokoto Metropolis in Sokoto State, Nigeria.

The post posttest data generated through TPT administered two weeks after the posttest was subjected to the t-test statistics to determine the retention level of the experimental and control groups. Table 2 presents the summary of the analysis.

Table 2:   Summary of t-test Analysis of the Post Posttest Mean Score of the Experimental and Control Groups

Groups	N	Mean	S.D	df	t-value	P-value	Decision
Experimental	52	48.71	18.73				
				101	4.85	0.001	Reject H0₂
Control	50	33.69	16.42				

*Significant at P≤ 0.05

From the summary of t-test analysis in Table 2, the experimental group had a mean post-posttest score of 48.71 while the control group scored 33.69. In addition, their standard deviation score is 18.73 and 16.42 respectively. This indicates that the students taught using Computer-Based Instruction had better retention ability as compared to those taught by the lecture method of teaching senior secondary school in Sokoto State, Nigeria.

Moreover, the result shows that the P-value of 0.001 is less than the alpha value of 0.05. Consequently, a significance difference exists in the post - posttest mean performance scores in trigonometry between the experimental and control groups in senior secondary schools in Sokoto State. The hypothesis two is hereby rejected.

Discussions

The result of the hypothesis one shows that the students in the experimental group who were taught trigonometry using Computer-Based Instruction performed significantly better and achieved higher scores than their counterparts in the control group also taught trigonometry in senior secondary schools in Sokoto State. This suggests that CBI is more effective in teaching trigonometrical concepts. Therefore, the result of this study has shown that the use of technology in constructivist teaching and learning environment can significantly improve students' academic performance. The findings are in agreement with the findings of Akcay and Unal, (2009) and Wekesa (2017) who found and reported that there was significant difference in the performance of students taught mathematics using CBI. It also tallies with Waxman and Hung (2010) who added that students performed better when exposed to technological based instruction such as the CBI.

The post-posttest score results showed that experimental group taught trigonometry using CBI retained trigonometry concepts better than their counterpart in control group that taught trigonometry using lecture method. This finding is in conformity with that of Olga, (2008) and Gambari, Falode & Adegbenro (2014). This is because understanding and

retention is product of meaningful learning. Hence, when teaching method is effective and meaningful to students, retention is improved upon.

Conclusion

Based on the findings from this study, it was concluded that:

1. Computer-based instruction method is more effective instructional approach in teaching the concept of trigonometry to senior secondary school students Sokoto state.
2. Computer-based instruction improves the performance and retention of students under study in Sokoto state.

Recommendations

Based on the findings, the following recommendations were made:

1. Mathematics teachers should employ the Computer-Based Instruction in the teaching of trigonometry in senior secondary schools in Sokoto state to enhance students' performance and retention ability.
2. Teachers of other science- based subjects such as physics, chemistry and biology should utilize CBI in the teaching primary, secondary and tertiary institutions in Sokoto state.

References

Akcay, N. and Unal, I. (2009). The effect of computer Assisted Instruction on the learning of black body, Compton and X-rays western Anatolia, *Journal of Educational Science*, **3** (2): 18 – 26.

Anderson, U. (2007). The contribution of working memory to children's mathematical word problem solving. *Applied Cognitive Psychology,* **21**: 1201-1216.

Azuka, E. & Harbour, J. (2000). *Strategies for teaching difficult concepts in mathematics and factors for poor performance*. A paper Presented at the seminar organized by Obafemi Awolowo university, Ile-Ife 12th May.

Bolaji, C., Kajuru, Y. K., and Timayi, J. M. (2015). Effects of Jigsaw IV cooperative learning strategy (J4CLS) on academic performance of secondary school students in geometry. *International Journal of Mathematics Trends and Technology*, **28** (1): 12-18.

Daves, A. (2006). History, computer and video. *Journal of the Australian Council for Computers in Education,* **28** (1): 37 – 39.

Groff, J. (2013). *Technology-rich innovative learning environments.* Retrieved from http://www.oecd.org/education/ceri/Technology-Rich%20Innovative%Groff.pdf

Hussain, I. and Safdar, M. (2008). Role of information technologies in teaching learning process: perception of the faculty. *Turkish Online Journal of Distance Education TOJDE,* **9** (2): 46 – 56.

Jonassen, D. H. (2005). *Handbook of Research for Educational Communication and Technology.* N.Y.: Simon and Schuster Macmillan.

Olga, P. (2008). *The effects of computer-assisted instruction on the achievement, attitudes and retention of fourth grade mathematics course.* A thesis submitted to the graduate school of social sciences of Middle East Technical University.

Scott, C. L. (2015). *The futures of learning 3: what kind of pedagogies for the 21st century? UNESCO Education Research Working papers.* Retrieved from http://unesdoc.unesco.org/images/0024/002431/243126e.pdf

Susan, E. S. (2006). *Challenging Pupils in Mathematics*: A way forward to the year 2010. A series of discussion papers, teaching committee on mathematics Association.

Sulman, A. (2006). *Review of Methods of Teaching Mathematics*. Research Thesis, IER, University of Sindh, Jamshroo.

UNESCO, (2002). *Information and Communication Technology in Education.* A Comparison for schools and programs of teacher Development. Paris.

Wekesa, D. W. (2017). Computer Based Instruction: A Springboard to Students Performance in Mathematics. *International Journal of Innovative Research and Development,* **6** (1): 39 – 45.

Waxman, H. C. and Huang, J. (2010). Classroom instruction differences by level of technology use in middle school mathematics. *Journal of Educational Computing Research*, **14** (2): 151-169.