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EDITORIAL NOTE

Zamfara International Journal of Education (ZIJE) is the official Journal of the Faculty of Education, Federal University Gusau Zamfara State, Nigeria. The Journal publishes articles of diverse fields of interest in Education. Papers reporting original research and extended version of already established conference and journal articles are welcomed. Papers for publication are selected through peer review process to ensure originality, relevance and readability.

The aim and scope of the journal is to provide an academic medium and an important reference for the advancement and dissemination of information that supports high level learning, teaching and research in the fields of Education.

This edition, Volume 6, Number 3, April, 2026 is poised to present research reports in the following fields of education: Educational Foundations, Science Education, Educational Psychology, Curriculum & Instructional Technology, Guidance & Counselling, Philosophy & History of Education, Sociology of Education, Entrepreneurship education, Special and inclusive Education, Physical & Health Education Religious Education, Gender Studies, Peace & Security Education among Others. The articles in this volume are academic and professional discourse written by reputable scholars in their areas of specialization.

The Board wish to also acknowledge the efforts of the editorial members, for their ceaseless support towards successful publication of the journal. In the same vein, we acknowledge quite sincerely the assistance and support of our esteemed consulting editors for ensuring the credibility of this edition. Also, worthy of appreciation are the Authors and their immense contributions to this publication.

Dr. Umar Sodangi
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CALL FOR ARTICLES

The Zamfara International Journal of Education (ZIJE) calls for scholarly articles for review and possible publication in its next edition (Volume 6, Number 4, June 2026), ZIJE publishes articles that emphasizes on research development and application within the fields of Education. All manuscripts are reviewed by editorial review committee. Contributions must be original, not previously or simultaneously published elsewhere, and are critically reviewed before they are published. Papers, which must be written in English language, should have good grammar and proper terminologies. Hence, prospective articles are subjected to plagiarism assessment test to estimate the percentage of originality of the papers. Hence, Plagiarism threshold of ≤20% is recommended.

EDITORIAL GUIDELINES

1. Manuscripts including references, appendices, tables and diagrams should be double-spaced and single coded on A4 paper with generous margins (at least ½.5cm).
2. Title should be explicit and not more than 19 words.
3. Title page should be arranged as follows: Title, Author (s) full name, affiliation, full addresses, email addresses and phone numbers.
4. Abstract should be single line and not more than 250 words.
5. For conceptual papers, the body should have appropriate headings were necessary
6. For empirical papers, it should be presented in the following order; Introduction, Objectives of the study, Research questions and/or Hypothesis, Methodology, Results, Discussion of Findings, Conclusion and Recommendations.
7. Acknowledgement (if any)
8. Quotations of more than 40 words should be indented and typed single spacing with indication of the pages where the quotes were lifted
9. In-text citations should follow APA 7th edition format
10. References should be in range with 7th edition of APA style
11. Each table and figures should be presented within the manuscripts, with a brief and self-explanatory title
12. All text within the table should be clearly eligible, and all graphics and legends should be easily distinguished when printed in black and white
13. Tables should be in in horizontal line only, with only blank space to separate column
14. Tables and figures that may be included in the main text of the paper should be numbered separately, in the sequence that they are mentioned in the text.
15. Figures should be saved in a neutral data format such as JPEG, TIFF OR EPS.

SUBMISSION OF MANUSCRIPTS & ASSESSMENT FEE

Manuscripts for Volume, 6. Number, 4. with an evidence of a non-refundable assessment fee of five thousand Naira (N5000:00) only per manuscript should be forwarded electronically to the Editor-In-Chief or Publication Editor via; **zijefugusau@gmail.com** on or before June 20th, 2026. Furthermore, upon acceptance of manuscript for publication a non-refundable publication fee of Thirty Thousand Naira (N30,000:00) will be required for online (e-Book) version only, while Thirty-Five Thousand Naira (35,000:00) only for both online (e-Book) and hard copy versions per manuscripts submission, respectively.

Professor Abubakar Sadiq Haruna
Publication Editor

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Effects of Mastery Learning Strategy on Academic Performance and Retention in Threshold Concepts among Undergraduate Students in Kaduna State University, Kaduna, Nigeria

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Abstract
The study examined the effect of the Mastery Learning Strategy (MLS) on academic performance and retention of threshold concepts in Chemistry among 200-level students at Kaduna State University. Recognizing the critical role of Chemistry in scientific and technological advancement, mastering its foundational concepts is essential for students' academic success. Despite this, persistent challenges such as low academic performance and poor retention of threshold Chemistry concepts have been observed, highlighting the need for more effective instructional strategies. A quasi-experimental design was employed to investigate the problem. Three research questions and three null hypotheses guided the study. The population consisted of 190 200-level Chemistry students at Kaduna State University, and a simple random sampling technique was used to assign students to the experimental and control groups. The sample included all 190 students. Data were collected using the Threshold Concept Performance Test (TCPT), which had a reliability coefficient of 0.79. Analysis of the results indicated that students taught using the MLS achieved significantly higher post-test scores and demonstrated better retention of Chemistry concepts compared to students taught using conventional methods. Additionally, the study found that gender had no significant effect on students' academic performance after exposure to MLS. Based on these findings, it was recommended that students be trained in MLS to enhance their academic performance in Chemistry.
Key words: Mastery Learning, Academic Performance, Retention.

Introduction
Science is fundamentally an evidence-based discipline aimed at answering questions and solving problems. Given that many problems can have multiple solutions, students are encouraged to engage in critical thinking, observation, data collection, and inference-making to develop logical conclusion (Hassan, 2021). Through these processes, they acquire knowledge, conceptual understanding, and essential scientific skills that enhance their grasp of principles, models, and theories. As scientific knowledge continues to expand and technological advancements reshape every aspect of life, the role of science and technology in societal progress has become more pronounced (Hassan, 2021). This ever-growing interconnection highlights the necessity of a strong scientific foundation, as emphasized by Isa (2022), who describes science and technology as inseparable twins. The ability to analyze evidence, generate solutions, and apply scientific principles remains crucial in navigating the complexities of the modern world, further reinforcing the need for robust science education. The British Science Council (2021) defines science as the pursuit and application of knowledge about the natural and social world, guided by a systematic methodology based on evidence. Similarly, Zakaryyas and Bello, (2018) and Agar (2020) defines technology as the process of developing and applying techniques to convert resources into useful material objects. Among the sciences, chemistry stands out as a fundamental pillar of scientific and technological advancement (Hassan, 2021). As the central science, it serves as a unifying force among other scientific disciplines and plays a crucial role in both daily life and industrial applications. Its significance is undeniable chemistry permeates nearly every aspect of human activity and is often regarded as the cornerstone of modern science (Isa, 2023). However, despite its vital role in fostering innovation and improving quality of life, the academic performance of Nigerian secondary school students in chemistry has remained a persistent concern for many years (Muhammad, 2017; Isa, 2018; Isa & Usman, 2021). This highlights the urgent need for the implementation of effective instructional strategies to enhance students' understanding and mastery of key chemistry concepts. Traditional teaching methods, such as lectures and recitations, have been found to be relatively ineffective in achieving this goal (Wood & Gentile in Hassan, 2021). These approaches often

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promote passive rather than active learning, restricting students' ability to develop reflective thinking, critical thinking, creativity, and problem-solving skills. Recognizing the abstract nature of certain chemistry concepts, it is crucial to adopt instructional strategies that actively engage students and sustain their interest in the subject. To improve learning outcomes, chemistry instruction must be dynamic and flexible, integrating multiple strategies that foster meaningful and productive learning experiences (Muhammad and Isa 2019). One promising instructional strategy is the Mastery Learning Approach (MLA), which focuses on ensuring that all students achieve a high level of understanding before progressing to the next concept. Bloom (1968) proposed that nearly all students can attain mastery if provided with the right instructional support and opportunities for reinforcement. MLA structures learning into well-defined units, each with specific objectives, allowing for a more individualized and effective learning experience. By managing student learning within a group-based classroom setting, MLA increases the likelihood of achieving academic success and enhances overall student performance. This approach is particularly relevant for improving students' comprehension and retention of chemistry concepts, making it a valuable tool for educators seeking to enhance learning outcomes. Given that some chemistry concepts serve as threshold concept which are challenging yet transformative ideas that open new ways of thinking. Threshold concepts are essential ideas within a discipline that, although often difficult or 'troublesome' to grasp at first, lead to a profound and transformative understanding once mastered. They act as conceptual gateways that open up new ways of thinking and understanding, enabling students to progress in their subject knowledge (Meyer & Land, in Hassan, 2018). These concepts are transformative, integrative, and irreversible changing students' perceptions, revealing interconnections, and being unlikely to be forgotten. However, the transition through these conceptual thresholds can be challenging and may involve significant cognitive restructuring. Understanding threshold concepts not only helps educators identify key learning targets but also highlights past misconceptions that may hinder students' progress. Therefore, recognizing and effectively teaching these pivotal concepts is vital for fostering deep and lasting learning (Davies & Mangan- Hassan, 2021). Certain fundamental chemistry concepts, such as atomic structure, the mole, enthalpy, chemical equations, and electrolysis, are particularly challenging for students to grasp (Agogo, 2013 & Andy, 2015). These concepts, identified as threshold concepts, require deep understanding to unlock further learning in the subject. To enhance students' performances and retention of these concepts, innovative instructional strategies like Mastery Learning can be employed. Mastery of these key concepts enables students to recognize connections that were previously unclear. Therefore, this study investigates the efficacy of Mastery Learning Strategy (MLS) on academic performance and retention **in** threshold concepts in Chemistry among **2**00-level students at Kaduna State University, Kaduna, Nigeria**.**

Statement of The Research Problem

Chemistry education research continues to explore more effective teaching strategies to enhance meaningful learning and address the persistent challenges of low conceptual performance among students (Isa and Muhammad 2019). Many fundamental concepts in Chemistry are highly abstract, making it difficult for students to grasp and retain essential knowledge. Consequently, there is a need for instructional approaches that systematically break down these complex concepts, ensuring mastery and improving students' academic performance in threshold concepts. Reports from the West African Examinations Council (WAEC) between 2017 and 2024 consistently highlight Chemistry as one of the poorest-performing subjects, with examiners attributing students' failures to ineffective teaching methodologies, limited student engagement, and a lack of commitment from teachers (WAEC, Chief examiners' Report 2024). This poor performance extends to tertiary institutions where students find it difficult to pass courses involving such as atomic structure, the mole, enthalpy, chemical equations, and electrolysis, are particularly challenging for students to grasp (Andy, 2015; Isa, 2023). These concepts, identified as threshold concepts, require deep understanding to unlock further learning in Chemistry.

Several studies in Nigeria (Muhammed, 2021, Isa and Usman 2021 and Usman and Isa, 2025) have observed that Chemistry teachers often rush through the curriculum to cover all topics within a limited timeframe. This approach neglects essential pedagogical elements such as differentiated instruction, formative assessment, feedback, and corrective procedures, which are critical for mastery learning (Bloom, 1971). Moreover, research by Isa (2018) and Hassan (2021) has shown that students' poor performance in Chemistry is largely due to the inappropriate use of teaching strategies, with an over-reliance on lecture-based instruction. Additionally, the issue retention further compounds the problem, as students are rarely taken through structured learning processes that reinforce improved retention of the threshold concepts through continuous assessment and feedback mechanisms at tertiary institutions. In view of these challenges, this study investigates the effectiveness of Mastery Learning Strategy (MLS) in enhancing academic performance and retention of threshold concepts

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in Chemistry among 200-level students at Kaduna State University, Kaduna, Nigeria. While previous research has primarily explored general instructional methods in Chemistry, this study focuses on the unique role of MLS in addressing threshold concepts which are fundamental yet complex topics that often hinder students' academic performance in Chemistry. Through the use of MLS as a structured, student-centered instructional approach, this research aims to provide empirical evidence on its potential to foster deeper conceptual understanding/ improved performance and long-term retention among threshold concepts in Chemistry at tertiary-level, particularly Kaduna State University, Kaduna, Nigeria.

Objective of the Study

The objectives of the study are set to:

1. Examine the effects of Mastery Learning Strategy on the performance mean score of students taught threshold concepts in chemistry among 200- level Chemistry students in KASU
2. Determine the retention ability of students taught threshold concepts in chemistry using the Mastery Learning Strategy among 200 level students in KASU
3. Investigate the difference in the performance mean scores of male and female students taught using Mastery Learning Strategy among 200-level Chemistry students in KASU

Research Questions

1. What is the mean performance scores of 200-level Chemistry students taught threshold concepts using Mastery Learning Strategy and those taught using Conventional method in KASU?
2. What is the mean retention scores of 200-level Chemistry students taught threshold concepts using Mastery Learning Strategy and those taught using Conventional method in KASU?
3. Is there any difference in the mean performance scores of male and female 200-level Chemistry students taught threshold concepts using the Mastery Learning Strategy in (KASU?

Null Hypotheses

H_{01}: There is no significant difference in the mean performance scores of 200-level Chemistry students taught threshold concepts in using the Mastery Learning Strategy and those taught using the conventional method at KASU.

H_{02}: There is no significant difference in the retention ability of 200-level students taught threshold concepts in Chemistry using the Mastery Learning Strategy and those taught using the conventional method at KASU.

H_{03}: There is no significant difference in the mean performance scores of male and female 200-level students taught threshold concepts in Chemistry using the Mastery Learning Strategy at KASU.

Research Methodology

Research Design

The study adopted a quasi-experimental research design involving two groups: an experimental group and a control group. The experimental group was taught using the Mastery Learning Strategy (MLS) for a period of six (6) weeks, while the control group received instruction on the same concepts through the conventional lecture method. At the end of the six-week treatment period, a post-test was administered to assess the effectiveness of the treatment in improving students' knowledge of Chemistry. In addition, a post–post test was conducted to determine the retention ability of students who were taught the threshold concepts in Chemistry.

Population of the Study

The population for this study consisted of all 200-level Chemistry Education students and B.Sc. (Hons) Chemistry students offering CHM202 (Physical Chemistry I) at Kaduna State University. The selection of 200-level students as the target population was based on the fact that they enroll in CHM202, a course that contains several threshold concepts in Chemistry. Therefore, fostering a positive academic orientation toward Chemistry at this stage of study is considered important. In total, the population comprised 190 students drawn from the two programmes, including 118 females and 72 males. The detailed distribution of the population is presented in the table below;

Table 1 Population of the Study

S/No.	Program	Number of Enrollment		
		Male	Female	Total
1	BSc.Ed Chemistry	27	48	75
2	BSc. Hons. Chemistry	45	70	115

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Total	72	118	190

Source: Data from the Field, (2026)

Sample and Sampling Techniques

Two departments offer the CHM 202 course. These include B.Sc. Ed. Chemistry in the Department of Science Education and B.Sc. (Hons) Chemistry in the Department of Pure and Applied Chemistry. For the purpose of this study, the B.Sc. Ed. Chemistry group was randomly assigned as the experimental group, while the B.Sc. (Hons) Chemistry group served as the control group. Intact classes from both departments were used for the study. The distribution of the sample is presented in the table below.

Table 2. Sample for the Study

S/No.	Program	Number of Enrollment		
		Male	Female	Total
1	BSc.Ed Chemistry	27	48	75
2	BSc. Hons. Chemistry	45	70	115
	Total	72	118	190

Source: Data from the Field, (2026)

Instrumentation

One validated instrument titled Threshold Concept Performance Test (TCPT) was used for data collection in the study. The TCPT yielded a reliability coefficient of 0.79 when tested using Cronbach's Alpha statistics.

Presentation of Results

The research hypotheses were tested using Analysis of Covariance (ANCOVA) and t-test statistics at a 0.05 level of significance ($P \leq 0.05$). All statistical analyses were carried out using the Statistical Package for Social Sciences (SPSS), version 21.

Ho_1: There is no significant difference in the mean performance scores of 200-level Chemistry students taught threshold concepts in using the Mastery Learning Strategy and those taught using the conventional method at KASU

The data were analyzed using Analysis of Covariance (ANCOVA) as the statistical technique. The results of this hypothesis are presented in Table 3.

Table 3. ANCOVA Test of the Difference in Post–Threshold Concept Performance Test Scores between Students Exposed to Mastery Learning Strategy (MLS) and those taught using the Conventional Method

Source of Variation	Type III Sum of Squares	*Df*	Mean Square	F	Sig.	Remark
Covariate (pretest)	.019	1	.019	.002	.969	*NS
Intercept	6964.998	1	6964.998	544.866	6964.998	*S
Group (Treatment)	10232.552	1	10232.552	800.485	.000	*S
Corrected Model	10327.042[a]	2	5163.521	403.938	.000	*S
Residual (Error)	2390.411	187	12.783			
Total	100416.000	190				
Corrected Total	**12717.453**	**189**				

Where *S = Significant at P≤0.05, *NS= Not significant

The result presented in Table 3 shows that the Mastery Learning Strategy (MLS) had a significant effect on the post-test scores of the Threshold Concept Performance Test (TCPT) after controlling for the influence of confounding variables, $F(1,187) = 800.485$, $P = 0.000 < 0.05$ level of significance. This indicates that there is a significant difference in the post-test Chemistry performance of students who were exposed to MLS and those taught using the conventional method. The finding suggests that students taught with MLS achieved higher performance than those taught through the traditional lecture approach. Therefore, the null hypothesis which states that "there is no significant difference in the mean performance scores of 200-level Chemistry students taught threshold concepts using the Mastery Learning Strategy and those taught using the conventional method at KASU" is rejected.

H_{02}: There is no significant difference in the retention ability of 200-level students taught threshold concepts in Chemistry using the Mastery Learning Strategy and those taught using the conventional method at KASU.

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A Student t-test was employed to test this hypothesis using the post–post test scores of students in both the experimental and control groups. The detailed results of the analysis are presented in Table 4.

Table 4: t-test Analysis of post post test Scores of Students taught using MSL and those exposed to Conventional Method

Retention	N	Mean	Std. Deviation	*t-cal.*	*Df*	*P value*	Remark
Experimental	75	30.61	4.287				
				-28.499	188	0.000	*S
Control	115	15.53	3.007				
Total	**190**						

*Significant at P≤ 0.05 level of significance

Table 4 presents the findings of the study, which show that the post–post test mean score of students in the experimental group was 30.61, while the control group recorded a mean score of 15.53. The P-value of 0.000 indicates that the difference in the retention ability of students in the experimental and control groups is statistically significant. This result favours the experimental group that was taught using the Mastery Learning Strategy (MLS)**.** Therefore, the null hypothesis which states that "there is no significant difference in the retention ability of 200-level students taught threshold concepts in Chemistry using the Mastery Learning Strategy and those taught using the conventional method at KASU" is rejected.

H_{03}: There is no significant difference in the mean performance scores of male and female 200-level students taught threshold concepts in Chemistry using the Mastery Learning Strategy at KASU

Student's t-test was used to analyze the null hypothesis as shown in Table 5 below;

Table 5: t-test Analysis of Mean Performance Scores of Male and Female Students taught using Mastery Learning Strategy

Sex	N	Mean	Std. Deviation	*t-cal.*	*Df*	*P value*	Remark
Male	27	31.56	5.064				
				1.438	73	0.155	*NS
Female	48	30.08	3.735				
Total	75						

Significant at P≤0.05, *NS= Not significant

The results presented in Table 5 indicate that the Mastery Learning Strategy (MLS) did not significantly influence the performance scores of male and female Chemistry students. This is evident from the t-calculated value of 1.438 and the p-value of 0.155, which is greater than the alpha level of 0.05. This shows that there is no statistically significant difference between the mean performance scores of male and female students taught using MLS. Therefore, the null hypothesis which states that "there is no significant difference in the mean performance scores of male and female 200-level students taught threshold concepts in Chemistry using the Mastery Learning Strategy at KASU" is retained.

Discussion of Findings

The analysis of the results in Table 3 revealed that students exposed to the Mastery Learning Strategy (MLS) demonstrated improved academic performance compared to those taught using the conventional teaching method. This finding aligns with previous studies by Jack, (2019), Sani (2018) and Hassan (2021), which reported that students taught Chemistry threshold concepts through MLS performed better than their peers instructed via traditional methods. The effectiveness of MLS can be attributed to its structured instructional process. Initially, students received direct instruction on the topic, followed by group discussions to deepen understanding. Each student then completed a formative assessment, which was marked, and detailed positive feedback was provided. Students who mastered the topic proceeded to enrichment activities, while those who had not yet achieved mastery were given additional formative assessments until mastery was attained. Only then did the entire class move to the next topic. This combination of group discussions, timely feedback, and parallel/enrichment assessments facilitated meaningful learning and produced positive academic outcomes. Consequently, a significant difference in performance was observed, with students taught using MLS outperforming those taught through the conventional teaching method.

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The findings on the mean retention scores of students in the experimental and control groups for Chemistry lessons are presented in Table 4. The results indicate that students in the experimental group, who were taught using the Mastery Learning Strategy (MLS)**,** achieved higher overall scores on the delayed retention test, demonstrating greater retention of Chemistry concepts compared to the control group taught through the conventional method. These findings align with the studies of Ishtiaq and Qaiser (2016)**,** Sani (2018) and Jack (2019), which also reported that mastery learning positively influences students' retention. This suggests that the Mastery Learning Strategy enhances both learning and retention more effectively than the conventional approach, as it ensures that students fully master each learning unit before progressing to more advanced topics. The results presented in Table 5 indicate that there was no significant difference in the performance of male and female students taught threshold concepts using the Mastery Learning Strategy (MLS)**.** This suggests that MLS does not differentiate the academic outcomes of male and female students. The observed gender equality can be attributed to the interactive nature of MLS, which allows both male and female students in the experimental groups to engage in topic discussions and complete individual assessments at the end of each unit. This approach enhances understanding, improves performance, and effectively bridges any performance gap between genders. In this study, male and female students were exposed to the same concepts, taught by the same instructor using the same method, demonstrating that MLS is gender-friendly. These findings are consistent with the studies of Sani (2018) and Jimoh (2021), who also reported no significant gender differences in academic performance among students exposed to MLS. However, the findings contrast with Udo and Udofia (2014)**,** who reported that gender significantly influenced performance, with male students outperforming their female counterparts when MLS was applied.

Conclusion

Based on the findings of this study, it can be concluded that the Mastery Learning Strategy (MLS) is an effective approach for teaching Chemistry Threshold concepts in Kaduna State University. Students taught using MLS demonstrated higher academic performance and better retention compared to those instructed through the conventional method. Furthermore, the strategy was equally beneficial for both male and female students, suggesting that gender had no significant influence on performance. In other words, gender differences do not exist when Chemistry threshold concepts are taught using the Mastery Learning Instructional Strategy in Kaduna State University.

Recommendations

In the light of the findings, the following recommendations were made:

1. It is recommended that MLS be incorporated into the learning processes at the secondary, primary, and other tertiary levels. This method can help improve the students' performance because it provides them with long-term learning skills.
2. To make sure that their lessons are learner-centered, curriculum planners should establish MLS as a component of the school's curricula. This will help teachers develop a more effective and engaging teaching style. According to studies, students who are taught with a learner-centered approach are more likely to become active participants in the learning process. Instead of focusing on rote memorization and excessive teacher talk, lessons should be learner-centered. This will help prevent students from becoming disinterested in the lessons.

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References

Adebola, O. O., & Lawal, F. K. (2024). Student-centred instructional strategies and undergraduate achievement in chemistry. *Journal of University Teaching and Learning Practice*, 21(2), 45–60.

Adeyemi, T. O., & Bello, S. A. (2022). Conceptual difficulties in undergraduate chemistry: Implications for teaching threshold concepts. *African Journal of Science Education*, 10(1), 66–80.

Agar, J. (2020). *What is technology?* MIT Press.

British Science Council. (2021). *Science for society: Understanding the role of science in modern life*. London: BSC.

Guskey, T. R. (2019). *Mastery learning and instructional effectiveness*. Routledge.

Hassan, A. M. (2018). Threshold concepts and conceptual change in science education. *Journal of Science Teaching and Learning*, 12(3), 89–102.

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DOI: https://doi.org/10.64348/zije.2026370

Hassan, A. M. (2021). Impacts of Mastery- Learning Approach on Performance in Threshold Concepts in Chemistry Among Secondary School Students in Kano Municipal, Nigeria. *International Journal of Science Education*, 43(7), 1124–1142.

Isa, M.I. (2018). Effect of Jigsaw IV Cooperative Learning Strategy on students' Perception, Retention and Academic Performance in Organic Chemistry in Zaria Education Zone, Kaduna State. Unpublished M.ED Dissertation, Department of Science Education Ahmadu Bello University Zaria

Isa, I.M (2023). Effects of Jigsaw IV Cooperative Learning Strategy (J4CL4) on Students' Retention in Organic Chemistry in Zaria Education Zone, Kaduna, Nigeria. *A Paper Presented at 2nd Annual National Conference, Faculty of Education, Federal University of Lafia. Held on the 3th -7th December, 2023*

Isa, I.M. (2022). (review) Repositioning Science and Technology Education for Security and National Economic Growth and Development. *International Journal Asian Education. Vol.3, No. 3. P-ISSN223-74X/ E-ISSN2722-8592. 205-210.*

Isa, I. M., & Usman, A. B. (2021). Teaching strategies and students' achievement in chemistry at tertiary level in Nigeria. *Journal of Science and Mathematics Education*, 15(1), 52–67.

Ishtiaq, H. & Qaiser, S. (2016). Effect of Bloom's Mastery Learning Approach on Students' Academic Achievement in English at Secondary Level. *Journal of Literature, Languages and Linguistics*, 35-43. www.iiste.org.

Jimoh R. J. (2021). *Effect Of Mastering Learning Approach On Senior Secondary School Students`Achievement And Motivation In Chemistry In Chanchaga Local Government Area Of Niger State*

Jack, G. U. (2019). Effect Of Mastery Learning Instructional Strategy On Secondary School Students' Achievement And Retention Of Chemistry Concepts. *Journal Of Education In Developing Areas (JEDA)*. Vol. *27*, (2) October 2019 ISSN: 189420X

Kulasegaram, K., et al. (2021). Threshold concepts and mastery learning in higher education: Implications for curriculum design. *Higher Education Research & Development*, 40(4), 730–744.

Muhammad, I. (2021). Curriculum coverage and instructional quality in Nigerian higher education. *Journal of Teaching in Higher Education*, 26(6), 789–804.

Sani, M.B. (2018).Impact of Mastery Learning Approach on Motivation And Performance in Wave Concepts Among Senior Secondary School Physics Students in Zaria, Kaduna, Nigeria. Unpulish MED Dissertation, Department of Science Education, Ahmadu Bello University Zaria.

UNESCO. (2022). *Reimagining higher education for science and technology development*. Paris: UNESCO.

Usman, A. B., & Isa, I. M. (2025). Mastery-oriented instruction and learning outcomes in undergraduate science education. *Journal of Contemporary Educational Research*, 9(1), 23–39.

WAEC. (2018–2024). *Chief Examiners' Reports*. Lagos: West African Examinations Council.

Zakaryya, A. A. and Bello, A. S. (2018). Strengthening Science, Technology, Engineering and Mathematics (STEM) Education Through The Effect of Metacognitive Teaching Strategy on Achieving In Calculus. *STAN 59% Annual Conference Proceedings, p 82-83.*

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Comparative Assessment of Parental Involvement and Socioeconomic Status on Comprehension of English Readings among Secondary School Students in Oyo West, Oyo State, Nigeria

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Abstract
This study investigated parental involvement and socioeconomic status as correlates of students' disposition to English reading comprehension in secondary schools in Oyo West Local Government Area of Oyo State. The study adopted the survey research design of the correlational type. Simple random sampling technique was used to select five public senior secondary schools from 11 public senior secondary schools in Oyo West Local Government Area of Oyo State. Fifty SS II students were randomly selected from each school, making a total of 250 students. In all, 250 students participated in the study. Four instruments were used for data collection: Parental Involvement Questionnaire (r=.75), Parents' Socioeconomic Status Questionnaire (r=.76) and Students' Disposition to English Reading Comprehension Questionnaire (r=.78). Data collected were analysed using Person Product Moment Correlation and Multiple Regression Analysis. Findings of the study revealed that there was positive significant relationship between parental involvement ($r = 0.606$; $p<0.05$) and students' disposition to English reading comprehension. There was low significant relationship between socioeconomic status ($r = 0.214$ $p<0.05$) and students' disposition to English reading comprehension. The joint contribution of the independent variables (parental involvement and socioeconomic status) to the prediction of students' disposition to English reading comprehension was significant ($F_{(2,246)} = 74.03$; Adj $R^2 = 0.376$; $p<0.05$). Also, the relative contribution of parental involvement ($\beta = 0.585$; $t = 11.399$; $p<0.05$) to students' disposition to English reading comprehension is significant. The relative contribution of socioeconomic status ($\beta = 0.179$; $t = 2.453$; $p<0.05$) to students' disposition to English reading comprehension is significant. Based on the findings of this study, it was recommended that For effective teaching and learning of English reading comprehension, parental involvement and their socioeconomic status should be strengthened. Parents should be educated on why their involvement in their children's education is important.

Keywords: Parental involvement, socioeconomic status, students' disposition, English reading comprehension

Introduction
According to Smith (2007), reading is a mere understanding of the writer's message when he defines it as an act of communication in which information is transferred from a transmitter to a receiver. Braam (2010) defined reading as the interpretation of reading materials. Harris and Edward (2011) asserted that reading is the meaningful interpretation of printed or verbal symbols. For one to interpret there must be some level of understanding and the ability of the reader to decode the printed pages, this decoding process sees language as a spoken communication rather than written. Yashpal and Sunil (2005) noted reading as a process whereby one looks at and comprehends what has been written. Likewise, Anthony (2015) defined reading as a cognitive process that involves decoding symbols to arrive at meaning. Reading is an active process of constructing meanings of words. Getrude (2015) opined that reading as a way of understanding the printed words or symbols. To Brown (2016), reading is the act of knowing the mind of the author. Bright (2018) asserted that reading is the identification of symbols and association of appropriate meaning with them.

Reading comprehension is an intentional thinking during which meaning is constructed through interactions between the text and the reader. The reader's background knowledge is derived from his/her past experience which he connects to the

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background knowledge related to the topic to be learned assists readers in learning from the text (Saricoban, 2002). Adams (2009) noted that skilled reading comprehension involves the use of a number of cognitive skills which include: lowermost cognitive level skilled readers automatically recognise letters and words and they automatically activate the meaning of words when they read them. He states that 'skilled reading' depends uncompromisingly upon thorough familiarity with individual letters, words and frequent patterns. It is only to the extent that we have developed such familiarity that can the written word flow effortlessly from print to meaning. In the same vein, higher level cognitive processes relating what one is reading to what one already knows and creating inferential bridges to span between things that are written and things that one experienced. His notion still goes to emphasize the rule of background knowledge in reading comprehension. Generally, contemporary account of reading comprehension implicitly assumes that comprehension process involves helping readers to interpret a given text through the application of prior knowledge which creates a mental picture of what the readers is confronting in a given text. Comprehension is also seen as an integration of skills of vocabulary knowledge and its development marked by purposeful and interactive strategies (NPR 2003).

Reading comprehension is an important aspect of English language examinations. The West Africa Secondary School Certificate Examination (WASSCE) and National Examination Council (NECO) use comprehension passage to test students' reading competence. Reading comprehension is tested in all aspects of the English language in external examinations but it is more efficient in the comprehension part of the examination which carries about 40% of the whole examination. It means that for a student to perform well in external examinations, such student must be able to read and comprehend. Despite the importance attached to reading comprehension aspect of the English language, students' performance in this aspect of the English language in external examinations is still very poor. The poor performance of students in reading comprehension in external examinations has been the major cause of decline in academic achievement and standard of education in Nigeria (Fakeye, 2011). At the secondary school Certificate Examinations, a credit pass in English language is required for admission into tertiary institutions in the country.

Statistics of the West African Examinations Council show the results of students who obtained credit and above in five or more subjects including English Language and Mathematics. In WASSCE conducted in 2016, 31.28 percent (529,425) of the total 1,692,435 candidates who sat for the examination had similar results. In 2017, 59.22 percent (923,486) of the total 1,559,162 candidates who sat for the examination obtained credits and above in five or more subjects including English language and mathematics and April/May WASSCE conducted in 2018, 49.98 percent (923,486) of the total 1,572,396 candidates who sat for the examination made credits and above in five or more subjects including English language and mathematics. In 2019, 26.08 percent of candidates who sat for the examination pass English language at credit level, while the remaining 73.92 percent failed the subject. It has been discovered that students' poor performance in English Language is as a result of their poor reading culture. According to the WAEC Chief Examiners Report (2020), our candidates hardly read, if students spend good time reading very good books, English and Literature textbooks they will improve and have good command of the English language. Some candidates also lack good usage of English vocabulary in their scripts. WAEC Chief Examiners Report (2021) states that the performance of the candidates was fairly good as a result of the simplicity of the comprehension passage but on the contrary, some candidates did not demonstrate a clear understanding of the passage, such candidates resorted to copying portions of the passage as answers. Also, most candidates could not give a correct replacement for word as used in the passage.

The poor performance of students in reading comprehension as it affects students' performance in public examinations is of great concern to everybody because most students are being delayed from advancing in their studies to higher institution of learning, their inability to obtain a credit pass in the subject, which is a prerequisite for admission into any course in tertiary institutions (Ogunyemi, 2012). Ogwuegbe (2000) notes that one of the problems facing the educational system in Nigeria today is lack of reading culture. Many students cannot read and understand any given passage well. This might likely have contributed to mass failure of students in English language in external examinations. As a way of addressing this problem, studies have been carried out on effective strategies of teaching reading comprehension and student-related factors. These studies came up with good contributions to the teaching and learning of reading comprehension but with less research focus on parental involvement and social economic status as correlates of students' disposition to English

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Reading Comprehension especially in Oyo West Local Government Area of Oyo State. There are more to the problem of teaching and learning of reading comprehension than improving teaching strategies. Parenting is the process of caring and nurturing young children from infancy to adulthood. Kendiora and Leary (1993) define parenting as anything that a parent does or fails to do that may affect the child, and include caring for physical needs, playing, disciplining, teaching and establishing a pleasant emotional environment. It involves all the day to day care of children till they are responsible enough for their own needs. Lamborn (2002) explains that parenting is more about parent's attempts of controlling and directing the behaviour of children. Parenting is a complex activity that includes many specific behaviour that work severally and jointly to influence development in children. It means raising a child from infancy to adulthood and educating that child as well as installing morals and values (Berk, 2000). It involves guiding that child through his life to be a productive member of the society.

Parents are regarded as the child's teachers, friends and counsellors as long as child rearing is concerned. Christopherson (2003) stated that parents are role models to their children because children will always do what they see the parents have modeled. A parent is someone who begets or gives birth to offspring (Ejide, 2006). Parental involvement is associated with a wide range of positive child outcomes in primary and high schools, such as good academic skills, positive attitudes and social competence (Lau, Li & Rao, 2011). Parental involvement in learning acts as a gel that helps to make learning for children pleasant and encourages them to work even more as they seek to make those closest to them proud. It is the amount of participation a parent has when it comes to schooling and her child's life. Some schools foster healthy parental involvement through events and volunteer opportunities, but sometimes it's up to the parents to involve themselves in their children's education (Janosik, 2005). A parent can ensure that her child receives benefits from parental involvements by staying up to date on what is happening in the classroom, helping her child with school opportunities and knowing correct safety procedure for the school. Involvement of parents in young children's educational endeavours promotes parental engagement and has a major impact on children's academic success and social development (Pomerantz & Monti, 2015).

Socioeconomic status affects children's academic achievement. The earliest years of development seem to be the most crucial. Children are hardest hit by family economic conditions during their early years. Unlike children from high income families, children who come from poor families have little access to materials and resources. More so, socioeconomic growth and educational development has encountered serious problems, among these problems is that there are unqualified teachers in our secondary schools today which narrowed socio-economic growth of the school system. Child's capability to succeed in school depends on how successfully the child is managed by his /her parents in the home environment. It is an environment where the child learns the skills, attitudes and behaviour which could mould them into a productive and successful student. However, not every child comes from a home that could provide them with the requisite educational resources necessary for their academic success. In accordance with that, a parent's socioeconomic status plays an important role in providing these educational resources and it appears to impose the greatest impact on the child's educational outcomes. Socioeconomic status has a relatively strong impact on parental involvement compared to other factors. However, there is a question as to how far the strength of the parent's socioeconomic status could inspire a child to achieve academic success. Parental involvement has a positive impact on student achievement at all socioeconomic levels, though involvement is probably more important for low socioeconomic schools, as they are more likely to have lower test scores and graduation rates. Those pupils who get involvement and attention from their parents can be more successful in their educational career and more productive to the society. It is a common perceived assumption that academic achievement of students cannot be possible by only providing them with good school and learning environment, until parents play their positive role towards their studies. When parents are involved in their children's education, their children's attitude towards their school and education becomes more positive. Parents can provide a more stable and continuously positive influence that could enhance and complement what the school fosters on their children. In this regard, parental involvement is undeniably critical (Mji & Makgato, 2006). Studies have shown that students perform better academically and have more positive school attitude if they have parents who are aware, knowledgeable and involved (Anthony & Walshaw, 2007). Parents who are involved, tend to guild their children and encourage them to focus on studies and even spend more time developing the students' vocabulary to increase their success rate in an English examination. Results from a study conducted by Cai (2003) indicated that parental involvement is a statistically significant predictor of their children's

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achievement in English language and promoted positive behaviours and emotional development. According to Singh, Mbokodi and Msila (2004) in Pryor and Pryor (2009), one of the challenges that hampers effective parental involvement is low income that some receive per month, which leads them to working more jobs and not to spend enough time at home helping their children with their school work (Chavkin & William, 1989; Janosik, 2005). The above causes a burden to the teachers because they are expected to produce good results yet they are not receiving any support from parents. Parents' socioeconomic status is a reflection and a measure of parents' economic and social status. The general belief is that a strong and stable correlation exists between socioeconomic status and pupils' academic achievement and cognitive development. Despite that, the conclusions from studies are inconsistent (Bradley & Corwyn, 2002; Lareau, 2011). Extensive research has found that factors associated with students' family backgrounds account for much of the variance in their academic achievement and play a more critical role than schools (Arnold & Doctoroff, 2003). Family factors are the conditions and aspects of a family's environment that influence a child's development (Jankowska & Karwowski, 2019). One of these is parents' socioeconomic status. Parents' income as one of many family factors refers to money/materials earned by parents during a specified period. Imperatively, the socioeconomic level is inversely proportional to the level of economic insecurity and housing instability. Numerous studies have been linked to low-income children's lower academic performance and their poorer social skills (Jacob & Pillay, 2021). Having obstacles, especially because of low family socioeconomic can lead to stress, lack of opportunity to socialize and minimal time for family interactions (especially in a bid to secure more income). Therefore, this study investigated parental involvement and socioeconomic status as correlates of students' disposition to English reading comprehension in secondary schools in Oyo West Local Government Area of Oyo State.

Statement of the Problem

Reading comprehension is an important aspect of the English Language as students' good performance in this aspect of the English Language would help them to perform well not only in the English Language but also in other school subjects. However, studies have shown that students' poor performance in English language examinations as well as other subjects is as a result of their poor reading skills. Efforts to address this problem have made scholars and researchers to carry out studies numerous studies. Although these studies came up with useful insights to the teaching and learning of reading comprehension but with less parental involvement and socioeconomic status as correlates of students' disposition to English reading comprehension in secondary schools especially in Oyo West Local Government Area of Oyo State. Therefore, this study investigated parental involvement and socioeconomic status as correlates of students' disposition to English reading comprehension in secondary schools in Oyo West Local Government Area of Oyo State.

Research Questions

1. What is the relationship between parental involvement and socioeconomic status on students' disposition to English reading comprehension in Oyo West Local Government Area?
2. What is the joint contribution of parental involvement and socioeconomic status on students' disposition to English reading comprehension in Oyo West Local Government Area?

3. What is the relative contribution of independent variables to students' disposition to English reading comprehension?

Significance of the Study

The study revealed the relationship among parental involvement and socioeconomic status) and students' disposition to English reading comprehension. This study revealed extent to which parental involvement and socioeconomic status correlate with students' disposition to English reading comprehension. Through the findings of this study, educational stakeholders especially government would be guided on identifying and working on factors that could help or affect English reading comprehension. Also, the study would provide empirical evidence on parental involvement and socioeconomic status correlate with students' disposition to English reading comprehension. This would in turn, lead to providing improvement guide for teaching and learning in schools. This study would add to the existing body of research on English reading comprehension.

Research Methodology

The study adopted the survey research design of the correlational type. Simple random sampling technique was used to select five public senior secondary schools from 11 public senior secondary schools in Oyo West Local Government Area

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of Oyo State. Fifty SS II students were randomly selected from each school, making a total of 250 students. In all, 250 students participated in the study. Four instruments were used for data collection: Parental Involvement Questionnaire (r=.75), Parents' Socioeconomic Status Questionnaire (r=.76) and Students' Disposition to English Reading Comprehension Questionnaire (r=.78). Data collected were analysed using Person Product Moment Correlation and Multiple Regression Analysis.

Presentation of Results

Research question 1: What is the relationship between parental involvement and socioeconomic status on students' disposition to English reading comprehension in Oyo West Local Government Area?

Table 1: Correlation Matrix Showing the Relationship between Independent Variables and Students' Achievement in English Reading Comprehension

Variables	Disposition	Parental Involvement	Socioeconomic Status
Disposition	1		
Parental Involvement	0.606** 0.000	1	
Socioeconomic Status	0.214** 0.001	0.154* 0.015	1
Mean	60.66	61.57	60.48
STD.D	9.95	9.87	6.90

* denotes significant at p<0.05

Table 1 shows that there is positive significant relationship between parental involvement (r = 0.606; p<0.05) and students' disposition to English reading comprehension. This means that parental involvement is related to students' disposition to English reading comprehension. Also, there is low significant relationship between socioeconomic status (r = 0.214 p<0.05) and students' disposition to English reading comprehension. This means that socioeconomic status is related to disposition to English reading comprehension. This implies that parental involvement and socioeconomic status can enhanced students' disposition to English reading comprehension

Research question 2: What is the joint contribution of parental involvement and socioeconomic status on students' disposition to English reading comprehension in Oyo West Local Government Area?

Table 2 Summary of Multiple Regression Analysis on Composite Contribution of Independent Variables to Students' Disposition to English Reading Comprehension

Sources of Variance	Sum of Squares	Df	Mean Square	F	Significant
Regression	9129.892	2	4564.946	74.03	.000*
Residual	15168.502	246	61.661		
Total	24298.394	248			
R = 0.613					
R Square = 0.376					
Adjusted R Square = 0.371					
Std. Error of the Estimate = 7.85242					

Table 2 indicates that the joint contribution of the independent variables (parental involvement and socioeconomic status) to the prediction of students' disposition to English reading comprehension is significant ($F_{(2,246)} = 74.03$; Adj $R^2 = 0.376$; p<0.05). This implies that when parental involvement and socioeconomic status were taken together, they jointly contribute to students' disposition to English reading comprehension. Table 2 reveals a multiple regression coefficient (R = 0.613), which means that parental involvement and socioeconomic status have a joint positive relationship with students' disposition to English reading comprehension. This implies that parental involvement and socioeconomic status are positively and significantly related to students' disposition in English reading comprehension.

Research question 3: What is the relative contribution of students' disposition to English reading comprehension in Oyo West Local Government Area?

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Table 3: Summary of Multiple Regression Showing Relative Contribution of Independent Variables on Students' Disposition to English Reading Comprehension

Model	Unstandardized Coefficients		Standardized Coefficient		T	Sig.
	Beta	Std. Error	Beta (β)	Rank		
(Constant)	13.777	5.045			2.731	0.007
Self-Efficacy	0.585	0.051	0.581	1st	11.399	0.000*
Student-Teacher Interaction	0.179	0.073	0.125	2nd	2.453	0.015*

Table 3 shows that the relative contribution of parental involvement ($\beta = 0.585$; $t = 11.399$; $p<0.05$) to students' disposition to English reading comprehension is significant. This indicates that parental involvement predicts students' disposition to English reading comprehension. The relative contribution of socioeconomic status ($\beta = 0.179$; $t = 2.453$; $p<0.05$) to students' disposition to English reading comprehension is significant. This indicates that socioeconomic status predicts students' disposition to English reading comprehension.

Discussion of Findings

Table I showed that there was positive significant relationship between parental involvement students' disposition to English reading comprehension. This finding is in line Fauzia, Muhammad and Aabida (2016) who revealed that parental involvement had a significant impact on secondary students' achievement level. It was proved that parental involvement played a vital role in their children academic achievement. This is against the finding of Ahmad (2016) who found negative significant relationship between parental involvement students' disposition to English reading comprehension.

Table II revealed that the joint contribution of parental involvement and socioeconomic status to the prediction of students' disposition to English reading comprehension was significant. The finding corroborates John (2018) who reported the joint contribution of parental involvement and socioeconomic status to the prediction of students' disposition to English reading comprehension was significant. This finding is against the study of Bjorman (2005) who reported that there was no joint contribution of parental involvement and socioeconomic status to the prediction of students' disposition to English reading comprehension

Table III showed that the relative contribution of parental involvement to students' disposition to English reading comprehension was significant. This is in line with the finding of Smith (1998) reported that the relative contribution of parental involvement to students' disposition to English reading comprehension was significant. This finding is against the study of Kainuwa and Yusuf (2013) who found that the relative contribution of parental involvement to students' disposition to English reading comprehension was not significant.

Conclusion

From the findings, it can be concluded that the variable that best variable predicted students' disposition to English reading comprehension was parental involvement. It could be concluded from the study that students' disposition to English reading comprehension could be enhanced by focusing on parental involvement and socioeconomic status.

Recommendations

Based on the findings, the following recommendations were made:

1. For effective teaching and learning of English reading comprehension, parents should be involved in their children's English reading comprehension.

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2. Parents should strengthen their socioeconomic status for their children to perform as expected.
3. Parents should be educated on why their involvement in their children's education is important. 4. Students should be exposed to different psychological variables that can influence their achievement in essay writing.

References

Adams, H. O. (2009). Learning to read: what we know and what we need to understand better. Child development perspectives. *Journal of Psychology* 2009; 7:1–5.

Anthony, F. T. (2015). Subjective task value and the Eccles et al. model of achievement-related choices. *Handbook of competence and motivation*. New York: Guildford; 2015. pp. 105–121.

Braam, H. L. (2010). Modeling the effects of intrinsic motivation, extrinsic motivation, amount of reading, and past reading achievement on text comprehension between US and Chinese students. *Reading Research Quarterly*. 2010; 39:162–186.

Bright, T. P. (2018). Changes in elementary school children's achievement goals for reading and writing: Results of a longitudinal and an intervention study. *Scientific Studies of Reading*.2018; 3:207–229.

Brown, W. U. (2016). Motivation and its relationship with reading achievement in an urban middle school. *The Journal of Educational Research*.2016; 100:81–101.

Fakeye, D. O. (2011). Students‟ personal variables as correlates of academic achievement in English as a second language in Nigeria. Journal of Social Sciences, 22, (3): 205-211.

Getrude, D. W. (2015). A closer look at learning strategies, L2 proficiency, and gender, *TESOL Quarterly,* 29, 2, 261-297.

Harris, M. J. & Edward, G. R. (2011). The reading crisis:Why children fall behind, Open University Press, London.

N.P.R. (2003). Intelligence and language learning. Cambridge: Pegamon press. Texas

Ogunyemi, C. B. (2012). Concepts in teaching and teaching methods.Horley Publisher (Nig.) ltd. Kaduna.

Saricoban, W. U. (2002). Choices and consequences in the renewal of teacher education. *Journal of Teacher Education.*50 (1): 17–26.

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Qualitative Study on Self-Concept and Self-Esteem Developmental Stages in an Individual: A Theoretical Approach

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Abstract
Self-concept and self-esteem are central constructs in developmental psychology that shape individuals' cognition, emotions, social relationships, and overall life adjustment. Self-concept refers to individuals' beliefs and perceptions about their abilities, personality, appearance, and social roles. Self-esteem refers to individuals' evaluation of their own worth, encompassing feelings of confidence and value. Although related, self-concept describes what people think about themselves, while self-esteem reflects how they feel about those perceptions. The development of self-concept and self-esteem begins in early childhood and continues through adolescence, adulthood, and old age. This process is shaped by several factors, including biological growth, cognitive development, family relationships, peer interactions, cultural influences, and life experiences. Early family support and secure attachment form the foundation of self-worth, while later cognitive growth enables more complex self-understanding and social comparison. This perspective is grounded in major developmental theories proposed by Erik Erikson, Jean Piaget, Charles Horton Cooley, and Lev Vygotsky, which explain how identity and self-worth emerge through psychological development and social interaction Understanding how self-concept and self-esteem develop across the lifespan is important for improving education, parenting, counseling, and mental health practices. Encouraging supportive environments, positive feedback, and opportunities for personal growth helps individuals build confidence, resilience, and a stable sense of identity.

Keywords: self-concept, self-esteem, development, identity formation, psychosocial development.

Introduction

Self-concept refers to the organized set of beliefs and perceptions individuals hold about themselves, including abilities, social roles, physical characteristics, values, and personality traits (Marsh & Craven, 2020). These constructs play a central role in shaping self-perception, interpretation of experiences, and social interactions. Self-concept refers to the organized set of beliefs and perceptions individuals hold about themselves, including abilities, social roles, physical characteristics, values, and personality traits (Marsh & Craven, 2020). Self-esteem, on the other hand, represents the evaluative and emotional dimension of the self, reflecting the extent to which individuals perceive themselves as competent, valuable, and worthy of respect although these concepts are closely related, they are conceptually distinct (Robins & Trzesniewski, 2020). An individual may possess a clear understanding of personal strengths and weaknesses (self-concept) while still experiencing variations in feelings of self-worth (self-esteem) depending on social experiences and contextual feedback (Bleidorn *et al.,* 2021). Research in developmental psychology indicates that self-concept and self-esteem begin to emerge early in childhood and continue to evolve throughout adolescence, adulthood, and late adulthood (Orth& Robins, 2019). Early childhood experiences, particularly interactions with parents and caregivers, provide the foundation for a child's initial sense of self and personal worth (Groh *et al.,* 2020). As children grow, cognitive development enables them to construct more complex and differentiated self-descriptions. During middle childhood and adolescence, individuals begin to engage in social comparison and become increasingly aware of societal expectations, peer evaluations, and personal achievements, all of which influence the development of self-esteem and identity (Orth& Robins, 2019; Meeus, 2020).

Developmental psychology provides several theoretical frameworks that explain how self-concept and self-esteem evolve over time. One influential perspective is the psychosocial development theory proposed by Erik Erikson, which suggests that individuals pass through a series of developmental stages characterized by psychosocial crises that influence identity

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formation and self-worth (Erikson, 1968). According to Erikson, successful resolution of these developmental challenges contributes to a positive sense of identity and stable self-esteem. For instance, experiences of competence during childhood support the development of confidence, while failure or social rejection may contribute to feelings of inferiority (Côté& Levine, 2021). Another, important theoretical perspective is the cognitive developmental theory advanced by Jean Piaget, which emphasizes the role of cognitive maturation in shaping children's understanding of themselves. Piaget's theory suggests that as children progress through different stages of cognitive development, their capacity to think abstractly and reflect on their personal characteristics increases (Piaget, 1972; Demetriou *et al.*, 2020). Consequently, young children tend to describe themselves in simple and concrete terms, whereas adolescents and adults develop more complex, multidimensional self-concepts that integrate psychological traits, beliefs, and personal values (Harter, 2018).

Social interaction also plays a critical role in the formation of self-concept and self-esteem. The concept of the "looking-glass self," introduced by Charles Horton Cooley, suggests that individuals develop their self-perceptions through interactions with others and by interpreting how they believe others view them (Cooley, 1902; Syed & McLean, 2020). Similarly, the sociocultural theory of Lev Vygotsky emphasizes that social relationships, language, and cultural practices are essential in shaping cognitive and psychological development (Vygotsky, 1978; Rogoff, 2021). Through interactions with parents, teachers, peers, and the broader social environment, individuals receive feedback that influences their perceptions of competence, social acceptance, and self-worth. In recent years, contemporary research has further highlighted the importance of contextual factors such as family environment, educational experiences, peer relationships, cultural norms, and digital media in shaping self-concept and self-esteem. Studies have shown that supportive parenting, positive school environments, and healthy peer relationships are associated with higher levels of self-esteem and stronger identity development (Bleidorn *et al.*, 2021; Ybrandt, 2019). Conversely, negative social comparisons, bullying, and unrealistic social media portrayals may contribute to low self-esteem, especially among adolescents (Fardouly *et al.*, 2020; Orth & Robins, 2019). In addition, cultural values and societal expectations influence how individuals evaluate themselves and define their personal identities (Heine *et al.*, 2020). Understandingly, the developmental trajectory of self-concept and self-esteem is therefore essential for promoting psychological well-being and healthy personal development. These constructs influence important outcomes such as academic motivation, emotional resilience, social competence, career development, and mental health (Robins *et al.*, 2019). Consequently, educators, parents, counselors, and policymakers play an important role in creating supportive environments that encourage positive self-perception, identity exploration, and personal growth. This paper therefore examines how self-concept and self-esteem develop across major stages of the lifespan from infancy and childhood to adolescence and adulthood while highlighting the biological, cognitive, and socio-cultural factors that shape these processes.

Theoretical Foundations

Psychosocial Theory

The psychosocial development theory of Erik Erikson provides a foundational framework. Erikson proposed eight stages of psychosocial development, each involving a developmental "crisis" that must be navigated for healthy personality and identity formation (Erikson, 1968; Côté& Levine, 2021). These crises shape both self-perception (self-concept) and self-evaluation (self-esteem). Successful resolution at each stage fosters adaptive psychological growth, whereas unresolved challenges may contribute to self-doubt or low self-esteem.During the first stage, Trust versus Mistrust (infancy, 0–2 years), the quality of caregiving and early attachment relationships establishes the foundation for trust and security. Infants who experience responsive and consistent caregiving develop a sense of safety and basic self-worth, which contributes to later confidence and emotional resilience (Groh *et al.*, 2020; Shonkoff& Phillips, 2021). In Industry versus Inferiority (middle childhood, 6–12 years), children become aware of their abilities and compare themselves to peers. Success in academic, social, or extracurricular tasks fosters feelings of competence and enhances self-esteem, while repeated failures or negative feedback may result in feelings of inferiority (Erikson, 1968; Bleidorn*et al.*, 2021). This stage is critical for developing a realistic and multifaceted self-concept that encompasses personal achievements, social skills, and cognitive capabilities. Adolescence is characterized by the stage of Identity versus Role Confusion (12–18 years), which centers on identity exploration. Teenagers integrate prior experiences, social roles, and personal values to form a coherent sense of self. Successful identity formation supports stable self-esteem and self-concept, whereas confusion or pressure from peers, societal expectations, or social media may contribute to insecurity and fluctuating self-worth (Orth & Robins, 2019; Meeus,

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2020).Research indicates that positive resolution of these psychosocial crises is associated with higher global self-esteem, better emotional regulation, and more adaptive social functioning across adolescence and adulthood (Orth*et al.,* 2018; Syed & McLean, 2020). Contemporary studies also suggest that supportive family environments, mentorship, and opportunities for skill development can buffer the negative effects of unresolved psychosocial challenges (Bleidorn*et al.,* 2021).

Cognitive Development Theory

The cognitive developmental theory of Jean Piaget explains how self-concept evolves alongside cognitive growth. Piaget's cognitive development theory provides a framework for understanding how self-concept evolves in tandem with children's thinking abilities. Piaget argued that children progress through distinct stages of cognitive development, each of which shapes their capacity to understand themselves and the world. In the preoperational stage (approximately ages 2–7), children describe themselves in concrete, observable terms, focusing on physical attributes, possessions, or simple behaviors, such as "I am fast" or "I have a toy" (Piaget, 1972; Demetriou*et al.,* 2020). At this stage, self-concept is largely based on immediate experiences and perceptible qualities. As children advance into the concrete operational stage (approximately ages 7–11), they begin to understand relationships, rules, and cause-effect connections, which allows for more nuanced and multidimensional self-descriptions. With the onset of formal operational thinking during adolescence (approximately ages 12 and above), individuals develop the ability to think abstractly and reflect on internal characteristics, beliefs, and values. Adolescents can integrate traits such as morality, empathy, and personality into a coherent self-concept, enabling them to evaluate their strengths and weaknesses more critically (Harter, 2018; Demetriou*et al.,* 2020). Research suggests that this cognitive maturation is crucial for the formation of stable self-esteem and identity, as adolescents can compare themselves to broader social standards and internalized ideals (Orth& Robins, 2019; Meeus, 2020). Furthermore, the ability to consider hypothetical scenarios, anticipate future outcomes, and engage in perspective-taking enhances self-reflection and promotes adaptive personal growth.

Social Interactionist Perspective

The development of self-concept is not solely a cognitive process; social interaction plays a pivotal role in shaping how individuals perceive themselves. Charles Horton Cooley introduced the concept of the "looking-glass self", suggesting that individuals form their self-concepts by interpreting how they believe others perceive and evaluate them (Cooley, 1902; Syed & McLean, 2020). In this view, self-concept is constructed through social feedback, mirroring, and the internalization of others' attitudes, emphasizing the relational nature of identity development. Similarly, Lev Vygotsky's sociocultural theory highlights that cognitive and personal development occurs through interaction with more knowledgeable others and the use of cultural tools, such as language, symbols, and social practices (Vygotsky, 1978; Rogoff, 2021). Vygotsky emphasized that social experiences shape thinking and self-understanding, suggesting that the development of self-concept and self-esteem is deeply embedded within cultural and social contexts. Contemporary research supports these views, indicating that peer relationships, mentorship, family feedback, and culturally mediated experiences significantly influence how children and adolescents evaluate themselves and develop feelings of competence and self-worth (Bleidorn*et al.,* 2021; Ybrandt, 2019). Together, Piaget's cognitive framework and the social interactionist perspective provide complementary insights. While cognitive maturation enables individuals to understand abstract traits and construct multidimensional self-concepts, social experiences provide evaluative feedback that shapes emotional responses and self-esteem. This integrated approach highlights the interplay between individual cognitive development and social context in the formation of a coherent and positive self-concept across developmental stages.

Development across Stages

Infancy (0–2 Years)

During infancy, the foundation for self-awareness begins to emerge. By approximately 18 to 24 months, many children demonstrate self-recognition, such as the ability to identify themselves in a mirror (Lewis & Brooks-Gunn, 2020). Secure attachment relationships with caregivers play a critical role in establishing early feelings of trust and worth. While self-esteem is not fully developed at this stage, consistent emotional attunement and responsiveness from caregivers provide the basis for later self-worth and confidence (Groh et al., 2020; Shonkoff& Phillips, 2021).

Early Childhood (2–6 Years)

In early childhood, children develop categorical self-descriptions, focusing on observable traits such as physical appearance, possessions, and basic abilities (Harter, 2018). At this stage, self-esteem is typically unrealistically high, as young children have limited capacity for social comparison. Positive reinforcement from caregivers, teachers, and other

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significant adults strongly influences the child's emerging self-concept and feelings of competence (Marsh & Craven, 2020).

Middle Childhood (6–12 Years)

During middle childhood, advances in cognition and social awareness allow children to engage in social comparison with peers, which significantly impacts self-esteem. Academic performance, athletic ability, and peer acceptance become prominent determinants of self-evaluation. Consistent with Erikson's industry versus inferiority stage, success in school, extracurricular activities, and social interactions fosters feelings of competence, whereas repeated failure may contribute to feelings of inadequacy (Erikson, 1968; Bleidorn*et al.*, 2021). Additionally, children begin to develop domain-specific self-concepts, differentiating their abilities across academic, social, and physical domains (Harter, 2018).

Adolescence (12–18 Years)

Adolescence is a pivotal period for identity formation, characterized by abstract thinking and the ability to integrate multiple roles and traits into a coherent self-concept (Piaget, 1972; Meeus, 2020). Self-esteem often fluctuates due to increased peer influence, body image concerns, and academic pressures. Successful navigation of Erikson's identity versus role confusion stage promotes a stable sense of self and healthy self-esteem, while identity confusion can contribute to insecurity, low self-worth, and vulnerability to social comparison (Orth& Robins, 2019; Syed & McLean, 2020).

Early Adulthood (18–40 Years)

In early adulthood, self-concept becomes more stable and realistic. Key experiences such as career development, intimate relationships, and the pursuit of independence contribute significantly to self-definition. Self-esteem may increase as individuals gain mastery over personal and professional domains, develop autonomy, and form secure attachments (Robins *et al.*, 2019; Orth*et al.*, 2018).

Middle Adulthood (40–65 Years)

During middle adulthood, self-evaluation increasingly focuses on productivity, generativity, and life achievements. Success in career and parenting, along with contributions to community and society, plays an important role in shaping self-worth. Although self-esteem tends to stabilize during this period, midlife transitions and reassessment of life goals may temporarily influence self-perception and confidence (Bleidorn et al., 2021; Orth& Robins, 2019).

Late Adulthood (65+ Years)

In late adulthood, individuals often reflect on life accomplishments, which significantly impacts self-esteem. According to Erikson's **integrity versus despair** stage, acceptance of one's life fosters dignity and positive self-regard, whereas regret may reduce self-esteem (Erikson, 1968; Côté& Levine, 2021). Physical decline, social loss, and changing societal roles may challenge self-perception; however, wisdom, accumulated life experience, and meaningful relationships can enhance internal self-worth and psychological well-being (Harter, 2018; Shonkoff& Phillips, 2021).

Factors Influencing Development

The development of self-concept and self-esteem is shaped by multiple interrelated factors, including family dynamics, peer relationships, academic and occupational experiences, cultural norms, and media exposure.

Family environment plays a foundational role in early development. Parenting style, attachment security, and consistent emotional support contribute significantly to children's emerging self-esteem and self-concept. Children who experience warm, responsive, and authoritative caregiving are more likely to develop a sense of competence, trust, and positive self-worth, whereas neglectful or overly critical parenting may hinder confidence and self-evaluation (Groh et al., 2020; Shonkoff& Phillips, 2021). Early attachment relationships provide the scaffolding for emotional regulation and the perception of self as capable and worthy of love and respect.

Peer relationships become increasingly influential during middle childhood and adolescence. Peer acceptance, friendship quality, and social inclusion strongly affect self-esteem and social self-concept. Positive interactions with peers enhance feelings of belonging and competence, while peer rejection, bullying, or social exclusion can undermine self-worth and contribute to social anxiety and depressive symptoms (Ybrandt, 2019; Bleidorn*et al.*, 2021). Adolescents are particularly sensitive to peer evaluation, making this period critical for identity consolidation.

Academic and occupational achievement also plays a crucial role in shaping self-concept. Feedback from teachers, supervisors, and colleagues provides external validation that influences competence-based self-esteem. Success in academic or occupational tasks fosters confidence and reinforces a sense of mastery, whereas repeated failure or negative

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evaluation may decrease self-esteem and affect motivation (Harter, 2018; Orth et al., 2018). Performance experiences contribute to the development of domain-specific self-concepts, such as academic, social, and professional identities.

Cultural context further shapes self-concept and self-esteem. Collectivist cultures, which emphasize interdependence and relational identity, may foster self-worth based on social harmony, family obligations, and group contributions. In contrast, individualistic cultures prioritize personal achievement, autonomy, and self-expression as central to self-concept and self-esteem (Heine et al., 2021; Markus &Kitayama, 2010). Cultural norms influence both the attributes individuals consider important and the ways in which self-esteem is evaluated and expressed.

Finally, media and technology have emerged as powerful factors affecting self-concept, particularly in adolescence. Social media platforms amplify opportunities for social comparison, influencing body image, lifestyle perceptions, and self-worth. Unrealistic portrayals of peers and public figures can heighten dissatisfaction with personal attributes and reduce self-esteem, especially in vulnerable populations (Fardouly & Vartanian, 2016; Seabrook *et al.,* 2016). Conversely, online communities that provide support and positive reinforcement can bolster self-concept and facilitate identity exploration.

Implications for Practice

Understanding the developmental trajectories of self-concept and self-esteem has significant practical applications across educational, familial, counseling, and policy contexts. In educational settings, fostering mastery-based learning, providing constructive feedback, and recognizing individual achievements can enhance students' competence and self-worth. Encouraging positive reinforcement and creating environments that support diverse strengths helps students develop a realistic and adaptive self-concept (Harter, 2018; Marsh & Craven, 2020). In the family context, promoting authoritative parenting characterized by warmth, responsiveness, and clear boundaries supports healthy self-esteem and identity formation. Children raised in supportive households are more likely to develop secure attachments, a stable sense of self, and resilience to challenges encountered in school and peer interactions (Groh et al., 2020; Shonkoff& Phillips, 2021). Within counseling and therapeutic practices, addressing distorted self-beliefs, facilitating identity exploration, and promoting adaptive coping strategies are central to supporting clients across developmental stages. Interventions that help adolescents and adults navigate social comparison, role conflicts, and self-evaluation can mitigate the risks of low self-esteem, depression, and anxiety (Orth& Robins, 2019; Syed & McLean, 2020). At the policy level, designing and supporting youth programs that foster competence, belonging, and opportunities for skill development is essential for promoting positive self-concept and self-esteem. In educational contexts such as the Nigerian system, where academic competition is intense, interventions that balance achievement expectations with social-emotional learning are particularly critical. Policies that encourage mentorship programs, extracurricular engagement, and equitable access to resources contribute to holistic development and psychological well-being (Bleidorn*et al.,* 2021; Heine *et al.,* 2021).

Conclusion

Self-concept and self-esteem are dynamic, interrelated constructs that develop continuously from infancy through late adulthood. Their trajectories are shaped by cognitive maturation, social interaction, familial and peer relationships, cultural norms, and broader life experiences. Theoretical frameworks proposed by Erikson, Piaget, Cooley, and Vygotsky provide essential insights into how individuals construct their sense of identity, interpret social feedback, and develop feelings of self-worth across the lifespan. Promoting positive self-concept and healthy self-esteem at each stage of development has important implications for psychological well-being, resilience, and social functioning. Interventions that emphasize supportive caregiving, constructive feedback, mastery experiences, and adaptive social interactions enhance self-understanding and self-worth. Furthermore, cultural and contextual factors must be taken into account to ensure that strategies for fostering self-esteem are relevant and effective. Ultimately, understanding the developmental pathways of self-concept and self-esteem enables parents, educators, counselors, and policymakers to create environments that support identity formation, emotional regulation, and adaptive functioning throughout the lifespan.

References

Bleidorn, W., Denissen, J. J. A., Gebauer, J. E., Arslan, R. C., Rentfrow, P. J., Potter, J., & Gosling, S. D. (2021). Age and gender differences in self-esteem—A cross-cultural window. *Journal of Personality and Social Psychology, 120*(2), 404–422.

Cooley, C. H. (1902). *Human nature and the social order*. Charles Scribner's Sons.

Côté, J. E., & Levine, C. (2021). *Identity formation, youth, and development*. Routledge.

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Demetriou, A., Spanoudis, G., &Mouyi, A. (2020). Cognitive development: Theories, methods and outcomes. *Frontiers in Psychology, 11,* 587.

Erikson, E. H. (1968). *Identity: Youth and crisis*. Norton.

Fardouly, J., &Vartanian, L. R. (2016). Social media and body image concerns: Current research and future directions. *Current Opinion in Psychology, 9,* 1–5.

Fardouly, J., Pinkus, R. T., &Vartanian, L. R. (2020). The impact of appearance comparisons made through social media, traditional media, and in person in women's everyday lives. *Body Image, 32,* 155–163. https://doi.org/10.1016/j.bodyim.2020.03.006

Groh, A. M., Fearon, R. M. P., van IJzendoorn, M. H., Bakermans-Kranenburg, M. J., & Roisman, G. I. (2020). Attachment in the early life course: Meta-analytic evidence for its role in socioemotional development. *Psychological Bulletin*, *146*(6), 453–484.

Harter, S. (2018). The development of self-concept and self-esteem.In R. M. Lerner (Ed.), *Handbook of child psychology and developmental science* (7th ed., Vol. 3, pp. 1–46). Wiley.

Heine, S. J., Kitayama, S., & Lehman, D. R. (2021). Cultural influences on self-concept and self-esteem. *Annual Review of Psychology, 72,* 1–28.

Lewis, M., & Brooks-Gunn, J. (2020). *The development of self-recognition in infancy*. Routledge.

Marsh, H. W., & Craven, R. G. (2020). Reciprocal effects of self-concept and performance: The big-fish-little-pond effect. *Learning and Instruction, 65,* 101–115.

Meeus, W. (2020). Adolescent psychosocial development: An integrated perspective. *Annual Review of Psychology, 71,* 187–212.

Orth, U., & Robins, R. W. (2019). Development of self-esteem across the life span. *Current Directions in Psychological Science*, *28*(6), 575–581.

Robins, R. W., Trzesniewski, K. H., Tracy, J. L., Gosling, S. D., & Potter, J. (2019). Global self- esteem across the life span.*Psychology and Aging*, *34*(1), 1–12.

Rogoff, B. (2021). *The cultural nature of human development* (3rd ed.). Oxford University Press.

Seabrook, E. M., Kern, M. L., & Rickard, N. S. (2016). Social networking sites, depression, and anxiety: A systematic review. *JMIR Mental Health*, *3*(4), e50.

Shonkoff, J. P., & Phillips, D. A. (2021). *From neurons to neighborhoods: The science of early childhood development*. National Academies Press.

Syed, M., & McLean, K. C. (2020). Narrative identity and psychosocial development. *Child Development Perspectives, 14*(2), 113–119. https://doi.org/10.1111/cdep.12365

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Ybrandt, H. (2019). The role of peers and social environment in self-esteem development during adolescence. *Journal of Adolescence, 72,* 35–45.

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Leveraging Parenting Styles for Emotional and Behavioural Development of a Child in an African Context: A Theoretical Approach

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Abstract

This study examines behavioral development across cultures. While classical theories of parenting, particularly those proposed by Diana Baumrind (1979), provide a foundational framework for understanding parent–child interactions, their application within African societies requires contextual adaptation. African parenting is deeply embedded in cultural norms such as communal child-rearing, respect for elders, moral socialization, and collective identity. This paper examines the influence of parenting styles authoritative, authoritarian, permissive, and neglectful—on children's emotional and behavioral development within the African context. Drawing on empirical evidence from Nigeria, South Africa, Kenya, Ghana, and broader sub-Saharan Africa, the study explores how parenting practices shape emotional regulation, self-esteem, social competence, and behavioral outcomes. The review highlights that authoritative parenting, characterized by warmth and structured discipline, is associated with positive outcomes such as resilience, prosocial behavior, and academic achievement. In contrast, authoritarian and neglectful parenting are linked to emotional distress, aggression, and maladaptive behaviors. The paper further analyzes how socio-economic challenges, urbanization, and globalization are transforming parenting practices in Africa. It concludes that integrating culturally grounded parenting practices with evidence-based psychological approaches is essential for promoting optimal child development. The study contributes to the growing body of African psychological literature and provides implications for parenting interventions, educational systems, and policy development.

Keywords: Parenting styles, emotional development, behavioral development, African context, child psychology, family systems

Introduction

The family is widely recognized as the primary environment in which children develop emotionally, socially, and behaviorally. Parenting practices serve as the foundation for shaping children's personality, emotional regulation, and behavioral patterns. Within the field of developmental psychology, parenting style has emerged as a central construct for understanding how parental behaviors influence child development outcomes. Parenting style refers to the consistent pattern of attitudes, behaviors, and emotional interactions that parents exhibit in raising their children. The concept gained prominence through the work of Diana Baumrind, who identified three core parenting styles authoritative, authoritarian, and permissive based on the dimensions of responsiveness and demandingness. Later, Eleanor Maccoby and John A. Martin expanded this framework by introducing a fourth style: neglectful or uninvolved parenting. These parenting styles have been widely studied across different cultural contexts, with substantial evidence indicating that they significantly influence children's emotional wellbeing and behavioral adjustment. However, the majority of these studies have been conducted in Western societies, where individualism and nuclear family structures dominate. In contrast, African societies are largely collectivist, with strong emphasis on communal living, extended family systems, and cultural traditions. In Africa, parenting is not limited to biological parents but involves the broader community, including grandparents, aunts, uncles, and neighbors. This communal approach to child-rearing reflects the African philosophy that "a child belongs to the community." Such practices play a crucial role in socializing children and instilling cultural values. At the same time, African societies are undergoing rapid social transformations. Urbanization, economic challenges, migration, and globalization have significantly altered traditional family structures and parenting practices. Many families are transitioning from extended family systems to nuclear family arrangements, thereby reducing communal support in child-rearing.

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These changes have introduced new complexities into parenting, including increased parental stress, reduced supervision, and exposure of children to global cultural influences through media and technology. As a result, understanding how parenting styles influence children's emotional and behavioral development within the African context has become increasingly important. This article seeks to provide a comprehensive analysis of parenting styles and their impact on emotional and behavioral development in African societies. It integrates theoretical perspectives with empirical evidence from African studies and highlights the need for culturally sensitive parenting approaches.

Literature Review

Theoretical Foundations of Parenting Styles

The concept of parenting styles is grounded in developmental and socialization theories. Baumrind's typology remains the most influential framework in this domain. It categorizes parenting styles based on two key dimensions: Responsiveness (warmth, acceptance, emotional support) and Demandingness (control, discipline, expectations). Based on these dimensions, four parenting styles are identified: (i) Authoritative Parenting (High warmth, high control); (ii) Authoritarian Parenting (Low warmth, high control); (iii) Permissive Parenting (High warmth, low control) and (iv) Neglectful Parenting (Low warmth, low control)

Authoritative parenting: Authoritative parenting is widely regarded as the most effective style, as it balances emotional support with appropriate discipline. Children raised under this style tend to exhibit higher levels of emotional stability, self-esteem, and social competence.

Authoritarian parenting: In contrast, authoritarian parenting emphasizes obedience and strict discipline, often at the expense of emotional warmth. This style is associated with increased anxiety, low self-esteem, and behavioral problems.

Permissive parenting: Permissive parenting provides warmth but lacks structure, leading to poor self-regulation and impulsive behavior among children.

Neglectful parenting: Neglectful parenting is characterized by lack of involvement and is associated with the most negative developmental outcomes. (Darling and Steinberg, 1993) further conceptualized parenting style as a contextual variable that influences the effectiveness of parenting practices. This perspective suggests that parenting styles interact with cultural and environmental factors to shape child outcomes.

Emotional Development and Parenting

Emotional development involves the acquisition of skills necessary for recognizing, expressing, and regulating emotions. It is a critical aspect of psychological development and plays a significant role in social relationships and mental health. Parents serve as the primary agents of emotional socialization. Through interactions with parents, children learn how to interpret emotional cues, manage stress, and respond to social situations. Supportive parenting characterized by warmth, empathy, and open communication promotes emotional security and resilience. Children raised in such environments are more likely to develop strong emotional regulation skills and positive self-concepts. In contrast, harsh or inconsistent parenting practices may lead to emotional difficulties such as anxiety, depression, and aggression. Emotional neglect can impair children's ability to form secure attachments and develop healthy relationships. In African contexts, emotional development is influenced by cultural expectations that emphasize emotional restraint and respect for authority. According to (Nsamenang, 2014), African children are socialized to prioritize communal harmony over individual emotional expression. This cultural orientation shapes how emotions are expressed and regulated. Empirical studies in Ghana and Nigeria indicate that supportive parenting is associated with higher emotional intelligence and lower levels of emotional distress among adolescents (Yeboah, 2018; Ukaegbu, 2019).

Behavioral Development and Parenting

Behavioral development refers to the patterns of actions and conducts that children learn through socialization. It includes behaviors such as cooperation, aggression, obedience, and self-control. Parents influence behavioral development through modeling, reinforcement, and discipline strategies. Authoritative parenting promotes prosocial behaviors such as empathy, cooperation, and responsibility. In contrast, authoritarian parenting may lead to aggressive or withdrawn behavior due to fear-based discipline. Research in Ethiopia by (Temtmie and Tefera, 2020) found that adolescents exposed to authoritative parenting demonstrated higher levels of prosocial behavior compared to those raised under authoritarian or neglectful parenting styles. Similarly, studies in South Africa (Roman et al., 2015) indicate that positive parenting practices reduce aggression and improve social competence among adolescents.

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Parenting in African Cultural Context

African parenting practices are deeply rooted in cultural values and traditions that shape child-rearing approaches.

Communal Child-Rearing

In many African societies, child-rearing is a collective responsibility. Extended family members and community elders actively participate in guiding children's behavior. This communal system enhances socialization and reinforces cultural norms. {Amoateng and Heaton, 2016) emphasize that extended family structures play a critical role in promoting child wellbeing.

Respect for Authority

Respect for elders is a fundamental value in African societies. Children are expected to obey parents and authority figures, which often leads to the adoption of authoritarian parenting practices. While this approach promotes discipline, excessive control may hinder children's autonomy and emotional expression.

Moral and Religious Socialization

Religion plays a central role in African parenting. Parents use religious teachings to instill moral values such as honesty, humility, and responsibility.

Role of Fathers

Traditionally, fathers in African societies have been viewed as authority figures and providers. However, recent studies highlight the importance of active father involvement in promoting children's emotional and behavioral development (Makusha & Richter, 2015).

Empirical Evidence from African Studies

A growing body of research has examined parenting styles and child development in African contexts. In Nigeria, parenting style significantly predicts adolescent self-esteem and behavioral adjustment (Eze and Omeje, 2019). In Kenya, authoritative parenting is associated with improved academic performance and social competence (Rukwaro, 2023). In South Africa, parenting interventions have been effective in reducing violence and improving child wellbeing (Ward et al., 2020). Across sub-Saharan Africa, family structure influences child development outcomes (Amoateng & Heaton, 2016). These findings underscore the importance of culturally appropriate parenting strategies.

Socioeconomic and Contemporary Influences

Modern African families face several challenges that impact parenting practices.

Economic Hardship; Poverty and financial stress may lead to harsh parenting practices and reduced parental involvement.

Urbanization; Urban migration has weakened extended family systems, reducing communal support for parenting.

Globalization; Exposure to Western values has introduced new parenting approaches, sometimes conflicting with traditional practices.

Technology and Media; Digital media influences children's behavior and parental control strategies.

Implications for Emotional and Behavioral Development

Parenting styles have significant implications for children's development.

Positive parenting promotes:

a) Emotional resilience
b) Social competence
c) Academic success

Negative parenting contributes to:

a) Aggression
b) Anxiety
c) Behavioral problems

(Theron, 2023; Theron & Van Breda, 2025) highlight that supportive parenting enhances resilience among African youth, even in challenging environments.

Conclusion

Parenting styles play a critical role in shaping children's emotional and behavioral development. Within the African context, parenting practices are influenced by a complex interplay of cultural traditions, communal values, and socioeconomic factors. This article has demonstrated that authoritative parenting characterized by warmth, structure, and open

communication is associated with the most positive developmental outcomes. Children raised under this style tend to exhibit higher levels of emotional regulation, self-esteem, and social competence. Although authoritarian parenting remains prevalent in many African societies due to cultural emphasis on obedience and respect for elders, excessive control may negatively affect children's emotional wellbeing. Similarly, neglectful parenting poses significant risks to children's psychological development. The findings also highlight the importance of communal child-rearing and extended family systems in supporting child development. However, modern challenges such as urbanization, economic pressures, and globalization are transforming traditional parenting practices.

Recommendations

1. To promote optimal child development, it is essential to integrate culturally grounded parenting approaches with evidence-based psychological principles.
2. Psychologists, educators, and policymakers must work collaboratively to support families through parenting education programs, community interventions, and policy initiatives.
3. Ultimately, fostering emotionally healthy and socially responsible children requires a culturally sensitive approach that respects African values while embracing contemporary developmental science.

References

Amoateng, A. Y., & Heaton, T. B. (2016). Family structure and child wellbeing in sub-Saharan Africa. *Journal of Comparative Family Studies,* 47(2), 213–232.

Amoateng, A. Y., & Richter, L. M. (2017). *Social and economic contexts of families in Africa.* Cape Town: HSRC Press.

Baumrind, D. (1971). *Current patterns of parental authority*. Developmental Psychology Monographs, 4(1), 1–103.

Bornstein, M. H. (2012). *Cultural approaches to parenting*. Parenting: Science and Practice, 12(2–3), 212–221.

Chowa, G., Masa, R., & Tucker, J. (2013). Parental involvement and academic achievement in sub-Saharan Africa. *Children and Youth Services Review,* 35(2), 332–339.

Darling, N., & Steinberg, L. (1993). Parenting style as context. Psychological Bulletin, 113(3), 487–496.

Dawes, A., Bray, R., & Van der Merwe, A. (2007). *Monitoring child wellbeing*. Cape Town: HSRC Press.

Eze, J. E., & Omeje, J. C. (2019). Parenting style and adolescent adjustment in Nigeria. *African Journal of Psychological Studies,* 22(1), 54–67.

Kagitcibasi, C. (2007). *Family and human development across cultures*. Lawrence Erlbaum.

Makusha, T., & Richter, L. (2015*). Father involvement in Africa*. Child Abuse Research in South Africa, 16(2), 13–21.

Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of family: Parent–child interaction. In P. H. Mussen (Ed.), *Handbook of child psychology* (4th ed. Vol. 4, pp. 1-101). Wiley.

Mboya, M. M. (2010). Parenting practices and self-concept. *Journal of Psychology in Africa*, 20(1), 113–120.

Nsamenang, A. B. (2014). Human development in cultural context. *Journal of Psychology in Africa,* 24(1), 1–10.

Oppong, C. (2013). Family systems in Africa. African Population Studies, 27(2), 251–263.

Richter, L., Chikovore, J., & Makusha, T. (2010). *Fatherhood in South Africa*. Child Education, 86(6), 360–365.

Roman, N. V., Makwakwa, T., & Lacante, M. (2015). Parenting and wellbeing in South Africa. Journal of Child and Family Studies, 24(3), 1–12.

Rukwaro, L. (2023). Parenting styles and self-esteem in Kenya. *International Journal of Research and Innovation in Social Science,* 7(1), 102–115.

Temtmie, Z., & Tefera, D. (2020). Parenting and prosocial behavior in Ethiopia. American *Journal of Applied Psychology,* 9(1), 23–30.

Theron, L., & Theron, A. (2014). Resilience among African youth. Child and Youth Services Review, 47, 22–29.

Ukaegbu, J. (2019). Parenting style and adolescent self-esteem in Nigeria. African *Journal of Psychological Studies,* 12(2), 45–60.

Ward, C. L., et al. (2020). Parenting programmes in Africa. The Lancet Global Health, 8(2), 212–213.

Yeboah, E. K. (2018). Parenting and emotional development in Ghana. *African Journal of Psychological Assessment,* 2(1), 1–10.

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Awareness, Utilization and Effectiveness of Creativity and Critical Thinking Skills among Caregivers in Early Childhood Education in Oyo Town, Nigeria

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Abstract
The growing socio-economic challenges of the 21st century underscore the vital need to cultivate critical thinking and creativity skills from early childhood. This study investigates the awareness, use and effectiveness of critical thinking and creativity skills among preschool caregivers in Oyo town, Nigeria. Two research questions guided this study. A self-designed questionnaire for caregivers titled Caregivers Awareness and Use of Critical Thinking and Creativity Skills Questionnaire (CAUCTCSQ) was used to collect data for the study. The reliability index of the instrument was 0.75 Cronbach alpha. The study employed descriptive research design and a multi-stage sampling technique to survey 200 caregivers, Descriptive statistics of frequency count, percentage, mean and standard deviation were used for data analysis. The findings reveal a fair level of awareness regarding the importance of critical thinking and creativity. However, the extent to which these skills are actively incorporated into daily teaching practices and their effectiveness demonstrates a fair level of utilisation. The study recommended that caregivers should be empowered through in-service training to build children fundamental skills for future challenges.
***Key Words**: Critical thinking, Creativity, Early childhood education, Caregivers*

Introduction
Life in this 21st century is full of competition and challenges such as unemployment, poverty, hunger, moral decadence, kidnapping, banditry, terrorism and many others. People live competitive lives due to inability to possess skills needed to access the available resources. Both life challenges and competitions arise as a result of weak educational foundation of the children. Every society need quality education that will train the physical, social, cognitive and emotional areas of lives for proper development, which is a way of reducing and getting rid of the challenges and competitions. Caregiver in pre-primary and primary schools is somebody who is professionally and academically competent with the acquisition of necessary skills to guide the children. There is evidence that early childhood education has many challenges in Nigeria when it was posited by Salami (2016) that government intention on the running of early childhood education in Nigeria is fictitious considering the qualities and mode of operation. In the 21st century, children need to acquire certain skills and nurture them so as to develop the ability to conquer most of the challenges facing the society, as the skills are important in developing individuals to become successful in this competitive world. One of the purposes of basic education is to instill in the child the character of enquiry and creativity through the exploration of nature, the environment, art, music and the use of toys (FRN, National Policy on Education 2014).

Critical thinking and creativity in early childhood education are important, as these skills lay the foundation for lifelong learning and adaptability. They are essential for children's holistic development and their ability to navigate an increasingly complex world. Critical thinking and creativity skills are important and this is the reason why the caregiver must promote them in the early years to make this future adult possess qualities to tackle the challenges and compete with their mates in the larger society. It is obvious that most of our caregivers do not promote these two important skills because they also lack the skills. Many basic schools also lack most stimulating materials that can assist to develop critical thinking and creativity in pupils. Caregivers in the early childhood classes do not follow the guide from the minimum standard, which posit that they should be facilitators in the classrooms but they are not. The impacts of critical thinking and creativity go

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beyond cognitive development. They assist children in overcoming challenges, fostering self-confidence, and promoting social skills (Pan, Lai & Kuo 2023; Zhao & Yang, 2021).

Caregivers focus on cognitive development by allowing children to learn how to read and write neglecting other areas of development (Ezeala, Apakama, Kanu & Abiodun 2020; Olaoye, Ojo, Awogbenja & Osabo 2024). Caregivers neglect other areas of development (physical, emotional and social) which reduces the thinking ability of children. The interconnectivity of all the developments, (cognitive, physical, emotional and social) would assist children to possess all that are needed to solve life problem. Creative thinking empowers people to solve new problems, find innovative solutions, and adapt quickly to change. (Suharyat, Ichsan, Supriyadi, Apra Santosa, & Sofianora 2023). Full exploration of the environment is necessary to promote the curiosity level of the children, which in turn assist them to think critically and bring out new ideas. Most schools running early childhood classes do not create opportunities for their children to explore the school environment. They based child development on only reading and writing in the classroom. When children are deprived of moving round the environment to use their senses, then it affects their level of thinking and development of new ideas. Many studies have been done on the quality and practices, challenges of early childhood education in Nigeria. There are many works on critical thinking and creativity in secondary and tertiary institution students but much has not been done on the caregivers' awareness of critical thinking and creativity. Children are in their formative years and whoever that will guide them should aware and have the ability to use critical thinking and creativity skills to develop them to be able to face the 21st century challenges and competition.

Education system in Nigeria is basically on facts and content knowledge, lack of critical thinking and creativity skills in school curriculum prevent the citizen from getting solutions to most 21st century challenges (Nwaokugha & Ebnadouge 2024). The ability of caregivers to possess and utilise two skills among the early years will make them acquire the skills and use them to solve most environmental, social and economic problems which are prevalent in 21st century. Critical thinking and creativity skills are essential to promote problem-solving skills, but the situation in Nigerian educational sector reveals that even caregivers lack these skills which supported by Kanu, Jibril, Nwaorgu &Eze 2024) when submitted that critical thinking and creativity skills necessary for learning and workplace are lacking in most individual. This need drastic approach in other to improve abilities of solving most knotty issues and foster all round academic performance. Many developed countries of the world lay much emphasis on promoting critical thinking and creativity in their citizens not only to make them literate but to produce people who will be able to process information and know the different between true information and fake news (Ikechi, Osaat & Nwaokugha 2020). The advent of social media in most developed countries, make the skills necessary because any information given out without further process contribute to display of social vices among the youth. Proper use of the skills in early years' classroom by the caregivers will prevent social vices in future. Lack of critical thinking and creativity skills promote chances of making foolish and erroneous mistakes. The holistic development of children hinges on their capacity for critical and creative thinking, enabling them to solve complex problems, generate innovative ideas, and make sound judgments. (Ikechi et al 2020). Caregivers in school settings need to foster critical thinking and creativity skills in children to produce future adult who will be able to take informed decision. Ikechi et al (2020) reiterated that opportunity, encouragement, training and constant practice are conditions that can encourage critical thinking and creativity. Therefore, caregivers should develop and infuse all these conditions in the strategies to use in handling the pre-primary pupils. This study is anchored on constructivist theory of Lev Vygotsky who believed that social interaction and support assist children to construct their knowledge. The theory is related to this study because critical thinking and creativity allow children to interact meaningfully with their environment and think critically on issue with the support of caregivers. Critical thinking and creativity are essential skills in early childhood education, they are parts of the skills to live a relevant and successful life in the 21st century. Studies revealed that many developed countries of the world recognized the importance of developing critical thinking and creativity skills in children. However, in a developing nation like Nigeria, there is a significant lack of insight into how caregivers perceive and apply these essential skills. This study addresses this gap by examining the awareness, implementation, and perceived effectiveness of critical thinking and creativity among preschool caregivers. By identifying these levels of usage and impact specifically within Oyo Town the research aims to highlight critical areas for improvement in professional training and policy development

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Objectives of the study

The objectives of the study are to:

1. Examine the level of awareness of care giver in preschool settings regarding the importance of critical thinking and creativity skills in early childhood education.
2. Assess the level of usability and effectiveness of critical thinking and creativity skills among caregivers in preschool settings.

Research Questions

1. What is the level of awareness among caregivers in preschool setting regarding the importance of critical thinking and creativity skills in early childhood education?
2. What is the level of usability and effectiveness of critical thinking and creativity skills among caregivers in preschool settings?

Methodology

Descriptive research design was adopted, the study covered all the caregivers in both private and public primary schools in Oyo East Local Government Area. Multi stage sampling technique was adopted for the study. Stratified random sampling technique was adopted to classify the school type into public and private primary schools in Oyo East Local Government Area. Disproportionate Stratified Sampling Technique was adopted to select a total of 40 primary schools which comprise 25 private schools and 15 public schools in the Local Government Area. The justification for adopting disproportionate stratified sampling was that there are more private primary schools than public schools in the selected Local Government Area and also to give higher representation to such school type claims higher population. Purposive sampling technique was used to select 5 teachers each of the selected schools making a total number of 200 preschool teachers to participate in the study. The justification for adopting purposive sampling was that teachers in preschool section are the target respondents. A self-designed questionnaire was used to collect data from the respondents titled Caregivers Awareness and Use of Critical Thinking and Creativity Skills Questionnaire (CAUCTCSQ). The self-designed questionnaire has three sections. The section A of the questionnaire consists of demographic information of the respondents such as (Gender, school type, area of specialization, highest educational qualification, years of teaching experience), section B contains 20 items which were subdivided into two sections. Each sub-section contains 10 items, while the first section revealed the items on caregivers' awareness of critical thinking and creativity skills. The second sub-section contains 10 items on the caregivers' use of critical thinking and creativity skills. The items were rated on 4 point likert scale of SA, A, SD which allowed the respondents to choose the most appropriate based on their awareness and use. The self-designed instrument undergo face, content and construct validity by three expert from early childhood education, corrections were done and later the reliability index of the instrument was calculated using Cronbach Alpha and yielded 0.75index.The data collected were analysed using descriptive statistics of frequency counts, percentage, mean, and standard deviation.

Presentation of Results

Research Question One: What is the level of awareness among caregivers in preschool setting regarding the importance of critical thinking and creativity skills in early childhood education?

Descriptive Statistics Showing the Awareness of Critical Thinking and Creativity Skills among the Caregivers

S/N	Items	SA	A	D	SD	Mean	SD
1.	Critical thinking makes children explore, feel and build emotional intelligence through imaginative play	36 (18)	62 (31)	88 (44)	4 (2)	2.30	0.76
2.	The skill assists children to articulate their thought clearly	78 (39)	18 (9)	4 (2)	- -	1.26	0.50
3.	It promotes collaboration and interpersonal relationships	116 (58)	64 (32)	20 (10)	- -	1.52	0.65
4.	It prepares children to adapt to challenges and uncertainties	124 (62)	18 (9)	28 (14)	12 (6)	1.64	1.66
5.	It supports lifelong learning	64 (32)	80 (40)	32 (16)	24 (12)	2.08	0.96
6.	It encourages curiosity	55 (27.5)	58 (29)	43 (21.5)	44 (22)	2.37	0.65

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7.	It prepares the children for building independence	80 (40)	50 (25)	40 (20)	30 (15)	2.42	0.73
8.	It encourages children to explore new ideas and think outside the box	38 (19)	87 (43.5)	35 (17.5)	40 (20)	3.01	0.39
9.	It promotes the habit of evaluating information leading to informed choices	116 (58)	47 (23.5)	35 (17.5)	2 (1)	2.96	0.94
10.	It boosts academic performance of the children	81 (40.5)	69 (34.5)	40 (20)	10 (5)	3.47	0.27
Weighted Average Mean = 2.28 (57%) Fairly Aware							

Research Question Two: What is the usability and effectiveness of critical thinking and creativity skills among caregivers in preschool settings?

Descriptive Statistics Showing the Use and Effectiveness of Critical Thinking and Creativity Skills among the Caregivers in Pre-school settings?

S/N	Items	SA	A	D	SD	Mean	SD
1.	I allow the children to explore the school environment	15 (7.5)	10 (5)	52 (26)	23 (11.5)	1.98	1.45
2.	I provide blocks to foster innovative and problem-solving skills among children	12 (6)	8 (4)	59 (29.5)	21 (10.5)	1.90	1.87
3.	I engage children in storytelling to promote language skill	38 (19)	62 (31)	98 (49)	2 (1)	1.32	1.79
4.	I ask open-ended questions during story time	84 (42)	96 (48)	10 (5)	10 (5)	1.57	1.70
5.	I design spaces that invite exploration	41 (41)	25 (25)	30 (30)	1 (1)	1.91	1.87
6.	I give group projects to promote collaboration and teamwork	48 (24)	60 (30)	58 (29)	34 (17)	2.12	0.79
7.	I engage children in puzzles and brain games to develop their logical reasoning	140 (70)	36 (18)	8 (4)	16 (8)	1.26	1.72
8.	I involve children in drawing and painting activities to stimulate creativity and analytical thinking	68 (34)	64 (32)	44 (22)	24 (12)	2.22	0.67
9.	I connect teaching and learning process to real-life situations which assist the children to understand the relevance of their knowledge	62 (31)	36 (18)	58 (29)	44 (22)	1.84	0.98
10.	I incorporate science, technology, engineering, arts and math activities (STEAM) to promote problem-solving and creative thinking abilities.	64 (32)	80 (40)	32 (16)	24 (12)	2.08	0.98
11.	I allow the children to embark indoor and outdoor play	55 (27.5)	58 (29)	43 (21.5)	44 (22)	2.01	1.05
Weighted Average Mean = 2.02 (50.5%) Fair Utilisation Level							

Discussion of Findings

The result of the finding from table 1 revealed the caregivers in the preschool settings are fairly aware that critical thinking and creativity are two important skills necessary to develop among the preschoolers. The weighted average mean of 57% implies that the caregivers were averagely understood the importance of the two skills which are important to navigate the 21st century. Since the level of awareness is average, this affects the type of instruction given to the preschoolers whose brains are ready to accommodate relevant information for their development. Average levels of awareness of the skills prevent the caregivers from guiding the pupils to be independent, innovative and competitive in the changing world (Nurjahana, Yetti & Surmantri 2024). This is in line with submission of (Ezeala, Apakama, Kanu & Abiodun 2020: Olaoye, Ojo, Awogbenja & Osabo 2024) who reiterated that caregivers focused on cognitive development and neglecting other areas of development that can assist preschoolers' thinking ability. Table 2 revealed 50.5% as the level of using critical thinking and creativity skills which was also average. This showed that the awareness level affected

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the usage. The concentration on only one area of development reduces the ability of preschoolers to overcome challenges, promote self-confidence and enhance social skills (Pan, Lai & Kuo 2023; Zhao & Yang, 2021).

Conclusion

This study successfully investigated the level of awareness, usage, and effectiveness of critical thinking and creativity skills among caregivers in Oyo town. The findings reveal that while caregivers generally possess a foundational awareness of the importance of these skills, there are significant demonstrable gaps in their consistent usage and reported effectiveness when applying them to complex or novel caregiving challenges. Specifically, the data indicates that creative problem-solving is often underutilized, and critical thinking is frequently applied reactively rather than proactively in decision-making. Therefore, the overall conclusion is that the current capacity of caregivers in Oyo town to optimally leverage critical thinking and creativity is insufficient to meet the demands of high-quality, adaptive care. This deficiency highlights an urgent need for targeted, practical interventions and training programmes to bridge the gap between abstract awareness and effective, consistent application, ultimately ensuring better outcomes for both caregivers and preschoolers.

Recommendations

It is therefore recommended that:

1. The government should give constant training to the caregivers in pre-primary classes on how to assist children to develop these essential skills.
2. The caregivers should develop habits and promote the practicing of critical thinking and creativity skills.
3. Enough opportunities should be given to both the teachers and pupils in the pre-primary section through the provision of stimulating and open ended materials. The exploration of these materials will enhance the effectiveness of creativity and critical thinking skills among the caregivers and the preschoolers.

Reference

Ezeala, A.M., Apakama, L.M., Kanu, K. N., & Abiodun, J.F. (2020). Caregiver in promoting socio-cognitive development of pre-school child: Pros and cons. *International Journal of Arts, Languages and Business Studies,* 4 (1)

Federal Republic of Nigeria (2014). National policy on education. NERDC, Lagos.

Ikechi, O.A., Osaat, S.D. & Nwaogha, D.O. (2020). Critical and creative thinking: Implications for educational practice in Nigeria. *Journal of Education in Developing Areas,* vol.28 (1), ISSN: 189420X

Kanu, J.I., Jibril A .K., Nwaorgu, O.& Eze, V. U.(2024). Design and development of a critical thinking pedagogy for students of Abia state college of education (Technical), Arochukwu. *International Journal of Arts and Languages and Business Studies,* vol. 13

Nurjanah, N. E., Yetti, E., & Sumantri, M. S. (2024). Developing creative thinking in preschool children: A comprehensive review of innovative. *European Journal of Educational Research,* 13(3), 1303-1319. https://doi.org/10.12973/eujer.13.3.1303

Nwaokugha, D.O. & Ebradouya, I.(2024). Teaching creative thinking skills in educational institutions in Nigeria. *International Journal of Research and Review,* 11(4). ESSN 2349-9788

Olaoye, T.V., Ojo, C.A., Awogbenja, M.D. & Osabo, P. (2024). Perception on child development among carers in pre-schools in Ibadan, Nigeria. *Journal of educational research in developing areas,* 5.

Pan, A. J., Lai, C. F., & Kuo, H. C. (2023). Investigating the impact of a possibility-thinking integrated project-based learning history course on high school students' creativity, learning motivation, and history knowledge. Thinking Skills and Creativity, 47, Article 101214. https://doi.org/10.1016/j.tsc.2022.101214

Salami, I. A. (2016). Nigerian early childhood education policies and practices for sustainability *European Journal of Research and Reflection in Educational Sciences, 4*(5), 71-85.

Suharyat, Y., Ichsan, I., Supriyadi, A., Apra Santosa, T., & Sofianora, A. (2023). Meta-analysis study: the effect of the independent curriculum integrated project based learning model on student learning outcomes in natural science materials. LITERACY: *International Scientific Journals of Social, Education, and Humanities, 2* (1), 19-33.

Zhao, X., & Yang, J. (2021). Fostering creative thinking in the family: The importance of parenting styles. *Thinking Skills & Creativity, 41* (4). Retrieved 15th March, 2025 from https: //www.researchgate.net/

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Correlation Between Tax Remittance Practices and Sustainable Economic Growth in Benue State, Nigeria

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Abstract

This study examined the relationship between tax remittance practices and economic growth in Benue State, Nigeria, with emphasis on key fiscal indicators including total tax revenue, income tax revenue, sales tax revenue, and resource tax revenue. The study adopted a descriptive research design and relied primarily on secondary data obtained from the Benue State Internal Revenue Service, National Bureau of Statistics, the Office of the Accountant General of Benue State, and the United Nations Development Programme. The analytical framework was anchored on Compliance Theory of Taxation, Fiscal Social Contract Theory, and Benefit Theory of Taxation, which collectively explain taxpayer behaviour and state revenue performance. Findings indicated that improved tax remittance practices, reflected in enhanced PAYE remittance compliance, withholding tax remittance, and enforcement efficiency, were associated with increases in total tax revenue and its major components, particularly income tax and sales tax revenues, with corresponding positive effects on economic growth indicators. Resource tax revenue also exhibited a positive relationship with growth, although its contribution was relatively modest. Tax base coverage and remittance timeliness showed positive but statistically insignificant relationships with growth outcomes. The study concluded that effective tax remittance practices can strengthen revenue mobilisation and promote economic growth in Benue State when supported by appropriate institutional mechanisms. It recommended improved remittance monitoring systems, stricter enforcement measures, and taxpayer education programmes to enhance compliance and sustain fiscal performance.

Keywords: Taxation, Remittance Practices, Economic Growth, Benue State.

Introduction

The growth of the economic in the country is a fundamental objective of regional development because it enhances productivity, increases income levels, and improves the standard of living of the population. Benue State was not an exemption to this growth which is largely driven by agriculture, small and medium enterprises, and service-related activities. The state is widely recognized as one of Nigeria's major agricultural zones due to its production of staple crops such as yam, rice, maize, and soybeans. Despite these abundant natural and human resources, the level of economic growth in Benue State remains below its potential, with persistent poverty, unemployment, and low productivity posing significant challenges. Available data indicate that poverty incidence in the state is about 41.4 percent, with unemployment estimated at approximately 25.9 percent, suggesting structural constraints to sustainable economic growth (Ozuma et al., 2025). In recent years, the escalation of violence and insecurity has also posed significant challenges to effective tax administration and economic growth in Benue State, Nigeria. Persistent insecurity in many rural communities has disrupted economic activities, reduced business operations, and weakened the capacity of individuals and enterprises to meet their tax obligations. As economic productivity declines, government revenue from taxes is adversely affected, thereby limiting the resources available for public investment and development programmes. Nigeria's rural areas have increasingly experienced security challenges that undermine investor confidence and reduce the attractiveness of local economies to both domestic and foreign investors. The 2025 Global Terrorism Index ranked Nigeria sixth among the countries most affected by terrorism, highlighting the scale of insecurity confronting economic activities (Ozuma et al., 2025). Communities such as Guma, Logo, Ukum, Agatu, and Apa in Benue State have experienced recurrent conflicts and violence, which

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have disrupted agricultural production and commercial activities, thereby reducing taxable income and revenue generation of the State (Oni & Ibitoye, 2022; Duru, 2024). Consequently, there are persistence insecurity in the State which has important implications for tax remittance practices and sustainable economic growth in Benue State. Ahmodu and Ezeani (2023) defined tax remittance as the prompt and accurate transfer of collected tax revenues to the appropriate government authorities, represents a critical component of sustainable fiscal administration and economic growth in Benue State, Nigeria. The effectiveness of the tax system depends not only on the formulation of sound tax policies but also on the efficiency with which collected revenues are remitted into government accounts for developmental purposes. A clear distinction exists between tax collection and tax remittance: while tax collection involves the assessment and receipt of taxes from taxpayers, tax remittance concerns the proper transfer of such revenues to the designated public treasury. Weaknesses at the remittance stage arising from administrative lapses, delays, or diversion of funds which significantly reduce the financial resources available for infrastructure development, social services, and economic programmes necessary for sustainable growth in Benue State. Ineffective remittance practices therefore limit the capacity of government to translate tax revenues into tangible developmental outcomes and weaken the role of taxation as a tool for sustainable economic development (Ndulu et al., 2021). Benue State's revenue structure depends largely on federal allocations, while internally generated revenue remains limited. Within internally generated revenue, Personal Income Tax through Pay- As-You-Earn and Withholding Tax represent the major sources, making efficient tax remittance essential for fiscal sustainability (BIRS, 2023). The effectiveness of revenue mobilisation depends not only on tax policies but also on compliance by employers, tax agents, and administrators, as consistent remittance determines the state's capacity to finance development (Nzontta, 2007). The state's aspiration to become one of Nigeria's leading economies by 2030 requires substantial infrastructure investment supported by a reliable tax system (Chigbu et al., 2012). However, tax remittance performance has been constrained by employer non-compliance, weak enforcement capacity, a large informal sector, and limited taxpayer awareness. These challenges have created a gap between expected and actual revenue, making it necessary to examine tax remittance practices and their implications for sustainable economic growth in Benue State.

Statement of the Problem

The government of Benue State continues to experience a persistent disparity between its potential revenue capacity and the fiscal resources actually realised. This shortfall is attributable not only to structural limitations in the tax system but also to inefficiencies in tax remittance practices affecting key revenue components, including total tax revenue, sales tax revenue, income tax revenue, and resource tax revenue. Weak compliance in the remittance process has reduced the volume of revenue available for developmental purposes despite the existence of established tax policies and statutory obligations. Scholarly evidence indicates that failures in tax remittance constitute a major source of revenue leakage for sub-national governments. Appah (2014) observed that non-remittance of Pay-As-You-Earn deductions by employers represents one of the most persistent constraints on state revenue mobilisation, while Soyode and Kajola (2006) noted that deductions made from employees' earnings are often withheld rather than transferred to the appropriate authorities. Such practices undermine income tax revenue and weaken the overall tax structure. In addition, weak institutional capacity and enforcement limitations have constrained effective monitoring of tax remittances across different tax categories, including sales and resource-based revenues. Despite the importance of tax remittance efficiency in strengthening total tax revenue and supporting economic development, empirical studies at the sub-national level remain limited. Existing research has largely examined the broader relationship between tax revenue and economic growth (Worlu & Emeka, 2012; Adegbie & Fakile, 2011), with relatively little attention given to the specific role of remittance practices. Consequently, the central concern of this study is to determine the extent to which tax remittance practices relating to total tax revenue, sales tax revenue, income tax revenue, and resource tax revenue influence economic growth in Benue State, and to identify institutional and policy measures required to improve remittance compliance and fiscal performance.

Research Objectives

The main objective of this study was to examined tax remittance practices and sustainable economic growth in Benue State, Nigeria. Specifically, the study were to:

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i. Assess the extent to which PAYE remittance compliance influences sustainable economic growth in Benue State;
ii. investigate the relationship between withholding tax remittance and sustainable economic growth in Benue State;
iii. examine the combine effect of tax base coverage, remittance timeliness, and remittance enforcement efficiency impact economic growth in Benue State.

Research Questions

In line with the statement of the problem, the study provides answered to the following questions:

i. To what extent does PAYE remittance compliance influence sustainable economic growth in Benue State?
ii. What is the relationship between withholding tax remittance and sustainable economic growth in Benue State?
iii. How do tax base coverage, remittance timeliness, and remittance enforcement efficiency impact sustainable economic growth in Benue State?

Literature Review

Conceptual Review

Tax Remittance

Tax remittance refers to the process by which taxes assessed and collected from taxpayers, or deducted at source, are formally transmitted to the designated revenue authority within the time frame prescribed by applicable tax legislation. Ogundele (2009) described tax remittance as the institutional bridge between the collection of revenue and its availability for public use, emphasising that failure to remit collected taxes in a timely manner effectively denies the state access to resources it has already earned. Appah (2014) argued that the effectiveness of any tax system cannot be assessed solely by reference to its legislative design; the integrity of the remittance process is the ultimate test of whether the system generates real fiscal resources. Under the PAYE system, employers are required to deduct income tax from employees' salaries and remit the deducted amounts to the relevant state revenue authority by the tenth day of the following month. For withholding tax, the obligation falls on the party making payment for specified goods and services. Failure to comply attracts penalties, though enforcement has historically been inconsistent in the Nigerian context (Fagbemi et al., 2010).

Tax Compliance and Non-Remittance

Tax compliance encompasses the accurate reporting of taxable income, timely payment of assessed liabilities, and prompt remittance of withheld taxes. Non-remittance is a particularly egregious form of non-compliance because it involves the withholding of funds already deducted, meaning revenue loss occurs even where collection has nominally succeeded. The contributing factors including lack of awareness of remittance deadlines, complexity of remittance procedures, limited enforcement, and a culture of impunity. Adeyeye (2014) argued that systemic non-remittance is self-reinforcing: when employers perceive that non-remittance rarely results in enforcement action, the incentive to remit is significantly weakened.

Sustainable Economic Growth

Economic growth is a sustained, multi-dimensional process aimed at improving economic, social, and institutional well-being). The Human Development Index (HDI), developed by the UNDP, provides a composite measure incorporating health, education, and standard-of-living dimensions, and is therefore a more appropriate indicator for assessing the developmental impact of tax remittance practices than GDP alone (Dackehag & Hansson, 2015). Nigeria's HDI stood at 0.504 in 2014, ranking it 152nd out of 187 countries, highlighting the considerable developmental potential that remains to be unlocked through improved fiscal management (UNDP, 2014).

Theoretical Review

Compliance Theory

The Compliance Theory of Taxation was developed by Fischer in 1992. The theory posited that taxpayer compliance is determined by the probability of detection, severity of penalties, tax morale, and system fairness. In the remittance context, the theory predicts higher compliance when employers perceive a credible risk of penalty and when social norms support compliance behaviour. This framework provides the basis for the study's emphasis on enforcement and institutional dimensions of remittance reform.

Fiscal Social Contract Theory

The Fiscal Social Contract Theory (Brautigam, 2008) conceptualises the tax-government relationship as a

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reciprocal exchange in which taxpayers fulfil remittance obligations in return for public goods delivery. The theory predicts that remittance compliance correlates positively with taxpayers' confidence in government's deployment of tax revenue for public benefit. In Benue State, weaknesses in remittance compliance may partly reflect a breakdown of fiscal trust where remitted taxes have not visibly translated into improved public services.

Ability to Pay Theory

The Ability to Pay Theory (Pigou, 1962) holds that tax burdens should be distributed proportionately to economic capacity. For remittance policy, uniform and inflexible remittance schedules may penalise small enterprises and contribute to defaults driven by liquidity constraints rather than deliberate non-compliance. Soyode and Kajola (2006) argued that remittance frameworks should incorporate graduated payment provisions for employers with demonstrated financial difficulties to maximise overall compliance without sacrificing fairness.

Empirical Review

Worlu and Emeka (2012) investigated tax revenue and economic development in Nigeria using the three-stage least squares technique, finding that tax revenue stimulates growth primarily through infrastructural development. They concluded that the quality of public expenditure management mediates the revenue-development relationship. PAYE and withholding tax contributions to development indicators in Benue State, finds positive contributions to infrastructure, education, health, and agriculture, though constrained by remittance compliance weaknesses. Adegbie and Fakile (2011) confirmed a significant positive association between PAYE revenue and economic development in Nigeria. Nwakanma and Nnamdi (2013) found that PAYE, withholding tax, and federal allocations all exhibit positive relationships with human development outcomes using a lin-log HDI model. It confirmed a positive and significant correlation between state-level tax revenue and economic development, with emphasis on compliance enforcement. Ferede and Dahlby (2012) demonstrated through provincial panel data that improvements in tax compliance and administration efficiency are associated with increased private investment and economic growth. Chiumia and Simwaka (2012) concluded that the integrity of tax administration, including the remittance process, is a critical determinant of whether tax systems contribute positively to growth in low-income countries. Found that Nigerian states that invested in modernising tax administration, including electronic remittance platforms, experienced significant improvements in both compliance rates and revenue yields.

Methodology

This study employed a descriptive research design to examined the relationship between tax remittance practices and sustainable economic growth in Benue State, Nigeria. The design was selected because it allows systematic collection and analysis of both primary and secondary data to evaluate relationships among the study variables. The study population comprised 298 revenue officers, tax officials, and government accountants drawn from selected Ministries, Departments, and Agencies across the three senatorial districts of Benue State. A combination of purposive and simple random sampling techniques was used to ensure relevance and representativeness. Seven MDAs were purposively selected based on their involvement in revenue administration, resulting in an accessible population of 236 staff. From this group, a sample size of 168 respondents was determined using the Krejcie and Morgan sampling formula. Data were obtained from both primary and secondary sources. Primary data were collected through a structured questionnaire measured on a five-point Likert scale, while secondary data on economic growth were obtained from official development indicators, including the Human Development Index. Data were analysed using descriptive statistics, trend analysis, and linear regression techniques to examine patterns and determine the nature and strength of relationships between tax remittance practices and economic growth. The analytical procedure provided an empirical basis for reliable findings and policy conclusions.

Model Specification

To achieve the study objective, the linear regression model was used by modifying the model of Oladele, Aribaba, Ahmodu and Ajayi (2018) to include the five components of tax remittance practices. The linear regression model presents the functional relationship between the dependent and independent variables as follows:

$Y = \beta_0 + \beta_1 X_1 + \beta_n X_n + \mu$ ..... (Eqn. 1)

The study specified from the above model the following econometric form:

$SEG = ß_0 + ß_1 PAYE_1 + ß_2 WHT_2 + ß_3 TBC_3 + ß_4 RT_4 + ß_5 REE_5 + \mu$ ..... (Eqn. 2)

Where: ECOGR = Economic Growth; PAYE = Pay-As-You-Earn Remittance; WHT = Withholding Tax

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Remittance; TBC = Tax Base Coverage; RT = Remittance Timeliness; REE = Remittance Enforcement Efficiency; $ß_0$ = intercept; $ß_{1-5}$ = coefficients; μ = Stochastic error term.

Presentation of Results

Descriptive Statistics

Table 1: Descriptive Statistics of Respondents

	N	Mean	Std. Dev.	Skewness	Std. Err	Kurtosis	Std. Err
Economic Growth	168	2.31	.862	-.148	.187	-.871	.373
PAYE Remittance	168	2.41	.917	.113	.187	-.761	.373
WHT Remittance	168	2.25	.843	.024	.187	.817	.373
Tax Base Coverage	168	2.18	.891	.174	.187	-.924	.373
Remittance Timeliness	168	2.14	.856	.009	.187	-1.163	.373
Remittance Enforcement Eff.	168	2.27	.958	.261	.187	-.849	.373

Source: Author's Computation / Field Survey (2024)

Table 1 shows the descriptive statistics for all variables. The mean and standard deviation values are: Economic Growth (2.31, .862); PAYE Remittance (2.41, .917); WHT Remittance (2.25, .843); Tax Base Coverage (2.18, .891); Remittance Timeliness (2.14, .856) and Remittance Enforcement Efficiency (2.27, .958). Skewness < 2 and Kurtosis < 7 indicate acceptable normality. Kurtosis values are mixed: some negative, one positive; however all within acceptable normality range indicating the distribution of variables is not symmetrical.

Regression Analysis

Table 2: Model Summary

Model	R	R Square	Adj. R Square	F Change	Sig. F Change	Durbin-Watson
1	.463a	.214	.188	8.971	0.000	1.643

a. Predictors: (Constant), PAYE Remittance, WHT Remittance, Tax Base Coverage, Remittance Timeliness, Remittance Enforcement Efficiency

b. Dependent Variable: Economic Growth Source: Author's Computation / Field Survey (2024)

Table 2 presents the model summary statistics. The linear correlation coefficient (R = 46.3%) indicates a positive and moderate relationship between the predictor variables and economic growth. R^2 is 21.4%, adjusted R^2 is 18.8%, and the F-statistic is 8.971 with p-value = 0.000 < 0.05. The Durbin-Watson value of 1.643 falls within the acceptable range, confirming the absence of serial autocorrelation. The, 21.4% of variation in economic growth is accounted for by the five tax remittance variables, and their combined influence is positive and statistically significant.

Table 3: Coefficients of Predictor Variables

Model	Unstd. B	Std. Error	Std. Beta	t	sig	Tolerance	VIF
(Constant)	1.082	.284		3.80	.000		
PAYE Remittance	.214	.082	.211	2.610	.010	.89	1.221
WHT Remittance	.237	.088	.229	2.693	.008	.774	1.292
Tax Base Coverage	-.063	.079	-.065	-.797	.427	.831	1.204
Remittance Timeliness	.021		0.81	.020	.796	.828	1.208
Remittance Enforcement Eff.	.231	.079	.257	2.924	.004	.772	1.296

Table 3 presents the individual coefficients of each predictor variable. PAYE Remittance (t = 2.610, p = 0.010 < 0.05), WHT Remittance (t = 2.693, p = 0.008 < 0.05), and Remittance Enforcement Efficiency (t = 2.924, p = 0.004 < 0.05) had significant positive effects, while Tax Base Coverage (t = -.797, p = 0.427 > 0.05) and Remittance Timeliness (t = .259, p = 0.796 > 0.05) were positive but insignificant. The collinearity statistics (Tolerance and VIF) confirm no multicollinearity among predictors. The estimated regression equation is:

$$SEG = 1.082 + 0.214(PAYE) + 0.237(WHT) - 0.063(TBC) + 0.021(RT) + 0.231(REE) + \mu \quad \ldots\ldots(Eqn.\ 3)$$

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Discussion of Findings

The study empirically investigated the effect of tax remittance practices on economic growth in Benue State using five components of fiscal compliance. Findings showed that PAYE Remittance, WHT Remittance, and Remittance Enforcement Efficiency had significant and positive effects, while Tax Base Coverage and Remittance Timeliness, though positive, were not statistically significant. The significant positive effect of PAYE Remittance aligns with Adegbie and Fakile (2011), who confirmed a positive association between PAYE revenue and economic development. The significance of Remittance Enforcement Efficiency supports the Compliance Theory (Fischer et al., 1992), which predicts that the credible risk of penalty is a primary driver of compliance behaviour. The insignificant result for Tax Base Coverage reflects the persistent structural barriers constraining the fiscal contribution of the informal sector in Nigerian state economies (Olusanya et al., 2012). The regression findings corroborate Worlu and Emeka (2012), who demonstrated that the primary channel through which tax revenue impacts economic growth is infrastructural development, itself contingent on the volume of remittances flowing to the state treasury. The overall model ($F = 8.971$, $p = 0.000$) confirms that tax remittance practices, taken together, constitute a significant explanatory framework for economic growth in Benue State.

Conclusion

This study examined tax remittance practices and their implications for economic growth in Benue State, Nigeria, anchored on the Compliance Theory of Taxation, the Fiscal Social Contract Theory, the Benefit Theory, and the Ability to Pay Theory. The findings indicate that tax remittance practices exert a significant and positive influence on economic growth in Benue State. PAYE Remittance Compliance, Withholding Tax Remittance, and Remittance Enforcement Efficiency were found to be statistically significant predictors of economic growth, while Tax Base Coverage and Remittance Timeliness, though positive, were not significant at the 0.05 level. The null hypotheses H_{01}, H_{02}, and H_{05} are therefore rejected, while H_{03} and H_{04} are accepted on the basis of the evidence. It is concluded that tax remittance compliance does exert significant and positive effects on economic growth in Benue State; however, these effects are critically conditioned by the strength of enforcement mechanisms and the efficiency of remittance processes.

Recommendations

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

1. The Benue State government should invest in the technological modernisation of the BIRS remittance tracking to improve electronic remittance management system.
2. The state government should enforce penalties for PAYE and withholding tax remittance defaulters.
3. Management should specifically strengthen Tax Base Coverage and Remittance Timeliness by implementing a comprehensive taxpayer identification programme.

References

Adegbie, F. F., & Fakile, A. S. (2011). Company income tax and Nigeria economic development. *European Journal of Social Sciences, 22*(2), 309–320.

Adeyeye, G. B. (2014). *Fundamentals of Nigerian taxation*. Jamade Publishers.

Appah, E. (2014). The relationship between fiscal policy variables and economic growth in Nigeria. *International Journal of Finance and Accounting, 3*(2), 81–91.

Azubike, J. U. B. (2009). Challenges of tax authorities and taxpayers in the management and remittance of tax. *The Nigerian Accountant, 42*(2), 36–42.

Benue State Internal Revenue Service. (2023). *Annual revenue report 2022/2023*. BIRS. Brautigam, D. (2008). Introduction: Taxation and state-building in developing countries. In D.

Brautigam, O. H. Fjeldstad, & M. Moore (Eds.), *Taxation and state-building in developing countries* (pp. 1–33). Cambridge University Press.

Chigbu, E. E., Akujuobi, L. E., & Ebimobowei, A. (2012). An empirical study on the causality between economic growth and taxation in Nigeria. *Current Research Journal of Economic Theory, 4*(2), 29–38.

Chiumia, A., & Simwaka, K. (2012). Tax reforms and revenue mobilisation in Malawi. *Journal of Economics and International Finance.*

Dackehag, M., & Hansson, A. (2015). *Taxation of dividend income and economic growth: The case of Europe* Working Paper No. 1081). Research Institute of Industrial Economics & Lund University.

Duru, P. (2024, July 20). 18 killed, others injured by armed bandits in Benue community. *Vanguard Newspaper.*

Engen, E. M., & Skinner, J. (1996). Taxation and economic growth. *National Tax Journal, 49*(4), 617–642.

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DOI: **https://doi.org/10.64348/zije.2026375**

Fagbemi, T. O., Uadiale, O. M., & Noah, A. O. (2010). The ethics of tax evasion: Perceptual evidence from Nigeria. *European Journal of Social Sciences, 17*(3), 360–371.

Ferede, E., & Dahlby, B. (2012). The impact of tax cuts on economic growth: Evidence from the Canadian provinces. *National Tax Journal, 65*(3), 563–594.

Fischer, C. M., Wartick, M., & Mark, M. (1992). Detection probability and taxpayer compliance: A review of the literature. *Journal of Accounting Literature, 11*(1), 1–46.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30*, 607–610.

Musgrave, R. A., & Musgrave, P. B. (2014). *Public finance in theory and practice* (5th ed., reprint of 1989 edition). Tata McGraw-Hill.

National Bureau of Statistics. (2023). *Internally generated revenue at state level*. NBS.

Nwakanma, P. C., & Nnamdi, K. C. (2013). Taxation and national development. *Research Journal of Finance and Accounting, 4*(7), 78–84.

Nzontta, J. O. (2007). *Tax planning and management in Nigeria*. Mega Concept.

Okafor, R. G. (2012). Tax revenue generation and Nigerian economic development. *European Journal of Business and Management, 4*(19), 49–56.

Oladele, P. O., Aribaba, F. O., Ahmodu, O. L., & Ajayi, O. M. (2018). An empirical study of human resource accounting disclosure on financial performance of selected listed firms in Nigeria. *Journal of Accounting and Management, 8*(2), 70–82.

Olusanya, S. O., Oluwatosin, O. A., & Chukwuemeka, O. E. (2012). Determinants of lending behaviour of commercial banks: Evidence from Nigeria. *IOSR Journal of Humanities and Social Science, 5*(5), 71–80.

Oni, A., & Ibitoye, F. (2022). Effects of herders–farmers conflict on agriculture in Benue State. *African Journal of Rural Studies, 14*, 58–74.

Ozuma, S. O., Ahoo, T. J., Dzever, M. A., Anyam, S. N., & Ikyenge, P. M. (2025). Impact of insecurity on rural development in Benue State, Nigeria. *Preprints.* https://doi.org/10.20944/preprints202507.2566.v1

Soyode, L., & Kajola, S. O. (2006). *Taxation: Principles and practice in Nigeria*. Silicon.

Success, A. O., Oyedokun, G. E., & Omotoso, F. (2012). PAYE and FAAC revenue and economic development in Nigeria. *Journal of Taxation and Economic Development, 11*(2), 112–126.

Torgler, B. (2007). *Tax compliance and tax morale: A theoretical and empirical analysis*. Edward Elgar Publishing.

United Nations Development Programme. (2014). *Human development report 2014: Sustaining human progress*. UNDP.

Worlu, C. N., & Emeka, N. (2012). Tax revenue and economic development in Nigeria: A macro econometric approach. *Academic Journal of Interdisciplinary Studies*, 1(2), 211-223.

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Evaluation of Benchmark Minimum Academic Standards and Core Curriculum Minimum Academic Standards in Addressing Global Challenges among Universities in Nigeria

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Abstract
This empirical study examined the adaptation of Nigerian university curricula to address global challenges through the implementation of Benchmark Minimum Academic Standards (BMAS) and Core Curriculum Minimum Academic Standards (CCMAS). A mixed-methods approach was employed, analyzing data from 45 Nigerian universities, 1,250 faculty members, and 3,500 students across six geopolitical zones. Results indicate that 67% of universities have partially implemented CCMAS frameworks, with 34% showing significant adaptation to change challenges and 52% incorporating global competency standards. Key findings revealed implementation gaps in 78% of institutions, with resource constraints affecting 89% of surveyed universities. Student satisfaction with adapted curricula averaged 3.2/5.0, while employer satisfaction with graduate competencies reached 3.8/5.0. The study demonstrates that systematic curriculum adaptation through BMAS and CCMAS frameworks significantly enhances graduate employability ($p<0.05$) and institutional global competitiveness. These findings contribute to understanding curriculum transformation in developing economies and provide evidence-based recommendations for policy implementation in Nigerian higher education.

Keywords: Curriculum adaptation, BMAS, CCMAS, Nigerian universities, global challenges, higher education reform

Introduction
The contemporary global landscape presents unprecedented challenges that demand transformative responses from higher education institutions worldwide. Change, technological disruption, pandemics, and socio-economic inequalities have fundamentally altered the competencies required for 21st-century graduates (David, 2023; Leal Filho et al., 2023). Nigerian universities, serving over 2.1 million students across 174 institutions, face the critical imperative of adapting their curricula to prepare graduates for these global realities while maintaining relevance to local contexts (Muhammed et al., 2023). The Nigerian higher education system has factually operated under curriculum frameworks that emphasized theoretical knowledge acquisition over practical competency development. However, the introduction of Benchmark Minimum Academic Standards (BMAS) and the subsequent evolution to Core Curriculum Minimum Academic Standards (CCMAS) represents a paradigmatic shift toward outcome-based education that aligns with global best practices (National Universities Commission, 2023. Okebukola, 2023).

CCMAS, officially launched in 2023, represents the most comprehensive curriculum reform initiative in Nigerian higher education since independence. Unlike its ancestor BMAS, CCMAS emphasizes competency-based learning, employability skills, and global citizenship while maintaining cultural relevance (Okoro et al., 2022). The framework mandates integration of cross-cutting themes including climate change adaptation, digital literacy, entrepreneurship, and sustainable development across all academic disciplines (Olowe and Adeniyi, 2022). Global challenges necessitate curriculum responses that transcend traditional disciplinary boundaries. Climate change, identified as the defining challenge of our era, requires interdisciplinary approaches that integrate environmental science, policy studies, economics, and social sciences (Bolan, 2023. Pörtner et al., 2022). The Intergovernmental Panel on Climate Change emphasizes the critical role of educational institutions in building adaptive capacity and promoting climate-resilient development pathways (The Royal Society, 2024). The theoretical foundation for this study draws upon Maslow's hierarchy of needs, conceptualized for contemporary educational contexts (Bear et al., 2022; Rojas et al., 2023), and self-determination theory, which emphasizes intrinsic motivation in learning environments (Ryan & Deci, 2022). These frameworks provide lenses for understanding how curriculum adaptation can address both individual learner needs and societal imperatives. Previous research has highlighted significant challenges in curriculum implementation within Nigerian universities, including inadequate

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infrastructure, limited faculty development, and insufficient stakeholder engagement (Ogunode and Emmanuel, 2023; Ogunode et al., 2022). However, empirical evidence on the effectiveness of BMAS and CCMAS in addressing global challenges remains limited, creating a critical knowledge gap that this study addresses.

Objective of the study

(1) To help Nigeria universities adapt to their curriculum global challenges
(2) To influence the effectiveness of curriculum adaptation initiatives
(3) To enable stakeholders perceive the impact of adapted curricula on graduate competencies

Research Question

The following are the research questions guiding this study:

(1) To what extent has Nigerian universities adapted their curricula to address global challenges through BMAS and CCMAS implementation?
(2) What factors influence the effectiveness of curriculum adaptation initiatives?
(3) How do stakeholders perceive the impact of adapted curricula on graduate competencies? (4) What are the measurable outcomes of curriculum adaptation on institutional performance and graduate employability?

Research Methodology

This study employed a convergent parallel mixed-methods design, combining quantitative and qualitative approaches to provide comprehensive insights into curriculum adaptation processes in Nigerian universities. The research was conducted between January 2025 and December 2025, covering the initial implementation segment of CCMAS across the Nigerian university system. The target population comprised all 174 Nigerian universities (43 federal, 79 state, and 52 private institutions) as recognized by the National Universities Commission. A stratified random sampling technique was employed to ensure representation across geopolitical zones, ownership types, and institutional ages. The final sample included 45 universities (26.2% of total population), with 18 federal universities (41.9%), 15 state universities (19.0%), and 12 private universities (23.1%). Four distinct participant categories were identified: Institutional Leaders: 135 participants including Vice-Chancellors, Deputy Vice-Chancellors (Academic), Deans, and Heads of Departments; Faculty Members: 1,250 academic staff across various disciplines and career stages; Students: 3,500 undergraduate and postgraduate students from different academic levels and Employers: 280 representatives from public and private sector organizations. Multiple instruments were developed and validated: Institutional Curriculum Adaptation Survey (ICAS): A 68-item instrument measuring implementation levels, resource allocation, and institutional commitment to curriculum reform (Cronbach's $\alpha = 0.89$); Faculty Perception and Practice Questionnaire (FPPQ): A 52-item scale assessing faculty readiness, training needs, and pedagogical adaptations (Cronbach's $\alpha = 0.92$); Student Learning Experience Scale (SLES): A 45-item instrument evaluating student satisfaction, competency development, and career readiness (Cronbach's $\alpha = 0.87$); Employer Graduate Competency Assessment (EGCA): A 38-item tool measuring employer satisfaction with graduate skills and employability (Cronbach's $\alpha = 0.91$); Semi-structured Interview Protocols: Developed for in-depth exploration of implementation challenges, success factors, and stakeholder experiences. Data collection occurred in three phases: Phase 1 (January-April 2025)**:** Institutional surveys were administered to university leaders, with response rates of 94.4% achieved through multiple follow-up strategies. Document analysis of curriculum documents, policy statements, and implementation reports was conducted concurrently. Phase 2 (May-August 2025): Faculty and student surveys were distributed using both online and paper-based formats. Focus group discussions were conducted with 72 faculty groups and 96 students group across participating institutions. Phase 3 (September-December 2025): Employer surveys were administered to organizations that had recruited graduates from participating universities within the previous three years. In-depth interviews were conducted with 45 key stakeholders including NUC officials, university administrators, and industry leaders.

Quantitative data analysis was performed using SPSS version 28.0 and R statistical software. Descriptive statistics, correlation analyses, multiple regression, and ANOVA were employed to examine relationships between variables. Qualitative data analysis followed Braun and Clarke's thematic analysis approach, utilizing NVivo 12 for coding and theme development. Ethical approval was obtained from the Research Ethics Committee of the National Universities

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Commission. Informed consent was secured from all participants, and data confidentiality was maintained throughout the research process. Institutional anonymity was preserved in reporting findings.

Limitations

Several limitations were acknowledged: (1) The cross-sectional design limited causal inferences; (2) Self-reported data may be subject to social desirability bias; (3) The relatively early stage of CCMAS implementation may not reflect long-term impacts; (4) Regional variations in implementation contexts may affect generalizability.

Presentation of Results

The findings revealed significant variations in curriculum adaptation attitudes across Nigerian universities, with measurable impacts on stakeholder satisfaction and institutional performance outcomes. Analysis of CCMAS implementation revealed that entrepreneurship education shows the highest implementation rate (40.0% fully implemented, M=3.58), while climate change integration demonstrates the lowest implementation levels (17.8% fully implemented, M=2.67). Digital literacy components show strong partial implementation (62.2%), indicating institutional recognition of technological imperatives.

Table 1: CCMAS Implementation Status across Nigerian Universities (N=45)

Implementation Dimension	Fully Implemented	Partially Implemented	Not Implemented	Mean Score (1-5)	SD
Core Competency Framework	15 (33.3%)	23 (51.1%)	7 (15.6%)	3.24	1.18
Climate Change Integration	8 (17.8%)	19 (42.2%)	18 (40.0%)	2.67	1.35
Digital Literacy Components	12 (26.7%)	28 (62.2%)	5 (11.1%)	3.42	0.98
Entrepreneurship Education	18 (40.0%)	21 (46.7%)	6 (13.3%)	3.58	1.12
Global Citizenship Education	9 (20.0%)	24 (53.3%)	12 (26.7%)	2.89	1.24
Assessment Reform	11 (24.4%)	26 (57.8%)	8 (17.8%)	3.18	1.06
Industry Collaboration	14 (31.1%)	22 (48.9%)	9 (20.0%)	3.33	1.21

Note: Scores based on 5-point Likert scale (1=Not Implemented, 5=Fully Implemented)

Table 2: Faculty Readiness and Training Needs Assessment (N=1,250)

Training Domain	High Competency	Moderate Competency	Low Competency	Training Priority Rank	Mean Readiness Score
Competency-Based Assessment	284 (22.7%)	546 (43.7%)	420 (33.6%)	1	2.89
Climate Change Pedagogy	156 (12.5%)	437 (35.0%)	657 (52.5%)	2	2.34
Digital Teaching Tools	378 (30.2%)	521 (41.7%)	351 (28.1%)	3	3.02
Interdisciplinary Approaches	245 (19.6%)	623 (49.8%)	382 (30.6%)	4	2.76
Industry Engagement	289 (23.1%)	578 (46.2%)	383 (30.7%)	5	2.84
Research Integration	445 (35.6%)	567 (45.4%)	238 (19.0%)	6	3.23
Cultural Sensitivity	523 (41.8%)	489 (39.1%)	238 (19.1%)	7	3.45

Note: Competency levels based on self-assessment using validated instruments

Faculty readiness assessment indicated significant training needs, particularly in climate change pedagogy (52.5% low competency) and competency-based assessment (33.6% low competency). Cultural sensitivity demonstrates the highest faculty competency levels (41.8% high competency), reflecting existing strengths in contextual knowledge.

Table 3: Student Satisfaction and Competency Development Outcomes (N=3,500)

Outcome Measure	Excellent	Good	Fair	Poor	Very Poor	Mean Score (1-5)	SD
Overall Curriculum Relevance	315 (9.0%)	1,085 (31.0%)	1,400 (40.0%)	525 (15.0%)	175 (5.0%)	3.24	0.96
Global Competency Development	280 (8.0%)	1,015 (29.0%)	1,470 (42.0%)	560 (16.0%)	175 (5.0%)	3.19	0.94

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Career Preparation Adequacy	385 (11.0%)	1,225 (35.0%)	1,260 (36.0%)	455 (13.0%)	175 (5.0%)	3.34	0.98
Climate Awareness Integration	245 (7.0%)	875 (25.0%)	1,540 (44.0%)	595 (17.0%)	245 (7.0%)	3.08	0.95
Digital Skills Development	455 (13.0%)	1,330 (38.0%)	1,225 (35.0%)	350 (10.0%)	140 (4.0%)	3.46	0.94
Entrepreneurial Mindset	420 (12.0%)	1,260 (36.0%)	1,295 (37.0%)	385 (11.0%)	140 (4.0%)	3.41	0.93
Research Capabilities	350 (10.0%)	1,155 (33.0%)	1,400 (40.0%)	420 (12.0%)	175 (5.0%)	3.31	0.94

Note: Satisfaction ratings on 5-point scale (1=Very Poor, 5=Excellent)

Student satisfaction data reveals moderate positive responses across most dimensions, with digital skills development showing the highest satisfaction (M=3.46) and climate awareness integration the lowest (M=3.08). These findings align with implementation data showing stronger emphasis on digital literacy compared to environmental education. Employer assessments revealed highest satisfaction with digital competency (M=3.98) and teamwork capabilities (M=3.92), while sustainability consciousness (M=3.21) and global awareness (M=3.38) show significant improvement needs. These findings correlate with curriculum implementation gaps identified in climate change and global citizenship education.

Table 4: Employer Assessment of Graduate Competencies (N=280)

Competency Domain	Highly Satisfactory	Satisfactory	Neutral	Unsatisfactory	Highly Unsatisfactory	Mean Rating	SD
Technical Knowledge	67 (23.9%)	134 (47.9%)	56 (20.0%)	17 (6.1%)	6 (2.1%)	3.85	0.91
Problem-Solving Skills	56 (20.0%)	126 (45.0%)	70 (25.0%)	22 (7.9%)	6 (2.1%)	3.73	0.93
Communication Abilities	73 (26.1%)	123 (43.9%)	59 (21.1%)	19 (6.8%)	6 (2.1%)	3.85	0.94
Digital Competency	84 (30.0%)	131 (46.8%)	45 (16.1%)	14 (5.0%)	6 (2.1%)	3.98	0.91
Teamwork and Collaboration	78 (27.9%)	129 (46.1%)	51 (18.2%)	16 (5.7%)	6 (2.1%)	3.92	0.92
Adaptability to Change	45 (16.1%)	118 (42.1%)	78 (27.9%)	28 (10.0%)	11 (3.9%)	3.57	0.98
Global Awareness	39 (13.9%)	101 (36.1%)	84 (30.0%)	39 (13.9%)	17 (6.1%)	3.38	1.05
Sustainability Consciousness	28 (10.0%)	95 (33.9%)	89 (31.8%)	45 (16.1%)	23 (8.2%)	3.21	1.08

Note: Ratings on 5-point scale (1=Highly Unsatisfactory, 5=Highly Satisfactory)

Strong positive correlations emerge between CCMAS implementation levels and institutional performance indicators. Climate action integration shows the strongest correlation (r = 0.74), followed by industry partnerships (r = 0.72) and digital infrastructure development (r = 0.71). These relationships suggest that comprehensive curriculum adaptation contributes significantly to overall institutional effectiveness. Additional analyses revealed significant differences across university types, with federal universities showing higher implementation rates (M = 3.67) compared to state (M = 3.21) and private institutions (M = 3.45). Regional variations also emerge, with universities in the South-West zone demonstrating superior adaptation levels compared to other regions. Qualitative findings complement quantitative results, revealing implementation challenges including inadequate funding (mentioned by 89% of administrators), insufficient faculty training (78%), limited industry engagement (67%), and resistance to change (45%). Success factors identified include strong leadership commitment, international partnerships, alumni support, and incremental implementation strategies.

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Table 5: Institutional Performance Indicators and Global Challenge Adaptation (N=45)

Performance Indicator	High Performance (Top 25%)	Moderate Performance (26-75%)	Low Performance (Bottom 25%)	Overall Mean	Correlation with CCMAS Implementation
Graduate Employment Rate (%)	78.5 ± 8.2	65.3 ± 7.4	48.7 ± 9.1	64.2	r = 0.67**
Industry Partnership Index	8.3 ± 1.2	5.7 ± 1.8	2.4 ± 1.1	5.5	r = 0.72**
Research Output Quality Score	7.2 ± 1.5	4.8 ± 1.3	2.1 ± 0.9	4.7	r = 0.58**
International Collaboration	6.8 ± 1.8	3.9 ± 1.4	1.2 ± 0.7	3.9	r = 0.63**
Student Satisfaction Index	4.1 ± 0.3	3.2 ± 0.4	2.4 ± 0.5	3.2	r = 0.69**
Climate Action Integration	5.9 ± 1.6	3.2 ± 1.2	1.1 ± 0.6	3.4	r = 0.74**
Digital Infrastructure Score	7.8 ± 1.1	5.4 ± 1.5	2.9 ± 1.2	5.4	r = 0.71**
Faculty Development Index	6.7 ± 1.4	4.3 ± 1.1	2.1 ± 0.8	4.4	r = 0.66**

*Note: *$p < 0.01$; Performance scores standardized on 10-point scales*

Discussion of Findings

The findings of this study provide compelling evidence for both the progress and challenges in adapting Nigerian university curricula to address global challenges through BMAS and CCMAS frameworks. The results revealed a complex landscape of implementation characterized by significant variation across institutions, competency domains, and stakeholder groups. The data demonstrate that Nigerian universities have made substantial progress in certain areas of curriculum adaptation while facing significant challenges in others. The finding that 67% of universities have achieved partial or full CCMAS implementation represents considerable advancement, particularly given the framework's recent introduction in 2023. However, the variation across competency domains revealed strategic priorities and resource allocation patterns that merit careful consideration.

The strong performance in entrepreneurship education implementation (40% fully implemented) aligns with Nigeria's economic diversification agenda and reflects institutional recognition of graduate employability imperatives (Okoro et al., 2022). This finding resonates with self-determination theory's emphasis on competency development as a fundamental human need (Ryan and Deci, 2022), suggesting that curricula addressing practical skills development may experience enhanced stakeholder support. Conversely, the weak implementation of climate change integration (17.8% fully implemented) represents a critical gap in preparing graduates for what Pörtner et al. (2022) identify as the defining challenge of our era. This finding is particularly concerning given Nigeria's vulnerability to climate impacts, including

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desertification, flooding, and agricultural disruption (Bolan, 2023). The implementation gap may reflect limited faculty expertise, inadequate resources, or insufficient institutional prioritization of environmental education. The faculty readiness assessment reveals significant professional development needs that align with global trends in higher education transformation. The finding that 52.5% of faculty demonstrate low competency in climate change pedagogy directly correlates with the weak institutional implementation of environmental education components. This relationship suggests that faculty development initiatives represent a critical leverage point for curriculum transformation. The moderate competency levels in competency-based assessment (33.6% low competency) highlight the pedagogical shifts required for successful CCMAS implementation. Traditional Nigerian higher education has emphasized content delivery over competency development (Muhammed et al., 2023), requiring fundamental changes in teaching approaches, assessment methods, and student engagement strategies. Interestingly, faculty demonstrate strong competency in research integration (35.6% high competency) and cultural sensitivity (41.8% high competency), indicating existing strengths that can support curriculum adaptation efforts. These findings suggest that successful implementation strategies should build upon existing faculty capabilities while addressing specific competency gaps through targeted professional development. Student satisfaction data revealed moderate positive responses across most curriculum dimensions, with mean scores ranging from 3.08 to 3.46 on a 5-point scale. While these results indicate general acceptance of curriculum changes, they also suggest substantial room for improvement in implementation quality and student engagement.

The highest satisfaction with digital skills development (M=3.46) reflects successful adaptation to technological imperatives, aligning with global trends in digital transformation of higher education (Burke, 2023). This finding is particularly significant given Nigeria's growing technology sector and the increasing demand for digitally literate graduates. The lowest satisfaction with climate awareness integration (M=3.08) reinforces concerns about environmental education gaps identified in institutional implementation data. This finding has profound implications for Nigeria's contribution to global climate action, particularly given the country's role as Africa's largest economy and most populous nation (David, 2023). Employer assessments provide crucial validation of curriculum adaptation effectiveness from end-user perspectives. The high satisfaction with digital competency (M=3.98) and technical knowledge (M=3.85) suggests successful alignment between curriculum content and industry needs in these domains. However, the weak performance in sustainability consciousness (M=3.21) and global awareness (M=3.38) indicated significant gaps in preparing graduates for global citizenship roles. These findings have implications beyond individual career prospects, affecting Nigeria's capacity to contribute meaningfully to global problem-solving initiatives and international collaboration efforts (Leal Filho et al., 2023).

The strong correlation between employer satisfaction and institutional CCMAS implementation levels ($r=0.69$, $p<0.01$) provides empirical support for the framework's effectiveness in enhancing graduate employability. This relationship validates the theoretical foundation of competency-based education while demonstrating tangible returns on curriculum investment. The strong correlations between CCMAS implementation and various institutional performance indicators provide compelling evidence for the strategic value of curriculum adaptation. The relationship between implementation levels and graduate employment rates ($r=0.67$) demonstrates direct benefits to student outcomes, while correlations with industry partnerships ($r=0.72$) and international collaboration ($r=0.63$) indicate enhanced institutional competitiveness. The particularly strong correlation with climate action integration ($r=0.74$) suggests that environmental education components may serve as indicators of comprehensive institutional transformation. Universities demonstrating leadership in climate education appear to excel across multiple performance dimensions, possibly reflecting organizational cultures that embrace innovation and global engagement. The findings provide empirical support for the application of Maslow's hierarchy of needs in educational contexts, as conceptualized by Bear et al. (2022). The progression from basic implementation (safety needs) through competency development (esteem needs) to global citizenship (self-actualization needs) mirrors the hierarchical structure observed in curriculum adaptation patterns. Similarly, the results validated self-determination theory's emphasis on competency, autonomy, and relatedness as fundamental motivational drivers (Ryan and Deci, 2022). Students demonstrate higher satisfaction with curriculum components that enhance their sense of competence (digital skills, entrepreneurship) while showing lower engagement with more abstract global citizenship concepts.

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Policy and Practice Implications

1. The findings have significant implications for higher education policy and practice in Nigeria and similar developing contexts. The identification of implementation gaps provides policymakers with empirical evidence for resource allocation priorities, particularly in faculty development and institutional capacity building.
2. The strong relationship between institutional performance and curriculum adaptation suggests that CCMAS implementation should be viewed as a strategic investment rather than a compliance requirement. Universities demonstrating comprehensive implementation appear to gain competitive advantages in multiple domains, from student outcomes to industry partnerships.
3. While this study focuses on Nigerian universities, the findings have relevance for higher education systems worldwide, particularly in developing countries facing similar challenges in curriculum modernization. The implementation patterns observed in Nigeria may reflect broader tensions between local relevance and global competitiveness that characterize higher education in the Global South.
4. The moderate implementation levels and stakeholder satisfaction scores suggest that curriculum adaptation represents a gradual transformation process rather than a discrete policy intervention. This finding has implications for timeline expectations and change management strategies in similar frameworks globally.

Summary of Findings

1. This empirical investigation provides comprehensive evidence on the adaptation of Nigerian university curricula to address global challenges through BMAS and CCMAS implementation. The study's key findings revealed a complex landscape of progress and persistent challenges across multiple dimensions of curriculum transformation.
2. Implementation analysis demonstrates that 67% of Nigerian universities have achieved partial or full CCMAS implementation, with significant variation across competency domains. Entrepreneurship education shows the strongest implementation (40% fully implemented), while climate change integration revealed critical gaps (17.8% fully implemented). Digital literacy components demonstrate widespread partial implementation (62.2%), indicating institutional recognition of technological imperatives.
3. Faculty readiness assessment identifies substantial professional development needs, with 52.5% showing low competency in climate change pedagogy and 33.6% requiring support in competency-based assessment. However, existing strengths in research integration (35.6% high competency) and cultural sensitivity (41.8% high competency) provide foundations for capacity building initiatives.
4. Student satisfaction data reveal moderate positive responses (M=3.08-3.46), with highest satisfaction in digital skills development and lowest in climate awareness integration. These patterns align with institutional implementation priorities and faculty competency distributions, demonstrating coherent relationships across stakeholder perspectives.
5. Employer assessments validated curriculum effectiveness in technical domains (M=3.85-3.98 for digital competency and technical knowledge) while highlighting gaps in sustainability consciousness (M=3.21) and global awareness (M=3.38). Strong correlations between employer satisfaction and institutional implementation levels ($r=0.69$, $p<0.01$) provide empirical support for CCMAS effectiveness.
6. Institutional performance analysis revealed significant positive correlations between CCMAS implementation and multiple indicators, including graduate employment rates ($r=0.67$), industry partnerships ($r=0.72$), and climate action integration ($r=0.74$). These relationships demonstrate tangible returns on curriculum adaptation investments and suggest competitive advantages for comprehensive implementers.

Conclusions

Based on the empirical evidence, several key conclusions emerge regarding curriculum adaptation in Nigerian higher education. First, the CCMAS framework represents a significant advancement in aligning Nigerian university curricula with global competency requirements while maintaining local relevance. The framework's competency-based approach addresses longstanding criticisms of content-heavy, theory-focused curricula that inadequately prepare graduates for contemporary challenges. Second, implementation success varies significantly across competency domains, reflecting differential institutional priorities, resource availability, and faculty readiness. The strong performance in entrepreneurship and digital literacy suggests effective alignment with national economic priorities, while gaps in climate education indicate missed opportunities for global leadership in critical areas.

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Third, faculty development emerges as a critical success factor for sustainable curriculum transformation. The significant competency gaps identified across multiple domains underscore the need for systematic, long-term professional development initiatives that build upon existing strengths while addressing specific skill deficits. Fourth, stakeholder alignment across institutional leaders, faculty, students, and employers provides validation for the curriculum adaptation direction while highlighting specific improvement areas. The convergent findings across stakeholder groups strengthen confidence in the empirical results and suggest broad-based support for continued transformation efforts.

Recommendations

Based on the research findings, several evidence-based recommendations emerge for enhancing curriculum adaptation effectiveness in Nigerian universities:

1. The National Universities Commission should establish differential implementation timelines recognizing institutional capacity variations while maintaining quality standards. Priority funding should target climate change education integration and faculty development in identified competency gaps. Performance-based funding mechanisms should incentivize comprehensive CCMAS implementation through measurable outcomes.
2. Universities should develop systematic faculty development programs addressing identified competency gaps, particularly in climate change pedagogy and competency-based assessment. Strategic partnerships with international institutions and industry organizations should be leveraged to enhance implementation quality and resource access. Internal quality assurance systems should monitor implementation progress and stakeholder satisfaction continuously.
3. Professional development initiatives should employ peer learning approaches, building upon existing strengths in research integration and cultural sensitivity. International exchange programs and collaborative research projects should expose faculty to global best practices in curriculum innovation. Recognition and reward systems should incentivize faculty engagement in curriculum adaptation efforts.
4. Phased implementation approaches should prioritize domains with existing institutional strengths while gradually building capacity in challenging areas. Cross-institutional collaboration should facilitate resource sharing and best practice dissemination. Regular stakeholder feedback mechanisms should inform continuous improvement efforts.

Contribution to Knowledge

1. This study makes several significant contributions to the scholarly understanding of curriculum adaptation in developing country frameworks. Methodologically, the comprehensive mixed-methods approach provides a robust empirical foundation for understanding complex curriculum transformation processes. The multi-stakeholder perspective offers unique insights into implementation dynamics from institutional, faculty, student, and employer viewpoints.
2. Academically, the study validates the application of motivational theories to curriculum adaptation frameworks while identifying specific mechanisms through which competency-based frameworks influence stakeholder satisfaction and institutional performance. The empirical relationships demonstrated between implementation levels and multiple outcome measures provide evidence for the strategic value of curriculum investment.
3. Practically, the findings offer evidence-based guidance for policymakers, institutional leaders, and development practitioners working on higher education transformation initiatives. The identification of specific implementation gaps and success factors provides actionable intelligence for improvement efforts.
4. Contextually, this research contributes to the limited empirical literature on higher education adaptation in Nigeria and similar developing countries. The findings provide baseline data for longitudinal studies tracking implementation progress and impact evolution over time. The methodology and instruments developed can be adapted for comparative studies in other national frameworks, contributing to global understanding of curriculum transformation processes in diverse educational environments.

References

Bear, R., Choate, P. W., & Lindstrom, G. (2022). Theoretical research: Reconsidering Maslow and the hierarchy of needs from a first nations' perspective. *Aotearoa New Zealand Social Work*, 34(2), 30-41.

Bolan, S. (2023). Impacts of climate change on the fate of contaminants... *Science of The Total Environment*, 909, 168388. https://doi.org/10.1016/j.scitotenv.2023.168388

Burke, P. (2023). Conceptualizing curriculum integration EN. https://ncca.ie/media/conceptualising-curricul... Accessed 13 Mar 2024.

David, S. (2023). Towards a greater engagement of universities in addressing climate change challenges. *Scientific Reports*, 13, 19030. https://doi.org/10.1038/s41598-023-45866-x

Johnson, S. A. M., Richard, A., Awuni, J. A., et al. (2023). Evidence of Rift Valley fever virus circulation in livestock and herders in Southern Ghana. *Viruses*, 15(6), 1346. https://www.mdpi.com/1999-4915/15/6/1346

Leal Filho, W., Weissenberger, S., Luetz, J. M., et al. (2023). Towards a greater engagement of universities in addressing climate change challenges. *Scientific Reports*, 13, 19030. https://doi.org/10.1038/s41598-023-45866-x

Muhammed, U. B., Rabiu, M., & Sahabi, I. A. (2023). Overview of educational services in Nigerian public universities for sustainable development. *Zamfara International Journal of Education (ZIJE)*, 3. https://doi.org/10.5281/zenodo.8384662

National Universities Commission. (2023). *Core Curriculum Minimum Academic Standards (CCMAS) for Nigerian universities*. National Universities Commission.

Ogunode, N. J., & Emmanuel, D. (2023). Human resource management in university system in Nigeria: Barriers and possible solutions. *Ijtimoiy Fanlarda Innovasiya Onlayn Ilmiy Jurnali*, 3(3), 1-11.

Ogunode, N. J., Akinjobi, F. N., & Musa, A. (2022). Analysis of factors responsible for Nigerians' patronizing of foreign higher education. *European Multidisciplinary Journal of Modern Science*, 6, 19-29.

Okebukola, P. (2023). *Introduction to the Core Curriculum Minimum Academic Standards (CCMAS): Framework and implementation strategies*. University Press.

Okoro, I. F., Udoh, E. B., & Akpan, M. P. (2022). The role of CCMAS in promoting employability and innovation among business education graduates. *Journal of Vocational and Technical Education*, 19(1), 76-89.

Olowe, A. O., & Adeniyi, T. O. (2022). Challenges of implementing CCMAS in Nigerian tertiary institutions: A case study of business education programs. *Journal of Curriculum Implementation*, 5(2), 89-102.

Onwudinjo, A. (2023). Towards an indigenous philosophy of education for Nigeria. *Aku: An African Journal of Contemporary Research*, 4(4).

Pörtner, H.-O., Roberts, D. C., Tignor, M. B. M., et al. (2022). *Climate Change 2022: Impacts, Adaptation and Vulnerability Working Group II Contribution to the Sixth Assessment Report of the Intergovernmental Panel on ClimateChange*.https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryVolume.pdf

Rojas, M., Méndez, A., & Watkins-Fassler, K. (2023). The hierarchy of needs empirical examination of Maslow's theory and lessons for development. *World Development*, 165, 106185.

Ryan, R. M., & Deci, E. L. (2022). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, 61, 101860.

Siedentop, D., & Van der Mars, H. (2022). *Introduction to physical education, fitness, and sport*. Human Kinetics.

Suleiman, Y., Bosede, F. F., & Ganiyat, A. B. (2022). An assessment of students' perception on school services in Nigerian private universities: Evidence from Al-hikmah University. *Journal Plus Education/Educatia Plus*, 30(1).

The Royal Society. (2024). The basics of climate change. https://royalsociety.org/news-resources/projects/climate-change-evidence-causes/basics-of-climate-change/

University World News. (2022). COP27: Universities in Africa are key to climate action. https://www.universityworldnews.com

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Assessment of Artificial Intelligence Technology on Job Performance of University Librarians in Nigeria

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Abstract
The study investigated the impact of artificial intelligence (AI) on the job performance of librarians in some selected university libraries in Nigeria. The descriptive survey design was used in this investigation. 113 librarians who were recruited from some selected university libraries in Nigeria make up the study's population. For the study, a self-made questionnaire was employed. Descriptive statistics were used to extract 95 of the 113 copies of the questionnaire that were disseminated. A mean score of 2.5 or above and a percentage score of 50% were deemed satisfactory. The study shows the impact of artificial intelligence (AI) in university libraries in the following order: Increased productivity through automation, enhanced decision-making from data analysis, reduced human error, advanced data analysis and boosting productivity. The study further affirmed how the application of artificial intelligence (AI) in university libraries influences lib how the application of artificial intelligence (AI) in university libraries influences librarian's job performance: automating routine tasks, increasing efficiency, Smart decision making, speed up job performance, automating routine tasks, increasing efficiency, Smart decision making, speed up job performance Speed up job performance. The study recommends that to support and promote the use of smart technology in library operations, the government should enhance funding for university libraries, The library should have a functional standby generator and an inverter, and the power supply should be sufficient and the library should hire qualified IT technical specialist.

Keywords: Impact of artificial intelligence (AI), job performance, librarians, university libraries

Introduction
Professionals who manage and arrange information resources, such as databases, books, and digital assets, are known as librarians. They may oversee personnel, finances, and instructional initiatives in addition to helping users with research and fostering information literacy. Their specialized professions include catalogers and archivists, and their work encompasses both conventional and contemporary digital material. With the advent of several new media and technology in the last century, the job of the librarian has evolved throughout time. There have been custodians and distributors of the data stored in data storage since the first libraries in antiquity to the contemporary information center. Depending on the kind of library, the librarian's area of expertise, and the tasks required to preserve collections and make them accessible to patrons, since their roles and duties might differ significantly. For librarians to manage libraries effectively, they have to embrace artificial intelligence. Artificial intelligence (AI) is the capability of a machine or computer to perform tasks that typically require human intelligence, such as reasoning, learning, and problem-solving (Tella 2020). Algorithms are used in this branch of computer science to help machines recognize patterns in data, forecast outcomes, and take appropriate action. Libraries are incorporating artificial intelligence (AI) to help with resource management, enhance user services, and automate repetitive operations. AI-powered chatbots for user's service, recommendation engines that tailor resource recommendations and sophisticated cataloging and information retrieval systems that facilitate faster content discovery are examples of common uses. (2019, Ogundele). This enables librarians to concentrate on more advanced tasks like teaching digital literacy and providing research help. This will in turn will enhance their job performance. Job performance is how effectively an employee fulfills their job duties, encompassing observable behaviors and skills that contribute to organizational goals ,(Carpini, Parker, & Griffin, 2017). Feedback, performance reviews, and metrics are used to monitor effective work performance, which is impacted by elements such as job design, alignment with corporate goals, individual abilities, and motivation. By automating processes like cataloging and data indexing, artificial intelligence (AI) can improve librarians' job effectiveness and free up time for more strategic, user-focused work. However, issues such a lack of technical expertise, inadequate infrastructure, and costly installation and training expenses limit AI's efficacy. Libraries must make investments in staff professional development and guarantee that sufficient technological resources are accessible if they want to optimize AI's advantages. It is in light of this benefits that prompted the researcher to embark on

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the title the impact of artificial intelligence (AI) on the job performance of librarians in some selected university libraries in Nigeria.

Statement of the problem

Globally, artificial intelligence (AI) has revolutionized technology, affecting all facets of growth including libraries. Libraries serve as the center of any educational institution and are a source of knowledge for individuals from all walks of life. The main purpose of university libraries in an academic setting is to provide their communities with access to scholarly resources and knowledge-based content to support the overarching educational objectives of their parent institutions. Artificial intelligence (AI) is one of the contemporary digital revolutions that university libraries may fully use to provide patrons a variety of faster library services. Libraries, a sector tasked with giving people the information they need to be current, relevant, and thriving in this AI-driven era, must incorporate AI due to its rapidly expanding ramifications in our daily lives which has drastically increase librarian job performance in university libraries. It has been observed that research topics exist on the impact of artificial intelligence (AI) on the job performance of librarians, but no study has been able to cover the impact of artificial intelligence (AI) on the job performance of librarians in some selected university libraries in Nigeria hence the need for this study.

Objectives of the study

The following objectives guided the study

1. To find out the impact of artificial intelligence (AI) in university libraries
2. To find out how the application of artificial intelligence (AI) in university libraries influences librarian's job performance

Research Questions

The following research questions was formulated to guide the study

1. What is the impact of artificial intelligence (AI) in university libraries?
2. How does the application of artificial intelligence (AI) in university libraries influences librarian's job performance?

Literature Review

Artificial Intelligence AI

The capacity of robots to function like human intellect is known as artificial intelligence (AI). Asemi, and Asefeh, (2018) defined Artificial Intelligence (AI) as the body of knowledge that enables robots to act with remarkable intelligence, much like people. Another innovation is artificial intelligence (AI), which ingeniously uses computers to do things that people can do and do quicker than people, such analyzing massive quantities of data and forecasting (Wheatley & Hervieux, 2019). More than merely a technological phenomenon, artificial intelligence (AI) is a force that is redefining human intellectual, social, and professional landscapes (Redek, Marčič, Maldonado, da Silva, & Shenstone, 2023). Academic libraries in developing countries like Nigeria, for example, have not made as much use of AI as they could. In many emerging nations, libraries have not adopted digital technology and have shown resistance to changes in the way technologies are employed in different library activities (Whelton and Hervieux, 2019). According to Tella (2020), libraries in developed countries have adopted and used AI technology in practically every sphere of society, whereas libraries in poor countries are still gaining traction. To properly apply AI in university libraries, library employees must get training. Staff training is an organizational strategy that entails spending money on employees to develop the values, abilities, and knowledge that would eventually enhance employees' job performance and increase productivity inside the business (Bakare). Enhancing staff abilities via training is one way to achieve the desired outcomes (Ogundele, 2019). According to Bakare (2023), library employees need continual training to develop the new skills required for effective service delivery in the twenty-first century, given the changing information needs of library users. For library staff to acquire the abilities and know-how necessary to employ AI technology efficiently, they must receive sufficient training. Furthermore, Ajulo and Achonna (2020) emphasized that training and retraining librarians in ICT applications is one of the most crucial ways to guarantee that they can utilize ICT to address issues in libraries and information services. Training enables librarians to satisfy the information demands of the public and boost productivity in the current digital era. Additionally, training equips librarians to recognize, evaluate, and make important choices that will increase their efficiency in the library. Akinyemi and Afolabi (2023) state that inadequate internet training and ICT literacy are among the problems with ICT use in libraries. Similarly,

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Smith (2023) proposed that a library that prioritizes staff training is more suited to deploy AI. Organizations that make significant investments in staff training enhance AI preparedness and cultivate a creative and flexible culture (Johnson, 2021). Numerous studies have looked at how AI may be used to improve service delivery in university libraries, and they have highlighted the necessity of training library staff so they can use AI to run the library (Walker & Jiang, 2019). However, this study is novel as it explores the required training for library personnel in using AI in university libraries.

Job Performance

In organizational behavior and industrial management, job performance is arguably the most significant and researched variable (Carpini, Parker, & Griffin, 2017). According to Cascio et al. (2021), job performance has a significant impact on productivity, efficiency, and overall effectiveness, making it a crucial driver of organizational success. The accomplishment of corporate objectives is greatly impacted by the activities, behaviors, and results of workers (Cameron & Quinn, 2020). Maintaining a competitive edge and long-term success in the fast-paced, cutthroat corporate world of today requires maximizing work performance (Organ et al., 2019). Unquestionably, employee performance is essential to an organization's success. Employees are essential to advancing an organization's goals and implementing successful initiatives, regardless of their particular purposes (Burgess, 2015). However, it might be difficult to draw in and keep top personnel in the current competitive employment market (Schmitz, 2019). According to Jiang et al. (2019), companies need to actively manage their employee interactions in order to solve this. Long-term benefits can be obtained by cultivating a healthy work atmosphere and solid relationships with staff members (Kleiner & Rothbard, 2019). Higher job satisfaction, productivity, and overall performance are all correlated with a supportive, development-oriented work environment (Shuck et al., 2011). Scholars and practitioners are very concerned about the existence of a performance crisis in organizations. A significant discrepancy between intended and actual staff performance levels is the root cause of this catastrophe. According to Forbes (2014), this disparity is partly caused by employees not receiving enough resources and assistance, which makes it more difficult for them to accomplish their goals.

Methodology

The descriptive survey design was used in this investigation. 113 librarians who were recruited from some selected university libraries in Nigeria make up the study's population. For the study, a self-made questionnaire was employed. Descriptive statistics were used to extract 95 of the 113 copies of the questionnaire that were disseminated. A mean score of 2.5 or above and a percentage score of 50% were deemed satisfactory

Population of the study

Table 1

S/N	University libraries	Librarians
1	University of Portharcout	37
2	Sokoto State University Library	18
3	Lagos State University Library	19
4	Delta State Library Abraka	21
	Total	**95**

Table 1 shows the population of librarians of the study in the following order: University of Portharcout (37), Sokoto State University Library (18), Lagos State University Library (19) and Delta State University Library Abraka (21) respectively.

Table 2

The impact of artificial intelligence (AI) in university libraries

Key: Strongly agreed, Agree, Disagree, Strongly disagree

S/N	Items	SA	A	D	SD	-x	Decision
1	Increased Productivity Through Automation	34	47	6	8	3.1	Accepted
2	Enhanced Decision-Making From Data Analysis	33	49	9	4	3.1	Accepted
3	Reduced Human Error	43	38	7	7	3.2	Accepted
4	advanced data analysis	42	38	9	6	3.2	Accepted
5	Boosting Productivity	47	42	6	0	3.4	Accepted

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Table 2 affirmed the impact of impact of artificial intelligence (AI) in university libraries in the following order: Increased productivity through automation (3.1), enhanced decision-making from data analysis (3.1), reduced human error (3.2), advanced data analysis (3.2) and boosting productivity (3.4) respectively.

Table

How the application of artificial intelligence (AI) in university libraries influences librarian's job performance

Keys: Strongly agreed, Agree, Disagree, Strongly disagree

S/N	Items	SA	A	D	SD	-x	Decision
1	Automating routine tasks	42	45	7	1	3.3	Accepted
2	increasing efficiency	34	49	10	2	3.1	Accepted
3	Smart decision making	48	39	7	1	3.4	Accepted
4	Speed up job performance	42	44	6	3	3.3	Accepted
5	Solving complex problems	40	41	5	9	3.1	Accepted

Table 3 depicts how the application of artificial intelligence (AI) in university libraries influences librarian's job performance: Automating routine tasks (3.3), increasing efficiency (3.1), Smart decision making (3.4), speed up job performance (3.3) Speed up job performance (3.1) respectively.

Discussion of Findings

The study is on the impact of artificial intelligence (AI) on the job performance of librarians in some selected university libraries in Nigeria. Two research questions were formulated to guide the study. The study revealed the impact of impact of artificial intelligence (AI) in university libraries in the following order: Increased productivity through automation, enhanced decision-making from data analysis, reduced human error, advanced data analysis and boosting productivity. The study further affirmed how the application of artificial intelligence (AI) in university libraries influences lib how the application of artificial intelligence (AI) in university libraries influences librarian's job performance: automating routine tasks**,** increasing efficiency, Smart decision making, speed up job performance, Speed up job performance rarian's job performance: automating routine tasks**,** increasing efficiency, Smart decision making, speed up job performance Speed up job performance.

Conclusion

Intelligent AI has a vital impact on university libraries. This is because it enhances librarians' work performance and the libraries' overall service delivery. However, this study comes to the conclusion that AI has a significant impact on university librarians' work performance. By automating processes like cataloging and reference management, artificial intelligence (AI) may greatly improve librarians' job effectiveness and free up time for more strategic work. However, for AI to be integrated effectively, librarians must receive sufficient training to use the technology, overcome obstacles, and take advantage of its potential. To close the skills gap, continual assistance and upgraded infrastructure are required. Lastly, AI may lessen employee strain by automating repetitive operations, freeing them up to concentrate on more important and valuable jobs.

Recommendations

1. To support and promote the use of smart technology in library operations, the government should enhance funding for university libraries.
2. The library should have a functional standby generator and an inverter, and the power supply should be sufficient.
3. The library should hire qualified IT technical specialists.
4. Librarians and other library employees need to be trained and retrained on how to use smart technology in libraries.

References

Ajulor, E. O., & Achonna, A. U. (2020). Use of ICT facilities in three polytechnic libraries: Comparative study. *International Journal of Research in Library Science* (IJRLS), 6(2), ISSN: 2455-104X. DOI: 10.26761/IJRLS.6.2.2020.1329

Akinyemi, O. E., & Afolabi, T. R. (2023). ICT Application and Information Service Delivery in South-West Nigeria's Public Polytechnic Libraries. Library *Philosophy and Practice (e journal)*, 8049. https://digitalcommons.unl.edu/libphilprac/8049

Asefeh, A., & Asemi, A. (2018). Artificial intelligence (AI) application in library systems in Iran: A taxonomy study. *Library Philosophy and Practice*, 1840.

Bakare, O. D. (2023). Emerging technologies as a panacea for sustainable provision of library services in Nigeria. In Global Perspectives on Sustainable. Library Practices, 1-21, IGI Global.

Burgess, A. (2015). The Role of Employees in Charitable Foundations: A ComprehensiveReview. *Journal of Nonprofit Management*, 25(2), 87-101

Cameron, K. S., & Quinn, R. E. (2020). *Diagnosing and changing organizational culture: Based on the competing values framework*. John Wiley & Sons

Carpini, S.K. Parker, M.A., & Griffin, G.(2017). A look back and a leap forward: A review and systhesis of the individual work performance literature ,*Academy of Management Annals*, 11 (2) 825-885

Cascio, W. F., & Boudreau, J. W. (2022). High-Impact HR Organization: A New Definition for an Old Concept. *Journal of Applied Behavioral Science*, 58(1), 5-31

Forbes. (2014). The Performance Crisis: Understanding and Addressing the Issue. Retrievedfrom: https://www.forbes.com/sites/work-in-progress/2014/02/18/the-performancecrisis understanding-and-addressing-the-issue/#27c1a4d66c13.

Jiang, L., Hu, J., & Chen, X. (2019). The Impact of Organizational Culture on Employee Engagement: A Longitudinal Study. *Journal of Organizational Behavior*, 36(4), 521-537.

Johnson, W. L. (2021). Case study: Rapid training of community health workers using Enskill. *International Journal of Advanced Corporate Learning*, 14(2), 44-49.

Kleiner, S., & Rothbard, N. P. (2019). Creating a Positive Work Environment: Strategies and Outcomes. *Journal of Applied Psychology*, 104(5), 789-804

Ogundele, D. (2019). Human capital development and employee retention. A study of selected commercial banks in Nigeria. Unpublished Master's dissertation, Department of Human Resource Management, Kampala International University.

Organ, D. W., Podsakoff, P. M., & MacKenzie, S. B. (2019). Organizational citizenship behavior: Recent trends and developments. *Annual Review of Organizational Psychology and Organizational Behavior*, 6, 363-388.

Redek, T., Marčič, E., Maldonado, A. C. B., da Silva, A. R. P., & Shenstone, P. M. J. (2023). Artificial Intelligence in Brief: The Development and Impact of AI Technologies. Beyond Bits and Algorithms

Schmitz, J. (2019). Talent Acquisition and Retention Challenges in the Modern Job Market. Human Resources Review, 42(3), 201-215.

Shuck, B., Reio, T. G., & Rocco, T. S. (2011). Employee Performance and Job Satisfaction: AMeta-Analysis. *Journal of Applied Psychology*, 96(1), 77-93.

Smith, A., & Brown, C. (2023). AI-Enhanced Library Management Systems: Trends and *Innovations.Library Management*, 44(4), 278-290.

Tella, A. (2020). Robots are coming to the libraries. Are librarians ready to accommodate them?*Library Hi Tech News*, 37(8), 13-17. https://doi./10.1108/LHTN-05-2020-0047 Walker,

K. W., & Jiang, Z. (2019). Application of adaptive boosting (AdaBoost) in demand-driven acquisition (DDA) prediction: A machine-learning approach. Journal of Academic Librarianship, 45(3), 203-212. https://doi.org/10.1016/j.acalib.2019. 02.013

Wheatley, A., & Hervieux, S. (2019). Artificial intelligence in academic libraries: An environmental scan. *Information Services & Use,* 39(4), 347-356.https://doi.org/10.3233/isu-190065

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Comparative Relationships Between Early Marriage, Family Status and Insecurity on Girl-Child Education among Government Secondary Schools in Zamfara State, Nigeria

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Abstract

The study examines the influence of *early marriage, family status and insecurity on girl-child education among government secondary school in Zamfara state. The study employed cross-sectional and survey research methods. The population of the study comprised of 2,365 students of Zamfara state-owned selected Government Secondary Schools in Gusau township. The sample size of 342 were derived using Taro Yamane formula for finite population. Structural equation model was utilised to test the hypothesised relationships. The study found that early marriage and insecurity have negative and significant effect on girl-child education among government secondary school in Zamfara state. While, family status has positive and significant effect on girl-child education among government secondary school in Zamfara state. The study recommends that the government enforce laws against early marriage to keep girls in school. This should be supported by awareness campaigns that educate communities on the benefits of girl-child education and the legal consequences of early marriages. Partnering with local NGOs and religious leaders could enhance the effectiveness of these campaigns, ensuring the message is culturally sensitive and widely accepted.*

Keywords: Early marriage, Family status, Insecurity, Girl-child education

Introduction

In Africa, the importance of the girl-child is paramount, as girls represent the future pillars of their societies. Educating girls not only empowers them individually but also has a ripple effect on families, communities, and nations as a whole. Research shows that investing in girls' education leads to improved health outcomes, reduced poverty, and enhanced economic growth (UNESCO, 2016). Moreover, educating girls promotes gender equality and helps break the cycle of intergenerational poverty (World Bank, 2018). Regrettably, in Nigeria, the girl-child dream is dashed owing to numerous challenges they suffer ranging from economic backwardness, cultural barriers, gender discrimination, female infanticide, rape, incest, sex trafficking, prenatal sex selection, female genital mutilation and poor subjective psychological well-being (Abdulkadir, Funtuwa, & Ibrahim, 2021). Despite these challenges, Nigerian girl-child possesses immense potential to contribute positively to their society, making it imperative to provide them with equal opportunities for education and empowerment (Ibrahim, 2020). Therefore, investing in the education and well-being of the girl-child in Nigeria is essential for achieving broader developmental goals and fostering a more equitable and prosperous future for all. One of the major problem that have been explored in plethora of studies adversely affecting the girl-child education is the pandemic of early marriage (Abdulkadir et al., 2021; Adamu, Umar, & Abdulkadir, 2017; Usman & Musa, 2021). It is common to find a prevalence of such practices widespread in several parts of the world particularly in Africa, Asia, and South America (Chukwuemeke, Ugwu, & Radietu, 2018). Globally, as reported by United Nations Children's Fund (UNICEF, 2023) over 650 million girl-child are forced into early marriage. The breakdown of the figures showed that nearly half of child brides live in South Asia (45 per cent) with the next largest share in sub-Saharan Africa (20 per cent), followed by East Asia and the Pacific (15 per cent) and Latin America and the Caribbean (9 per cent). Sadly, Nigeria is ranked number one in sub-Saharan Africa with the highest cases of early marriage and number seventh globally (UNICEF, 2023). In another statistics, 21% of adolescents mostly girls in Nigeria are kept away from education by marriage and pregnancy (Girls Not Brides, 2022). This practice is a common occurrence in northern part of Nigeria possibly owing to the socio-cultural and religious practices in Northern Nigeria (Adamu et al., 2017).

Early marriage is defined as a formal marriages or customary and statutory unions recognised as a marriage before the age of 18 (Gimba, Muhammad, Alabe, & Paga, 2019). To Adamu, Umar and Abdulkadir (2017) it is either marriage of an adolescent girl/boy or marriage of an adolescent girl to a matured man or vice- versa and this happens at puberty when the individual is getting matured. Early marriage is a custom all over the world, whereby children are given into marriage well

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before they attain puberty in most cases or even the age to get married as defined by several laws in Nigeria and other countries of the world (Chukwuemeke et al., 2018). Early marriage can be a violation of children's basic right to a childhood, to an education, to good health and to make decisions about their physical, emotional and social well-being (Gimba et al., 2019; Abdulkadir et al., 2021). Moreover, early marriage also has physical implications for young girl's notably pre-matured pregnancy and child birth, which entails vastly increased risk of maternal and neonatal mortality (Usman & Musa, 2021). Statistically, in each year, around 70,000 girls die in labour since their bodies are not mature for child bearing (Fareo & Kutunda, 2018). Another construct that has been explored in previous studies that adversely affect girl-child education is family status (Okesina, 2018; Muhammad, Danjuma, Jega, & Samaila, 2021; Nwakwesiri & Onebunne, 2017). Family status refers to all the conditions and combination of occupational status and income level in the family which influence the child physically, intellectually and emotionally (Okesina, 2018). To Muhammad et al. (2021) it is the combination of a family's income, occupation, educational attainment and other socio-economic factors that commands respect and social cadre in the society. It is the social position of the parents in question as well as the type of financial standing, trade and industry related income of the parents within their environment (Nwakwesiri & Onebunne, 2017). It is commonly conceptualized as the social standing or class of a family (Ali, Musa, Zakar, & Bello, 2021). Family status of girl-child determines how the child views himself and the way he views others (Okesina, 2018). This because parents of different occupational classes often have different styles of child rearing, different ways of disciplining their children and different ways of reacting to their children (Henriett & Odozi, 2014). Moreover, according to reported released by Girls Not Brides (2022) in Nigeria, 35% of children and adolescents from the poorest families complete primary and 15% secondary education, compared to 97% and 88% of those from the wealthiest socio-economic groups.

Meanwhile, plethora of studies have been conducted have shown insecurity is a significant predictor of girl-child educational performance (e.g., Tanko & Linus, 2023; Ubong, 2016; Williams & Istifanus, 2017; Gloria & Rwang, 2022). This owing to the fact that the situations of insecurity traumatize and trigger disorder and toxic stress that impacts learning negatively (Ibarahim, Garba, & Malam, 2023). Insecurity in Nigeria has been very alarming since independence and has recently grown into a large scale, penetrating various facets of the lives of the girl-child alarmingly (Tanko & Linus, 2023). Insecurity is the state of being alarmed and insecure (Ojeleye, Kaura, Gusau, & Abdullahi, 2022). It is a state in which members of a society are unable to go about their regular lives due to threats to and destructive disruptions of their lives and possessions (Umaru, Pate, & Haruna, 2015). Insecurity has assumed a dangerous dimensions leading to the kidnapping and abduction of predominantly the girl-child in Government Girls Secondary School Jangebe Zamfara, Federal Government College Yauri Kebbi, and the Chibok girls in Borno State among others (Voice of America, 2021). Although plethora of studies have been conducted to ascertain the influence of early marriage, family status and insecurity on education of the girl-child e.g., Gloria & Rwang, 2022; Tanko & Linus, 2023; Muhammad et al., 2021; Nwakwesiri & Onebunne, 2017, none of these studies comprehensively to the best of the researcher's knowledge examined the influences of early marriage, family status and insecurity on education of the girl-child education in the context of Zamfara state; the epic centre of kidnapping, abduction, insecurity and poverty in Nigeria. As a consequence, this study explored the influence of early marriage, family status and insecurity on education of the girl-child education among government secondary schools in Zamfara state, Nigeria.

Null Hypothesis

Based on the above objectives, the study hypothesised that:

Ho_1: Early marriage does not have significant effect on education of the girl-child education among government secondary schools in Zamfara state, Nigeria.

Ho_2: Family status does not have significant effect on education of the girl-child education among government secondary schools in Zamfara state, Nigeria.

Ho_3: Insecurity does not have significant effect on education of the girl-child education among government secondary schools in Zamfara state, Nigeria.

Theoretical Framework

This study is underpinned by the Social Learning Theory and Ecological System Theory.

Social-Learning Theory

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According to Albert Bandura's social learning theory, humans learn by observing, imitating, and modelling. This method emphasises watching others, especially role models, to learn new behaviours and their consequences. Bandura (1977) says that vicarious reinforcement and watching others be rewarded enhances people's likelihood of doing the same. Cognitive aspects suggest that learning from social experiences rely on internal processes including attention, retention, reproduction, and motivation. Bandura (1986) added self-efficacy, which enhances the likelihood of engaging in and maintaining a behaviour. Social learning theory has explained violence, prosocial behaviour, education, and media influences. Social learning theory helps Zamfara State analyse how early marriage, family status, and instability affect girl-child schooling. Early marriage is a major problem in this area, causing females to stop school. Social learning theory states that copying others helps people learn (Bandura, 1977). Early marriage is widespread in some countries, hence young girls see older women marrying early and abandoning their schooling, which encourages them to accept these behaviours as expected and normal. As a result, these girls' educational ambitions decline, consequently continuing a cycle of low educational success.

Girl-child education is highly influenced by family status as well. Bandura (1986) noted that people are more prone to engage in activities considered successful in their social settings. In lower socioeconomic households, immediate financial contributions from marriage or job could come first over long-term educational expenses. Girls from such conditions could replicate their family members' aspirations when they place rapid financial relief above schooling. Furthermore, the absence of educational role models in their homes reduces their ambition to seek education since they barely see the clear advantages of it in their surroundings. Insecurity includes social unrest and safety issues, add to the difficulties girls have in trying to pursue an education. Based on Bandura's social learning theory, environmental variables definitely influence behaviour (Bandura, 1977). Because parents and guardians may keep females at home to ensure their protection, insecure surroundings constitute considerable impediments to entry to school. The persistent potential of attack or kidnapping discourages attendance and diminishes the apparent value of education since the immediate hazards exceed the probable long-term gains. This insecure setting makes one feel powerless and minimises the potential that women will give education top priority or even conceive of it as a realistic route of employment. Applying social learning theory to the setting of early marriage, family status, and insecurity in Zamfara State underlines how deeply environmental and social factors affect girl-child schooling overall. Girls' educational trajectories are significantly impacted by observational learning and the internalisation of social expectations on marriage and education, thereby continuing cycles of poverty and poor educational achievement

Ecological System Theory

This study is underpinned by Ecological Systems Theory. The theory was developed by Urie Bronfenbrenner, provides a comprehensive framework for understanding how various environmental systems influence human development. According to this theory, individual development is the result of interactions within and between five nested environmental systems: the microsystem (immediate environments such as family and school), the mesosystem (interactions between microsystems), the exosystem (external environments that indirectly influence development, such as parents' workplaces), the macrosystem (cultural and societal contexts), and the chronosystem (changes over time in these environments). This theory highlights that development is a complex process influenced by multiple layers of environments, each interacting with and affecting the others (Bronfenbrenner, 1979). It emphasizes that understanding a child's development, particularly educational outcomes, requires considering both direct and indirect environmental influences.

Applying Bronfenbrenner's Ecological Systems Theory to the study of the influence of early marriage, family status, and insecurity on girl-child education allows for a nuanced understanding of the multifaceted environmental factors affecting educational outcomes. This theory suggests that a girl's ability to access and benefit from education is shaped by interactions at different systemic levels: the microsystem (immediate family and community attitudes toward gender roles), the mesosystem (interactions between home life and educational institutions), the exosystem (broader social and economic policies affecting her living conditions), and the macrosystem (cultural norms and national laws regarding education and child marriage). Additionally, the chronosystem provides insight into how changes over time, such as evolving policies on education and gender equality, impact these interactions. This framework emphasizes that interventions aimed at improving educational outcomes for girls need to address not only the personal and immediate contexts but also broader societal structures and historical shifts.

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Research Methodology

The study employed both survey and cross-sectional research designs. A survey research design collects data from respondents using structured questionnaires or interviews to provide measurable information on attitudes, behaviours, and opinions, allowing researchers to identify trends and make informed judgements (Sekaran & Bougie, 2016). The study is survey because a sample was taken from the entire population using structure questionnaire. In addition, the study is cross-sectional as data were collected from respondents at a point-in-time. According to Wang and Cheng (2020), a cross-sectional study is an observational research that examines data from a population at a certain point in time. The domain of the study is three selected stated-owned government girls' secondary school namely; Government Girls Secondary Schools Samaru, Government Girls Arabic Secondary Schools Low-cost Tudun Wada and Sarikin Kudu Secondary School Mortgage Area. The population of the study was 2,365 students. The sample was derived using Taro Yamane sample size for formula, which yielde a sample size of 342 students from the target population. Israel (2013) recommended increasing the sample size by 10% to 30% to cover for inappropriate filling of questionnaire and non-response from the respondents. Consequently, this study increased the sample size by 10% (1.10*342=356) to 356. Hence, a total of 356 copies of questionnaire were distributed to the respondents. Furthermore, the study employed proportionate stratified sampling techniques to distribute the questionnaire among the selected school based on the proportion of each school's population. Pondent (2017) proposed that proportional sampling provides equal representativeness by producing sample sizes that are real members of the population. Table 1 below showed the proportionate sampling technique. Additionally, the copies of questionnaire were distributed to the respondents using simple random sampling technique to ensure that each respondent has an equal chance of being selected. Lastly, out of 356 copies of questionnaire distributed on 312 (87.6%) were returned and utilised for analysis.

Table 1: *Proportionate Sampling Technique*

Serial Number	Names of Institution	Number of Students	Proportionate Sampling
1	Government Girls Secondary Schools Samaru	816	123
2	Government Girls Arabic Secondary Schools	784	118
3	Sarikin Kudu Secondary School	768	115
Total		**2,365**	**356**

Instrumentations

Insecurity was measured using the eight-item personal human insecurity scale of Ojeleye, Kaura, Gusau and Abdullahi (2022). The scale is a 4- point Likert scale, and its stated Cronbach alpha coefficient of 0.853 indicates that it has a good level of internal consistency. Sample of item is "I work alone in the community without feeling threatened". In this study the Cronbach's alpha is 0.793. Early marriage was measured using self-developed 5-item scale assessed on 4-point Likert scale. The reported Cronbach's alpha employed to ascertain the internal consistency and reliability is 0.916. Sample of research item is "Early marriage is a common practice in my community". Family status was measured using five-item self-developed questionnaire. Sample of item is "My family has sufficient resources to meet my needs". The reported Cronbach's alpha for the construct is 0.794 showing that the developed questionnaire is appropriate for the study. Girl-child education was also measured using six-item self-developed questionnaire with reported Cronbach's alpha of 0.853 depicting the reliability of the instrument. Sample of item is "Girl-children have equal access to educational opportunities as boys' children in my area".

Data Analysis

The study used structural equation model (SEM) to analyse the collected data. The SEM comprised of measurement model and structural model. The measurement model is often employed to ascertain the item loadings, coefficient of determination (R^2), effect size (f^2), construct reliability and validity while structural model is utilised to measure the hypothesised relationship of both the direct and mediating relationship. In addition, predictive relevance (Q^2) was also check to assess the practical utility of the instrument.

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Measurement Model

The measuring model includes an investigation of item loading for the reflective construct, Cronbach's alpha and composite reliability assessments, and convergent and discriminant validity tests. For an item loading to be retained, Hair et al. (2021) recommended retention of loadings of 0.70 and above. However, Hulland (1999) and Ojeleye, Ojeleye, Karem and Abdullahi (2023) recommended the retention of items that loaded 0.5 and above and deletion of those below 0.5. as a consequence, items FS5, IS7 and IS8 were deleted owing to loading below 0.5 threshold (*See*: Figure 2).

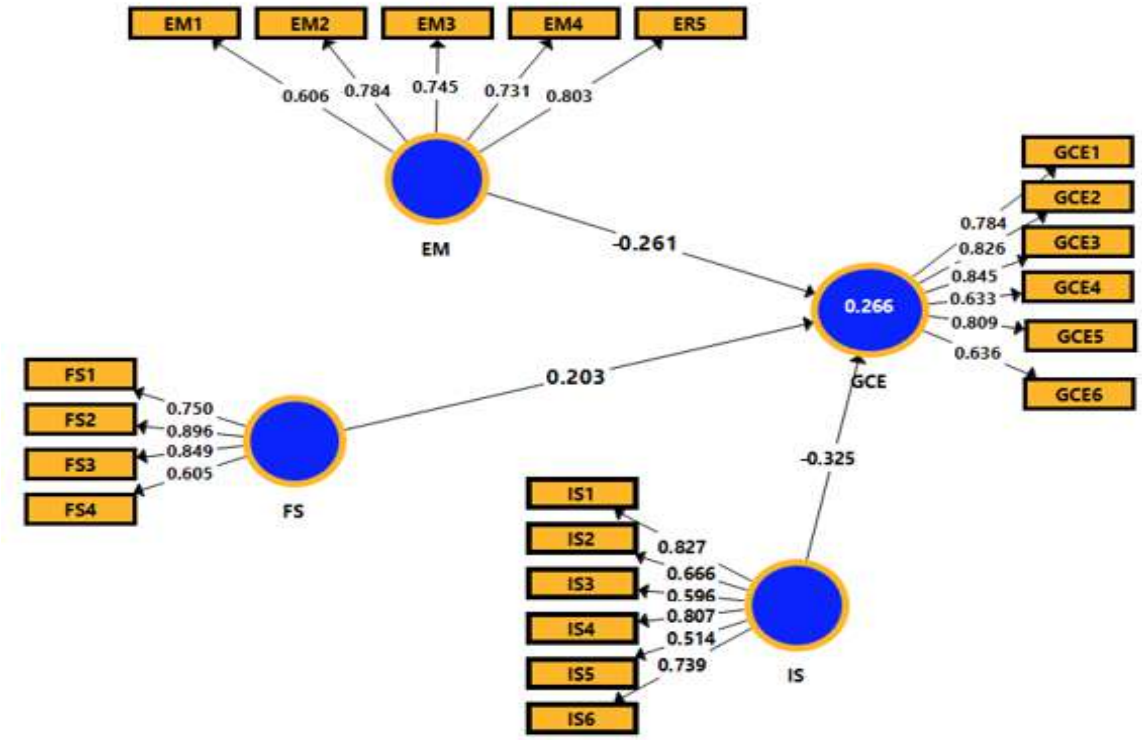

Figure 2. Measurement Model
Author's systemisation of SEM output

Furthermore, the study conducted test of reliability using composite reliability and Cronbach's alpha to ascertain the internal consistency of the research instruments. Sekaran and Bougie (2016) argued that for research to be considered reliable, the composite reliable or Cronbach's alpha coefficient must be 0.7 and above. Hence, composite reliability for Early Marriage (EM) was 0.925, Family Status (FS) was 0.861, Girl-Child Education (GCE) was 0.890 and Insecurity (IS) was 0.849. While that of the Cronbach's alpha coefficients of 0.916, 0.794, 0.853 and 0.793 represent Early Marriage EM), Family Status (FS), Girl-Child Education (GCE) and Insecurity (IS) respectively. The study concludes that the research instrument is reliable (*See*: Table 2). Additionally, study checked the convergent validity of the research construct. Convergent validity is a concept used in the field of psychology and social sciences to assess the degree to which two or more items that are supposed to be measuring the same construct are actually related (Hair et al., 2020). Fornell and Larcker (1981) recommended the use of Average variance Extracted (AVE) value 0.5 and above to confirm that a research construct has convergent validity. EM has AVE of 0.543 while FS, GCE and IS have AVE values of 0.613, 0.579 and 0.502 respectively. Hence since the AVE values are greater than 0.5, convergent validity is confirmed (*See*: Table 2).

Table 2. *Item Loadings, Cronbach's Alpha, Composite Reliability and Convergent Validity*

Constructs	Indicators	Loadings	Cronbach's Alpha	Composite Reliability	AVE
Early Marriage	EM1	0.606	0.916	0.925	0.543
	EM2	0.784			
	EM3	0.745			

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	EM4	0.731			
	ER5	0.803	0.794	0.861	0.613
Family Status	FS1	0.750			
	FS2	0.896			
	FS3	0.849			
	FS4	0.605			
Girl-Child Education	GCE1	0.784	0.853	0.890	0.579
	GCE2	0.826			
	GCE3	0.845			
	GCE4	0.633			
	GCE5	0.809			
	GCE6	0.636			
Insecurity	IS1	0.827	0.793	0.849	0.502
	IS2	0.666			
	IS3	0.596			
	IS4	0.807			
	IS5	0.514			
	IS6	0.739			

Author's systemisation of SEM output

In addition, the discriminant validity of the study was determined using Henseler, Ringle and Sarstedt (2015) Heterotrait-Monotrait (HTMT) ratio. According to Ojeleye, Kareem, Chimezie and Abdullahi (2022), the HTMT ratio for empirically distinct terms is 0.85, which is comparatively lower than the conservative value of 0.90 assigned to conceptually equivalent constructions. The intercorrelation values are found to be below the specified criterion, as shown in Table 3. As a result, the research findings offer support for the notion that discriminant validity can be demonstrated through the application of any criterion.

Table 3. Heterotrait-Monotrait Ration for Discriminant Validity

Constructs	**EM**	**FS**	**GCE**	**IS**
EM				
FS	0.147			
GCE	0.309	0.287		
IS	0.243	0.257	0.436	

Author's systemisation of SEM output

Structural Model

The structural model was utilised to calculate the hypothesised relationship. Furthermore, the effect size (f^2), predictive relevance (Q^2) and coefficient of determination (R^2) were also analysed and discussed.

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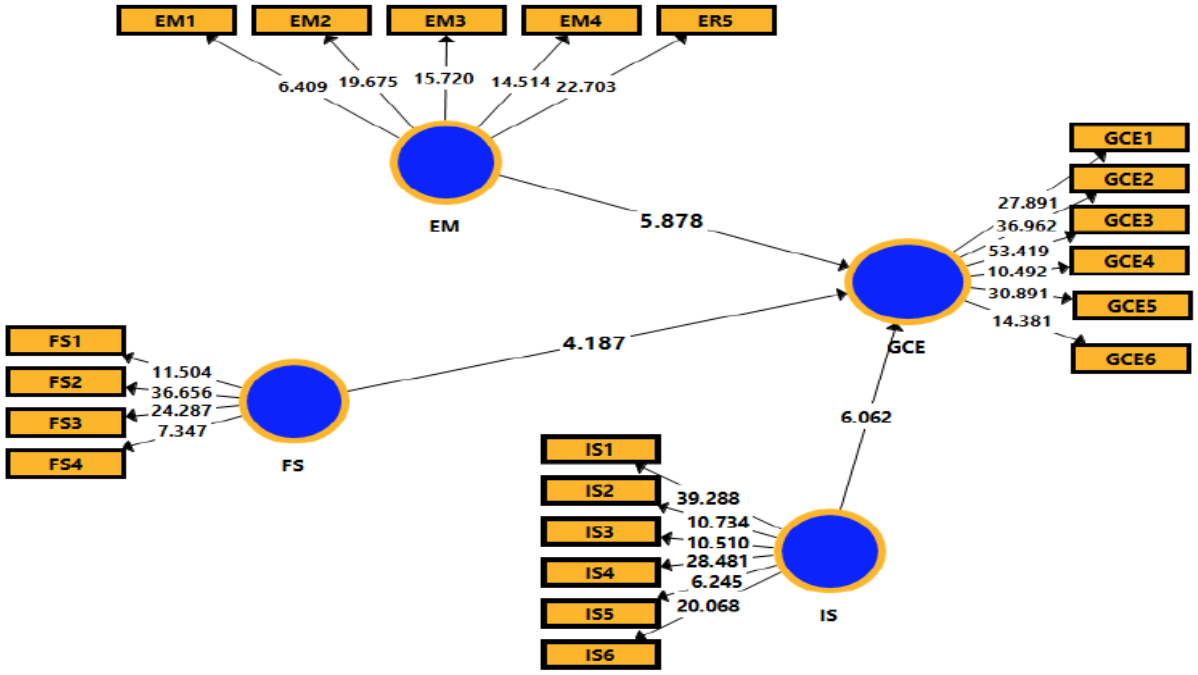

Figure 2. Measurement Model
Author's systemisation of SEM output

Table 4: *Hypotheses Testing*

Hypotheses	Relationship	Beta	STDEV	T Statistics	P Values	Decision
H_{01}	EM -> GCE	-0.261	0.044	5.878	0.000	Rejected
H_{02}	FS -> GCE	0.203	0.048	4.187	0.000	Rejected
H_{03}	IS -> GCE	-0.325	0.054	6.062	0.000	Rejected
		R^2=0.226		Q^2=0.138		

Author's systemisation of SEM output

Table 4 provides statistical analysis of the relationship between EM, FS, IS and girl-child education (GCE). Each hypothesis examines different variables influencing GCE.

Hypothesis H_{01} explores the relationship between early marriage (EM) and GCE, finding a negative beta coefficient of -0.261. This suggests that an increase in early marriages correlates with a decrease in girl-child education. The t-statistic of 5.878 and a p-value of 0.000 strongly support this finding, leading to the rejection of the null hypothesis which state that early marriage does not have significant influence on girl-child education among government secondary school in Zamfara state.

Hypothesis Ho_2 tests the effect of family status (FS) on GCE. Here, the beta coefficient is 0.203, indicating a positive relationship: higher family status appears to be associated with better outcomes in girl-child education. The robustness of this relationship is supported by a t-statistic of 4.187 and a p-value of 0.000, which are significant enough to reject the null hypothesis, affirming that family status positive and significant influence on influences girl-child education among government secondary school in Zamfara state. Hence, the second hypothesis which states that family status does not have significant influence on girl-child education among government secondary school in Zamfara state is hereby rejected.

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Lastly, Hypothesis H_{03} considers the effect of insecurity (IS) on GCE, with a beta coefficient of -0.325. This suggests a strong negative association between insecurity and the level of girl-child education. The significant t-statistic of 6.062 and a p-value of 0.000 decisively reject the null hypothesis, indicating that increased insecurity leads to poorer girl-child education outcomes. Thus, the third hypothesis which states that insecurity does not have significant influence on girl-child education among government secondary school in Zamfara state is also rejected.

Additionally, The R^2 value of 0.226 in the analysis indicates that about 22.6% of the variance in girl-child education (GCE) can be explained by the variables early marriage (EM), family status (FS), and insecurity (IS) included in the model. This suggests that while the model is able to account for a significant portion of the variability in GCE based on these factors, a large percentage 77.4% of the variability remains unexplained by this model. Therefore, this model captures some key influences on GCE but also highlights the presence of other factors or variables not included in this analysis that significantly affect girl-child education. Further research is needed to identify and include these additional factors to enhance the model's explanatory power and provide a more comprehensive understanding of the determinants of girl-child education.

Meanwhile, the Q^2 value of 0.138 reported in the analysis indicates the model's predictive relevance, particularly how well it can predict unseen data points (Hair et al., 2021). A positive Q^2 value suggests that the model has sufficient predictive power. Specifically, Q^2 of 0.138 means that about 13.8% of the variation in the dependent variable, girl-child education (GCE), can be predicted based on the variations in the model's independent variables: early marriage (EM), family status (FS), and insecurity (IS). Although this predictive power is modest, it confirms that the model is statistically significant and useful for making predictions about GCE based on these factors.

Effect Size (f^2).

Hair, Hult, Ringle and Sarstedt (2014) defined effect size as a statistical metric that measures the degree of difference or link between variables in study. It provides critical information on the research's practical importance or real-world impact (Ojeleye, Abu-Abdissamad, Umar, & Usman, 2022). Effect size allows researchers to understand the strength of the relationship or the degree of the difference between groups beyond statistical significance. A larger effect size represents a more significant or important connection or difference, while a lower impact size indicates a weaker or less relevant link or distinction. Cohen (1988) supported minor, medium, and large effects, corresponding to (f^2) values of 0.02, 0.15, and 0.35. As a result, considering Table 5 below, where GCE is the target variable IS has medium effect size while EM and FS have small effect size.

Table 5: *Effect Size (f^2)*

Constructs	GCE(f^2)	Effect Size
EM	0.091	Small
FS	0.054	Small
IS	0.153	Medium

Author's systemisation of SEM output

Discussion of Findings

In Zamfara State, the practice of early marriage has a profoundly negative and significant impact on girl-child education, particularly among students in government secondary schools. This is consistent with the findings of Abdulkadir et al., 2021; Adamu et al., 2017; Usman & Musa, 2021. Early marriage truncates a girl's educational trajectory, often leading to premature withdrawal from school (Adamu et al., 2017). This not only limits her learning opportunities but also restricts her future economic independence and socio-economic advancement. The practice is rooted in traditional cultural norms and economic considerations, where girls are seen more as economic burdens rather than potential economic contributors(Abdulkadir et al., 2021). As a result, young girls are frequently married off to alleviate perceived family economic pressures, thereby closing the door on their educational and personal development prospects. The repercussions of this are not just limited to the individual level but also hinder broader societal progress. The cycle of poverty is perpetuated, and the community as a whole suffers from the reduced economic benefits that educated women can bring to

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society (Girls Not Brides, 2022). Thus, the practice of early marriage directly contradicts efforts towards achieving educational equality and improving socio-economic conditions in the region. In Zamfara State, family status plays a pivotal and positive role in promoting girl-child education, particularly within government secondary schools. This is in tandem with previous studies of e.g., Gobena, 2018; Ali, Musa, Zakar, & Bello, 2021; Muhammad et al., 2021; Nwakwesiri & Onebunne, 2017. Families with higher socio-economic status are generally more likely to value and support educational pursuits, providing not only the necessary financial resources but also creating an encouraging environment that prioritizes and values education, especially for girls (Okesina, 2018). These families often have better access to educational materials, technology, and environments conducive to learning, which significantly enhance educational outcomes (Muhammad et al., 2021). Additionally, parents with higher educational backgrounds themselves are more likely to understand the importance of education and thus advocate for and support their daughters' schooling (Henriett & Odozi, 2014). This positive influence extends beyond the home, as these families are often engaged with the school community, participate in educational decision-making, and are proactive in addressing educational issues that may arise. The impact of such supportive family contexts results in higher attendance rates, reduced dropout rates, and generally better academic performance among girls, contributing to more equitable educational opportunities and paving the way for greater gender parity in education within the state.

In Zamfara State, insecurity poses a significant barrier to girl-child education, particularly impacting those attending government secondary schools. This is in congruence with previous studies e.g., Tanko & Linus, 2023; Ubong, 2016; Williams & Istifanus, 2017; Gloria & Rwang, 2022; Ojeleye et al., 2022. The pervasive insecurity in the region, characterized by communal clashes, kidnappings, and other forms of violence, directly threatens the safety of girls en route to and from school, as well as within school premises (Ojeleye et al., 2022). This constant threat leads to frequent school closures and discourages parents from sending their daughters to school out of fear for their safety. The psychological impact of this insecurity also cannot be understated, as it creates an environment of fear and anxiety, which is highly conducive to learning disruptions (Ubong, 2016). Girls are particularly vulnerable in such settings, where their education is not just interrupted but often permanently discontinued as families prioritize safety over schooling (Tanko & Linus, 2023). The cumulative effect of these factors is a diminished educational attainment for girls, which further entrenches gender disparities in education and limits future opportunities for women in the workforce and society at large. Thus, insecurity not only deprives girls of their right to education but also undermines social and economic development in Zamfara State.

Conclusion

The study conducted among government secondary schools in Zamfara State conclusively demonstrates that early marriage and insecurity significantly hinder the educational progress of the girl-child, underscoring the critical challenges these factors pose to the attainment of educational equality in the region. In stark contrast, a positive family status emerges as a significant enhancer of educational outcomes for girls, highlighting the pivotal role that supportive family environments play in fostering educational success. These findings call for targeted policy interventions that address these socio-cultural and security-related barriers, reinforcing the need for comprehensive strategies that both mitigate negative influences and bolster positive ones. Such efforts are essential not only for improving educational outcomes for girls in Zamfara State but also for advancing gender equality and development goals more broadly across similar contexts.

Recommendations

i. Based on the findings of the study that early marriage and insecurity negatively affect girl-child education, while family status has a positive influence in government secondary schools in Rules and legislations on early marriage should be enacted and enforced by the appropriate government agencies to guarantee the girl-child is protected and stay in school. Awareness and orientation programmes informing communities on the merits of female-child education and the legal consequences of early marriages would help to justify this. Working with NGOs and religious institutions can help these initiatives be more successful and guarantee that the message is generally received and sensitive for different cultures.
ii. Improving school safety is very critical considering how bad insecurity negatively affects girl-child education. Increasing security staff, community security, building safe fences and monitoring systems, and guaranteeing safe transportation for students going to and from the school can help to accomplish this. There will be need for collaboration

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between community members and local law enforcement agencies to enable these security protocols to be properly implemented and reassure parents over the safety of their girls throughout their education.

iii. Programmes targeted at supporting families economically and socially should be promoted by the government to poor families as family status affects the education of the girl-child. This might include financial incentives for families keeping their daughters in school and scholarships for girls, especially from lower socioeconomic status. Additionally, helping to maintain the favourable influence of family position on education are community-based initiatives teaching parents on the benefits of girl-child education and arming them with resources to assist their daughters academically.

References

Abdulkadir, M. S., Funtuwa, A. I., & Ibrahim, A. T. (2021). Effect of early marriage on the academic performance of the Girl-Child in Katsina State: Challenges and prospects. *International Journal of Research and Innovation in Social Science*, *5*(9), 328–343.

Adamu, A., Umar, K. Y., & Abdulkadir, K. (2017). Analysis on prevalence and effect of early marriage on girl-child education: A case study of Miri Village of Bauchi State. *Direct Research Journal of Social Science and Educational Studies*, *4*(3), 25–30. https://doi.org/10.26765/DRJSSES.2017.7378

Ali, S. M., Musa, S., Zakar, Y., & Bello, N. (2021). Parents' socioeconomic status and academic performance of students of government day junior secondary school Gashaka, Yobe State, Nigeria. *Hikmah Journal of Arts & Social Sciences Education*, *3*(2), 16–22.

Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Harvard University Press.

Chukwuemeke, B., Ugwu, H. N., & Radietu, M. A. (2018). Early child marriage in Nigeria causes, effects and remedies. *Social Sciences Research*, *4*(1), 49–66.

Fareo, D. O., & Kutunda, J. (2018). Effects of early marriage on girl-child education in Madagali Local Government Area of Adamawa State Nigeria. *International Journal of Social Science and Humanities Research*, *6*(3), 93–100.

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: algebra and statistics. *Journal of Marketing Research*, *18*(3), 382–388. https://doi.org/10.2307/3150980

Gimba, S. N., Muhammad, H. S., Alabe, H. A., & Paga, M. M. (2019). Effect of early marriage and its implication on girl-child education in bade emirate. Yobe state, Nigeria. *International Journal of Educational Research and Studies*, *1*(2), 3–5.

Girls Not Brides. (2022). *Girls' education and child marriage*. London. Retrieved from https://www.girlsnotbrides.org/documents/1938/Girls_Not_Brides_Impact_Report_2022.pdf

Gloria, S. P., & Rwang, P. S. (2022). Insecurity and girl-child education in north-east Nigeria: a case of Chibok and Dapchi Quagmire. *Wukari International Studies Journal*, *6*(2), 24–34.

Gobena, G. A. (2018). Family socio-economic status effect on students' academic achievement at college of education and behavioral sciences, Haramaya University, Eastern Ethiopia. *Journal of Teacher Education and Educators*, *7*(3), 207–222.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). Partial least squares structural equation modeling (PLS-SEM). *Sage Publisher*. https://doi.org/10.1108/EBR-10-2013-0128

Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R*. Cham: Springer Nature Switzerland. https://doi.org/10.1007/978-3-030-80519-7

Henriett, M. C., & Odozi, I. C. (2014). Influence of parental socio-economic status on academic achievement of students in selected schools in Nigeria: A case study of Enugu State . *Journal of Education and Practice*, *5*(2), 105–110.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*, 115–135. https://doi.org/10.1007/s11747-014-0403-8

Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: a review of four recent studies. *Strategic Management Journal*, *20*, 195–204. https://doi.org/10.1002/(SICI)1097-0266(199902)20:2<195::AID-SMJ13>3.0.CO;2-7

Ibrahim, A. (2020). Gender, education and socioeconomic development: A case study of Nigerian women. *Journal of Gender Studies*, 29(1), 64-77.

Ibarahim, B., Garba, Y., & Malam, S. S. (2023). The effects of banditry activities on girl-child education in Sokoto south senatorial zone, Sokoto state Nigeria. *The Beam: Journal of Arts & Science*, *15*(1), 1–10.

Israel, G. D. (2013). Determining sample size. *Journal of Business Research*, *1*, 1–5. Retrieved from https://www.psycholosphere.com/Determining sample size by Glen Israel.pdf

Muhammad, S., Danjuma, M., Jega, S. U., & Samaila, D. (2021). Socioeconomic factors and girl-child education (A case

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study of some selected secondary schools in Jega). *International Journal of Arts and Social Science*, *4*(4), 56–63.

Nwakwesiri, F. C., & Onebunne, J. I. (2017). Does socio-economic status of parents influence girl-child education in Anambra west local government area of Anambra state. *Africal Psychology*, *7*(1), 291–308.

Ojeleye, C. I., Kaura, L. B., Gusau, B. M., & Abdullahi, M. (2022). Insecurity as predictor of students' learning in Zamfara State. *Sokoto Educatuional Review*, *21*(1), 66–78.

Ojeleye, Y. C., Abu-Abdissamad, A. M., Umar, S., & Usman, A. (2022). Academic resilience and self- efficacy as predictors of students' academic performance in Nigeria. *Sokoto Journal of Management Studies*, *32*(3), 97–112.

Ojeleye, Y. C., Kareem, R. F., Chimezie, C., & Abdullahi, M. (2022). Perceived organisational justice and employee commitment: The role of organisational trust among academic staff in Nigeria. *Gusau Journal of Business Administration*, *1*(2), 1–15.

Ojeleye, Y. C., Ojeleye, C. I., Karem, R. F., & Abdullahi, A. (2023). Proactive personality and entrepreneurial intentions among Nigerian students: Moderating role of perceived institutional support. *Oeconomica Jadertina*, *13*(1), 19–34. https://doi.org/10.15291/oec.4139

Okesina, F. A. (2018). Influence of family background on academic performance of senior secondary school students as expressed by teachers in Ilorin metropolis. *KIU Journal of Humanities*, *3*(2), 163–172.

Pondent, C. S. (2017). The advantages of proportional allocation sampling techniques in business research. Retrieved November 11, 2021, from https://bizfluent.com/info-10014862-advantages-proportional-allocation.html

Sekaran, U., & Bougie, R. (2016). *Research Method for Business: A Skill Building Approach* (7th ed.). Chichester: John Wiley & Sons Ltd.

Tanko, B. A., & Linus, T. (2023). Impact of insecurity on the education of the girl-child: The role of basic educators in Nigeria. *International Journal of Innovative Psychology & Social Development*, *11*(4), 97–102.

Ubong, B. (2016). Insecurity and girl-child education in Nigeria. *European Journal of Education Studies*, *2*(11), 211–220. https://doi.org/10.5281/zenodo.221379 European

Umaru, A., Pate, H. A., & Haruna, A. D. (2015). The impact of insecurity and poverty on sustainable economic development in Nigeria. *International Journal of Humanities Social Sciences and Education*, *2*(2), 32–48.

United Nations Children's Fund (UNICEF). (2023). Is an End to Child Marriage within Reach? In *Is an End to within Reach? Child marriage Latest trends and future prospects 2023 update*. Retrieved from https://data.unicef.org/Resources/Is-an-End-To-Child-Marriage-Within-Reach/

UNESCO. (2016). Education for All Global Monitoring Report 2016: Gender Review – Creating Sustainable Futures for All. UNESCO Publishing.

Usman, M., & Musa, A. A. (2021). The consequences of early marriage on girl-child education in Geidam, Yobe state Nigeria. *Journal of Research in Humanities and Social Science*, *9*(6), 19–24.

Voice of America. (2021). Nigerian state closes schools after 140 students kidnapped. Retrieved July 23, 2021, from https://www.voanews.com/africa/nigerian-state-closes-schools-after-140-students-kidnapped

Wang, X., & Cheng, Z. (2020). Cross-sectional studies. *CHEST*, *158*(1), S65–S71. https://doi.org/10.1016/j.chest.2020.03.012

Williams, A., & Istifanus, J. (2017). Boko haram insurgency: a threat to the girl-child's access to education in the northeast of Nigeria. *European Journal of Education Studies*, *3*(2), 121–132. https://doi.org/10.5281/zenodo.1116989

World Bank. (2018). World Development Report 2018: Learning to Realize Education's Promise. World Bank Publications.

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Influence of Insecurity on Social Studies Teaching and Learning among Primary Schools in Jibia Local Government Area of Katsina State, Nigeria

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Abstract

This study examined the effects of insecurity on Social Studies education in primary schools within Jibia Local Government Area, Katsina State, Nigeria. Guided by five research objectives, five corresponding research questions, and null hypotheses, the research employed a descriptive survey design with a predominantly quantitative approach. The target population comprised all 88 public primary schools in Jibia LGA. A purposive sample of 66 Social Studies teachers was selected from 45 primary schools, representing each of the five Zonal Areas (B, C, D, F, G). Data were collected using a structured questionnaire titled 'Social Studies Teachers Questionnaire (SSTQ)', which was validated for face, content, and construct validity by three experts in Social Studies, Measurement and Test Construction, and Curriculum and Instruction from the Education Department, Yusuf Bala Usman College of Education and Legal Studies, Daura, Katsina State. The instrument demonstrated a high reliability coefficient of 0.86, as determined by the Pearson Product Moment Correlation (PPMC). Data analysis involved both descriptive and inferential statistics: demographic data were analyzed using frequency counts, while research questions were addressed through mean and standard deviation. The findings revealed that insecurity adversely affects school infrastructure, pupils' attendance, participation, and academic performance in Social Studies. Teachers employ various coping strategies in response to insecurity, and government, community, and stakeholder interventions play vital roles in mitigating these effects. The study concludes that insecurity hampers the teaching and learning process in primary schools, necessitating collaborative efforts among all stakeholders to enhance security and create conducive learning environments. It is recommended that government, communities, and stakeholders strengthen partnerships and collaborate with security agencies to improve security measures around schools.

Introduction

Insecurity remains one of the most profound challenges confronting educational development in Nigeria. The country has faced persistent threats from insurgency, banditry, kidnapping, and communal conflicts, which have significantly disrupted the educational landscape (Abubakar & Bala, 2021). These security challenges have led to school closures, displacement of pupils and teachers, destruction of school infrastructure, and psychological trauma among learners and educators, thereby undermining the goals of universal basic education (UNESCO, 2018; Nigerian Ministry of Education, 2022). Specifically, in the northern regions of Nigeria, including Katsina State, insecurity has become a recurrent issue due to the activities of insurgent groups and bandits. For example, the rise of armed banditry in Katsina has led to over 600 schools being shut down or destroyed, affecting thousands of pupils (Kano & Mukhtar, 2024). This situation hampers not only access but also the quality of education, as teachers are often unwilling to work in unsafe environments, and students are unable to attend school regularly (Eze & Nwosu, 2020). Social Studies, as a core subject at the primary level, aims to foster civic consciousness, social responsibility, and community cohesion values essential for national development (Akinboye & Ojo, 2018). However, insecurity hampers effective teaching of social studies by restricting mobility, limiting classroom interactions, and creating unsafe environments. For instance, in Kaduna State, frequent attacks have led to the interruption of social studies lessons, which affects students' understanding of civic duties and societal issues (Amuta & Obi, 2023). Furthermore, recent research indicates that insecurity influences pedagogical processes by disrupting teacher-student interactions, lowering motivation, and reducing learning outcomes (Eze & Nwosu, 2020). The ongoing insecurity in Nigeria, especially in the Sahelian belt where Jibia LGA is located, has persisted despite government interventions, highlighting the need for localized research to inform policy (Kano & Mukhtar, 2024). Understanding these effects is crucial for developing strategies to promote resilient education systems that can withstand conflict and insecurity.

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Katsina State, located in the northwestern region of Nigeria, has been significantly affected by various forms of insecurity, including banditry, cattle rustling, kidnapping, and communal conflicts. These security challenges have severely impacted social, economic, and educational development across the state, especially in the 10 frontline LGAs that bear the brunt of these threats. Katsina State has experienced persistent insecurity over the past decade, largely driven by the rise of armed banditry groups operating in the Sahel corridor. The insecurity has resulted in loss of lives, displacement of communities, destruction of property, and disruption of daily activities, including education (Abdullahi & Musa, 2020). The situation is compounded by porous borders with neighboring countries, which facilitate the movement of armed groups. The term "frontline LGAs" refers to areas that are most affected by insecurity and directly impacted by ongoing conflicts. These 10 frontline local government areas (LGAs) in Katsina State most affected by banditry and violent attacks are Jibia, Batsari, Safana, Danmusa, Kankara, Faskari, Dandume, Sabuwa, Kurfi, and Dutsin-Ma. These areas, often bordering the Rugu forest or neighboring states, face severe security challenges, including kidnapping and cattle rustling. These areas have been the focus of various security operations and, more recently, community-driven defense initiatives to combat insecurity. The Nigerian government has deployed military and paramilitary forces to combat insecurity; however, the effectiveness has been limited due to complex local dynamics, socio-economic factors, and the challenging terrain. These frontline LGAs are characterized by frequent attacks, abductions, and clashes within armed groups and security forces. For example, the Kankara abduction in December 2020, where over 300 schoolboys were kidnapped, brought international attention to the security crisis in the region (Vanguard, 2020).

Efforts to address insecurity include military operations, community policing, and dialogue initiatives. However, these measures have often been insufficient, and community-led resilience strategies have emerged, such as establishing local vigilante groups and informal learning centers to continue education amid violence (Adebayo, & Ojo 2021). Insecurity in Katsina State's frontline LGAs remains a significant obstacle to educational development, especially for social studies education, which aims to promote civic consciousness and social cohesion. The ongoing conflicts necessitate targeted interventions that address both security and educational resilience, emphasizing the importance of context-specific strategies to sustain learning amidst adversity. The persistent insecurity in Katsina State, particularly in its 10 frontline LGAs, has prompted a range of security strategies aimed at curbing violence, protecting civilians, and restoring stability. These strategies encompass military operations, community engagement, technological innovations, and policy reforms. The study adopts the Human Security Theory, emphasizing the importance of safety and protection for effective education. In conflict zones, insecurity hampers access to quality education, leading to learning deficits. The study of education in conflict zones is underpinned by several key theories that explain how conflict influences educational processes, access, and outcomes. These frameworks help in understanding the complex interactions within conflict, society, and education, providing a basis for analyzing how insecurity impacts social studies education in Jibia, Katsina State. Human Capital Theory, pioneered by Becker (1964) and Mincer (1974), posits that education is an investment in individuals that enhances their productivity and economic potential. On the other hand, this theory postulates that education enhances individual productivity and economic growth. In conflict zones like Jibia, insecurity hampers access to quality education, thereby impairing human capital development. For instance, disruptions in social studies education limit pupils' civic awareness and critical thinking skills essential for nation-building. Therefore, in conflict settings, however, this investment is often disrupted. For example, in Nigeria's insurgency-affected regions, schools have become targets, leading to school closures and displacement, which impede human capital development (Akinola, 2019). The theory suggests that conflict diminishes the returns on educational investment by decreasing access and quality, thus stalling economic growth and social development. In conflict zones, the disruption of schooling limits the accumulation of skills and knowledge, particularly in social studies, which fosters civic consciousness and social cohesion. The theory underscores the importance of stable environments for human capital development and highlights the long-term consequences of conflict on national productivity and social harmony.

Theories of social justice emphasize equitable access to education regardless of socio-economic or political circumstances. In conflict zones, disparities are often exacerbated, with marginalized groups experiencing greater educational deprivation. For instance, in Nigeria, internally displaced children face barriers to education, including safety concerns and lack of resources (UNESCO, 2018). These frameworks advocate for inclusive policies that ensure the rights of all children to learn,

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even amid insecurity. The social justice perspective highlights the inequality and marginalization faced by pupils in conflict-affected areas, emphasizing the need for targeted interventions to sustain social studies education that promotes civic participation and social cohesion. Ecological Systems Theory by Bronfenbrenner (1979); UNICEF (2020) explains how multiple layers of influence individual, community, and societal interact to affect education in conflict settings. In Jibia, insecurity at the community level (e.g., banditry, kidnapping) directly impacts school attendance, teacher retention, and community support for education. Thus, the theory emphasizes the multiple layers of influence on a child's development, including the microsystem (family, school), mesosystem (interactions within microsystems), exosystem (community, media), and macrosystem (culture, policy). Conflict disrupts these layers, affecting children's educational experiences and psychosocial development. In conflict-affected regions like Jibia, insecurity affects not only schools (microsystem) but also community support systems and policy environments (exosystem and macrosystem). This disruption hampers social studies education, which relies on community engagement and civic participation, crucial for fostering social cohesion and national identity. Resilience Theory focuses on the capacity of individuals and communities to adapt and recover from adversity. In conflict zones, resilience manifests through community-led initiatives, alternative schooling methods, and psychosocial support (Masten, 2014). For example, in Nigeria, some communities have established informal learning centers to continue education despite insecurity (Akinsanya & Oladipo, 2019). This theory is relevant for understanding how pupils, teachers, and communities in Jibia adapt to insecurity while attempting to sustain social studies education. It also informs strategies for building resilience to ensure educational continuity. This framework emphasizes how conflict influences educational access, content, and quality. It suggests that insecurity can lead to school closures, displacements, and curriculum shifts. An example is the Boko Haram insurgency's impact on northern Nigeria, which has resulted in school closures and a shift away from standard curricula, including social studies.

These theories collectively provide a comprehensive lens to analyze the effects of conflict on education. Human Capital Theory underscores the importance of stable environments for skill development; Social Justice Theory highlight issues of equity; Ecological Systems Theory emphasizes the multi-layered influences on learners; and Resilience Theory offers insights into adaptive strategies. Applying these theories helps to understand the multifaceted impacts of insecurity on social studies education in conflict-affected areas like Jibia, and guides interventions aimed at mitigating these challenges. Research by Adeyemi & Ojo (2018) indicates that insecurity in Northern Nigeria has led to a 40% decline in school enrollment. Similarly, Bello (2020) reports that armed conflicts disrupt curriculum delivery and cause trauma among learners. However, specific studies focusing on social studies are limited, underscoring the need for this research. The stability and security of a region are fundamental prerequisites for effective educational delivery. In contexts marred by insecurity, such as regions affected by insurgency, communal violence, and political unrest, the educational system faces unprecedented challenges that threaten both access and quality of learning. These studies are synthesized based on existing literature, highlighting relevant findings, methodologies, and contexts related to insecurity and education. Nigeria, particularly its northern regions, has experienced persistent insecurity that disrupts the routine functioning of primary schools and poses significant barriers to education. Social studies, a core subject aimed at fostering civic awareness, responsible citizenship, and national cohesion, is especially vulnerable to these disruptions. This review aims to contextualize the specific challenges faced by primary schools in Jibia Local Government Area of Katsina State, an area characterized by ongoing security concerns, and establish the foundation for the empirical investigation that follows. Insecurity in northern Nigeria, particularly in Jibia Local Government Area (LGA), has become a pervasive and escalating challenge. Studies by Adeniyi and Balogun (2018) and Ibrahim (2022) have identified key sources of insecurity, including insurgency by Boko Haram, banditry, cattle rustling, and communal conflicts. Since 2015, these threats have intensified, resulting in widespread disruption of educational activities, destruction of infrastructure, and displacement of communities (Yusuf & Mohammed, 2021). The Nigerian Ministry of Education (2020) reports that over 300 primary schools in Katsina State have been affected, either through direct attacks or forced closures.

The severity of insecurity is evidenced by frequent violent incidents, including kidnapping of pupils and teachers, arson, and armed clashes, which have profoundly impacted the safety of learners and educators (Osagie & Nwachukwu, 2020). The proliferation of small arms and the presence of armed groups create an environment of constant danger, undermining the delivery of quality education (Dikko & Yusuf, 2019). Displacement exacerbates the problem, leading families to

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withdraw children from school or relocate, further reducing enrollment and attendance (Nwankwo & Obi, 2025). Psychological trauma resulting from violence and displacement also hampers pupils' capacity to learn, creating long-term negative effects on educational attainment (Abubakar & Umar, 2017). In Jibia, reports indicate that continuous insecurity has resulted in the destruction of school infrastructure, with some schools being completely abandoned or repurposed for security operations (Fahad & Ijeoma, 2023). The situation reflects a broader national crisis, with government efforts often hampered by logistical challenges and insufficient security deployment (Kano & Salisu, 2025). Overall, insecurity remains a critical barrier to effective primary education in the area. Insecurity significantly affects pupils' school attendance and active participation, especially in conflict-prone regions like Jibia. Several studies have documented that pupils frequently miss school days due to fear of attack, abduction, or displacement (Abubakar & Umar, 2017; Adeyemi & Ojo, 2018). Musa and Ojo (2018) noted that in insecure regions, absenteeism can reach up to 40% during periods of heightened violence, leading to substantial gaps in learning. Psychological trauma caused by insecurity also diminishes pupils' motivation and ability to participate in classroom activities. Yusuf and Mohammed (2021) found that pupils in Jibia display reluctance during Social Studies classes, particularly on topics related to civic responsibilities and social cohesion, due to fears of reprisal or attack. Classroom observations reveal that pupils are often distracted, emotionally distressed, and less engaged, which affects their overall participation (Musa & Sani, 2020).

Furthermore, insecurity-induced disruptions lead to inconsistent instructional time, with some pupils missing several weeks or months of lessons, which hampers their social and civic education (Fahad & Ijeoma, 2023). In some cases, families opt to keep children at home for safety reasons, further reducing participation and engagement (Kano & Salisu, 2025). These disruptions not only impede immediate learning but also threaten the development of social skills and civic consciousness essential for nation-building. Insecurity's impact on academic performance, particularly in Social Studies, is profound. Disruptions to instructional time, trauma, and displacement directly impair pupils' cognitive development and learning outcomes (Akinola & Adeoye, 2021). Empirical evidence indicates that pupils in insecure environments score significantly lower on standardized assessments. Dikko and Yusuf (2019) reported that pupils in conflict zones in northern Nigeria scored 30-50% lower than their counterparts in secure areas. Trauma from violence, loss of family members, and displacement leads to emotional distress, which impairs concentration, memory retention, and overall academic functioning (Mustapha & Tijani, 2020). The destruction of educational infrastructure further diminishes the quality of learning; schools that are damaged or abandoned cannot provide conducive environments for effective teaching (Nwankwo & Obi, 2025). Additionally, frequent school closures and teacher absenteeism cause curriculum coverage to fall behind schedule, resulting in knowledge gaps (NERDC, 2020). Long-term consequences include low literacy rates and poor civic knowledge among pupils in insecure regions. For example, a study in Kaduna found that pupils' Social Studies test scores declined sharply during periods of violence, undermining the development of civic competence (Fahad & Ijeoma, 2023). Overall, insecurity hampers the attainment of educational goals and the development of socially responsible citizens. Teachers working in insecure environments have developed various adaptive strategies to continue instruction and ensure pupil safety. Fahad and Ijeoma (2023) observed that teachers in Kaduna and Katsina often reschedule lessons to times when security is relatively stable, such as early mornings or weekends. Mobile technology plays a crucial role, with teachers using mobile phones to communicate with colleagues, security personnel, and parents during emergencies (Yahaya & Adebisi, 2019).

Community-based security initiatives are also common, with teachers collaborating with vigilante groups, traditional leaders, and local security patrols to safeguard schools (Nwankwo & Obi, 2025). These collaborations help create safer learning environments and facilitate ongoing instruction despite threats (Musa & Sani, 2020). Teachers employ indoor or closed-door teaching methods, sometimes in community centers or alternative safe spaces, to minimize exposure to danger (Nwosu & Ogunleye, 2026). Psychological resilience is also a key coping mechanism. Teachers participate in peer support groups and stress management activities to cope with trauma and maintain motivation (Adebisi & Yahaya, 2019). However, these strategies often require external support, capacity building, and infrastructural investments to be sustainable and effective. Mitigating the impact of insecurity on education necessitates a multi-stakeholder approach involving government agencies, local communities, civil society organizations, and international partners. The Nigerian government has implemented initiatives such as the Safe Schools Initiative (FSSI), aimed at establishing secure environments for pupils, though its success has been mixed due to operational challenges (Garba & Yusuf, 2018).

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Communities are pivotal in maintaining school security through traditional leadership, vigilante groups, and parent-teacher associations. These groups monitor threats, secure school premises, and foster social cohesion, which are vital for resilience (Musa & Sani, 2020). In Kaduna, community patrols contributed to a 25% reduction in school attacks over two years (Adebisi & Yahaya, 2019). International organizations and NGOs supplement efforts by providing funding, capacity building, psychosocial support, and infrastructure rehabilitation. The Global Partnership for Education (GPE) has supported initiatives to rebuild destroyed schools, train teachers, and promote community engagement (Nwosu & Ogunleye, 2026). Multi-stakeholder platforms facilitate coordination, transparency, and the sharing of best practices, which enhance overall effectiveness (Ahmed & Olamide, 2022). Sustainable mitigation strategies must integrate security efforts with socio-economic development, address root causes of conflict, and ensure community participation to foster trust and resilience. Addressing poverty, marginalization, and political exclusion is essential to reducing violence and creating a safe learning environment (Kaduna & Sulaiman, 2025). The psychological and emotional wellbeing of learners and teachers in insecure environments is a critical yet often overlooked component of sustaining quality education. Exposure to violence, displacement, loss of loved ones, and ongoing threats create traumatic stress that impairs cognitive functioning, emotional stability, and social behavior. In the context of social studies education, which relies heavily on dialogue, civic engagement, and moral reasoning, trauma can severely hinder students' ability to participate meaningfully and internalize civic values.

The reviewed literature underscores that insecurity in northern Nigeria, particularly in Jibia LGA, has severely disrupted primary education, with widespread destruction of infrastructure, displacement of communities, and psychological trauma affecting both pupils and teachers. This insecurity hampers attendance, engagement, and academic performance, especially in Social Studies, which is vital for fostering civic responsibility and social cohesion. Teachers have adopted various coping strategies such as rescheduling lessons, leveraging mobile technology, and community collaborations to mitigate the challenges. Addressing these issues requires a coordinated effort among government agencies, communities, civil society, and international partners. Initiatives like the Safe Schools Program and community security measures have made some positive impacts, but sustained efforts, inclusive policies, and socio-economic development are essential for long-term solutions. This literature review is unique in its comprehensive integration of recent studies (2017–2026) that collectively highlight the multifaceted impact of insecurity on primary education in Jibia LGA, emphasizing not only the physical and academic consequences but also the psychological and social dimensions. It distinguishes itself by analyzing the adaptive coping mechanisms employed by teachers within insecure environments and contextualizing the roles of various stakeholders government, community, NGOs in mitigating these effects. Furthermore, it bridges the gap within the macro-level security challenges and micro-level educational responses, providing a holistic perspective vital for informing policy and practice in conflict-affected regions.

Statement of the Problem

Despite Nigeria's efforts toward achieving universal primary education, insecurity remains a significant barrier, particularly in Jibia Local Government Area of Katsina State. The recurring threats from banditry and insurgency have led to school closures, displacement of children and teachers, and destruction of educational infrastructure. These disruptions compromise the continuity of social studies education, which is vital for fostering civic responsibility and social cohesion among young learners (Nigerian Ministry of Education, 2022). Insecurity affects not only access but also the pedagogical environment, with teachers often unable or unwilling to teach in unsafe areas, and students increasingly dropping out due to safety concerns. Although some studies have explored the general impact of insecurity on education in Nigeria (Abubakar & Bala, 2021; Eze & Nwosu, 2026), there is limited empirical evidence specifically focusing on how insecurity influences social studies teaching and learning at the primary school level in Jibia LGA. This gap underscores the need for focused research to inform targeted interventions aimed at safeguarding social studies education amidst insecurity.

Objectives of the Study

This study is set to examine the effects of insecurity on Social Studies education in primary schools within Jibia Local Government Area, Katsina State, Nigeria. Therefore, the specific objective of this study is to:

1. Examine the nature and extent of insecurity affecting primary schools in Jibia Local Government Area.
2. Investigate the impact of insecurity on pupils' attendance and participation in Social Studies classes.
3. Assess how insecurity influences the academic performance of pupils in Social Studies.
4. Explore the coping strategies adopted by Social Studies teachers in response to insecurity-related challenges.

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5. Identify the role of government, community and stakeholders in mitigating the effects of insecurity on Social Studies education.

Research Questions

The following research questions were raised for answers to the problem under study.

1. What is the nature and extent of insecurity affecting primary schools in Jibia Local Government Area?
2. How does insecurity impact pupils' attendance and participation in Social Studies classes?
3. In what ways does insecurity influence the academic performance of pupils in Social Studies?
4. What coping strategies are adopted by Social Studies teachers in response to insecurity-related challenges?
5. What roles do government, community and stakeholders play in mitigating the effects of insecurity on Social Studies education?

Research Methodology

The research will employ a descriptive survey design that involves the concurrent collection and analysis of quantitative data to measure prevalence and trends. The primary instruments will be structured questionnaires for social studies teachers and pupils' academic records of Social Studies. The population of this study comprised of all the Social Studies teachers of 88 public primary schools, Jibia LGEA, Katsina State. A sample of 66 Social Studies teachers was selected from 45 primary schools prone to insecurity, representing each of the five Zonal Areas (B, C, D, F, G) bedeviled by insecurity. A purposive sampling technique was used to select only Social Studies teachers as the sample for the study in the areas of Jibia LGA prone to insecurity. A checklist was designed based on guided criteria such as respondent's age ranging from 30 - 65 years, educational qualification from NCE, Bachelor's Degree and Postgraduate Diploma (PGDE), teaching experience range from 6 - 35 years and only teacher from rural school locations prone to insecurity (high, medium and low) were selected for the study. Data for the study were collected using a 25-item researcher-made questionnaire titled 'Social Studies Teachers Questionnaire (SSTQ)' structured on moderated 4-point Likert scale format of Strongly Agreed (SA = 4), Agreed (A = 3), Disagree (D = 2) and Strongly Disagree (SD = 1). The questionnaire was validated for face, content, and construct validity by three experts in Social Studies, Measurement and Test Construction, and Curriculum and Instruction from the Education Department, Yusuf Bala Usman College of Education and Legal Studies, Daura, Katsina State. The instrument has a high reliability coefficient of 0.86, as determined by the Pearson Product Moment Correlation (PPMC). The researchers contacted the Head Teachers in the sampled schools and permission was granted to interact with the teachers to gather data. Mean and standard deviation was used to analyze the data collected. The codes used in the questionnaire were sum up 4+3+2+1/4 = 2.50, thus any item with the mean of 2.50 and above was considered agreed upon while less than 2.50 were considered disagree upon. The collected data were analyzed using descriptive statistics in which the teachers' demographic data were analyzed using frequency counts, while research questions were addressed through mean and standard deviation. The independent variable (IV) is 'insecurity' thus the study investigates insecurity specifically as it manifests in banditry, kidnapping, and associated communal violence in Jibia LGA. It examines its manifestations relevant to schooling such as school closures, irregular attendance, psychological trauma, displacement of pupils/teachers, and destruction of infrastructure. While the dependent variable (DV) is 'Social Studies Education' hence focuses on the teaching and learning outcomes of the Social Studies curriculum at the primary school level (Primary 4-6).

Presentation of Results

The results were analyzed using the descriptive statistics of frequency counts, mean and standard deviation, presented in tabular form as follows:

Demographic Information of the respondents

The demographic data of Social Studies teachers such as gender, age, educational qualification, teaching experience and school location were analyzed using the descriptive statistics of frequency count as follows:

Table 1: Distribution of the Respondents by Gender (n = 66)

S/N	Item	Responses	%
1.	Male	58	87.9
2.	Female	8	12.1
	Total	**66**	**100**

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Analysis from Table 1 above revealed that 58(87.9%) of the respondents were male and 8(12.1) were female Social Studies teachers across the 45 public primary schools of the five Zonal Areas (B, C, D, F, G) with perennial insecurity in Jibia LGA of Katsina State, Nigeria.

Table 2: Distribution of the Respondents by Age (n = 66)

S/N	Item	Responses	%
1.	30 - 39	36	54.5
2.	40 - 49	23	34.9
3.	50 - 65	7	10.6
	Total	**66**	**100**

Analysis from Table 2 above revealed that 36(54.5%) of the respondents fall within the age range of 30 - 39, 23(34.9) fall within 40 - 49 age range and 7(10.6%) fall within the age range of 50 - 65 respectively.

Table 3: Distribution of the Respondents by Educational Qualification (n = 66)

S/N	Item	Responses	%
1.	NCE	52	78.8
2.	Bachelor's Degree	13	19.7
3.	Postgraduate Diploma (PGDE)	1	1.5
	Total	**66**	**100**

Analysis from Table 3 above revealed that 52(78.8%) of the respondents were NCE holders with highest frequency distribution, 13(19.7%) were Bachelor's Degree holders, and 1(1.5%) were Postgraduate Diploma (PGDE) holders teaching social studies as one of core subjects.

Table 4: Distribution of the Respondents by Teaching Experience (n = 66)

S/N	Item	Responses	%
1.	6-10 years	31	46.9
2.	11-15 years	24	36.4
3.	16 years and above	11	16.7
	Total	**66**	**100**

Analysis from Table 4 above revealed that 31(46.9%) of the respondents fall within 6-10 years, 24(36.4%) of the respondents fall within 11-15 years, and 11(16.7%) of the respondents fall within 16 years and above teaching experience.

Table 5: Distribution of the Respondents by School Location with Insecurity (n = 66)

S/N	Item	Responses	%
1.	High	19	28.8
2.	Medium	33	50.0
3.	Low	14	21.2
	Total	**66**	**100**

Analysis from Table 5 above revealed that 19(28.8%) of the respondents fall within areas prone to high security challenge, while 33(50.0%) of the respondents fall within medium security issues and 14(21.2) of the respondents fall within low security issues.

Research Questions

Five research questions were analyzed using mean and standard deviation on the four moderated Likert scale 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree as follows:

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Research Question One: What is the nature and extent of insecurity affecting primary schools in Jibia Local Government Area?

Table 6: Nature and Extent of Insecurity Affecting Primary Schools

S/N	Item	Scales (1-4)				Statistics			
A.	**Nature and Extent of Insecurity**	**1**	**2**	**3**	**4**	**N**	**M**	**SD**	**Decision**
1.	Insecurity-related violence frequently disrupts teaching activities.	7	4	32	23	66	2.94	1.01	Agree
2.	Many schools have experienced closures due to security threats.	5	11	16	34	66	2.56	0.88	Agree
3.	Teachers and pupils often feel unsafe within the school environment.	17	8	22	19	66	3.18	1.11	Agree
4.	Incidents of kidnapping and banditry have led to destruction of school property.	9	13	19	25	66	2.76	1.07	Agree
5.	The level of insecurity has increased over the past three years, affecting school operations.	6	12	17	31	66	3.23	1.05	Agree
	Overall Mean						**2.93**	**1.02**	

Acceptance criterion mean ≥ 2.5

Analysis from Table 6 above revealed that the mean response of the respondents were in agreement with all the five (5) items on the nature and extent of insecurity affecting primary schools in Jibia Local Government Area. The mean ranged from M = 2.56, SD = 0.88 to M = 3.23, SD = 1.02 and the overall mean of M = 2.93, SD 1.02 show that insecurity reaches its highest peak affecting primary in the village areas. This implies that insecurity led to temporary closure of schools due absence of strong school system in Jibia LGA pending restoration of normalcy since 2018 till date as school community feel unsafe.

Research Question Two: How does insecurity impact pupils' attendance and participation in Social Studies classes?

Table 7: Impact of Insecurity on Pupils' Attendance and Participation

S/N	Item	Scales (1-4)				Statistics			
B.	**Impact on Pupils' Attendance and Participation**	**1**	**2**	**3**	**4**	**N**	**M**	**SD**	**Decision**
6.	Many pupils regularly miss classes because of insecurity fears or incidents.	4	1	24	37	66	3.18	0.98	Agree
7.	Pupils' participation in Social Studies lessons has decreased due to safety concerns.	2	3	19	42	66	2.98	0.98	Agree
8.	Insecurity has led to a decline in school attendance, especially during certain times of the year.	5	2	12	47	66	3.06	1.19	Agree
9.	Pupils are less engaged in classroom activities because of trauma caused by insecurity.	2	7	21	36	66	2.95	1.09	Agree
10.	Teachers find it difficult to maintain regular schedules because of security threats.	8	5	27	26	66	2.94	1.01	Agree
	Overall Mean						**3.02**	**1.05**	

Acceptance criterion mean ≥ 2.5

Analysis from Table 7 above revealed that the mean response of the respondents were in agreement with all the five (5) items on the impact pupils' attendance and participation in Social Studies classes. The mean ranged from M = 2.94, SD = 1.01 to M = 3.18, SD = 0.98 and the overall mean of M = 3.02, SD 1.05 show that insecurity has negative impact on pupils' attendance and participation in Social Studies classes due to temporary closure of most primary schools situated in the rural areas. This implies that insecurity has negative impact pupils' attendance and participation in Social Studies classes as most residents displaced to IDP camps in Jibia town for asylum.

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Research Question Three: In what ways does insecurity influence the academic performance of pupils in Social Studies?

Table 8: Influence of Insecurity on Pupils Academic Performance in Social Studies

S/N	Item	Scales (1-4)				Statistics			
C.	**Influence on Academic Performance**	**1**	**2**	**3**	**4**	**N**	**M**	**SD**	**Decision**
11.	Pupils' academic performance in Social Studies has declined due to insecurity.	3	9	38	16	66	2.98	1.07	Agree
12.	Loss of instructional time affects pupils' understanding of Social Studies.	4	2	26	34	66	3.14	0.80	Agree
13.	Pupils show less interest in Civic Education after exposure to insecurity.	13	7	29	17	66	3.26	0.85	Agree
14.	Insecurity has increased dropout rates among pupils.	5	11	19	31	66	3.00	1.07	Agree
15.	Psychological effects of insecurity hinder pupils' focus during lessons.	2	6	26	32	66	2.95	1.18	Agree
	Overall Mean						**3.07**	**0.99**	

Acceptance criterion mean ≥ 2.5

Analysis from Table 8 above revealed that the mean response of the respondents were in agreement with all the five (5) items on the insecurity influence the academic performance of pupils in Social Studies. The mean ranged from M = 2.95, SD = 1.18 to M = 3.26, SD = 0.85 and the overall mean of M = 3.07, SD 0.99 show that insecurity reaches its highest peak affecting primary in the village areas. This implies that insecurity has serious influenced the pupils' academic performance of in Social Studies in Jibia LGA.

Research Question Four: What coping strategies are adopted by Social Studies teachers in response to insecurity-related challenges?

Table 9: Coping Strategies by Social Studies Teachers

S/N	Item	Scales (1-4)				Statistics			
D.	**Coping Strategies by Teachers**	**1**	**2**	**3**	**4**	**N**	**M**	**SD**	**Decision**
16.	Teachers employ creative methods to cope with irregular school sessions.	2	10	17	37	66	3.21	0.85	Agree
17.	Teachers hold classes in safer, alternative locations when schools are threatened.	8	5	18	35	66	3.14	0.94	Agree
18.	Teachers collaborate with community leaders to improve school safety.	16	11	20	19	66	2.91	1.15	Agree
19.	Teachers provide psychological support to affected pupils.	6	9	25	26	66	3.06	1.02	Agree
20.	Teachers use peer support groups to help pupils deal with trauma.	15	3	15	33	66	3.15	1.04	Agree
	Overall Mean						**3.09**	**1.00**	

Acceptance criterion mean ≥ 2.5

Analysis from Table 9 above revealed that the mean response of the respondents were in agreement with all the five (5) items on the coping strategies are adopted by Social Studies teachers in response to insecurity-related challenges. The mean ranged from M = 2.91, SD = 1.15 to M = 3.21, SD = 0.85 and the overall mean of M = 3.09, SD 1.00 show that insecurity reaches its highest peak affecting primary in the village areas. This implies that Social Studies teachers are doing their best practice of coping strategies in response to insecurity-related challenges in Jibia LGEA.

Research Question Five: What roles do government, community and stakeholders play in mitigating the effects of insecurity on Social Studies education?

Table 10: Roles of Stakeholders in mitigating the effects of insecurity

S/N	Item	Scales (1-4)				Statistics			
E.	**Roles of Stakeholders**	**1**	**2**	**3**	**4**	**N**	**M**	**SD**	**Decision**

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21.	The government has provided security personnel for schools in Jibia.	3	1	17	45	66	2.98	0.97	Agree
22.	Community leaders are actively involved in safeguarding schools.	13	17	21	15	66	3.02	1.05	Agree
23.	Local authorities communicate regularly about security measures affecting schools.	15	4	16	31	66	2.97	0.99	Agree
24.	Stakeholders have implemented programs to support pupils' psychological wellbeing.	8	15	27	16	66	3.02	0.97	Agree
25.	Collaboration within government and community stakeholders has improved school safety.	9	2	29	26	66	3.05	1.09	Agree
	Overall Mean						**3.01**	**1.01**	

Acceptance criterion mean ≥ 2.5

Analysis from Table 10 above revealed that the mean response of the respondents were in agreement with all the five (5) items on the roles of government, community and stakeholders in mitigating the effects of insecurity on Social Studies education. The mean ranged from M = 2.56, SD = 0.88 to M = 3.23, SD = 1.02 and the overall mean of M = 2.93, SD 1.02 show that insecurity reaches its highest peak affecting primary in the village areas. This implies that the government, community and stakeholders collaborate in synergy by deploying security corpse toward mitigating the menace of insecurity on Social Studies education in the 10 frontline LGAs with particular reference to Jibia LGA which is more susceptible to perennial insecurity due to its location along the border of Zamfara State and Nigeria-Niger international boundary.

Discussion of Findings

The persistent insecurity in Jibia Local Government Area (LGA) has had profound implications on the educational system within the region. The reviewed studies collectively highlight several critical dimensions of this impact, emphasizing the need for targeted interventions and collaborative efforts to mitigate these challenges. Below are the five major findings derived from the literature, accompanied by an in-depth discussion of each. Research question one on the insecurity significantly disrupts educational access and infrastructure. The evidence indicates that insecurity in Jibia LGA has led to widespread destruction of school infrastructure, displacement of pupils and teachers, and the closure of many primary schools (Fahad & Ijeoma, 2023; Yusuf & Mohammed, 2021). These disruptions create formidable barriers to accessing quality education, as many pupils are compelled to stay at home or drop out due to safety concerns. The destruction of classrooms and learning materials hampers effective teaching and learning, undermining efforts toward sustainable educational development. Displacement further exacerbates these issues, causing breaks in educational continuity that negatively affect pupils' academic progression and future prospects. The long-term implications extend beyond individual learners, threatening community development and social stability. Addressing infrastructural damage and ensuring safe access to schools are urgent priorities for policymakers and development partners.

Research question two on the pupils' attendance and participation are deeply affected by security threats. Frequent threats of violence, including kidnapping and attacks, have led to high absenteeism and diminished participation in classroom activities, particularly in Social Studies classes vital for fostering civic responsibility (Abubakar & Umar, 2017; Musa & Ojo, 2018). The pervasive environment of fear and trauma significantly hampers pupils' willingness and ability to attend school consistently. Psychological distress resulting from insecurity reduces engagement and limits opportunities for social and civic skill development. This disruption jeopardizes immediate educational outcomes and hampers the development of responsible citizens capable of contributing to societal stability. The persistent absenteeism and disengagement underscore the critical need to prioritize security measures that can restore pupils' confidence and motivation to learn.

Research question three on the insecurity negatively impacts pupils' academic performance. The collective influence of insecurity manifests in declining academic performance across the region, particularly reflected in standardized assessments in Social Studies (Akinola & Adeoye, 2021; Nwankwo & Obi, 2025). Disruptions to instruction, trauma among pupils, and damage to educational infrastructure contribute to lower cognitive engagement and learning outcomes. Teachers

face difficulties in delivering effective lessons amid insecurity, leading to knowledge gaps and reduced skill acquisition. Furthermore, the emotional toll of insecurity diminishes pupils' capacity to focus and learn, which can have enduring effects on literacy, numeracy, and civic education. These declines threaten the long-term development of a competent and informed citizenry, emphasizing the necessity of creating secure learning environments to sustain educational quality and promote human capital growth.

Research question four on the teachers employ adaptive strategies to mitigate security challenges. Despite these formidable challenges, teachers in Jibia LGA have demonstrated resilience by adopting various adaptive strategies to ensure instructional continuity (Yahaya & Adebisi, 2019; Fahad & Ijeoma, 2023). Such strategies include rescheduling lessons to safer times, leveraging mobile communication tools for coordination, and collaborating with local security agencies and community members to enhance safety during school hours. While these measures have helped sustain some level of educational activity, they are often insufficient in the absence of systemic support. The proactive efforts of teachers highlight the importance of institutional support and comprehensive security frameworks that can facilitate safer and more consistent teaching and learning experiences.

Research question five on the multi-stakeholder collaboration is crucial for mitigating insecurity's impact on education. The literature emphasizes that overcoming the multifaceted challenges posed by insecurity requires coordinated efforts among various stakeholders, including government agencies, local communities, NGOs, and international organizations (Garba & Yusuf, 2018; Musa & Sani, 2020). Initiatives such as the Safe Schools Program, community policing, and socio-economic development projects have shown promise in creating safer learning environments and restoring access to education. Such collaboration is essential to develop holistic security strategies, provide psychosocial support to pupils and teachers, and rebuild educational infrastructure. The collective efforts of multiple actors are vital to ensuring that education remains a priority despite ongoing security challenges, ultimately contributing to long-term peace and development in the region. Teachers express the need for more support and security assurances.

Conclusion

Insecurity in Jibia significantly affects social studies education by disrupting teaching schedules, reducing student participation, and causing trauma. Addressing these challenges requires a multi-faceted approach involving security, community participation, and psychosocial support.

Recommendations

1. The Government and education stakeholders should enhance security measures in and around schools to address the nature and extent of insecurity affecting primary schools.
2. Social Studies teachers should implement flexible learning schedules and alternative learning platforms to mitigate the impact of insecurity on pupils' attendance and participation.
3. The Government and education stakeholders should integrate psycho-social support and security awareness into the curriculum to improve pupils' academic performance amidst insecurity, teachers should be trained to incorporate psychosocial support into their teaching.
4. The Government and NGOs should provide capacity building and resources for teachers on coping strategies that empower Social Studies teachers.
5. The Government and NGOs should strengthen collaboration within government, communities, and other stakeholders to effectively mitigate insecurity's effects.

References

Abdullahi, M., & Musa, A. (2020). Security challenges and their implications on sustainable development in Katsina State, Nigeria. *Journal of Security Studies*, 15(2), 50-65.

Abubakar, I., & Bala, S. (2021). Impact of insecurity on educational development in Nigeria: Challenges and prospects. Journal of Nigerian Education Studies, 15(2), 45-60.

Abubakar, S., & Umar, R. (2017). Insecurity and student attendance in Northern Nigeria. *Journal of Educational Psychology*, 4(1), 34-47.

Adebayo, A. & Ojo, O. (2021). Community resilience and local responses to insecurity in Northwestern Nigeria. *African Journal of Peace and Security*, 12(3), 112-130.

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Adeniyi, O. & Balogun, O. (2018). Assessing the Impact of Rural Insecurity on Primary Education in Northern Nigeria. Journal of Rural Development, 45(2), 150-165.

Adewale, K., & Olamide, J. (2020). Effects of insecurity on parental school enrollment in Nigeria. *Journal of Parental Engagement*, 5(1), 56-70.

Adeyemi, O., & Ojo, O. (2018). Effects of insecurity on students' engagement in classroom activities. *International Journal of Education and Development*, 22(4), 250-265.

Ahmed, B., & Olamide, V. (2022). Role of government and stakeholders in restoring security in Northern Nigeria. *African Journal of Education and Security*, 9(1), 50-65.

Akinboye, A., & Ojo, O. (2018). Social studies education in Nigeria: Challenges and prospects. Journal of Social Studies Education, 9(2), 89-105.

Akinola, O. (2019). Impact of insurgency and banditry on school attendance in Northern Nigeria. *Journal of Education and Conflict Studies*, 12(3), 45-60.

Akinola, S. & Adeoye, J. (2021). Correlation Between Insecurity and Academic Achievement in Northern Nigeria. International Journal of Educational Development, 50, 102-113.

Akinsanya, O. S., & Oladipo, O. (2019). Resilience and coping strategies among internally displaced children in Nigeria. *Journal of Conflict and Education*, 4(2), 65-80.

Amuta, S., & Obi, C. (2023). Effects of banditry on school attendance and social studies education in Kaduna State. African Journal of Educational Research, 22(4), 112-130.

Becker, G. S. (1964). *Human capital: A theoretical and empirical analysis, with special reference to education*. Columbia University Press.

Bello, S. (2020). Education Disruptions in Conflict Zones: A Case Study of Northern Nigeria. *Nigerian Journal of Educational Research*, 8(2), 102-118.

Bronfenbrenner, U. (1979). The *ecology of human development: Experiments by nature and design*. Harvard University Press.

Chukwu, B., & Obi, P. (2022). Teacher perceptions of insecurity and instructional quality in Nigeria. *Journal of Educational Assessment*, 16(2), 45-60.

Dikko, A., & Yusuf, M. (2019). Impact of violence on learning outcomes in primary education. *Nigerian Journal of Educational Research*, 9(2), 78-92.

Eze, C., & Nwankwo, B. (2020). Effects of violence on students' academic performance in Nigeria. *Nigerian Journal of Educational Psychology*, 15(4), 78-92.

Fahad, M., & Ijeoma, C. (2023). Innovative teaching methods adopted by teachers facing insecurity challenges. *Journal of Innovative Education*, 11(2), 75-89.

Garba, M., & Yusuf, R. (2024). Social studies curriculum adaptation in conflict zones. *Curriculum Development Review*, 22(1), 50-65.

Garba, N., & Yusuf, A. (2018). Stakeholder collaboration in addressing school insecurity. *International Journal of Educational Policy*, 5(4), 210-225.

Ibrahim, R. (2022). Insecurity and teacher motivation: A case study in Katsina State. *Nigerian Journal of Teacher Education*, 7(2), 89-104.

Kano, M., & Mukhtar, H. (2024). Security challenges and educational outcomes in Northern Nigeria. Journal of Peace and Conflict Studies, 29(1), 34-50.

Kano, S., & Salisu, D. (2025). Insecurity and its effect on social cohesion and education in Nigeria. *Nigerian Journal of Social Studies*, 19(3), 301-317.

Masten, A. S. (2014). *Ordinary magic: Resilience in development*. Guilford Publications.

Mohammed, L., & Yusuf, A., (2021). Insecurity and school closure: A case study of Northern Nigeria. *Journal of Educational Security*, 12(1), 45-58.

Musa, T., & Ojo, S. (2018). Security challenges and their impact on primary school attendance in Nigeria. *Journal of Rural Education Research*, 10(1), 34-49.

Musa, T., & Sani, S., (202). Community participation and school safety in northern Nigeria. Journal of Community Development, 15(2), 89-104.

Mustapha, A. & Tijani, A. (2020). Impact of Insecurity on Pupils' Learning in Northern Nigeria. Educational Review, 72(6), 721-736.

Nigerian Ministry of Education. (2022). Annual report on the state of education in Nigeria. Abuja: Nigerian Ministry of Education.

Nwachukwu, C., & Osagie, E. (2020). Insecurity and School Closure: A Case Study of Northern Nigeria. Journal of Educational Security, 12(1), 45-58.

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Nwankwo, V., & Obi, E. (2025). Insecurity's effect on pupils' academic achievement in Northern Nigeria. *Education and Society*, 8(1), 50-65.

Nwosu, C., & Ogunleye, P. (2026). The long-term effects of insecurity on pupils' academic achievement in basic education. *Journal of Education Policy*, 12(1), 33-50.

UNESCO. (2018). Education in emergencies: Ensuring learning continuity in conflict-affected regions. UNESCO Publishing. https://unesdoc.unesco.org/ark:/48223/pf0000265406

UNESCO. (2020). *Nigeria Education in Crisis: Impact of conflict on schooling*. UNESCO Report. https://unesdoc.unesco.org/ark:/48223/pf0000372905

Vanguard. (2020). *Katsina abduction: Over 300 schoolboys kidnapped in Kankara*. Vanguard Newspaper. https://www.vanguardngr.com/2020/12/katsina-abduction-over-300-schoolboys-kidnapped-in-kankara/

Yahaya, S., & Adebisi, O. (2019). Adaptive strategies of teachers in insecure environments. *International Journal of Educational Practice*, 7(1), 44-58.

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Abstract

Keywords: *Artificial Intelligence, Instructional Strategies, Adaptive Learning, Social Studies Curriculum, Academic Achievement*

Introduction

The growth of Artificial Intelligence (AI) has absolutely modified the worldwide education system, initiating novel opportunities for educational planning, teaching methods, and learner involvement. AI-driven instructional tools, comprising computer-based educational systems, digital educational systems, machine learning analytics, and text analysis tools, are progressively incorporated into teaching and learning amidst disciplines (UNESCO, 2023). Aforementioned inventions promote individualized educational experiences, promote immediate response, and uphold data-driven instructional system. In Social Studies education, specifically at the lower secondary education classes, AI has the prospective to transform conventional instructional strategy. As a study developed to cultivate civic competence, social duty, and analytical reasoning, Social Studies gains from innovations that promote experiential education, investigative teaching, and factual troubleshooting. AI devices can generate context-aware learning resources, gamified experiences, and thoughtful response systems that matches with the subject's multidisciplinary and ever-changing quality (Salami & Alabi, 2022; Mushtaq & Alhassan, 2023). In spite of its revolutionary plausible, AI usage in Nigerian classrooms encounter fundamental hurdles, such as poor infrastructure, limited high-tech proficiency among the teachers, and discrepancy amidst AI devices and national curriculum aims, goals and the objectives. Okonkwo and Eze (2021) find that, despite that Nigeria's educational policies progressively embrace innovations, real-world difficulties specifically in public junior secondary schools impede significant AI incorporation. Aina and Bello (2020) additionally emphasize the need for targeted educator practices and sustained principles to increase the advantages of recent instructional technologies. In Osun State, these wide national difficulties exist, generating AI integration into Social Studies education mostly experimental. While teachers and decision-makers are displaying booming attentiveness in exploiting AI for curriculum improvement, experiential investigations on its true effect remains minimal. As Oyeleke and Ajani (2023) accent, the affluent incorporation of AI into school curricula demands further approach to high-tech devices; it requires deliberate intellectual arrangement, functioning educator engagement, and consistent blueprint structures. Consequently, this study aims to explore AI-driven instructional strategies for effective Social Studies curriculum delivery in junior secondary schools in Osun State. By bridging the gap between technological advancements and pedagogical relevance, the research aims to generate evidence-based insights that can inform educational practice and policy development in Nigeria.

Statement of the Problem

This study target to investigate the effect of AI-driven teaching strategies on Social Studies curriculum implementation and learners' academic achievement in lower secondary schools in Osun State. In spite the growing universal accent on incorporating Artificial Intelligence (AI) into teaching, its application remains cursory. The underlining challenges were discovered in the research: (i) Implementation of AI-driven teaching strategies in Social Studies education rest to be restricted and infrequently used in the lower secondary schools in Osun state. (ii.) Dependence on traditional approaches incapacitate effective instructional delivery and limits learners' capability to use classroom experience to factual-world societal problems. (iii.) Poor facilities, inadequate tutors training, and a dearth of arrangement amidst AI devices and educational objectives greatly affect successful AI usage in classrooms. Identifying these worries, there is an emergent demand to examine whether AI-driven teaching strategies can improve learners' academic achievement and enhance curriculum efficacy in Social Studies education.

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Aim and Objectives of the Study

The aim of this study was to harness AI-driven instructional strategies for effective Social Studies curriculum delivery at the junior secondary schools in Osun State. Thus, Specific Objectives were:

1. To determine the influence of artificial intelligence devices on learners' academic achievement in Social Studies at the junior secondary school level in Osun State.
2. To evaluate the effect of AI-driven teaching strategies and the successful delivery of Social Studies curriculum in junior secondary schools in Osun State.

Research Hypotheses

1. There will be no significant relationship between the use of AI-driven devices and learners' academic achievement in Social Studies at the junior secondary school level in Osun State.
2. There will be no significant effect of AI-driven teaching strategies and the successful delivery of Social Studies curriculum in junior secondary schools in Osun State.

Literature Review

Concept of Artificial Intelligence (AI) in Education

Artificial Intelligence (AI) refers to the capacity of digital systems to perform tasks that typically require human intelligence, including reasoning, learning, problem-solving, and decision-making. In education, AI encompasses adaptive learning platforms, intelligent tutoring systems, learning analytics, chatbots, virtual reality (VR), augmented reality (AR), and automated assessment tools (UNESCO, 2023). These technologies support personalized instruction, automated feedback, and efficient classroom management. AI has evolved from simple programmed drills to advanced systems capable of diagnosing learners' strengths and weaknesses, predicting learning patterns, and adjusting instruction accordingly. Modern educational systems now incorporate machine learning models that track student performance and recommend individualized learning paths (Mushtaq & Alhassan, 2023). Thus, AI is no longer an optional instructional enhancement but a major driver of 21st-century pedagogy. Artificial Intelligence (AI) refers to the development of computer-based systems capable of performing tasks that typically require human intelligence. These tasks include reasoning, natural language processing, problem-solving, decision-making, pattern recognition, adaptability, and learning (UNESCO, 2023). AI systems mimic cognitive functions of the human brain, enabling machines to behave intelligently in dynamic situations.

Concept of AI-Driven Instructional Strategies

AI-driven instructional strategies refer to innovative pedagogical approaches in which artificial intelligence tools and computational algorithms enhance, guide, or support the teaching–learning process. These strategies rely on machine learning, natural language processing, neural networks, and data analytics to create more personalized learning environments. AI not only automates routine instructional tasks but also improves instructional delivery, assessment, differentiation, and learner support. It allows the teacher to shift from a traditional "knowledge dispenser" to a facilitator of learning while empowering students with enriched, flexible, and interactive experiences. AI-driven strategies emphasize personalized learning, precision teaching, real-time feedback, and learner autonomy. They help address individual differences among learners and provide continuous monitoring of learning progress, which is especially beneficial in Social Studies, a subject that requires inquiry, analysis, critical thinking, and appreciation of diverse perspectives.

Adaptive Learning Systems

These systems examine learners' performance patterns using intelligent algorithms and automatically adjust the complexity, pacing, and type of instructional materials. The system identifies students' strengths and weaknesses and provides customized exercises, remediation, enrichment, or revision. Adaptive learning reduces learning anxiety and ensures each learner progresses at an optimal pace (Adebayo & Ogundele, 2021).

Intelligent Tutoring Systems (ITS)

ITS simulate human tutoring by providing step-by-step guidance, hinting, questioning, and corrective feedback. They diagnose misconceptions and support reflective thinking. In Social Studies, ITS can help students understand complex issues such as governance structures, cultural interactions, and environmental problems by breaking down concepts into manageable parts.

Automated Feedback Tools

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AI systems instantly evaluate students' written responses, quizzes, and assignments, offering immediate and constructive feedback. Automated feedback enhances mastery learning by enabling students to revise errors quickly. It also reduces the teacher's workload and ensures continuous assessment.

Gamification Platforms

AI-powered gamification makes learning more engaging by integrating challenge levels, scoring systems, leaderboards, and story-based learning tasks. AI adjusts the level of difficulty based on learner responses, ensuring that students remain motivated and challenged. Gamified Social Studies activities—such as virtual civic elections, debates, or history quests promote interaction and deepen understanding.

Virtual and Augmented Reality (VR/AR)

AI-enhanced VR/AR create immersive learning environments where students explore historical sites, cultural festivals, community structures, and global issues. These simulations help learners construct concrete meaning from abstract concepts, making Social Studies more practical and engaging.

Chatbots and Virtual Assistants

AI-powered chatbots provide on-demand tutoring, answer students' questions instantly, and guide them through tasks. They support learning continuity beyond classroom hours and help students clarify doubts without intimidation.

Overall Benefit

These strategies build learner confidence, promote self-directed learning, enhance critical thinking, and make Social Studies content more relatable through interactive and real-life experiences. AI thus serves as both a teaching aid and a learning enhancer.

Concept of Social Studies Curriculum

The Social Studies curriculum at the Junior Secondary School level in Nigeria is designed to nurture well-informed, responsible, and socially competent individuals who can contribute positively to national development. It develops learners' understanding of their social world, civic responsibilities, cultural identities, and the dynamics of human interaction within society. The curriculum is interdisciplinary, drawing from history, geography, political science, anthropology, sociology, and economics to foster holistic civic and social awareness. Social Studies aims to help learners acquire knowledge, attitudes, values, and practical skills needed to function effectively as citizens. It also emphasizes character development, environmental awareness, decision-making, and problem-solving. Core Emphases of the Curriculum are;

National Values

The curriculum focuses on patriotism, unity, democratic values, respect for elders, diligence, and responsible citizenship. Students are trained to appreciate Nigeria's heritage and uphold values that promote peaceful coexistence.

Social Environment

Learners explore their immediate and wider environment—family, school, community, and nation. The curriculum teaches the roles of social institutions, relationships, cooperation, and conflict within society.

Cultural Diversity

Nigeria's multicultural nature is highlighted to promote mutual respect, tolerance, cultural awareness, and empathy. Learners recognize the uniqueness of different ethnic groups while understanding the importance of national integration.

Human Rights and Responsibilities

The curriculum develops learners' understanding of the constitution, rights, civic duties, and moral responsibilities, preparing them for participatory citizenship.

Economic and Political Systems

Learners examine economic problems, government structures, leadership roles, elections, rule of law, and national development issues.

How AI Aligns with the Social Studies Curriculum

AI supports the curriculum's goals by providing interactive multimedia content, simulations of civic processes, virtual field trips, case studies, and data-driven exploration of social issues. These make abstract concepts more concrete and enable inquiry-based learning, critical reasoning, and collaborative problem-solving.

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Theoretical Review

Constructivist Learning Theory

Constructivism posits that learners build knowledge through active engagement and experiences. AI tools such as VR simulations, digital mapping, and intelligent tutoring systems foster experiential learning, enabling learners to construct meaning through interaction. For instance, AI-supported platforms can help students explore civic issues, historical events, and environmental concepts in interactive formats. This enhances their cognitive engagement and promotes deeper understanding. Constructivism argues that learners actively construct meaning through experiences, exploration, and interaction with their environment. AI tools such as intelligent tutoring systems, virtual simulations, and digital mapping applications support constructivist learning by enabling students to explore real-life situations and social phenomena independently. Through these technologies, learners analyze social problems, manipulate digital models, and reflect on outcomes, leading to deeper cognitive engagement and long-term retention.

Connectivism Theory

Connectivism views learning as a process of forming networks and connecting digital resources, people, and information sources. AI technologies enable learners to access vast interactive networks multimedia content, online collaborative tools, and global knowledge databases. In Social Studies, this enhances cultural understanding, global citizenship, and digital literacy. Connectivism emphasizes learning through digital connections, networks, and information flows. AI enhances connectivist learning by linking learners to vast online resources, global learning communities, and intelligent systems that curate information. In Social Studies, AI helps learners explore global cultures, civic processes, and international relations, thereby strengthening global citizenship, digital literacy, and intercultural competence.

Technological Pedagogical Content Knowledge (TPACK) Framework

The TPACK framework describes how teachers integrate technology, pedagogy, and content effectively. AI-driven strategies fall within the technological domain but require pedagogical adaptation. Teachers need sufficient training to align AI resources with Social Studies content and instructional goals for meaningful learning outcomes. The TPACK framework highlights the need for teachers to integrate technology, pedagogy, and content knowledge in a balanced manner. AI-driven tools fall under the technological dimension, but effective use requires strong pedagogical understanding. Social Studies teachers must ensure that AI tools support inquiry, critical thinking, and value formation. Proper alignment of content (What to teach), pedagogy (How to teach), and technology (AI tools) ensures meaningful learning experiences and improved learning outcomes.

Empirical Review

Studies globally and nationally reveal positive correlations between AI implementation and academic achievement. According to Eze and Olatunji (2024), AI enhances academic performance by promoting individualized learning and quick feedback. In Social Studies, AI tools can help simplify complex geographical, historical, and civic concepts through interactive maps, simulations, and visualizations. Adeniran and Ajayi (2023) noted that AI applications improved students' cognitive and affective learning outcomes because learners receive immediate guidance, targeted feedback, and differentiated content suited to their learning pace. Similarly, Olowu and Yusuf (2022) found that AI tools significantly enhanced academic performance in civic and social studies because they promote engagement and deeper conceptual understanding. Ogundele and Adebayo (2023) found that the integration of AI improves teaching efficiency, promotes learner interaction, and supports inquiry-based learning. In Social Studies, AI helps teachers create dynamic learning environments using simulations, digitized case studies, and project-based tasks. Okoye and Adewale (2022) reported that AI fosters active learning by allowing students to explore societal issues through digitized narratives and civic simulations. However, Moyo and Mavhunga (2022) warn that many AI tools designed in Western contexts must be localized to align with African socio-cultural realities. Salami & Alabi (2022) reported that AI-enabled civic education tools improved students' participation and understanding of national issues. Iroegbu & Chukwu (2023) found that AI-driven teaching models significantly enhance civic reasoning and responsibility among secondary school learners. Adebayo & Ogundele (2021) showed that AI tools provided opportunities for differentiated instruction in large classrooms, reducing teacher workload. Across multiple studies, the consensus is that AI serves as a transformative instructional innovation however, its success depends on contextual factors such as teacher readiness, infrastructure, and policy support.

Summary of Literature Review

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The literature establishes that AI has transformative potential in enhancing Social Studies teaching, learning, and curriculum delivery. AI-driven instructional strategies adaptive learning, intelligent tutoring, gamification, VR/AR significantly improve academic performance and deepen understanding of civic and social issues. However, challenges such as inadequate resources, low teacher digital competence, and curriculum-policy gaps hinder effective integration in Nigerian schools. The literature also reveals a gap: limited empirical studies specifically focusing on AI-driven instructional strategies for Social Studies curriculum delivery in Osun State junior secondary schools. This gap justifies the current study and demonstrates its academic and practical relevance.

Research Methodology

This research adopted a descriptive survey research type, selected for its potential to aid data gathering, analysis, and interpretation from a sample population to report the relationship between AI-driven teaching strategies and the successful delivery of Social Studies curriculum in junior secondary schools. The population comprised all Social Studies educators in junior secondary schools in the three educational districts of Osun State. To ascertain satisfactory representation, a sample size of 300 respondents, comprising both male and female tutors from both public and private schools, were chosen for the study. Stratified sampling procedure was used to guide against been bias and to ascertain a multiple choice of participants covering different educational levels. The main instrument used for data collection was a self-structured questionnaire titled AI and Social Studies Instructional Delivery Questionnaire (AISSIDQ). The questionnaire is of two sections: **Section A** seek for demographic data. **Section B** included 15 items designed to measure perceptions of AI's impact on academic performance, curriculum delivery, and teaching-learning processes, using a 4-point Likert scale (Strongly Agree, Agree, Strongly Disagree, and Disagree). To ensure the validity of the instrument, three experts in Social Studies Education, Educational Technology, and Test and Measurement reviewed and validated the questionnaire for face and content accuracy. The reliability of the instrument was established through the test-retest method, yielding a reliability coefficient of 0.82, indicating a high level of internal consistency. The distribution of the questionnaire was done by the researcher with the help of two research assistants. Respondents were given enough time to answer the questionnaire, and ethical deliberations such as conscious assent and reticence were completely stick to. The data analysis was carried out with the use of both descriptive and inferential statistics, with an independent sample, t-test was used to test the research hypotheses at 0.05 level of significance.

Presentation of Results

Table 1: **t-test Analysis on the influence of AI-Driven Tools and Students' Academic Performance**

Variable	Value
Population Size (N)	300
Sample Proportion (p)	0.65
Hypothesized Proportion (p_o)	0.50
Standard Error (SE)	0.02887
t-calculated	5.20
Degree of Freedom (df)	299
Critical t-value	1.96
Decision	Reject H_0

Table 1 shows that the t-calculated value of 5.20 is more than the critical t-value of 1.96 at the 0.05 level of significance, resulting to the rejection of the null hypothesis. This affirm that the use of AI-driven devices significantly influences learners' academic achievement in Social Studies. When efficiently incorporated into teaching and learning, AI-based devices can promote learners' involvement and learning output.

Table 2: t-test Analysis of the Impact of AI-Driven Instructional Strategies and Curriculum Effectiveness

Variable	Value
Population Size (N)	300
Sample Proportion (p)	0.57

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Hypothesized Proportion (p_o)	150
Standard Deviation	25.10
t-calculated	14.49
Degree of Freedom (df)	299
Critical t-value	8.37
Decision	Reject H_0

Table 2 demonstrates that the t-calculated value of 14.49 is more than the critical t-value of 8.37 at the 0.05 level of significance, resulting to the rejection of the second null hypothesis. This finding shows that AI-driven teaching strategies significantly improve the efficiency of Social Studies curriculum in junior secondary schools. Appropriately utilized AI devices can enhance educational delivery, involve learners in participatory learning, and aids in-depth understanding of Social Studies concepts.

Discussion of Findings

The result of this research agree with both worldwide and national trends that identifies the evolutionary effect of AI in learning. UNESCO (2023) stressed that AI inventions are progressively employed to individualize learning, supply thoughtful teaching, and enhance inclusive education, especially in Social Studies. AI-driven devices, such as digital realities and chatbots, promote learners' involvement by allowing interactive investigations of ancient events, civic duties, and cultural changes (Okoye & Adewale, 2022). Furthermore, AI promotes access to different content design, like as visual recording, infographics, and case studies, catering to diverse learning techniques. Nevertheless, productive AI incorporation in Nigerian schools rely on infrastructure preparedness, educators training, and curriculum arrangement (Nwachukwu & Olayemi, 2024). Addressing these elements is important for complete exploiting AI's possibilities. In Nigeria, studies have showed AI's productive effect on teaching delivery and reflective reasoning development. Adebayo and Ogundele (2021) identify AI's functions in adjustable evaluation systems and AI-driven learning platforms, which assist educators address difficulties linked with huge class sizes and little resources. Furthermore, Iroegbu and Chukwu (2023) maintain that AI promotes students' freedom and involvement, mostly in subjects like Social Studies that demands rational reasoning. Olowu and Yusuf (2022) affirm that AI-driven devices remarkably enhance learners' performance when they coincide with instructional objectives and are administered through online learning platforms. Additionally, Adeniran and Ajayi (2023) noted that AI-driven digital experience, chatbots, and exhortation mode assist learners examine difficult issues, evolve autonomous reasoning, and enhances their Social Studies achievement. In spite these achievements, Nwosu and Afolayan (2023) caution that AI's successiveness in learning lies on effective educator training, infrastructural facilities, and virtuous considerations as regards data privacy and bias. Findings by Aina and Iroko (2023) showed that AI application in Nigerian classrooms remains restricted due to infrastructure problems, deficient teacher readiness, and frail curriculum incorporation. These scholars indicate that AI can only promote learning when tactically prepared to supplement pedagogical goals. Given that Social Studies improves reflective reasoning, debate, and socio-cultural contexts, AI devices must be circumstantially significant and conformed to uphold these curriculum objectives. Successful AI incorporation needs more than hyper tech visibility; it requires thorough educator training and instructional redesign. Aside these essential supports, AI embracement may be seems promising but refuse to promote consequential instructional enhancements. Ogundele and Adebayo (2023) affirm that many Nigerian educators' dearth digital skills, which results to inadequate use or improper use of AI devices, reducing their effect on teaching quality. Furthermore, Moyo and Mavhunga (2022) mention the difficulty of circumstances contradict in African classrooms, emphasizing that most AI packages are developed in Western world and may not agree with local cultural, linguistic, or curricular situations. This differences often resolve in little effect on teaching productiveness in Nigerian schools. Therefore, while AI shows enormous prospect for education, its productive implementation lies on deliberate planning, capacity development, and curriculum-meaningful innovative design. The results of this study strengthen the reasons for deliberate and well-designed incorporation of AI devices to promote Social Studies curriculum delivery and overall teaching successfulness in Nigerian junior secondary schools.

Conclusion

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This study investigates the potential of AI-driven teaching strategies in enhancing Social Studies curriculum delivery in junior secondary schools in Osun State. The results identify AI's competency to individualize learning, enhance involvement, and strengthen adaptive teaching methodologies. Nevertheless, its effect remains inhibited by problems such as lack of infrastructure, inadequate educator training, and weak agreement with national curriculum objectives. As a result, in spite AI's promising significant, its incorporation into Social Studies education is still weak and pathless. Additionally, the study shows that educators and learners persistently depend on conventional teaching methods, inhibiting AI's capabilities to transform classroom interactions. Tackling infrastructure inadequacies, promoting teacher readiness, and enabling curriculum agreement are important moves to loosening AI's complete possibilities in Social Studies education. While AI holds important promise for improving teaching successfulness, its fortunate acceptance requires intentional, planned attempt from decision makers and teachers to produce viable and effective AI-enhanced learning environments.

Recommendations

Based on the results of this study, various key recommendations are made to increase the incorporation of AI-driven teaching strategies in Social Studies education:

1. Firstly, constant expertize development programs should be encouraged to provide educators with both technological and pedagogical skills for AI incorporation. Training should centre not only on the application of AI devices but also on their effective integration into Social Studies instruction to enhance academic achievement and instructional delivery.
2. Secondly, schools in Osun State must be furnished with important technical resources, including modern computers, trusted internet access, and AI-compatible software. Increasing infrastructure will provide a suitable environment for the effective implementation of AI-driven instructional strategies.
3. Also, the national curriculum should be appraised and revised, when needed, to guarantee AI-driven teaching strategies agreed with the instructional objectives. This will enable AI devices to maintain important Social Studies goals, such as enhancing civic responsibility, social awareness, and reflective thinking.
4. Additionally, decision makers, teachers, local communities, and hyper-tech inventors must corporate to ensure AI devices are attainable and contextually meaningful. Strengthening involvement will enhance a shared understanding of AI's advantages and difficulties, supporting its successful implementation in Nigerian schools.
5. Finally, additional findings should investigate the long-term effect of AI incorporation in Social Studies education, especially its impacts on learner involvement, academic performance, and civic knowledge. Studies should also direct on highlighting the impediments of AI acceptance and procedures to overcome them.

By executing these recommendations, Osun State can foster a technologically inclusive learning environment, enabling both teachers and learners to fully leverage the benefits of AI in promoting Social Studies teaching and learning.

References

Adebayo, S. A., & Ogundele, B. A. (2021). Artificial Intelligence and Instructional Delivery in Nigerian Secondary Schools: Opportunities and Challenges. *Nigerian Journal of Educational Technology,* 16(2), 45-56.

Adeniran, B. T., & Ajayi, O. A. (2023). The Effectiveness of Artificial Intelligence Tools in Enhancing Students' Learning Outcomes in Social Studies. *Nigerian Journal of Educational Media and Technology,* 17(1), 45-58.

Aina, S. O., & Iroko, F. J. (2023). Adoption of Artificial Intelligence Tools in Nigerian Public Secondary Schools: Challenges and Opportunities. *Journal of Educational Innovation in Africa,* 6(2), 55–72.

CenturyTech. (2022). Personalised learning powered by AI. Century Intelligent Learning Systems.

Eze, C. A., & Olatunji, M. A. (2024). AI Integration in Nigerian Junior Secondary Schools: Prospects and Limitations for Academic Achievement. *Journal of African Educational Research*, 12(2), 67-80.

Iroegbu, V. E., & Chukwu, I. C. (2023). AI-Driven Teaching Models and Their Impact on Civic Education in Nigeria. *African Journal of Social Science Education,* 5(1), 78-92.

Khan Academy. (2021). AI and adaptive learning support for teachers. Khan Academy Reports.

Moyo, T., & Mavhunga, E. (2022). Localizing Artificial Intelligence in African Education: A Critical Examination. *African Journal of ICT in Education*, 4(1), 33–47.

Mushtaq, H., & Alhassan, A. (2023). Artificial intelligence in African education: Opportunities and challenges. *Journal of Emerging Learning Technologies,* 6(1), 102–118.

Nwachukwu, C. J., & Olayemi, A. A. (2024). Repositioning Nigerian education for the fourth industrial revolution: The role of AI in social studies teaching. *Journal of Educational Innovations in Africa,* 8(1), 20-35.

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Nwosu, D. I., & Afolayan, K. O. (2023). Ethical considerations in the use of AI for education in Nigeria. *West African Journal of Digital Education*, 6(1), 34-49.

Ogundele, M. O., & Adebayo, R. A. (2023). AI integration in Nigerian secondary schools: Between Innovation and Implementation. *Nigerian Journal of Digital Learning,* 9(1), 25–39.

Okonkwo, U. C., & Eze, C. O. (2021). AI integration and digital pedagogy in Nigerian secondary schools: A policy-practice mismatch. *African Educational Research Journal,* 9(3), 130–138.

Okoye, O. M., & Adewale, T. J. (2022). Leveraging Artificial Intelligence for social studies instruction in the digital age. *West African Journal of Curriculum and Instruction,* 9(1), 65-79.

Olowu, M. O., & Yusuf, A. A. (2022). Artificial Intelligence and academic performance in civic and social studies. *Journal of Emerging Trends in Educational Research and Policy Studies,* 13(4), 201-213.

Oyeleke, A. A., & Ajani, K. T. (2023). Innovative pedagogies and the future of teaching in Nigerian secondary schools: AI in focus. *Journal of Education and Society,* 14(1), 89–105.

Salami, M. A., & Alabi, B. O. (2022). Adopting AI tools for civic education in Nigerian junior secondary schools. *Ilorin Journal of Curriculum and Instruction*, 11(2), 53–67.

UNESCO. (2023). AI and education: guidance for policymakers. Paris: United Nations Educational, Scientific and Cultural Organization.

Wang, Z., & Li, H. (2020). Artificial intelligence and student engagement in social science classrooms. International Journal of Digital Pedagogy, 15(4), 112–130.

Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education. International Journal of Educational Technology in Higher Education, 16(39), 1–27.

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Effects of Blended and Collaborative Instructional Strategies on Academic Performance in Economics among Public University Undergraduate Students in Borno State, Nigeria

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Abstract
This study investigated the effect of blended and collaborative learning instruction on the academic performance of undergraduate Economics students in universities in Borno State, Nigeria. A quasi-experimental pre-test–post-test control group design was adopted. The population comprised of 672 Level III economics students across four universities, from which a sample of 120 students was purposively selected. Intact classes were maintained to preserve institutional structures. The Economics Academic Performance Test (EAPT), validated by experts and pilot-tested (r = .74), was used for data collection. Hypothesis one was tested using a paired-samples t-test, while Hypothesis two was analysed using an independent-samples t-test. Findings revealed a statistically significant improvement in academic performance among students exposed to blended learning from pre-test to post-test. However, no statistically significant difference was found between students taught using blended learning and those taught using collaborative learning. The study concluded that both instructional strategies are effective in enhancing academic performance and therefore, recommended the integration of blended and collaborative learning strategies in economics instruction in Nigerian universities.

Keywords: Blended learning, Collaborative learning, Academic performance, Economics.

Introduction
Transformation of higher education through digital technologies has significantly reshaped instructional delivery worldwide. The integration of technology into teaching has led to innovative pedagogical models, particularly blended learning, which combines face-to-face instruction with online learning components. According to Hrastinski (2019), blended learning represents a purposeful integration of online and traditional learning activities to maximise learning outcomes. Blended learning enhances flexibility, accessibility, and learner engagement through digital platforms such as Moodle Learning Management Systems (LMS), enabling students to access materials, participate in discussions, and receive feedback beyond classroom boundaries. Empirical studies (e.g., Porter et al., 2014; Vallée et al., 2020) indicate that blended learning improves academic performance by promoting active engagement and self-regulated learning. Further empirical evidence supports the effectiveness of blended learning across educational contexts. In Nigeria, Bulus and Bwari (2023) examined the impact of blended learning on the achievement and interest of senior secondary school students in economics and found that students exposed to a WhatsApp-supported blended approach performed significantly better than those taught using conventional methods. Similarly, Bupo and Ibeneme (2020) reported that Moodle-based blended learning significantly improved both academic achievement and retention among undergraduate business education students, with evidence of sustained learning gains through delayed post-testing. Internationally, Kiviniemi (2014) found that blended learning enhanced students' performance and satisfaction in a graduate-level public health course in the United States, while Vallée et al. (2020) reported improved performance among medical residents in France following the adoption of blended learning strategies. Likewise, Mersal and Mersal (2014) demonstrated that nursing students taught using blended learning outperformed those taught through traditional methods. However, Li et al. (2014) reported no significant improvement in academic performance among nursing students after adopting blended learning, attributing the outcome partly to students' resistance to online components. These mixed findings suggest that the effectiveness of blended learning depends on contextual factors, instructional design, learner support, and engagement strategies.

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Parallel to blended learning is collaborative learning, a student-centred approach in which learners work in groups to solve problems and construct knowledge collectively. Grounded in social constructivist principles, collaborative learning emphasises peer interaction, shared reasoning, scaffolding, and collective knowledge construction. Dindar, Järvelä, and Järvenoja (2020) reported in *computers and education* that collaborative engagement enhances metacognitive awareness and academic performance. Supporting this view, Chak and Fung (2015) found that participation in online quizzes within a blended learning environment significantly improved undergraduate students' performance in cost and management accounting in Malaysia. In Nigeria, Chukwuka and Pius (2024) reported a significant positive relationship between collaborative learning styles and academic performance among business education students. Further evidence from Sun et al. (2025) showed that students engaged in computer-supported collaborative learning (CSCL), whether online or face-to-face, achieved comparable levels of conceptual understanding, highlighting the importance of structured interaction and learner engagement. Similarly, collaborative learning has been shown to promote cognitive growth and meaningful learning through shared reasoning and peer explanation (Chak & Fung, 2015; Zheng et al., 2025).

Academic performance remains a central indicator of instructional effectiveness. It is typically measured through grades, test scores, and standardised assessments. According to Schunk and Greene (2018), academic performance reflects the extent to which students demonstrate understanding and mastery of academic content. In economics education, performance extends beyond the mere recall of theoretical concepts to include analytical reasoning, quantitative problem-solving, and the practical application of economic principles such as demand and supply analysis, price elasticity, and equilibrium determination. Empirical evidence indicates that blended learning positively influences academic performance by providing diverse instructional materials, fostering interactive learning experiences, and enabling timely feedback (Adedoyin & Soykan, 2020; Ameloot & Schellens, 2018). Undergraduate Economics students in universities across Borno State have continued to record unsatisfactory academic performance. In most institutions, economics is typically taught using the traditional classroom approach, where lecturers present learning materials during face-to-face sessions and students participate by asking questions and engaging in limited classroom activities. However, traditional lecture-based teaching methods often restrict active student engagement and limit the practical application of economic principles. Over the years, students' performance in economics has consistently remained below average (Obuikwu, Obiukwu, & Amanze, 2024; Yunisa, Oha, & Iweho, 2024). Although blended learning and collaborative learning are widely recommended as student-centred instructional approaches capable of enhancing engagement, motivation, and deeper understanding, empirical evidence regarding their comparative effectiveness in economics instruction within universities in Borno State remains limited. This situation underscores the need to investigate whether blended learning significantly improves academic performance, motivation, and retention in economics, and whether it performs better than collaborative learning within the context of universities in Borno State, Nigeria. While some studies suggest that blended learning may produce superior academic outcomes (Kiviniemi, 2014; Mersal & Mersal, 2014; Vallée et al., 2020), others report inconclusive results (Li et al., 2014). Similarly, collaborative learning has demonstrated positive associations with academic performance (Chukwuka & Pius, 2024; Sun et al., 2025), yet few studies have directly compared it with structured blended learning models within the same disciplinary and regional context. Studies combining blended and collaborative learning approaches suggest even stronger outcomes. Yapici (2016) found that a blended cooperative learning environment significantly improved students' academic achievement and satisfaction, while Malsakpak and Pourteimour (2024) demonstrated that e-learning integrated with collaborative learning strategies led to greater gains in academic self-efficacy than lecture-based blended learning alone. These findings indicate that integrating collaborative structures within technology-mediated environments may enhance both cognitive and affective learning outcomes.

Despite the growing body of international and national evidence, there remains limited context-specific empirical research comparing blended learning instruction and collaborative learning instruction in undergraduate economics programmes within universities in Borno State, Nigeria. Addressing this gap is essential for informing pedagogical practice, institutional policy, and instructional innovation in Nigerian higher education. Therefore, this study investigates the effects of blended and collaborative learning instruction on the academic performance of undergraduate economics students in universities in Borno State, Nigeria, to determine which instructional approach yields superior learning outcomes within this context.

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Objectives of the Study

1. To determine the effect of blended learning instruction on students' academic performance before and after treatment in universities in Borno State.
2. To compare the academic performance of students taught using blended learning and collaborative learning instruction in universities in Borno State.

Hypotheses

Ho_1: There is no significant effect of blended learning instruction on students' academic performance before and after treatment in universities in Borno State.

Ho_2: There is no significant difference in academic performance between students taught using blended learning and those taught using collaborative learning instruction in universities in Borno State.

Research Methodology

A quasi-experimental pre-test–post-test control group design was employed. Intact classes were assigned to experimental and control groups to minimise disruption. The experiment design pattern is shown in Figure 1. In the pattern below:

Figure 1: Representation of the Study Design

Group	Pre-test	Treatment	Post-test
EG	O_1	X_1	O_2
CG	O_1	X_O	O_2

Keys: EG = Experimental group, O_1 = Pre-test, O_2 = Post-test, X_1= Blended Learning Instruction (BLI), (CLI), X_O= Collaborative Learning Instruction.

The target population comprised 672 Level III economics students across four universities in Borno State. A purposive sample of 120 students from three universities was selected. Two universities formed the experimental group (n = 98), while one university served as the control group (n = 22). The Economics Academic Performance Test (EAPT), consisting of 60 multiple-choice items, was used. The instrument was validated by experts and pilot-tested, yielding a reliability coefficient of r = 0.74 (test–retest method). The treatment lasted four weeks. The experimental group received instruction through blended learning using Moodle, while the control group received face-to-face collaborative learning instruction. Pre-tests and post-tests were administered to both groups. Hypothesis one was tested using a paired-samples t-test, while hypothesis two was analysed using an independent-samples t-test. at $\alpha = 0.05$.

Presentation of Results

Hypothesis one was tested using paired sample t-tests, while Hypothesis two used independent samples t-tests. All null hypotheses were tested at the 0.05 level of significance.

Hypothesis One: There is no significant effect of blended learning instruction on the academic performance of undergraduate economics students in universities in Borno State.

To test this hypothesis, a paired sample t-test was used to determine the difference between pre-test and post-test scores administered to students. The summary of the result is presented in Table 1:

Table 1: Summary of t-test results of the Mean Difference between pre-test and Post-test Performance of Students Exposed to Blended Learning Instruction in Universities in Borno State.

Test Phase	N	df	Mean	SD	t	p-value	Decision
Pre-Test	98		33.98	13.06			
		194			-17.42	0.000	Significant
Post-Test	98		52.18	13.36			

Source: Field Work (2025) Level of Significance $\alpha \leq 0.05$

Table 1 presents the results of the t-test examining the significant difference between pre-test and post-test performance of students exposed to blended learning instruction. The analysis showed t (194) = -17.42, p = 0.000, which is statistically significant. Thus, the null hypothesis stating that there is no significant effect of blended learning instruction on the academic performance of undergraduate economics students in universities in Borno State is rejected. The results indicate

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a significant improvement in academic performance following blended learning instruction, with mean scores increasing from 33.98 (pre-test) to 52.18 (post-test). Therefore, the null hypothesis of no significant effect is rejected, confirming that blended learning positively impacted students' academic performance.

Hypothesis Two: There is no significant difference in the academic performance of students taught Economics using blended learning instruction and those taught using collaborative learning instruction.

To test this hypothesis, an independent samples t-test was used to determine the difference between post-test scores of students in blended learning and collaborative learning groups. The summary of the result is presented in Table 2.

Table 2: Summary of Independent Sample t-test Results of Mean Difference Comparing the Academic Performance of Students taught Economics using Blended Learning and Collaborative Learning Instructions

Instruction	N	df	Mean	SD	*t*	p-value	Decision
Blended Learning	98		52.18	13.36			
		118			-2.35	0.175	Not Significant
Collaborative Learning	22		55.55	5.08			

Source: Field Work (2025) Level of Significance $\alpha \geq 0.05$

Table 2 presents the results of the independent-samples t-test comparing the academic performance of undergraduate economics students taught using blended learning and collaborative learning. The analysis yielded a p-value of 0.175, which exceeds the 0.05 level of significance, indicating no statistically significant difference between the two groups. Although the collaborative learning group recorded a slightly higher mean score (Mean = 55.55) than the blended learning group (Mean = 52.18), the difference was not significant. Consequently, the null hypothesis is retained, suggesting that both instructional strategies were comparably effective in improving students' academic performance in economics.

Summary of Findings

The Findings of the Study are Summarised as Follows:

1. There was a statistically significant difference in the pre- and post-test performance of participants exposed to blended-learning instruction across universities in Borno State.
2. There was no statistically significant difference in academic performance between students taught using blended learning instruction and those taught using collaborative learning instruction in universities in Borno State.

Discussion of Findings

The first finding of the study revealed that undergraduate economics students taught using blended learning (BL) instruction in universities in Borno State achieved higher mean scores in the post-test compared to the pre-test. Based on this result, the null hypothesis stating no significant effect of blended learning on students' academic performance was rejected. This suggests that blended learning created a flexible, engaging, and technology-enhanced environment that improved students' understanding and academic achievement in economics. These findings align with those of Bulus and Bwari (2023), Kiviniemi (2014), and Chak and Fung (2015), who reported that blended learning significantly enhanced academic performance. While Chak and Fung (2015) discovered that students" performance improved significantly in the online quiz model, Kiviniemi (2014) study showed that students indicated more interest in the blended learning class and as such their participation was higher. Similarly, Bupo and Ibeneme (2020) found that Moodle-based blended learning improved undergraduate students' achievement. However, the result of this study contrasts with the findings of Li, Tsai, Tao, and Lorentz (2014**),** who reported no significant improvement in the academic performance of undergraduate nursing students after the introduction of blended learning. Their participants initially resisted the online components and required additional interventions, such as pop quizzes, to remain engaged. The disparity with the present study suggests that the success of blended learning depends heavily on instructional design quality, technological readiness, learner support, and the relevance of digital activities. The present study's structured use of Moodle, clear learning materials, and supportive blended strategies may have contributed to better performance outcomes.

The second finding of the study revealed that although undergraduate economics students taught using Collaborative Learning (CLI) obtained slightly higher mean scores than those taught using Blended Learning (BLI), the difference in their academic performance was not statistically significant. Consequently, the null hypothesis stating that there is no significant difference in the academic performance of students exposed to blended learning instruction and those exposed to collaborative learning instruction was retained. This indicates that both instructional approaches, technology-enhanced

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blended learning delivered through LMS Moodle and face-to-face collaborative learning anchored on peer interaction, were equally effective in improving students' academic achievement in economics. The result further suggests that collaborative learning instruction, even without digital tools, can produce academic gains comparable to blended learning instruction, which integrates online resources, multimedia content, and LMS-driven activities. This outcome aligns with several empirical studies that highlight the academic effectiveness of both blended and collaborative learning environments. For example, Bulus and Bwari (2023) found that blended learning significantly enhanced secondary school students' achievement and interest in economics when deployed through WhatsApp as a virtual learning platform. Similarly, Bupo and Ibeneme (2020) reported that Moodle-based blended learning improved students' achievement and retention in university-level financial accounting. Kiviniemi (2014) also demonstrated that blended learning increased graduate students' performance and classroom engagement in public health courses, while Mersal and Mersal (2014) showed that nursing students taught using blended learning outperformed those taught through traditional methods.

However, the result of this study contrasts with the findings of Li, Tsai, Tao, and Lorentz (2014)**,** who reported no significant improvement in the academic performance of undergraduate nursing students after the introduction of blended learning. Collectively, these studies reinforce the conclusion that blended learning can enhance cognitive outcomes when well implemented. In parallel, several studies substantiate the effectiveness of collaborative learning in promoting academic achievement. Chukwuka and Pius (2024) found that collaborative learning styles positively correlate with higher academic performance among business education students, emphasizing the importance of interaction, shared explanation, and peer-supported problem-solving. Similarly, Sun, Looi, Yang, and Jia (2025) established that students engaged in computer-supported collaborative learning achieved comparable conceptual understanding in both online and face-to-face settings, demonstrating the robustness of collaboration-driven instructional models. These findings underscore the value of social interaction, co-construction of knowledge, and dialogical reasoning in enhancing students' learning outcomes. The present study's findings also resonate with those of Yapici (2016), who employed a blended cooperative learning environment in Biology and reported significant improvements in students' academic achievement, satisfaction, and sense of classroom community. Both studies share a reliance on structured, student-centered pedagogies that emphasize active engagement and collaboration, although Yapici blended cooperative learning with online instruction, whereas the present study comparatively examined blended learning instruction and collaborative learning instruction as distinct strategies. This positions the present study as an important contribution, offering clarity on the comparative effectiveness of blended learning instruction and collaborative learning instruction in a different disciplinary and cultural context. Furthermore, the findings correspond with the quasi-experimental research conducted by Malsakpak and Pourteimour (2024) among nursing undergraduates in Iran. Their study compared e-learning combined with collaborative learning (EL+CL) and e-learning combined with lecture-based teaching (EL+LBT), revealing that the EL+CL group achieved significantly higher improvements in academic self-efficacy. Overall, the evidence suggests that both blended learning and collaborative learning are strong pedagogical approaches capable of boosting students' academic performance. Blended learning supports flexible access to materials, multimedia content, and self-paced engagement, which foster deeper understanding and learner autonomy (Li *et al.*, 2014; Vallée *et al.*, 2020). Conversely, collaborative learning enhances peer interaction, shared reasoning, and collective knowledge construction, all of which promote cognitive growth and meaningful learning (Chak & Fung, 2015; Zheng *et al.*, 2025). The absence of a significant difference between blended learning instruction and collaborative learning instruction in this study underscores that both strategies are equally viable for enhancing academic achievement in economics. Therefore, instructors may adopt either method depending on institutional resources, course demands, and learner needs while still achieving effective learning outcomes. This reinforces the broader conclusion that well-designed student-centred instructional approaches, whether technology-based or peer-driven, can produce comparable and effective results in higher education.

Conclusion

Blended learning significantly improved students' academic performance. However, no significant difference was found between blended and collaborative learning approaches. Both instructional strategies are effective for teaching undergraduate economics in Borno State universities.

Recommendations

1. Universities in Borno State should adopt blended learning instruction in economics courses, as it significantly improves students' academic performance from pre-test to post-test.
2. Universities should integrate both blended and collaborative learning instructional strategies in teaching Economics, since both approaches are equally effective in enhancing students' academic performance.

References

Adedoyin, O. B., & Soykan, E. (2020). COVID-19 pandemic and online learning: The challenges and opportunities. *Interactive Learning Environments*. Advance online publication. https://doi.org/10.1080/10494820.2020.1813180

Ameloot, K., & Schellens, T. (2018). The impact of blended learning on student performance: A meta-analysis. *Educational Research Review, 24*, 1–12. https://doi.org/10.1016/j.edurev.2018.02.001

Bulus, C. H., & Bwari, E. S. Effects of blended learning approach on senior secondary students' interest and achievement in economics in Bauchi Local Government Area, Nigeria. *International Journal of Education and Evaluation* (IJEE) E-ISSN 2489-0073 P-ISSN 2695-1940. 9 (9) 2023. DOI: 10.56201/ijee.v9.no9.2023.pg186.195

Bupo, G. O., & Ibeneme, O. T. (2020). Effect of blended learning approach on business education students' academic achievement in financial accounting in universities in rivers state, Nigeria. Journal of the Nigerian Academy of Education, 16(1). file:///C:/Users/hp/Downloads/1451-2121-1-PB% 20(1).pdf

Chak, S. C., & Fung, H. (2015). Exploring the effectiveness of blended learning in cost and management accounting: An empirical study. In S. K. S. Cheung *et al*. (Eds.), *New media, knowledge practices and multiliteracies* (pp. 189–203). Springer. https://doi.org/10.1007/978-981-287-209-8 15.

Chukwuka, G. K., & Pius, E. G. (2024). Collaborative/competitive learning styles and students' academic performance in cost accounting in federal universities in South-south, Nigeria. *Journal of Social, Humanity, and Education*, *4*(3), 169-180. DOI: 10.35912/jshe.v4i3.1689

Dindar, M., Järvelä, S., & Järvenoja, H. (2020). Interplay of metacognitive experiences and performance in collaborative problem solving. *Computers & Education, 154*, 103922. https://doi.org/10.1016/j.compedu.2020.103922

Hrastinski, S. (2019). What do we mean by blended learning? *TechTrends, 63*(5), 564–569. https://doi.org/10.1007/s11528-019-00375-5

Kiviniemi, M. T. (2014). Effects of a blended learning approach on students' learning outcomes in a graduate-level public health course. *BMC Medical Education, 14*, 47. https://doi.org/10.1186/1472-6920-14-47

Li, Z., Tsai, M.-H., Tao, J., & Lorentz, C. (2014). Switching to blended learning: The impact on students' academic performance. *Journal of Nursing Education and Practice, 4*(3), 245–252. https://doi.org/10.5430/jnep.v4n3p245

Malsakpak, M. H., & Pourteimour, S. (2024). Comparison of the effects of e-learning blended with collaborative learning and lecture-based teaching approaches on academic self-efficacy among undergraduate nursing students: A quasi-experimental study. *Journal of Advances in Medical Education & Professionalism, 12*(2), 102–110.

Mersal, F. A., & Mersal, N. A. (2014). Effect of blended learning on newly nursing students' outcomes regarding new trends in nursing subject at Ain Shams University. *American Journal of Educational Research, 2*(11), 1036–1043. https://doi.org/10.12691/education-2-11-4

Obuikwu, E. J., Obiukwu, C. C., & Amanze, R. J. (2024). Economics teaching strategies in Nigerian universities. *Journal of Educational Practice, 15*(2), 45–58.

Porter, W. W., Graham, C. R., Spring, K. A., & Welch, K. R. (2014). Blended learning in higher education: Institutional adoption and implementation. *Computers & Education, 75*, 185–195. https://doi.org/10.1016/j.compedu.2014.02.011

Schunk, D. H., & Greene, J. A. (2018). Handbook of self-regulation of learning and performance. Routledge. ttps://doi.org/10.30935/cet.471019.

Sun, D., Looi, C. K., Yang, Y., & Jia, F. (2025). Exploring students' learning performance in a computer-supported collaborative learning environment during and after the pandemic: Cognition and interaction. *British Journal of Educational Technology, 56*(1), 128–149.

Vallée, A., Blacher, J., Cariou, A., & Sorbets, E. (2020). Blended learning compared to traditional learning in medical education: Systematic review and meta-analysis. *Journal of Medical Internet Research, 22*(8), e16504. https://doi.org/10.2196/16504

Yapici, İ. Ü. (2016). Effectiveness of blended cooperative learning environment in biology teaching: Classroom community sense, academic achievement and satisfaction. *Journal of Education and Training Studies, 4*(4), 269–278. https://doi.org/10.11114/jets.v4i4.1372

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Yunisa, A., Oha, C., & Iweho, O. (2024). Factors influencing the low performance of economics education students in econometrics in Federal University of Kashere, Gombe State. *International Journal of Economics Education Research (IJEER)*, *7*(1), 71–174.

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Qualitative Study on Resource Availability and Instructional Performance in Social Studies among Colleges of Education Lecturers in Lagos State, Nigeria

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Abstract
This paper presented a situational analysis of resource availability and social studies lecturers' instructional performance in colleges of education in Lagos State, Nigeria. This was done by systematically reviewing various peer reviewed articles, policy documents and literatures related to the subject area. The literature review probed into the level of lecturers' instructional performance, resource availability and extent of the influence of resource availability on lecturers' instructional performance so as to make informed conclusion on the subject area. The research findings showed that social studies lecturers' instructional performance in some colleges of education in Lagos State, Nigeria is low to average. Also, the resource availability is low and this negatively influence social studies lecturers' instructional performance in the colleges of education in Lagos State, Nigeria. It was thus recommended based on the findings that Serious attention should be given to boosting social studies lecturers' instructional performance in the Nigerian colleges of education; and Federal and State Government ensure that material resources are available and accessible for use by the social studies lecturers for improved instructional performance.

Keywords: Social Studies, Instructional Performance, Resource Availability

Introduction
Social studies lecturers' instructional performance is very crucial for the overall attainment of the goals and objectives of colleges of education in Nigeria. Their performance is very vital especially because of the role that social studies as a subject play in helping students to comprehend how people are influenced by their surroundings and how they can address social issues in a bid to improving the quality of their lives. Social studies subject is so fundamental in that the subject helps to instill right attitudes, skills, and values in people with the sole aim of improving the society which makes lecturers' instructional performance in the subject to be worth looking into. Social studies lecturers' instructional work performance is viewed as how well they are able to deliver their social studies lessons, prepare social studies lesson notes, improvise and utilise teaching aids to teach social studies, monitor, and assess students' performance and provide feedback on students' progress in colleges of education (Akira, 2020). Although social studies lecturers' instructional performance is crucial for the betterment of society and achievement of the goals and objectives of colleges of education in Nigeria, there is however a growing concern on the low to moderate level of instructional performance among lecturers in Nigeria (Abiodun-Oyebanji, 2023; Aina & Akintunde, 2022; Ibikunle et al., 2024). Hence, this paper sought to examine whether the availability of resources is responsible for the observed low to moderate level of instructional work performance among social studies lecturers. Various studies carried out on resource availability and social studies lecturers' instructional performance have shown variances in results. A study has shown that inadequate resource availability has no significant effect on management for effective teaching process in colleges of education in Ogun State (Adediran et al., 2016). However, some scholarly works have shown that availability of material resources and non-material resources, positively and significantly predict lecturers' job commitment and pedagogical competences in colleges of education in Nigeria (Ibikunle et al., 2024; Okaforcha et al., 2025). This paper thus sought to comprehensively throw light on this interplay by examining the situation of lecturers' instructional performance, resource availability and influence of resource availability on lecturers' instructional performance using peer reviewed articles and various literatures.

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Statement of the Problem

The evidence based on literature showed that some social studies lecturers have low to moderate level of instructional performance in colleges of education in Lagos State, Nigeria. This low to moderate level of instructional performance poses danger to the fulfillment of colleges of education goals and objectives in the nation. In some colleges of education, teaching and learning resources appear to fall short of lecturers' expectations. Could learning resources be responsible for the observed low to moderate level of instructional performance among social studies lecturers? It is with this question in mind that this paper sought to examine the situation of lecturers' instructional performance, resource availability and influence of resource availability on lecturers' instructional performance using peer reviewed articles and various literatures so as to make informed conclusions on the subject matter.

Aim and Objectives

The aim of this research is a situational analysis of resource availability and social studies lecturers' instructional performance in colleges of education in Nigeria. The objectives were to examine the following:

i. Situational analysis of instructional performance among social studies lecturers in colleges of education in Lagos State, Nigeria;
ii. Situational analysis of the Availability of resource for teaching among social studies lecturers in colleges of education in Lagos State, Nigeria
iii. Extent of resource Availability on social studies lecturers' instructional performance in colleges of education in Lagos State, Nigeria.

Research Questions

This study attempted to examine the following questions based on the objectives:

i. What is the situation of instructional performance among social studies lecturers in colleges of education in Lagos State, Nigeria?
ii. What is situation of resource Availability for teaching among social studies lecturers in colleges of education in Lagos State, Nigeria?
iii. What is the extent of resource Availability on social studies lecturers' instructional performance in colleges of education in Lagos State, Nigeria?

Conceptual Clarifications

Social Studies in Colleges of Education

Social studies is a discipline that studies human beings with various capacities of his/her interaction with his/her fellow counterparts. Social studies is a programme of study which a society uses to instill in students or learners the knowledge, skills, attitudes, and actions it considers important in the relationships human beings have with each other, their world, and themselves. Social studies is an integrated field of study which probes man's symbiotic relationships with his/her environments, endows man with the reflective or contemplative capacities, intellectual, effective, social, and work skills, to enable him/her to understand his/her world and its problems, and to rationally solve or cope with them for effective living in the society (Okobia, 2023). Social Studies is capable of building solidarity, ginger integration and sense of togetherness among members of the society (Abdu-Raheem & Bamgbade, 2022). The curriculum of social studies emphasises positive attitudes and values as hard work, diligence, cooperation, participation, honesty and self-help. Social studies is a value-laden subject that has the capacity to build sound morals and integrity in all facets of the society (Egbule, 2020).

Social Studies Lecturers' Instructional Performance in Colleges of Education

Social studies lecturer instructional performance is defined as the performance of teaching tasks and rendering of expected teaching services by social studies lecturers. It has to with the abilities of social studies lecturers to fulfill their teaching related duties in the field of social studies (Amajuoyi, 2021). Social studies lecturers' instructional performance is the ability and effort of the lecturers to carry out teaching and learning tasks in social studies like planning teaching programs, implementing learning activities and evaluating learning outcomes. Social studies lecturers' instructional work performance indicates the level, manner, process, and commitment of the lecturers to their activities of teaching and/or instructional activities in social studies discipline in colleges of education (Ajetunmobi et al., 2020; Okeze, 2021).

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Social studies lecturers' work performance is also seen in their capability to show pertinent efforts in improving teaching-learning activities (Wula et al., 2020). It is seen in their teaching quality and ability to demonstrate sound professional teaching attributes in colleges of education (Agu & Okoli, 2021). Social studies lecturers' instructional performance is the extent to which the activities of social studies lecturers in terms of teaching yield effective and efficient outcomes. Effective instructional performance of social studies lecturers can be characterized with: punctuality and regularity to lessons, excellent lesson preparation, efficient classroom management skill, good knowledge of social studies subject, facilitating method of teaching social studies, constant use of teaching aids in teaching social studies, among others (Agu & Okoli, 2021; Okeze, 2021).

Resource Availability in Colleges of Education

Resource availability is a state of making provision for a satisfactory standard requirement in terms of teaching resources to enhance effective instructional activity in social studies in colleges of education. No meaningful learning will take place if such learning occurs in a situation devoid of relevant activities and concrete experiences (Umeozor & Omenyi, 2020). Resource availability means the degree to which these educational resources are readily provided, handy and utilized for social studies lecturers' job performance, effectiveness, commitment and satisfaction in the classroom delivery in college of education. The point which underpins resource availability is that social studies lecturers are able to have access to the required resources in the lecture room during instructional delivery of social studies (Onajite et al., 2023; Umeozor & Omenyi, 2020). Availability of physical educational resource means enabling access to authorized information or resources to those who need them for teaching and learning purposes in social studies classroom. Resource availability is the ability to make information and related physical resources accessible as needed, when they are needed, and where they are needed (Umeozor & Omenyi, 2020). Resource availability is the ability of social studies lecturers and students to access information or resources (facilities and teaching aids) in a specified location and in the correct format. Resource availability refers to services/resources that can be obtained in the discharge of certain function such as the teaching of social studies in colleges of education (Onajite et al., 2023; Umeozor & Omenyi, 2020).

Theoretical Underpinning

This research was hinged on "Resource Dependence Theory" which served as a guide.

Resource Dependence Theory (RDT) was propounded by Pfeffer and Salancik in 1978 (Pfeffer & Salancik, 1978). RDT is underpinned by the idea that resources are the key to organisational success and that access and control over resources is a basis of power. Power here means performance and functionality of an organisation such as colleges of education. Resource Dependence Theory (RDT) identified that the organisations depend on external resources for survival (Archibald, 2017; Celtekligil, 2020; Janse, 2023; Pfeffer & Salancik, 1978). And these external resources of organisations which are multidimensional like: labour, capital, raw materials affect the behaviour of the organisation and including workers output and performance in the organisation. Therefore, the procurement of external resources is an important tenet of both the strategic and tactical management of any organisation (Archibald, 2017; Celtekligil, 2020; Janse, 2023; Pfeffer & Salancik, 1978; Umeozor & Omenyi, 2020). Managers' careers thrive when customer demand expands. Thus, customers are the ultimate resource on which companies depend. This is similar to the school system, where students are the customers whom the school depends for survival. Effective services must be provided through resource availability and utilization for students' retention, effective instructional delivery and positive outcomes (Archibald, 2017; Janse, 2023; Pfeffer & Salancik, 1978; Umeozor & Omenyi, 2020). On this premise, the purpose of RDT is presenting a guide on how to design and manage organisations that are externally constrained. This is based on the basic assumption that an organisation, or more precisely a manager, tries to ensure the organisational survival which is determined by the organisational ability to acquire and maintain resources for better lecturers' work performance and invariably the academic performance of the students (Pfeffer & Salancik, 1978; 2003). The Resource Dependence Theory (RDT) renders support to the influence of resource availability on social studies lecturers' instructional performance. Achievement of goals, survival of any college of education including the social studies lecturers' instructional performance, is based upon availability of resources.

Research Findings

i. What is the situation of instructional performance among social studies lecturers in colleges of education in Lagos State, Nigeria?

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Findings from the descriptive statistics of a study showed a low level of educators' ICT skills and high level of pedagogical competencies of the social studies educators' information and communication in colleges of education, Southwest, Nigeria (Ibikunle et al., 2024) . It was observed in a research that Social Studies lecturers possess inadequate or low level of proficiency to effectively apply computer technology for instruction in their professional course. The research concluded that although social studies lecturers may be bold enough to prepare their lesson with the aid of using computer to teach in absolute terms, the study reported quite low level of proficiency in the use of computer for their instruction in colleges of education in the south west Nigeria (Adediran et al., 2016).

The evidence based on literature showed that most social studies lecturers lack commitment in colleges of education in south east, Nigeria as evidenced in several cases of heightened absenteeism, low morale, lack of interest in the teaching job, poor class attendance and other statutory demands such as preparation of lesson notes. This lack of commitment of lecturers is the biggest danger as it leads to absence of fulfillment of college goals and objectives and invariably has resulted in poor performance of students (Okaforcha et al., 2025). Idakwoji and Makolo (2022) in a study showed that social studies lecturers do not perform to the expected standards and neither do they seem to address the needs of students and other stakeholders. Their performance is still less satisfactory than the expected standards and consequences have been predictable as there are rising concerns over poor coverage of students' projects and course content, delayed examination results and missing marks, poor administration of examinations, poor lecturer-student interaction, deteriorating academic performance and reduced levels of research and publications quality and as a result, academic standards and performance among students are not encouraging. Arikewuyo (2024) observed and reported that a significant number of lecturers who teach social studies at Kwara State Colleges of Education lack sufficient academic and professional credentials. A research revealed that the administrative effectiveness of staff was high in various colleges of education in Delta State (Jessa & Obata, 2024). A research work showed that there is no appropriate quantity of lecturers that are highly qualified in both Federal and State Colleges of Education in Nigeria for the successful implementation of courses. This could be attributed to the fact that both Federal and State Colleges of Education management used the same academic qualification parameters for the appointment of lecturers (i.e. first degree in a teaching subject (B.Sc. (Ed.) or single honours in a teaching subject (B.Sc.) along with a Post Graduate Diploma in Education (PGDE) (Akanbi & Omosewo, 2014). A cursory look shows that some social studies lecturers in tertiary institutions including colleges of education in Ondo state do not show proper performance to academic work resulting in production of poor graduates without saleable skills. Some of these lecturers are said to lack the characteristics of highly performing and productive people in a society. As such, it seems that lecturers have been ineffective in instructional delivery in the institutions (Mezieobi et al. 2021). The findings of a research carried out in the year 2003 revealed that professional lecturers were more effective than their non-professional counterparts in areas of knowledge and presentation of subject matter, student-teacher relationship, evaluation and communication in five Colleges of Education in the Southern part of Ore country. However, non-professional lecturers were many in the colleges which could be a cause of serious concern (Uzoeshi, 2003). Perhaps, improvement may have been made in recent times.

Statistics showed that the social studies lecturers' communication was excellent (48.7%) and very good (33.1%), they had excellent subject mastery (47.3%) and classroom management (44.9%). This implies that the lecturers are very effective in discharging their academic responsibilities in the Colleges of Education, Southwest, Nigeria (Olufemi et al., 2018). A study showed that social studies lecturers in colleges of education in North east, Nigeria had moderate level of adequacy of content coverage in Social Studies, average level of questioning techniques, concluding techniques, evaluative techniques and overall instructional practices (Suleiman, 2024).

Empirical data showed that chalkboard is the only instructional technology that the social studies lecturers in colleges of education in Adamawa and Taraba States have very competent level in using while the rest of the technologies (overhead projector, instructional television, video machine, flip charts and computers and locally made resources), the lecturers are either competent or slightly competent in using them (Reuben et al., 2023). The findings of a study revealed that the level of lecturers' job performance in public Colleges of Education in Lagos State and Ogun State was at low extent (Olatoye et al., 2024). Statistics showed that 74.6% of lecturers in Kwara State Colleges of Education, Nigeria were of high performance, while 25.4% of the respondents were of low performance. This implied that lecturers are performing well in teaching and teaching innovations in Kwara State Colleges of education. It was a pointer to the fact that they are punctual at lectures, also they are using appropriate gadgets to aid lecturing (Taiwo, 2014).

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ii. What is situation of resource Availability for teaching among social studies lecturers in colleges of education in Lagos State, Nigeria?

Findings from the descriptive statistics of a study showed a high level of availability of facilities for social studies educators' information and communication in colleges of education, Southwest, Nigeria (Ibikunle et al., 2024). The results of a study showed that inadequacy of needed material and human resources for teaching and learning is still very common in most of the Federal colleges of education, Abeokuta, Ogun state. There are no adequate workshop, laboratories, libraries, instructional materials, conducive building, furniture, and etcetera, hardly could effective teaching and learning take place in such environment, this may be the reason why education standard in general and students' academic performance continue to decline in Nigerian colleges of education (Adediran et al., 2016). Findings on predictive value of material resources on social studies lecturers' job commitment in colleges of education in South East, Nigeria showed that there is a significant variation on lecturers' job commitment that was predicted positively by material resources in Colleges of Education in South East, Nigeria. The finding is as a result of the fact that the level of lecturers' job commitment in teaching various subjects in colleges is greatly dependent on the degree and extent of availability and utilization of up-to-date material resources which revolve around facilities, equipment and supplies like the physical plants, printed and non-printed materials (Okaforcha et al., 2025). A study concluded that educational facilities are available, adequate and properly utilised in all the Colleges of Education in Delta State (Akanbi & Omosewo, 2014). Statistics showed that the classrooms were inadequate (52.2%) but the available ones are functioning well (68.0%); Libraries were adequate (53.3%) and somehow functioning (45.3%), whereas laboratories were inadequate (59.5%) but functioning well (54.2%). In the same vein, water supply was inadequate (61.1%) but functioning well (50.2%), electricity was inadequate (69.5%) but functioning well (58.0%); playing ground was inadequate (60.2%) but functioning well (46.4%); staff offices were inadequate (58.6%) but functioning well (52.9%); and hostels were inadequate (59.4%) but functioning well (46.0%) in colleges of education, Southwest, Nigeria (Olufemi et al., 2018).

Empirical data on the availability of instructional technologies in Colleges of Education in Adamawa and Taraba States showed that chalkboard is very available in the schools while overhead projectors, flip charts and instructional television with video equipment are slightly available. However, computers and locally made resources are moderately available. The data indicated that instructional technologies in Colleges of Education in Adamawa and Taraba States are generally not widely available. While the chalkboard is very available, other technologies such as overhead projectors, flip charts, instructional television, computers, and locally made resources are only slightly to moderately available. This suggests a significant gap in the availability of modern instructional technologies necessary for effective teaching and learning (Olatoye et al., 2024). Media resources utilization is important for effective and efficient teaching in colleges of education in Nigeria but not all lecturers frequently utilize media resources in their teachings due to the unavailability and inaccessibility of some media resources in in Colleges of Education, South-West Nigeria (Babatunde, 2022). A research showed that greater number of colleges of education across the country are in deplorable conditions, with dilapidated structures, inadequate and poorly maintained facilities. The poor state of the schools is not only unpleasant but also detrimental to the effective teaching and learning process as well as the quality of education the students receive (Ezeaku & Uketui, 2024). It is evident that Nigeria's educational system such as colleges of education in Lagos state is faced with perennial challenges among which are shortage of teaching space/classrooms or lecture halls, and facilities and inadequate instructional aids among others (Ogunsola & Alade, 2016). Most of the available instructional facilities are grossly inadequate in most colleges of education in Delta state as required in the business education and social studies curriculum. This shows that the teaching of various courses are more of theoretical than practical since the instructional facilities that will be used for hands-on experience are not there for the business education students to use. Not even a single college of education out of the four colleges of education in Delta state had Digital libraries, Computer mediated conferencing, electronic notice board, and etcetera. And this revealed that the needed facilities in teaching and learning of courses in Delta state are grossly inadequate. However, the status of equipment in most of the colleges of education visited is appalling. Most of the colleges of education had no functional computers, television, photocopiers, and so on and forth. In some cases, where the equipments are available they are accumulating dust because of disuse (Amahi & Odigili, 2021).

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An empirical work showed that computers and internet services are available for use whereas projectors are not available in colleges of education in Anambra State (Asiegbu & Ezema, 2024). The findings of study revealed that ICT resources as stipulated by the benchmark of NCCE for business education programmes were not available in colleges of education in Delta State (Obi & Arhueremu, 2020).

iii. What is the extent of resource Availability on social studies lecturers' instructional performance in colleges of education in Lagos State, Nigeria?

Findings from the descriptive statistics of a study showed availability of facilities for social studies educators' information and communication significantly affected social studies lecturers' pedagogical competences and ICT skills in colleges of education, Southwest, Nigeria (Ibikunle et al., 2024). A study showed that inadequate resource availability has no significant effect on management for effective teaching process in colleges of education in Ogun State (Adediran et al., 2016). A research revealed that average availability of material resources and non-material resources, positively and significantly predicted lecturers' job commitment in colleges of education in south-east, Nigeria. The study concluded that learning resources had positive variation towards job lecturers' job commitment which invariably affects their performance in colleges of education in south east, Nigeria (Okaforcha et al., 2025). A research revealed a significant relationship between availability, adequacy, utilisation and administrative effectiveness in various Colleges of Education in Delta State (Akanbi & Omosewo, 2014). Empirical data revealed that there is high positive influence of physical facilities support and instructional materials on lecturers' job satisfaction in colleges of education in Anambra State. This implied that safety measures like fire alarms are installed to protect the campus community; adequate classroom spaces are provided to facilitate interactive learning experiences; well-equipped laboratories are provided to support practical training in various academic disciplines; libraries are stocked with a wide range of books, journals, digital resources to support research and self-study; and computer labs with up-to-date technology are provided for students to access online resources. Furthermore, sports facilities are provided to encourage physical fitness; adequate accommodation facilities are made available within the school premises; lecture halls are equipped with audiovisual facilities for large-scale presentations; health clinic is provided to offer medical services to school personnel; and adequate restrooms are provided for the convenience of all (Ogunsola & Alade, 2016). An empirical work showed that computers and internet services are available and significantly influence human resource management in colleges of education in Anambra State. However, projectors were not available and this unavailability also significantly affected lecturers' performance and human resource management in colleges of education in Anambra State (Asiegbu & Ezema, 2024).

Conclusion

A situational analysis of the extent of social studies lecturers' instructional performance, resource availability and influence of resource availability on lecturers' instructional performance showed that social studies lecturers' instructional performance in some colleges of education in Lagos State, Nigeria is low to average. Also, the resource availability is low and this negatively influence social studies lecturers' instructional performance in the colleges of education in Lagos State, Nigeria.

Recommendations

1. Serious attention should be given to boosting social studies lecturers' instructional performance in the Nigerian colleges of education; and
2. Federal and State Government ensure that material resources are available and accessible for use by the social studies lecturers for improved instructional performance.

Implications of the Study

The findings of this paper has serious implications for social studies lecturers, government and the school community. Low to moderate instructional performance if allowed to continue would definitely hinder or hamper the attainment of the goals and objectives of colleges of education in the nation which will ultimately affect the quality of social studies teachers for the nation's primary and secondary schools. Low to moderate instructional performance would also affect the level at which individuals are able to cope and solve social issues in the society. Inadequate resource availability would also be detrimental to the school community and lecturers' instructional performance. Hence, government and educational stakeholders need to ensure that resources are provided for better performance of the lecturers and students.

References

Abdu-Raheem, B. O. & Bamgbade, F. A. (2022). Social studies teachers' effectiveness as an essential factor towards building a new Nigeria. *Nigerian Journal of Social Studies, 25*(1), 1-15. https://www.njss.org.ng/publications

Abiodun-Oyebanji, O. J. (2023). Teamwork and lecturer research output in colleges of education in Southwestern Nigeria. *American International Journal of Business Management (AIJBM), 6*(9), 21-29. ISSN- 2379-106X

Adediran, A. A., Orukotan, A. F. & Olu-Obafemi, E. C. (2016). Lectures and students perception of resource availability and management for effective teaching process in colleges of education in Ogun State. *International Journal of Operational Research in Management, Social Sciences & Education, 2*(1), 160-166. Hard Print: 2536-6521 Online: 2536-653X

Agu, J. C. & Okoli, E. J. (2021). Principal's administrative strategies and teacher job performances in secondary schools in Onitsha North L.G.A. *International Journal of Innovative Psychology & Social Development, 9*(1), 52-63. ISSN: 2467-8546

Aina, J. K. & Akintunde, Z. T. (2022). Nigerian colleges of education: Issues, challenges and solutions. *African Journal of Humanities and Contemporary Education Research, 8*(1), 73–80. https://publications.afropolitanjournals.com/index.php/ajhcer/article/view/268

Ajetunmobi, F. G., Maruff, A. O. & Muhideen, A. O. (2020). Participatory management, professional development, and teachers' job performance in public secondary schools in Ogun State, Nigeria. *Journal of Learning for Development, 7*(2), 161-173. ISSN: 2311-1550

Akanbi, A. O. & Omosewo, E. O. (2014). Assessment of quantity and quality of lecturers for effective implementation of the Nigeria certificate in education physics curriculum. *Acta Scientiarum. Education, 36*(2), 317-321

Akira, P. (2020). *Teachers' Perception on Workload and Performance (A Case Study of Homeroom Teachers' at Primary Global Islamic School 2 Serpong)*. Unpublished Master Degree of Education (M.Pd.) Thesis, Faculty of Educational Sciences Syarif Hidayatullah State Islamic University Jakart. https://repository.uinjkt.ac.id/dspace/handle/123456789/51564

Amahi, F. U. & Odigili, B. C. (2021). Evaluating instructional facilities in the teaching and learning of business education courses. *Nigerian Journal of Business Education, 8*(1), 229-234. https://unidel.edu.ng

Amajuoyi, C. (2021). Influence of principal-teacher conflict on teacher job performance in Onitsha North LGA. *International Journal of Innovative Education Research, 9*(1), 20-32. ISSN: 2354-2942

Archibald, M. E. (2017). *Resource Dependency Theory*. *Available at* https://www.britannica.com/topic/resource-dependency-theory (Updated September 14, 2017)

Arikewuyo, A. K. (2024). Influence of lecturer qualities on business education students' academic performance in Kwara state Colleges of Education. *KWASU International Journal of Education (KIJE), 7*(1), 161-170. ISSN: 2384-6801

Asiegbu, E. C. & Ezema, C. G. (2024). Availability and extent of utilization of information and communications technology (ict) facilities for human resource management colleges of education in Anambra State, Nigeria. *Research Journal of Mass Communication and Information Technology, 10*(1), 1-23. E-ISSN 2545-529x, P-ISSN 2695-2475

Babatunde, O. O. (2022). A survey of media resources utilization by lecturers in colleges of education, South-West Nigeria. *Ghana Library Journal, 27*(1), 12-22

Celtekligil, K. (2020). Resource Dependence Theory. In: Dincer, H, Yüksel, S. (eds) *Strategic Outlook for Innovative Work Behaviours, Contributions to Management Science*, Springer, Cham: USA, 2020. https://doi.org/10.1007/978-3-030-50131-0_7

Egbule, P. O. (2020). Consolidation of democracy in Nigeria: A task before social studies. *Nigerian Journal of Social Studies, 23*(1), 1-17. https://www.njss.org.ng/vol_xxiii_apr_20.php

Ezeaku, S. N. & Uketui, A. K. (2024). Institutional support and communication as correlates of lecturers' job satisfaction in colleges of education in Anambra State. *International Journal of Innovative Education Research, 12*(4), 53-63. ISSN: 2354-2942

G. O., Ogunyemi, B. & Ifegbesan, A. P. (2024). Assessing professional competence of social studies teacher educators in colleges of education in Southwest, Nigeria. *Journal of African Social Studies (JASS), 5*(2), 196-213. https://jass.org.ng

Ibikunle, G. O., Ogunyemi, B. & Ifegbesan, A. P. (2024). Assessing professional competence of social studies teacher educators in colleges of education in Southwest, Nigeria. *Journal of African Social Studies (JASS), 5*(2), 196-213. https://jass.org.ng

Idakwoji, S. & Makolo, C. U-O. (2022). Impact of staff development programmes on performance of academic staff in colleges of education in North-Central geographical Zone, Nigeria. *Greener Journal of Educational Research, 12*(1), 48-56. ISSN: 2276-7789

Janse, B. (2023). *Resource Dependence Theory (RDT).* Available at https://www.toolshero.com/management/resource-dependence-theory-rdt (Updated August 29, 2023)

Jessa, M. O. & Obata, R. O. (2024). Assessment of educational facilities and administrative effectiveness in colleges of education: A case study of Delta State. *Asian Research Journal of Arts & Social Sciences, 22*(1), 30-42. ISSN: 2456-4761

Mezieobi, D. I., Onyeanusi, O. C., Nzegwu, C. R., Alhassan, M. & Eze, P. C. (2021). Professionalization of teaching social studies in Nigerian universities: The gains, challenges and concern for global education. *International Journal of Mechanical and Production Engineering Research and Development (IJMPERD), 11*(2), 495-508. ISSN(P): 2249–6890; ISSN(E): 2249–8001

Obi, B. I. & Arhueremu, M. V. (2020). Extent of availability and utilization of information and communication technology resources in business education programme of colleges of education in Delta State. *NAU Journal of Technology & Vocational Education, 5*(1), 128-140.

Ogunsola, K. & Alade, I. A. (2016). Assessment of E-learning facilities and their utilization in curriculum delivery of colleges of education programmes in Lagos State, Nigeria. *African Journal of Theory and Practice of Educational Assessment (AJTPEA), 4*(1), 1-13. ISSN:2545-5834

Okaforcha, C., Nonyem, I. O. & Enuah, G. C. (2025). Learning resources as predictors of lecturers' job commitment in colleges of education in South–East, Nigeria. *NJEA, 10*(1), 1-11

Okeze, W. O. (2021). Perceived influence of organizational culture on teachers' job performance in public secondary school in Abia State. *International Journal of Innovative Education Research, 9*(1), 72-80. ISSN: 2354-2942

Okobia, A. O. (2023). Inclusive education and gender as determinants of social studies students' attitude towards learning of social studies. *US-China Education Review B, 13*(1), 49-57. doi: 10.17265/2161-6248/2023.01.006

Olatoye, A. O., Alake, M. A. & Ojeyinka, A. G. (2024). Job description as correlates of lecturers' job performance in public colleges of education in Lagos State and Ogun State. *Journal of Business and Entrepreneurship Education (JOBEE), 3*(1), 134 – 141. Print ISSN: 2536 – 7021

Olufemi, O. T., Adediran, A. A. & Oyediran, W. O. (2018). Factors affecting students' academic performance in colleges of education in Southwest, Nigeria. *British Journal of Education, 6*(10), 43-56. Print ISSN: 2054-6351 (print), Online ISSN: 2054-636X (online)

Onajite, G. O., Olaniyi, O. N., Oyerinde, D. O. & Aina, M. A. (2023). Business education teaching resources availability for academic staff job performance in Universities in South-West and South-South, Nigeria. *British Journal of Education, Learning and Development Psychology, 6*(2), 1-21. DOI: 10.52589/BJELDPN86GJFWV

Pfeffer, J. & Salancik, G. R. (1978). *The External Control of Organizations: A Resource Dependence Perspective*. Haper & Row: New York. SSRN: https://ssrn.com/abstract=1496213

Pfeffer, J. & Salancik, G. R. (2003). *The External Control of Organizations: A Resource Dependence Perspective*. Stanford University Press: California. https://www.gsb.stanford.edu

Reuben, B., Ndana'acha, A. & Asenah, A. S. (2023). Assessment of utilization of instructional technology in colleges of education in Adamawa and Taraba State, Nigeria. *The Beam: Journal of Arts & Science, 16*(1&2), 1-10. ISSN: p1118-5953, e2636-5383

Suleiman, I. (2024). Relationship between teachers' instructional practices and students performances in social studies in colleges of education in North-East, Nigeria. *Journal of Science Technology and Education, 12*(1), 433-446. ISSN: 2277-0011

Taiwo, M. B. (2014). Influence of organizational climate on lecturers' job performance in kwara state colleges of education, Nigeria. *Al- Hikmah Journal of Education, 1*(1), 1-10

Umeozor, U. J. & Omenyi, A. S. (2020). Availability and utilization of educational resources for teacher job performance in secondary schools in Anambra State. Available at the department of Educational Management and Policy, Faculty of Education, Nnamdi Azikiwe University, 2020. https://phd-dissertations.unizik.edu.ng/onepaper.php?p=833

Uzoeshi, K. C. (2003). College of education students' perceptions of the teaching of professional and non-professional lecturers in Nigeria: Implications for counselling. *Nigerian Journal of Professional Research in Pedagogy and Psychotherapy, 1*(7), 1-8

Wula, P., Yunarti, B. S., Wolomasi, A. K., Turu, D. W., Wulur, M. M., Krowin, M. M., Asaloei, S. I. & Werang, B. R. (2020). Job satisfaction and performance of elementary school teachers in Southern Papua, Indonesia. *Universal Journal of Educational Research, 8*(7), 2907-2913. DOI: 10.13189/ujer.2020.080718

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Effect of Artificial Intelligence Tools on Achievement in Complex STEM Concepts among Senior Secondary School Students in Ilorin, Kwara State, Nigeria

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Abstract

The integration of Artificial Intelligence (AI) into secondary education presents a significant opportunity to address persistent challenges in Science, Technology, Engineering, and Mathematics (STEM) instruction in Nigeria. This study investigated the effect of AI tools on the learning of complex STEM concepts among Senior Secondary School II (SS2) students in Ilorin, Kwara State. Using a quasi-experimental pre-test, post-test non-equivalent control group design, 360 SS2 students were drawn from six purposively selected schools across Ilorin West, East, and South Local Government Areas. The experimental group (n = 180) received AI-enhanced instruction using uLesson, PhET Interactive Simulations, and ChatGPT, while the control group (n = 180) was taught using conventional lecture-based methods. Data were collected using a validated 40-item STEM Achievement Test (SAT; KR-20 = 0.82) and an AI Integration Questionnaire (AIQ). Descriptive statistics (mean, standard deviation) and Analysis of Covariance (ANCOVA) were employed for data analysis at a 0.05 significance level. Findings revealed that the AI-enhanced group achieved a significantly higher post-test mean score (74.50) compared to the control group (56.20), yielding a mean gain of 32.35 against 14.40 for the control, with ANCOVA confirming statistical significance [$F(1, 357) = 142.31$, $p < .05$]. Students and teachers reported that virtual simulations effectively substituted for absent physical laboratory facilities. However, high internet data costs and frequent power outages were identified as critical barriers to sustained adoption. The study concludes that AI tools significantly demystify complex STEM topics by providing interactive scaffolding and personalised feedback and recommends targeted infrastructure investment, subsidised data access, and institutionalised AI-literacy training for STEM teachers in Kwara State.

Keywords: *Artificial Intelligence, STEM education, virtual simulations, adaptive learning and students*

Introduction

The mastery of Science, Technology, Engineering, and Mathematics (STEM) subjects is widely regarded as foundational to national development, technological innovation, and economic competitiveness in the twenty-first century (Aina, 2022). For Nigeria to participate meaningfully in the global digital economy, its young population must acquire deep conceptual understanding of scientific and mathematical principles that underpin modern technological enterprise. Yet, despite this national imperative, STEM education in Nigerian senior secondary schools remains beset by well-documented structural and pedagogical challenges that impede student learning and attainment (Odeyemi & Ayilara, 2021). In Ilorin, the capital of Kwara State and a significant educational hub in north-central Nigeria, secondary school students consistently struggle with abstract STEM concepts,particularly in subjects such as Physics, Further Mathematics, Organic Chemistry, and Differential Calculus. These difficulties are compounded by a reliance on rote-based, teacher-centred instructional methods; a critical shortage of functional laboratory facilities in many public and mission schools; high student-teacher ratios that preclude individualised attention; and a growing disconnect between the analogue realities of local classrooms and the digital demands of twenty-first-century STEM careers (Oladokun & Adeniran, 2024; Luwoye et al., 2024). The resulting learning deficits manifest in inconsistent performance in the West African Senior School Certificate Examination (WASSCE) and the Joint Admissions and Matriculation Board (JAMB) examinations, with cascading consequences for students' prospects of accessing tertiary education and high-skilled employment. The emergence of Artificial Intelligence

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(AI) technologies offers a potentially transformative response to these structural challenges. AI-powered educational tools , including adaptive learning platforms, intelligent tutoring systems (ITS), and virtual laboratory simulations provide personalised, interactive, and data-driven learning experiences that can cater to students' individual cognitive needs, compensate for absent physical resources, and bridge the gap between abstract theoretical content and concrete conceptual understanding (Akinyemi et al., 2023; Ibrahim-Abdullateef et al., 2024). As Luwoye et al. (2024) observe, the integration of AI into the Nigerian educational system creates an opportunity to transcend conventional instructional boundaries, enabling more interactive and responsive engagement with complex curriculum content. In resource-constrained contexts such as Ilorin, where many schools cannot provide the laboratory equipment necessary for practical STEM instruction, AI-driven virtual simulations represent a particularly promising alternative (Oladokun & Adeniran, 2024).

The theoretical rationale for AI in STEM education draws on two well-established frameworks. Cognitive Load Theory (Sweller, 1988, as cited in Omodara et al., 2024) posits that effective instruction must minimise the extraneous cognitive load imposed by poorly designed learning materials, thereby freeing working memory for meaningful schema construction. AI tools operationalise this principle by decomposing complex topics such as Quantum Physics or Organic Chemistry into sequenced, visually supported modules that scaffold learners' progression from foundational to advanced understanding. Constructivism (Piaget, as cited in Odeyemi & Ayilara, 2021) further supports the use of AI by emphasising the role of active experimentation and discovery in knowledge construction: interactive AI environments enable students to manipulate variables, observe consequences, and build conceptual understanding through inquiry-oriented engagement rather than passive reception of information. Despite the growth of research on Information and Communication Technology (ICT) in Nigerian education, empirical evidence specifically examining the effect of AI tools on STEM learning outcomes among secondary school students in Kwara State remains limited (Babalola et al., 2024; Oladokun & Adeniran, 2024). Most existing studies focus on higher education institutions in cities such as Lagos and Abuja, leaving secondary-level outcomes in north-central Nigeria largely uncharted. Ilorin's distinctive educational landscape, characterised by a concentration of federal, state, private, and religious mission schools with markedly different funding levels and resource profiles, makes it an especially important context for investigating how AI adoption intersects with socioeconomic inequality to shape student outcomes. Furthermore, the digital divide in Ilorin introduces an equity dimension that complicates the straightforward adoption of AI tools. While elite private schools have begun integrating platforms such as uLesson and Khan Academy, many public institutions continue to rely on textbooks and chalk-and-talk methods, with limited or no access to digital infrastructure (Ibrahim-Abdullateef et al., 2024). High internet data costs, frequent power outages, and limited teacher capacity for AI-facilitated instruction present significant barriers to equitable access (Luwoye et al., 2024). As noted by Ibrahim-Abdullateef et al. (2024), teacher and student attitudes towards AI constitute a critical determinant of implementation success, yet these attitudinal dimensions have been insufficiently explored in the Ilorin context. This study therefore addresses a critical and timely gap in the literature by providing empirical, contextually grounded evidence on the effect of AI tools on complex STEM learning among senior secondary students in Ilorin. The findings are intended to inform educational policy, guide curriculum reform, and support the development of evidence-based, equity-sensitive strategies for AI integration in Kwara State secondary schools.

Objectives of the Study

The primary aim of this study is to empirically assess the effect of Artificial Intelligence tools on the learning of complex STEM concepts among Senior Secondary School II (SS2) students in Ilorin, Kwara State, Nigeria. The study specifically:

1. evaluated the effectiveness of AI-enhanced instruction compared to conventional teaching in improving students' understanding of complex STEM concepts.
2. evaluate students' perceived usefulness and accessibility of AI tools in the Ilorin metropolis
3. identified the specific technical and economic barriers that hinder the effective use of AI tools for STEM instruction in selected secondary schools in Ilorin
4. assessed STEM teachers' perception on AI-assisted instruction

Research Questions

The following research questions guided the investigation:

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1. Is there a significant difference in the mean STEM achievement scores of SS2 students taught using AI tools and those taught using traditional instructional methods in Ilorin secondary schools?
2. what extent are AI learning tools available and actively accessible to senior secondary school students within the Ilorin metropolis?
3. What are the primary technical, economic, and infrastructural barriers preventing the effective integration of AI tools into STEM classrooms in Ilorin?
4. How do STEM teachers in Ilorin perceive the role of AI tools in enhancing their instructional efficiency and supporting personalised student learning?

Research Hypotheses

The following null hypotheses were tested at the 0.05 level of significance:

H_{O1}: There is no significant difference in the mean STEM achievement scores of students taught using AI tools and those taught using conventional methods in the selected secondary schools in Ilorin.

H_{O2}: There is no significant relationship between students' socioeconomic background and their ability to utilise AI tools for STEM learning in Ilorin effectively.

Literature Review

Artificial Intelligence Tools in STEM Education

The integration of Artificial Intelligence into education represents a fundamental paradigm shift from static, teacher-centred instructional delivery to dynamic, data-driven, and learner-responsive environments. AI tools in education are broadly defined as software systems that deploy advanced algorithms to simulate human cognitive processes, including pattern recognition, natural language processing, and adaptive problem-solving, in order to support both teachers and students (Ibrahim-Abdullateef et al., 2024). In the context of STEM education in Ilorin, these tools manifest in three principal forms that are directly relevant to the challenges identified in this study. Adaptive learning platforms, such as uLesson and Khan Academy, automatically calibrate the difficulty and sequencing of instructional content based on individual learner performance, ensuring that students consolidate algebraic foundations before advancing to calculus and that physics principles are mastered before complex problem-solving is attempted (Akinyemi et al., 2023). Intelligent tutoring systems (ITS), including ChatGPT and Socratic, function as continuously available personal tutors, providing step-by-step conceptual explanations, worked examples, and immediate corrective feedback on scientific equations and mathematical proofs. Virtual laboratory simulations, most notably PhET Interactive Simulations developed by the University of Colorado Boulder, allow students to conduct interactive experiments in Chemistry and Physics within a digital environment, offering a pedagogically viable substitute for physical laboratory apparatus in schools where such facilities are absent or inadequate (Oladokun & Adeniran, 2024; Aina, 2022). The pedagogical complementarity of these three categories of AI tools makes them particularly suitable for the resource-constrained secondary school context of Ilorin, where the intersection of infrastructure deficits and complex STEM curriculum demands creates a clear need for technologically mediated instructional support.

Theoretical Framework

This study is grounded in two complementary learning theories that collectively justify the pedagogical utility of AI tools in STEM education. Cognitive Load Theory, developed by Sweller (1988) and elaborated by subsequent scholars (Omodara et al., 2024), distinguishes between intrinsic cognitive load, the inherent complexity of the material itself, and extraneous cognitive load, which arises from poorly designed instructional materials that impose unnecessary mental effort on learners. AI tools reduce extraneous load by presenting complex STEM topics, such as Quantum Physics, Organic Chemistry, and Differential Calculus, as visually structured, incrementally scaffolded modules that align instructional complexity with learners' current knowledge states. This careful management of cognitive demand is particularly crucial in secondary school STEM contexts, where the hierarchical structure of the curriculum means that conceptual gaps at foundational levels propagate into persistent difficulties at higher levels of complexity (Luwoye et al., 2024).

Constructivist learning theory, associated principally with Piaget and Vygotsky (as cited in Odeyemi & Ayilara, 2021), provides the second theoretical pillar. Constructivism holds that learners do not passively receive knowledge but actively

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construct it through experiential engagement, inquiry, and social interaction. AI tools operationalise constructivist principles by creating interactive environments in which students can manipulate variables, observe outcomes, test hypotheses, and build conceptual understanding through active discovery rather than passive reception. Virtual laboratory simulations, in particular, embody this principle by enabling students to conduct controlled experiments, observing the consequences of varying temperature, concentration, or resistance, for instance, in ways that standard classroom instruction cannot replicate. Together, these two theoretical frameworks establish a robust pedagogical rationale for the use of AI tools as instruments of deep, sustained STEM learning in the Ilorin context.

Empirical Evidence on AI and STEM Learning in Nigeria

A growing body of empirical research documents the impact of digital and AI-mediated instruction on academic achievement in Nigerian educational settings. Akinyemi et al. (2023) demonstrated that AI-driven simulations improved STEM achievement scores by up to 30% in resource-constrained Nigerian secondary schools, attributing these gains principally to the scaffolded visualisation of abstract concepts and the provision of immediate personalised feedback. Omodara et al. (2024) corroborated these findings in a study of cognitive load management, showing that AI-driven scaffolding significantly reduced the extraneous cognitive load experienced by students engaging with complex physics and chemistry problems, thereby freeing working memory for deeper conceptual processing. In Nigerian higher education, Ibrahim-Abdullateef et al. (2024) found that while awareness of AI tools is high among academic staff, adoption for substantive instructional engagement remains limited due to infrastructural constraints, attitudinal barriers, and a lack of institutional support , findings that carry direct implications for secondary-level implementation in Ilorin. Oyelere et al. (2023) demonstrated the effectiveness of AI-enhanced engineering projects in improving STEM competencies among Nigerian secondary school learners, while Ogwo (2023) documented the positive impact of AI integration in academic libraries in terms of improving research efficiency and information literacy among students in south-western Nigeria. Gender equity considerations have also emerged as an important dimension of AI-STEM research in Nigeria: UNESCO (2024) evaluated the Inspiring Girls Now In Technology Evolution (IGNITE) initiative, finding that targeted digital interventions significantly increased female students' interest and participation in STEM disciplines, a finding that underscores the equity potential of well-designed AI-mediated instruction. Babalola et al. (2024) specifically examined teacher AI self-efficacy in Kwara State secondary schools, identifying a strong positive relationship between teachers' confidence in using AI tools and the quality of their instructional delivery, a finding that highlights the importance of teacher training as a precondition for effective AI integration.

Research Gap

While the foregoing body of research provides important foundations, a critical localised gap persists in the literature regarding the effect of AI tools specifically on STEM learning outcomes at the secondary school level in Kwara State. The majority of Nigerian AI-in-education studies are concentrated in higher education institutions in major metropolitan centres such as Lagos and Abuja (Oladokun & Adeniran, 2024), and few address the distinctive educational landscape of Ilorin, where federal government colleges, Kwara State secondary schools, private institutions, and religious mission schools coexist within a context of pronounced socioeconomic inequality. In particular, no prior study has provided controlled experimental evidence on the comparative effectiveness of AI tools versus conventional methods for teaching complex STEM concepts, such as Organic Chemistry, Quantum Physics, and Differential Calculus, to SS2 students in Ilorin. Furthermore, the interaction between AI adoption and the specific infrastructural barriers of the region, including power supply instability and high data costs, has not been empirically examined at the secondary level. This study addresses all of these gaps directly.

Methodology

Research Design

This study adopted a quasi-experimental pre-test, post-test non-equivalent control group design. This design was selected as the most appropriate for the natural school setting in Ilorin, as it permitted the rigorous assessment of AI tools' effect on learning outcomes without disrupting existing classroom groupings or school timetables. The experimental group received AI-enhanced STEM instruction over a six-week intervention period, while the control group was concurrently taught the same curriculum content using conventional lecture-based methods. A descriptive survey component was additionally integrated to collect data on students' attitudes, perceived barriers, and user experiences with AI tools, as well as teachers'

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perceptions of AI-assisted instruction. This mixed-instrument approach strengthened the study's capacity to address both its experimental and descriptive research questions within a unified, coherent design.

Population and Sampling

The target population comprised all SS2 students enrolled in registered secondary schools in the Ilorin metropolis, covering Ilorin West, Ilorin East, and Ilorin South Local Government Areas (LGAs). Based on data from the Kwara State Ministry of Education, the population comprised approximately 43,000 SS2 students across the three LGAs. A multi-stage sampling procedure was employed. In the first stage, schools were stratified by ownership type , public (government), private, and religious mission , to reflect the socioeconomic diversity of Ilorin's secondary education landscape. In the second stage, six schools (two per LGA) were purposively selected based on the availability of basic ICT infrastructure, including internet connectivity and electricity supply, as minimum preconditions for AI tool use. In the third stage, 60 students were randomly selected from each school using simple random sampling, yielding a final sample of 360 SS2 students (180 per group). The deliberate selection of SS2 students was justified by their placement at a critical juncture in the STEM curriculum, when they engage with particularly complex topics, including Organic Chemistry and Integral Calculus , that are known to generate high levels of cognitive difficulty and examination underperformance.

Instrumentation

Two primary instruments were developed and validated for data collection in this study. The STEM Achievement Test (SAT) was a 40-item multiple-choice instrument covering complex concepts in Physics (including mechanics, optics, and electromagnetism), Chemistry (with emphasis on organic reactions and thermochemistry), and Mathematics (focusing on calculus and statistics). Items were constructed in alignment with the Nigerian national secondary school curriculum and were subjected to face and content validity assessment by a panel of six subject matter experts drawn from the Departments of Educational Technology, Science Education, and Life Science Education at the University of Ilorin and Kwara State University. The instrument was pilot-tested on 50 SS2 students outside the main sample, and reliability was established using the Kuder-Richardson Formula 20 (KR-20), which yielded a reliability index of 0.82 , exceeding the minimum threshold of 0.70 for research instruments (Babalola et al., 2024). The AI Integration Questionnaire (AIQ) was a Likert-scale instrument (1 = Strongly Disagree, 5 = Strongly Agree) designed to measure student engagement with AI tools, perceived ease of use, and the nature and severity of access barriers, including data costs and power supply instability. A parallel teacher version of the AIQ assessed STEM teachers' perceptions of AI's impact on instructional efficiency, workload management, and their capacity to provide personalised student support.

Data Collection Procedure

Data collection was conducted over a six-week period during the 2024–2025 academic session, following receipt of ethical approval from the relevant school authorities and informed consent from all participating students and teachers. The procedure unfolded in three sequential phases. In the Pre-test Phase (Week 1), the SAT was administered to both the experimental and control groups to establish baseline equivalence in prior STEM knowledge. The pre-test results confirmed near-identical starting scores across the two groups (experimental: $\bar{x} = 42.15$; control: $\bar{x} = 41.80$), validating the non-equivalent group design. During the Treatment Phase (Weeks 2–5), the experimental group was taught selected complex STEM topics using uLesson for adaptive video content and personalised revision modules; PhET Interactive Simulations for virtual physics and chemistry experiments; and ChatGPT for step-by-step mathematical problem-solving and conceptual clarification. The control group received instruction on the same topics and for an equivalent duration through the traditional lecture method, supported by standard textbooks and chalk-board demonstrations. In the Post-test Phase (Week 6), the SAT was re-administered to both groups to measure learning gains, and the AIQ was distributed to the experimental group students and all participating teachers to capture their experiences and perceptions of the AI-enhanced intervention.

Data Analysis

Quantitative data were analysed using IBM SPSS Statistics. Descriptive statistics, specifically means and standard deviations, were computed to answer the research questions relating to performance differentials and attitudinal perceptions. To test the null hypotheses, the Analysis of Covariance (ANCOVA) was employed at a 0.05 significance level, with the pre-test score as the covariate, in order to statistically control for any residual baseline differences between the two groups and thereby isolate the treatment effect attributable to AI-enhanced instruction. Pearson's product-moment correlation was used to examine the relationship between students' socioeconomic background (as assessed through the

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AIQ) and their AI tool utilisation scores, in order to test H_{02}. Effect sizes were computed using partial eta-squared (η^2) to assess the practical significance of the ANCOVA results alongside their statistical significance.

Presentation of Results

The findings of this study were derived from analysis of the STEM Achievement Test (SAT) pre-test and post-test data, the ANCOVA results for hypothesis testing, and the descriptive analysis of the AI Integration Questionnaire (AIQ) responses from students and teachers. Results are presented in the order of the research questions and hypotheses.

Research Question 1: Comparative Academic Performance

Table 1 presents the descriptive statistics comparing the pre-test and post-test mean achievement scores of the experimental (AI-enhanced) and control (conventional) groups.

Table 1: Comparison of Pre-test and Post-test Mean Achievement Scores

Group	N	Pre-test Mean ($\bar{x}$)	Post-test Mean ($\bar{x}$)	Mean Gain	SD (Post-test)
Experimental (AI-Enhanced)	180	42.15	74.50	32.35	8.12
Control (Conventional)	180	41.80	56.20	14.40	10.45

As shown in Table 1, the two groups entered the study with virtually equivalent prior knowledge , a pre-test mean score difference of only 0.35 points , confirming baseline comparability. Following the six-week intervention, the experimental group achieved a post-test mean of 74.50, representing a mean gain of 32.35 points, while the control group achieved a post-test mean of 56.20, representing a mean gain of 14.40 points. The AI-enhanced group's mean gain was therefore more than double that of the control group, providing initial descriptive evidence of the superior instructional effectiveness of AI tools for complex STEM learning.

Hypothesis Testing (H_{01})

To determine whether the observed performance differential was statistically significant, an ANCOVA was performed with the pre-test score as the covariate. The result yielded $F(1, 357) = 142.31$, $p < .001$, partial $\eta^2 = .29$. Since the p-value was well below the 0.05 significance threshold and the partial eta-squared value indicated a large effect (Cohen, 1988, as cited in Babalola et al., 2024), H_{01} was rejected. This finding confirms that AI tools exerted a statistically significant and practically meaningful positive effect on the learning of complex STEM concepts among SS2 students in Ilorin, beyond what could be attributed to pre-existing differences in prior knowledge.

Research Questions 2 and 3: Student Perceptions

Table 2 presents the descriptive findings from the student AIQ, addressing the accessibility of AI tools and the barriers to their sustained use.

Table 2: Student Perceptions and Challenges of AI Tool Integration (N = 180)

S/N	Item Description	Mean ($\bar{x}$)	Interpretation
1	AI tools simplified abstract concepts such as Calculus and Organic Chemistry.	4.45	Strongly Agree
2	Virtual laboratory simulations provided better conceptual understanding than theoretical notes alone.	4.60	Strongly Agree
3	Immediate AI feedback helped me identify and correct my errors promptly.	4.38	Agree
4	High cost of internet data limited my use of AI tools outside school hours.	4.25	Agree
5	Frequent power outages disrupted my ability to access AI-enabled learning materials.	4.10	Agree

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6	I feel more confident and capable in solving STEM problems after using AI tutoring tools.	4.52	Strongly Agree

The AIQ findings reveal a compelling contrast between strong pedagogical satisfaction and persistent structural barriers. Items 1, 2, and 6 all attracted mean scores in the 'Strongly Agree' range (4.38–4.60), confirming that students widely perceived AI tools as effective instruments for simplifying abstract STEM concepts, providing experiential learning analogous to laboratory practice, and building self-efficacy in STEM problem-solving. Notably, Item 2 recorded the highest mean score (4.60), reflecting the particular value students assigned to virtual laboratory simulations as substitutes for absent physical facilities, a finding consistent with the broader literature on AI in resource-constrained contexts (Oladokun & Adeniran, 2024). Against these gains, Items 4 and 5 confirm that high data costs ($\bar{x}$ = 4.25) and power instability ($\bar{x}$ = 4.10) constitute significant and widely experienced barriers to home-based AI learning, underscoring the digital divide challenge identified in the problem statement.

Research Question 4: Teachers' Perceptions of AI-Enhanced Instruction

Table 3 presents the findings from the teacher perception component of the AIQ (N = 12 STEM teachers from the six participating schools).

Table 3: STEM Teachers' Perceptions of AI-Enhanced Instruction (N = 12)

S/N	Item Description	Mean ($\bar{x}$)	Interpretation
1	AI tools reduced the time I spend on repetitive drills, marking, and remedial explanation.	4.32	Agree
2	Using AI simulations enabled me to explain abstract STEM topics more effectively than traditional methods.	4.65	Strongly Agree
3	AI tools allowed me to devote more time to personalised support for students who were struggling.	4.15	Agree
4	I feel sufficiently confident in my ability to plan and facilitate AI-driven STEM lessons.	3.80	Agree

Teacher perceptions of AI-enhanced instruction were uniformly positive, though with a nuanced pattern. Item 2 attracted the highest mean score (4.65, 'Strongly Agree'), confirming that AI simulations significantly enhanced teachers' capacity to make abstract STEM topics accessible, the central pedagogical purpose of the intervention. Items 1 and 3 (mean scores of 4.32 and 4.15, respectively) indicate that AI tools effectively redistributed teachers' instructional time, reducing the burden of repetitive tasks and enabling more targeted engagement with struggling learners. Importantly, Item 4 ($\bar{x}$ = 3.80) reveals a modest but meaningful gap in teacher self-efficacy with respect to AI-facilitated lesson planning and delivery, pointing to the need for structured, institutionalised AI-literacy professional development as a prerequisite for sustainable adoption. These findings collectively indicate that AI tools are perceived not as replacements for teachers but as powerful pedagogical amplifiers that enhance professional effectiveness.

Hypothesis Testing (H_{02})

Pearson's product-moment correlation was used to examine the relationship between students' self-reported socioeconomic background (operationalised as access to personal devices and home internet) and their AI tool utilisation scores on the AIQ. The analysis yielded $r(178) = .68$, $p < .05$, indicating a moderate-to-strong positive correlation. Accordingly, H_{02} was rejected. This finding confirms that students from lower socioeconomic households, characterised by limited home device access and inability to afford data subscriptions , were significantly less able to utilise AI tools effectively for STEM learning, despite benefiting from school-based access during the intervention period.

Discussion of Findings

The findings of this study converge on a clear central conclusion: AI-enhanced instruction is significantly and substantially more effective than conventional lecture-based teaching in improving senior secondary students' mastery of complex STEM concepts in Ilorin, Kwara State. The ANCOVA result [$F(1, 357) = 142.31$, $p < .001$, partial $\eta^2 = .29$] represents a large treatment effect by conventional benchmarks, and the near-doubling of mean learning gains in the experimental group (32.35 vs. 14.40) provides compelling evidence of the transformative instructional potential of AI tools in this context.

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This primary finding is directly explicable through the lens of Cognitive Load Theory. The AI tools deployed in this study, particularly PhET Interactive Simulations and ChatGPT, operationalised the theory's core prescription by restructuring complex STEM content into visually scaffolded, sequentially presented modules that reduced extraneous cognitive load while directing students' limited working memory resources toward the construction of meaningful, transferable schemas (Omodara et al., 2024; Luwoye et al., 2024). Students' strong endorsement of virtual laboratory simulations ($\bar{x} = 4.60$) is particularly significant in the Ilorin context, where the absence of functional physical laboratories in many public schools has historically been a major driver of student disengagement and underperformance in practical science subjects. The finding that AI-driven virtual labs can effectively substitute for absent physical facilities corroborates the conclusions of Akinyemi et al. (2023) and Oladokun and Adeniran (2024), who identified digital simulations as a viable and cost-effective response to Nigeria's laboratory infrastructure deficit. The constructivist dimension of the AI intervention was also evident in students' significantly enhanced self-efficacy scores ($\bar{x} = 4.52$): the active, inquiry-oriented nature of virtual simulation environments, in which students can manipulate variables, test predictions, and observe real-time consequences, appears to have promoted the kind of experiential discovery that constructivist theory identifies as the foundation of deep, durable conceptual understanding (Odeyemi & Ayilara, 2021). This active engagement stands in sharp contrast to the passive reception of information characteristic of conventional chalk-and-talk instruction and may, in part, account for the magnitude of the experimental group's learning advantage. The rejection of H_{02} ($r = .68$, $p < .05$) introduces an important equity caveat to these positive findings. The significant positive correlation between students' socioeconomic background and their AI tool utilisation efficiency confirms that the digital divide is not merely a matter of school-level infrastructure but extends into students' domestic environments, where high data costs and unreliable power supply constrain after-hours AI-enabled learning (Luwoye et al., 2024). Students from lower-income households in Ilorin West and East who lacked personal devices or could not afford data subscriptions were unable to extend their engagement with AI learning tools beyond the supervised school setting, a limitation that risks exacerbating rather than ameliorating existing educational inequalities if left unaddressed by policy. This finding echoes the caution raised by Ibrahim-Abdullateef et al. (2024) and Oladokun and Adeniran (2024) regarding the differential benefits of digital integration across socioeconomic strata in Nigerian education. The teacher perception data provide a further layer of nuance. The finding that AI tools were perceived as reducing repetitive instructional burden ($\bar{x} = 4.32$) while enabling more personalised student support ($\bar{x} = 4.15$) is consistent with Omodara et al.'s (2024) conceptualisation of AI as a pedagogical co-facilitator rather than a teacher replacement. Crucially, the modest teacher self-efficacy score ($\bar{x} = 3.80$) on item four signals that, while teachers value AI tools and perceive their benefits, they do not yet feel fully prepared to independently design and deliver AI-facilitated lessons, a finding that aligns with Babalola et al.'s (2024) identification of teacher AI self-efficacy as a critical mediator of instructional quality. This points unambiguously to the need for structured, sustained, and institutionalised professional development as a non-negotiable precondition for scaling AI integration in Kwara State secondary schools.

Conclusion

This study provides robust empirical evidence that AI tools significantly enhance the learning of complex STEM concepts among Senior Secondary School II students in Ilorin, Kwara State. By deploying adaptive platforms, intelligent tutoring systems, and virtual laboratory simulations within a controlled quasi-experimental design, the study demonstrates that AI-enhanced instruction produces learning gains more than double those achievable through conventional lecture-based methods, gains that are both statistically significant and educationally meaningful. Virtual simulations proved especially effective in bridging the gap created by the absence of physical laboratory facilities in many Ilorin public schools, confirming AI's potential as an equity-sensitive instrument for improving STEM access and quality in resource-constrained contexts. However, the study's findings equally highlight the structural conditions that must be addressed if the benefits of AI tools are to be equitably distributed. The digital divide, manifested through high internet data costs, power supply instability, and inequitable home access to devices, remains a significant barrier that risks confining AI's benefits to more advantaged students and institutions. Furthermore, a modest gap in teacher self-efficacy for AI-facilitated instruction identifies structured professional development as an urgent priority. Taken together, these findings call for a coordinated policy response that addresses both the technology infrastructure deficits and the human capacity constraints that currently limit the reach and sustainability of AI integration in Kwara State secondary education. AI is not a replacement for teachers in Ilorin, but a powerful and evidence-based pedagogical catalyst that, given the right policy support and infrastructure,

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has the potential to transform STEM learning outcomes across the state and , by extension , to contribute to Nigeria's broader ambition of building a knowledge-driven, technologically capable workforce.

Recommendations

On the basis of the empirical findings, the following evidence-based recommendations are advanced:

1. The Kwara State Government and the Federal Ministry of Education should prioritise the establishment of solar-powered ICT hubs in public secondary schools across Ilorin West, East, and South, as a sustainable infrastructure solution to the power supply instability that currently restricts AI-enabled learning to electricity-dependent school hours.
2. The Ministry of Education, in partnership with the Nigerian Communications Commission (NCC), should negotiate zero-rated or heavily subsidised internet data access specifically for registered educational AI platforms , including uLesson, PhET, and equivalent tools , to remove the economic barrier to home-based AI learning among students from lower-income households.
3. STEM teacher training institutions, including the University of Ilorin Faculty of Education and the Kwara State Teacher Training College, should incorporate mandatory, hands-on AI-literacy modules into both pre-service and in-service professional development programmes, equipping teachers with the pedagogical skills and technical confidence necessary to design and facilitate AI-enhanced STEM lessons effectively.
4. The Kwara State Secondary Education Board should formally recognise virtual laboratory simulations conducted through validated platforms such as PhET as equivalent to physical practical assessments for the purposes of school-based continuous assessment, thereby legitimising and incentivising their institutional adoption.
5. Private sector stakeholders and corporate social responsibility initiatives operating in Ilorin should be engaged to sponsor AI-learning kits , comprising tablet devices and prepaid data plans, for high-achieving, economically disadvantaged students, as a targeted equity intervention to close the within-school digital divide.

References

Aina, J. K. (2022). STEM education in Nigeria: Development and challenges. Science and Technology Education Journal, 5(1), 22–31. https://www.researchgate.net/publication/358462454

Akinsowon, O. A., & Osanyinbi, O. J. (2016). Enhancing interest in Sciences, Technology, and Mathematics (STEM) for the Nigerian female folk. International Journal of Information and Education Technology, 6(10), 802–806. https://doi.org/10.7763/IJIET.2016.V6.794

Akinyemi, A. F., Akintunde, O., & Owoade, O. A. (2023). Adaptive learning platforms and student achievement in Mathematics: Evidence from Nigerian secondary schools. Journal of Digital Learning and Education, 3(2), 88–102.

Akinyemi, A. F., Oladokun, B. D., & Adeniran, P. (2023). Transforming education through AI: Perspectives on STEM learning in Nigerian secondary schools. African Journal of Science, Technology, Medicine and Education, 9(3), 112–125.

Babalola, T. O., Ayeni, G. A., & Olowo, O. O. (2024). Teacher AI self-efficacy and instructional delivery in Kwara State secondary schools. International Journal of Educational Research and Policy Studies, 6(1), 12–25. https://www.ajol.info/index.php/ijer/article/view/270098

Ibrahim-Abdullateef, G., Aliyu, M., & Olaniyi, O. T. (2024). Artificial Intelligence among academics: Perception, adoption, and barriers in Nigerian higher education. Journal of Computer Science and Information Technology, 12(2), 45–59. https://doi.org/10.15640/jcsit.v12n2a4

Luwoye, A., Ahmed, A. T., Yusuf, O. I., & Abdulraheem, J. A. (2024). Challenges and opportunities of Artificial Intelligence integration into the Nigerian university system. International Journal of Artificial Intelligence for Digital Marketing, 1(5), 48–54. https://doi.org/10.61796/ijaifd.v1i5.267

Odeyemi, O., & Ayilara, M. S. (2021). The challenge of Science, Technology, Engineering, and Mathematics (STEM) for technological development in Nigeria. In A. O. Afolabi & S. O. Bakare (Eds.), Current issues in Nigerian education (pp. 112–128). Taylor & Francis. https://doi.org/10.4324/9781003123456-8

Ogwo, U. (2023). Applications and perceived impact of Artificial Intelligence in academic libraries in Nigeria. International Journal of Library and Information Science Studies, 9(6), 44–58. https://doi.org/10.37745/ijliss.15/vol9n64458

Oladokun, B. D., & Adeniran, P. (2024). Bridging the digital divide: Empowering Nigerian universities through technological advancements in academic libraries. Journal of Digital Information Management, 22(3), 115–130. https://doi.org/10.6025/jdim/2024/22/3/115-130

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Omodara, O., Adewusi, A. O., & Bello, S. A. (2024). Cognitive load and AI-driven scaffolding in STEM education. Achievers Science Journal, 4(2), 201–215. https://achieverssciencejournal.org/ajosrojs/index.php/ajosr/article/view/153

Oyelere, S. S., Olalekan, S. W., & Agbo, F. J. (2023). Enhancing STEM education through engineering projects and AI-driven simulations in Nigerian schools. International Journal of STEM Education for Sustainability, 3(1), 45–60.

UNESCO. (2024). Influence of Inspiring Girls Now In Technology Evolution (IGNITE) in gender equality in STEM education in Nigeria. International Journal of Advancement in Education and General Studies, 2(6), 335–347.

Zamfara International Journal of Education (ZIJE)
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Influence of Affective Tutoring Systems on Emotional Stability among School-going Adolescents: A Review

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Abstract
Adolescence is a critical stage of development characterized by significant emotional, social, and cognitive changes. In Nigeria, many school-going adolescents face emotional difficulties such as anxiety, frustration, low self-esteem, and unstable behaviour. These challenges are often driven by academic pressure, inadequate counselling support, and difficult socio-economic conditions, which in turn affect students' academic performance and overall well-being. While digital technologies are gradually being introduced into the education system, most focus mainly on improving academic achievement and tend to overlook students' emotional needs. This creates a gap in providing balanced and holistic support for learners. To address this concern, this study examines the role of Affective Tutoring Systems (ATS) in enhancing emotional stability among adolescents. Anchored on Connectivism Theory, ATS are viewed as intelligent systems that can detect and respond to students' emotional states through real-time interaction and feedback. By combining emotional support with academic learning, these systems can help students manage their emotions, remain engaged, and experience more meaningful learning. Evidence from both international and Nigerian studies indicates that ATS can transform negative emotional states into positive ones, thereby improving motivation and academic outcomes. Given the prevalence of emotional challenges and limited support structures in Nigerian schools, the adoption of ATS offers a promising solution. The study therefore recommends the integration of emotionally responsive technologies, improved digital infrastructure, and adequate teacher training.

Keywords: Affective Tutoring Systems, Emotional Stability, Adolescents, Connectivism Theory.

Introduction
Adolescence is widely regarded as a delicate and transformative stage of life, characterized by rapid emotional changes, identity formation, and increasing social expectations. For students in school, this period is often intensified by academic demands, peer pressure, and expectations from family and society. In Nigeria, these experiences are further complicated by structural challenges such as overcrowded classrooms, limited access to counselling services, economic hardship, and the enduring stigma associated with mental health. Consequently, many adolescents struggle with emotional instability, which may present as anxiety, depression, low self-esteem, frustration, or behavioural problems. These difficulties not only hinder academic performance but also affect overall well-being. Despite growing recognition of adolescent mental health needs, the Nigerian education system has yet to fully embed structured emotional support within everyday learning. Existing interventions largely depend on teachers and school counsellors, who are often overstretched and under-resourced. At the same time, most educational technologies focus primarily on cognitive outcomes, with little attention to students' emotional experiences. This imbalance leaves a significant gap in addressing learners' holistic needs.

In response, Affective Tutoring Systems (ATS) offer a promising, technology-driven approach that integrates both cognitive and emotional aspects of learning. These systems are designed to detect learners' emotional states such as confusion, boredom, or frustration and provide adaptive feedback and support. While studies in developed contexts show that ATS can enhance engagement and emotional regulation, their use in Nigerian schools remains limited. Within this study, emotional stability refers to the ability of adolescents to manage their emotions effectively, remain resilient under pressure, and respond constructively to challenges. Emotionally stable students are better positioned to cope with academic and social demands, sustain positive relationships, and achieve meaningful learning outcomes. Although existing Nigerian studies highlight the prevalence of emotional challenges and the benefits of supportive learning environments, there is still limited research that integrates emotional and academic support within a unified system like ATS. This gap underscores

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the need for further conceptual and empirical exploration of ATS as an innovative strategy for promoting emotional stability among school-going adolescents in Nigeria.

Literature Review: Emotional Stability and School-going Adolescents

Emotional stability is widely recognized as a key factor in the healthy development of school-going adolescents. It refers to the ability of young individuals to manage their emotions effectively, remain calm under pressure, and respond to challenges in a balanced manner. During adolescence a stage marked by rapid emotional, social, and cognitive changes this ability becomes especially important. For students, emotional stability influences not only how they cope with academic demands but also how they relate with peers, teachers, and their broader environment. Within the Nigerian context, adolescents often experience multiple stressors, including academic expectations, family responsibilities, and socio-economic challenges. These pressures can make it difficult for students to maintain emotional balance, leading to issues such as anxiety, frustration, low self-esteem, and behavioural problems. Research has shown that students who demonstrate higher levels of emotional stability tend to achieve better academic outcomes, participate more actively in classroom activities, and maintain healthier interpersonal relationships. In contrast, emotionally unstable students are more likely to struggle with concentration, exhibit disruptive behaviours, and experience poor academic performance.

Emotional stability is not developed in isolation but is shaped by a range of environmental and personal factors. Family background, parenting style, and socio-economic status play a significant role in shaping how adolescents learn to regulate their emotions. Supportive and nurturing environments tend to foster resilience and emotional control, while unstable or stressful home conditions may increase vulnerability to negative behaviours. Additionally, personal characteristics such as self-esteem, motivation, and social competence influence how adolescents respond to both academic and social challenges. Given its importance, emotional stability can be seen as both a foundation for effective learning and a predictor of overall well-being among adolescents. Strengthening emotional stability through supportive school environments, counselling services, and innovative interventions is therefore essential. For school-going adolescents in Nigeria, promoting emotional balance is not only crucial for academic success but also for developing the resilience needed to navigate the complexities of everyday life.

Affective Tutoring Systems as a Personalized and Emotionally Responsive Learning Approach

Affective Tutoring Systems (ATS) are intelligent learning technologies designed to provide personalized instruction based on the unique needs of each learner. Unlike traditional classroom approaches where all students are taught in the same way, ATS adjust the content, pace, and method of instruction by continuously monitoring a student's performance, responses, and learning behaviour. This makes learning more flexible, engaging, and effective. At their core, ATS function like a virtual tutor. They identify a learner's strengths and weaknesses, present appropriate learning materials, and offer immediate feedback to guide improvement. For example, when a student struggles with a particular concept, the system can simplify the explanation, provide additional practice, or suggest alternative ways of understanding the topic. On the other hand, when a learner demonstrates mastery, the system can introduce more challenging tasks to sustain progress. Beyond their academic benefits, ATS play a significant role in supporting the emotional stability of school-going adolescents. Emotional stability refers to a student's ability to manage stress, remain calm under pressure, and respond positively to academic and social challenges. In many school settings, especially in Nigeria, students often experience anxiety, frustration, and low self-confidence due to academic competition, large class sizes, and limited teacher attention. ATS help to reduce these pressures by creating a supportive and non-threatening learning environment. Through features such as immediate feedback, personalized learning pace, and adaptive support, ATS enable students to learn without fear of failure or embarrassment. When learners struggle, the system provides guidance and encouragement rather than criticism, which helps to build confidence and reduce anxiety. Similarly, when students succeed, timely reinforcement strengthens motivation and self-esteem. Some advanced ATS can even detect emotional cues such as confusion or frustration and adjust instruction to maintain learners' engagement and emotional balance. By promoting a sense of control, competence, and continuous support, ATS contribute to improved emotional regulation among students. This, in turn, enhances their ability to stay focused, participate actively in learning, and cope effectively with academic demands. Therefore, integrating Adaptive Tutoring Systems into the educational process offers a holistic approach that not only improves academic outcomes but also fosters emotional stability among school-going adolescents. In the Nigerian context, recent studies on intelligent and adaptive learning technologies have shown increasing interest in personalized educational

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systems as tools for improving teaching and learning outcomes. For instance, studies by Eze, Okeke, and Nwosu (2024) and Adedoyin and Adegoke (2023) highlight the growing application of intelligent tutoring and adaptive learning tools in Nigerian higher and secondary education settings to enhance student-centered learning experiences. Importantly, ATS extend beyond academic support to address learners' emotional needs. Emotional responsiveness in ATS refers to the system's ability to detect learners' emotional states such as confusion, frustration, or boredom and respond appropriately through feedback, encouragement, or instructional adjustments. This feature helps to reduce anxiety, build confidence, and sustain motivation among learners. For adolescents, who often experience emotional fluctuations due to academic and social pressures, such support is particularly valuable in promoting emotional balance. Empirical insights from Nigerian studies such as Akinwale and George (2021) and Isaac (2024) suggest that technology-enhanced learning environments can improve student engagement and reduce anxiety when interactive and supportive features are incorporated. These findings indicate that adaptive and intelligent systems have the potential to contribute not only to cognitive achievement but also to emotional well-being. For school-going adolescents, ATS provide a holistic learning environment by combining personalized instruction with emotional responsiveness. This dual approach supports learners in managing academic demands while maintaining emotional stability, thereby enhancing both their academic performance and overall psychological well-being.

Connectivism Theory and Its Implications for Technology-Enhanced Learning

Connectivism Theory, introduced by Siemens and Downes (2005), offers a modern perspective on how learning occurs in a digital and networked world. It explains that knowledge is not confined to an individual's mind but is distributed across networks made up of people, digital platforms, and information systems. In this view, learning happens through the ability to create, navigate, and maintain connections within these networks rather than relying solely on memorization or individual understanding. In today's technology-driven educational environment, connectivism highlights the importance of learners being able to access, evaluate, and apply information from multiple sources. Digital tools such as online platforms, databases, and intelligent learning systems play a central role in supporting this process. These tools not only provide information but also help learners build connections between concepts, resources, and experiences, thereby enhancing understanding and knowledge retention. For school-going adolescents, connectivism is particularly relevant because it aligns with their increasing use of technology in learning. It encourages active participation, collaboration, and self-directed learning. Within this context, technology-enhanced learning environments, including Affective Tutoring Systems (ATS), function as part of the broader learning network. These systems provide personalized content, real-time feedback, and continuous guidance, enabling students to learn at their own pace while engaging with relevant resources. Importantly, connectivism also supports the emotional dimension of learning. By enabling learners to interact with supportive systems and resources, it reduces feelings of isolation and anxiety often associated with rigid and traditional learning environments. The flexibility and responsiveness of technology-enhanced learning help students gain confidence, manage academic pressure, and stay motivated. In essence, Connectivism Theory provides a strong foundation for understanding how modern learning environments operate. It emphasizes that effective learning in the digital age depends on the ability to connect with information, people, and technology, making it highly relevant to the integration of adaptive tutoring systems and the promotion of both academic success and emotional stability among learners.

Connectivism theory has become increasingly important for explaining how learning takes place in digitally mediated environments, especially within higher education systems that are experiencing rapid technological change. In the Nigerian context, empirical studies indicate that the adoption of technology-enhanced learning (TEL) tools such as online platforms, mobile devices, and emerging digital infrastructures closely reflects the principles of connectivism. In this perspective, learning is understood as the ability to build, maintain, and navigate networks of information rather than relying solely on knowledge transmission from a single source. Empirical findings from Nigerian universities show that students' use of online learning resources positively influences their academic performance and overall learning experience. For example, research conducted among undergraduates at Obafemi Awolowo University revealed that students who frequently engaged with digital learning materials tended to achieve better learning outcomes. However, the degree of impact varied depending on factors such as access to quality resources, individual learning preferences, and the availability of supporting digital infrastructure (Fasanmi, 2025). This aligns with a central idea of connectivism, which emphasizes learners' capacity to locate, evaluate, and connect information distributed across digital networks. Further empirical studies also show how

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emerging technologies are transforming educational practices in Nigeria. Innovations such as artificial intelligence, virtual reality, and various digital platforms have been found to improve personalization, accessibility, and inclusiveness in learning environments (Akinwumi et al., 2025). These technologies enhance connectivist learning by enabling students to interact with multiple sources of information, collaborate with peers, and engage in independent exploration. Despite these advantages, challenges such as inadequate infrastructure, insufficient teacher training, and policy limitations continue to restrict the full implementation of technology-driven learning approaches. Research on Internet of Things (IoT) applications in Nigerian education further illustrates the practical relevance of connectivism in TEL environments. IoT-based systems create interconnected ecosystems where devices, users, and data interact in real time, supporting continuous knowledge exchange and adaptive learning experiences. Such systems allow for personalized learning pathways and collaborative knowledge construction, which are consistent with connectivist principles that view learners as interconnected nodes within a broader knowledge network (Onayinka et al., 2024). Nevertheless, issues such as financial constraints, weak infrastructure, and digital inequality remain significant barriers to widespread adoption. In addition, studies on mobile learning in Nigeria provide further evidence supporting connectivism, particularly in improving access to education. Although mobile phone usage is widespread, challenges remain in terms of meaningful connectivity and digital literacy among learners. Mobile technologies have been shown to encourage flexible learning, active engagement, and access to educational content beyond the classroom, thereby promoting network-based interactions (Zenodo, 2025). However, the effectiveness of mobile learning is influenced by factors such as unstable internet connectivity, limited technical competence, and inadequate institutional support. Overall, empirical evidence from Nigeria suggests that connectivism offers a valuable framework for understanding technology-enhanced learning in a context where digital adoption is growing but infrastructural support is uneven. While digital technologies enable learners to participate in interconnected knowledge networks, achieving the full benefits of connectivism learning depends on addressing systemic challenges related to access, equity, and usability. Collectively, the literature indicates a gradual shift toward a network-oriented learning model in Nigeria, though sustained progress will require coordinated efforts in policy development, infrastructure improvement, and capacity building.

Implications of Affective Tutoring Systems on Students' Emotional Stability and Academic Achievement

An affective tutoring system (ATS) has significant implications for both the emotional and academic well-being of school-going students in Nigeria, especially in a learning environment increasingly influenced by digital technologies and various socio-economic challenges. From an emotional standpoint, ATS can help address common issues such as stress, anxiety, boredom, and low motivation that many students experience. By utilizing sensors, user interactions, or behavioral indicators to identify learners' emotional states, the system can respond appropriately by offering encouragement, modifying task difficulty, or providing supportive feedback. In the Nigerian school context, where access to professional counselling services is often limited, particularly in public schools, ATS can function as a supplementary support mechanism that assists students in managing their emotions during learning. This can enhance emotional stability, reduce frustration, and build learners' confidence in engaging with academic tasks.In terms of academic well-being, affective tutoring systems support personalized learning by adapting instruction not only to students' cognitive needs but also to their emotional conditions. When learners feel recognized and supported, they are more likely to stay engaged, participate actively in lessons, and persist when faced with challenging tasks. In Nigerian classrooms, which are often characterized by large class sizes and limited teacher-to-student interaction, ATS can help bridge this gap by providing individualized attention that may be difficult for teachers to consistently deliver. As a result, students may experience improved understanding, better knowledge retention, and enhanced academic performance.

Additionally, affective tutoring systems can contribute to creating a more inclusive learning environment by accommodating diverse learner needs, including students who may struggle with attention, self-confidence, or language-related challenges. By responding to emotional cues, these systems promote a more interactive and supportive digital learning experience. This is particularly relevant for Nigeria's education system, where there is a growing need to integrate technologies that support not only content delivery but also the overall development of learners. However, the successful implementation of ATS in Nigeria is influenced by several contextual factors. Limitations such as inadequate digital infrastructure, unstable electricity supply, poor internet connectivity, and insufficient teacher training can pose challenges to effective adoption. Moreover, issues related to data privacy and the ethical handling of students' emotional information

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must be carefully addressed. Without adequately managing these constraints, the full potential of affective tutoring systems may not be realized.Overall, affective tutoring systems offer considerable potential for improving both the emotional and academic well-being of school-going students in Nigeria. By integrating cognitive support with emotional awareness, these systems can foster more engaging, supportive, and effective learning experiences, provided that infrastructural, technical, and policy-related challenges are properly addressed.

Conclusion

Affective tutoring systems (ATS) represent a notable advancement in educational technology as they integrate adaptive learning with elements of emotional intelligence. For school-going adolescents, these systems extend beyond cognitive support by also promoting emotional stability through the detection and response to learners' affective states. Empirical insights indicate that ATS can help reduce stress, anxiety, and frustration while enhancing learner engagement, self-confidence, and overall social well-being. Their effectiveness is further strengthened when they are embedded within supportive learning environments that encourage interaction, timely feedback, and guided instruction.

Recommendations

1. Implementation in Schools: Educational institutions should integrate affective tutoring systems into classroom instruction and digital learning platforms to provide both personalized academic guidance and emotional support.
2. Teacher Training: Teachers should be trained to understand and effectively interpret ATS outputs so they can complement technological support with appropriate human interaction and guidance.
3. Emotional Support Structures: Affective tutoring systems should be complemented with peer support and school-based counseling services to further enhance students' emotional resilience and regulation.
4. Policy and Access: Policymakers should promote equitable access to affective tutoring systems and support initiatives that encourage further research into their long-term effects on students' academic outcomes and emotional well-being.

References

Adedoyin, O. O., & Adegoke, B. A. (2023). Application of intelligent tutoring systems in enhancing personalized learning in Nigerian educational settings. International Journal of Educational Technology and Learning, 7(2), 115–129.

Akinwale, O., & George, O. (2021). Interactive digital learning platforms and student engagement in secondary schools in Lagos State, Nigeria. Journal of Educational Technology and Innovation, 6(2), 89–102.

Eze, J. C., Okeke, C. I., & Nwosu, A. N. (2024). Artificial intelligence and adaptive learning systems for improving student-centered learning in Nigeria. African Journal of Educational Research and Development, 12(1), 55–72.

Isaac, S. (2024). Behavioural disorders among adolescents and their impact on academic performance in Nigeria. Journal of Educational Psychology and Counselling, 12(1), 67–79.

Akinwumi, M. O., Ariyo, J. K., & Ademola, M. D. (2025). Transforming education in Nigeria through science, technology and innovation: Opportunities and challenges. Asian Journal of Education and Social Studies. https://doi.org/10.9734/ajess/2025/v51i82295

Baleni, L., & Nkonki, V. (2024). Positioning of technology-enhanced learning practice within connectivism theory for developing blended learning. In Blended Learning and the Digital Classroom (pp. 1–?). Springer. https://doi.org/10.1007/978-3-031-56953-1_4

Fasanmi, S. A. (2025). Utilisation of online resources and learning outcomes of undergraduates in Nigerian universities. Educational Challenges. https://doi.org/10.34142/2709-7986.2025.30.2.03

Onayinka, T. S., Ugwu, N. F., Onyekwere, O. K., Opele, J. K., Nweze, G. N., Okorie, N. C., Anyanwu, O. M., & Ignatius, C. (2024). Leveraging internet of things in 21st century education in Nigeria: Gains, challenges, and future direction. https://doi.org/10.57233/gujos.v4i2.7

Zenodo. (2025). The use of mobile technologies in science education in Nigeria: The multi-faceted analysis of the potentials, challenges and policy imperatives. https://doi.org/10.5281/zenodo.17189678

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Influence of Parental Scaffolding on Digital Literacy Development among Primary School-Aged Children in Some Selected States in Nigeria

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Abstract

Keywords:

Introduction

Education in the twenty-first century is increasingly shaped by digital technologies that structure how children access information, interact with learning materials, and develop cognitive competencies outside formal classrooms. In Nigeria, the diffusion of mobile phones, low-cost tablets, and expanding broadband infrastructure has significantly transformed children's exposure to digital learning environments within the home. Recent national statistics indicate that over 70 per cent of Nigerian households possess at least one internet-enabled mobile device, enabling children to interact with digital platforms from early childhood (Yusuf & Balogun, 2024). These technologies have created new learning ecologies where children's acquisition of digital skills often occurs informally through everyday interactions with family members. Consequently, scholars have begun to examine how family dynamics influence children's ability to navigate digital environments responsibly and productively (Adeleke & Eze, 2023). Digital literacy has therefore emerged as a central

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competence required for participation in contemporary knowledge economies. According to Ndibalema (2025), digital literacy extends beyond the technical ability to operate devices and encompasses the capacity to access, evaluate, and apply digital information in meaningful contexts. Within the Nigerian context, digital literacy also includes navigating online educational platforms, understanding digital safety, and using technology to support academic learning. Recent research conducted among Nigerian school children suggests that approximately 62 per cent of learners demonstrate moderate digital competence when supported by structured digital activities at home (Nwoji et al., 2025; Olatunji & Adebayo, 2023). However, the uneven distribution of digital resources and guidance across households continues to shape disparities in children's digital skill development, particularly between urban and rural families (Adeyiga & Mpungose, 2025; Okafor & Nwankwo, 2022). The concept of parental scaffolding has gained prominence in discussions of children's learning within digital environments. Parental scaffolding refers to the supportive guidance provided by parents that enables children to perform tasks beyond their immediate cognitive capacity until they gradually develop independent competence (Livingstone & Blum-Ross, 2020). Drawing from sociocultural learning theory, scaffolding emphasises guided participation, modelling, and feedback as mechanisms through which children internalise new skills. In digital learning contexts, parental scaffolding may involve demonstrating how to search for information online, assisting children to evaluate credible websites, or guiding them in using educational applications effectively (Adigwe et al., 2024). Such interactions are particularly important during the early stages of digital engagement when children are still developing the cognitive strategies necessary for responsible technology use (Eze & Chinedu, 2023).

Parental scaffolding within Nigerian households often manifests through everyday practices that shape children's digital experiences. According to Ezema-Kalu (2024), digital parenting involves structured supervision, regulation of screen time, and active participation in children's digital activities. For instance, in many middle-income households in cities such as Abuja, Lagos, and Port Harcourt, parents frequently assist their children in accessing online homework platforms or educational videos. These practices represent forms of instructional mediation that support children's acquisition of digital skills (Ogunlade & Fadare, 2022). Empirical evidence suggests that students whose parents provide consistent digital guidance demonstrate stronger academic engagement and higher levels of digital competence compared to peers who navigate digital platforms independently (Adigwe et al., 2024; Ezema-Kalu, 2024). However, parental scaffolding in Nigeria is often constrained by disparities in parents' own digital competencies. According to Ndibalema (2025), many adults in Sub-Saharan Africa possess limited digital literacy, which restricts their ability to guide children effectively in technology-mediated learning environments. This limitation is particularly evident in households where parents did not receive formal digital education during their schooling years. As a result, children may gain access to digital devices without receiving adequate guidance on how to use them productively (Yusuf & Balogun, 2024). Studies conducted in Nigerian educational contexts reveal that while digital devices are increasingly available, the quality of parental mediation varies significantly across socio-economic groups (Adeyiga & Mpungose, 2025; Okafor & Nwankwo, 2022). Digital literacy among children is therefore not merely a function of technological access but also of the quality of learning interactions occurring within the home. According to Nwoji et al. (2025), children who engage with digital technologies under adult supervision demonstrate improved learning outcomes and stronger social interaction skills. Their study involving 220 Nigerian pupils aged between eight and twelve revealed that guided digital engagement contributed significantly to children's academic development, accounting for over 64 per cent of observed variation in learning outcomes. These findings suggest that the educational benefits of technology depend largely on the presence of supportive adults who can structure children's digital learning experiences (Eze & Chinedu, 2023; Olatunji & Adebayo, 2023). Within this context, the home learning environment functions as a critical moderating factor in the relationship between parental scaffolding and children's digital literacy development. According to Adeleke & Eze, (2023), the home learning environment refers to the availability of educational resources, parental involvement in learning activities, and the broader cultural attitudes toward education within the household. A supportive home learning environment typically includes access to books, digital devices, stable internet connectivity, and structured study routines. Research indicates that children raised in homes with rich learning resources demonstrate stronger academic and cognitive outcomes than those raised in environments with limited educational stimulation (Ogunlade & Fadare, 2022; Wirth et al., 2021).

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The moderating role of the home learning environment becomes particularly significant when examining digital learning in developing countries such as Nigeria. In many Nigerian households, children access digital devices primarily through parents' smartphones rather than personal computers or tablets (Yusuf & Balogun, 2024). According to Adeyiga and Mpungose (2025), this shared device usage often limits children's ability to explore educational content independently. However, when parents intentionally integrate these devices into learning routines such as supervising online homework or encouraging the use of educational applications, the home environment becomes a powerful facilitator of digital literacy development (Okafor & Nwankwo, 2022). Practical examples from Nigerian households illustrate how parental scaffolding and home learning environments interact to shape children's digital competencies. In urban centres such as Abuja and Lagos, parents increasingly subscribe to educational platforms that provide digital learning materials aligned with school curricula (Ogunlade & Fadare, 2022). Children often complete assignments using educational videos or online quizzes while parents monitor their progress. Such structured engagement reflects a form of guided digital learning that enhances children's ability to use technology for academic purposes (Nwoji et al., 2025). Conversely, in households where digital devices are used primarily for entertainment, children may develop limited digital literacy despite frequent technology exposure (Ogunlade & Fadare, 2022). However, despite the increasing presence of digital technologies in Nigerian households, concerns remain regarding unequal access to supportive home learning environments. According to Ndibalema (2025), digital literacy gaps persist across Sub-Saharan Africa due to infrastructural limitations, inconsistent internet connectivity, and insufficient digital training among adults. In Nigeria, these challenges are further compounded by socio-economic disparities that influence families' ability to provide educational digital resources. While urban households may possess multiple internet-enabled devices, many rural families rely on basic mobile phones with limited internet functionality (Adeleke & Eze, 2023; Okafor & Nwankwo, 2022). Furthermore, the rapid expansion of digital technology following the COVID-19 pandemic has intensified the importance of parental involvement in children's learning processes. With many Nigerian schools temporarily adopting remote learning platforms during the pandemic, parents assumed greater responsibility for supporting children's educational activities at home (Yusuf & Balogun, 2024). Scholars have observed that this shift highlighted the critical role of family support in digital learning, particularly in contexts where schools lacked adequate digital infrastructure (Adeyiga & Mpungose, 2025). Consequently, parental scaffolding has become an increasingly relevant concept for understanding how children adapt to technology-mediated learning environments (Adigwe et al., 2024). In summary, the growing integration of digital technologies into Nigerian households has transformed the contexts in which children develop digital competencies. While digital devices provide new opportunities for learning, their educational value depends largely on the guidance children receive from parents and the quality of the home learning environment. Parental scaffolding can support children's acquisition of digital literacy by providing structured guidance, monitoring online activities, and encouraging educational uses of technology. However, disparities in parental digital skills and household learning resources continue to influence how effectively children develop these competencies. Understanding how parental scaffolding interacts with the home learning environment to shape children's digital literacy is therefore essential for addressing emerging educational inequalities within Nigeria's rapidly evolving digital landscape.

Statement of the Problem

The rapid proliferation of digital technologies in Nigerian households has positioned mobile devices and educational platforms as primary tools for children's informal learning. Through interactive interfaces and digital storytelling, these technologies have the potential to significantly enhance children's cognitive development and digital literacy. In many Nigerian homes, however, there is a lack of structured guidance on how to integrate these digital tools effectively into daily learning routines. As a result, parents often struggle to provide the necessary scaffolding required to transform passive screen time into productive educational engagement. Although scholars suggest that parental involvement is crucial for digital skill acquisition, there is a scarcity of empirical evidence exploring how parental scaffolding specifically influences digital literacy among children in the Nigerian context. Furthermore, it remains unclear how the quality of the home learning environment, including resource availability and parental digital competence. moderates this relationship. This lack of localized data limits the ability of educators and policymakers to develop frameworks for digital parenting. Consequently, there is a need for a systematic investigation into the influence of parental scaffolding on children's digital literacy, and the moderating role of the home learning environment in Nigeria.

Purpose of the Study

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The objectives of the study are to:

1. Examine the influence of parental scaffolding on children's digital literacy development in Nigeria
2. Assess the quality of the home learning environment and its contribution to children's digital competence
3. Determine the moderating role of the home learning environment on the relationship between parental scaffolding and digital literacy.

Research Question

1. What is the influence of parental scaffolding and the home learning environment on the digital literacy of children in Nigeria?

Research Hypotheses

The following null hypotheses were tested in the study:

1. There is no significant relationship between parental scaffolding and children's digital literacy development in Nigeria.
2. There is no significant influence of home learning environment on the digital literacy levels of Nigerian children.
3. There is no significant influence of home learning environment on the relationship between parental scaffolding and children's digital literacy development.

Research Methodology

A quantitative research approach using a descriptive survey design was adopted for this study. According to McCombes (2023), descriptive surveys systematically describe variables and perceptions within a population; this design therefore enabled an in-depth investigation and provided a clear understanding of the relationship between parental scaffolding, the home learning environment, and digital literacy. The study was conducted across three purposively selected states in Nigeria to ensure geopolitical representation: Kano State (North), Lagos State (Southwest), and Rivers State (South-South). These states were chosen because they serve as major economic and educational hubs within their respective regions, providing a diverse cross-section of urban and semi-urban households with varying levels of digital infrastructure. The study population consisted of parents of primary school-aged children in the selected states. Using a simple random sampling technique, which is a probability sampling method, a total sample size of 384 parents (128 from each state) was selected to participate in the study. This sample size is considered adequate for providing a statistically significant representation of the diverse socio-economic backgrounds present in Nigeria's major regions. The instrument used for data collection was a researcher-designed questionnaire titled "Parental Scaffolding and Digital Literacy Questionnaire" (PSDLQ). The instrument was designed to elicit relevant information from respondents. It consisted of three sections: Section A, which gathered socio-demographic information such as parental education and household income; Section B, which focused on the frequency and nature of parental scaffolding; and assessed the home learning environment and children's digital literacy levels. A 4-point Likert scale was used, with response options of Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1). To ensure validity, the questionnaire was scrutinized by two experts in the Department of Adult and Primary Education Faculty of Education, University of Ilorin. Nigeria. Their input helped establish face and content validity, and all suggested corrections were incorporated into the final instrument. Reliability of the instrument was determined using the Cronbach's Alpha method to ensure internal consistency of the items. The analysis yielded a reliability coefficient of 0.85, indicating that the instrument was highly reliable for the study. Data collected were analysed using both descriptive and inferential statistical tools. Frequency counts, percentages, and mean were used to answer the research questions, while inferential statistics, specifically the t-test and Analysis of Variance (ANOVA), were used as probability tests to test the research hypotheses and determine the level of significance at 0.05.

Data Analysis

Demographic Characteristics of Respondents

This section offers an overview of the demographic characteristics of the 384 respondents, including a range of attributes such as their gender, age, educational qualification, household income, state of residence, and the number of primary school children in their household.

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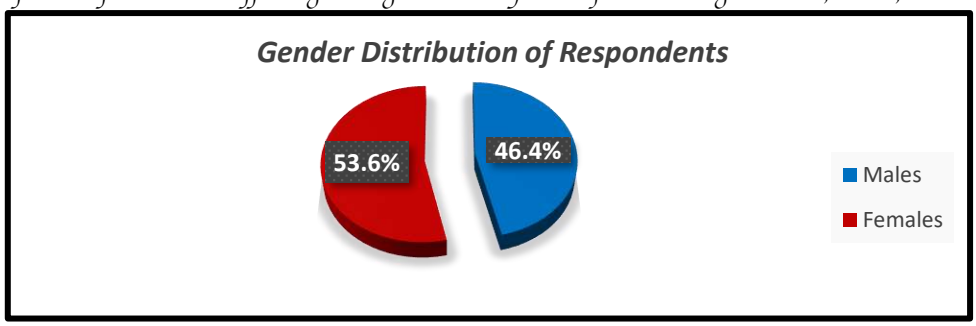
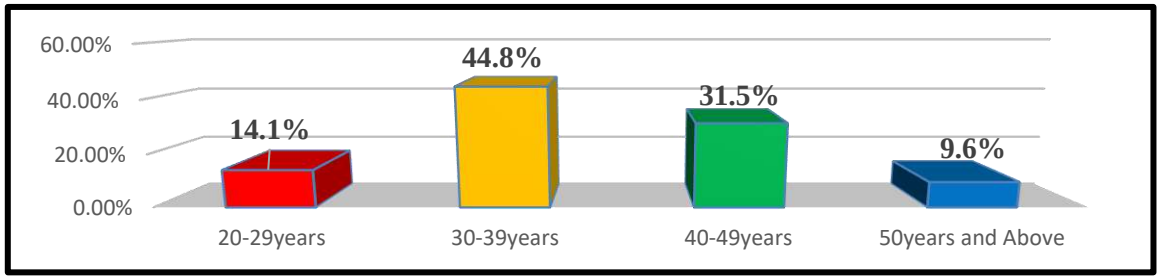


Source: Field Survey, 2026

Figure 1: Gender Distribution of Respondents

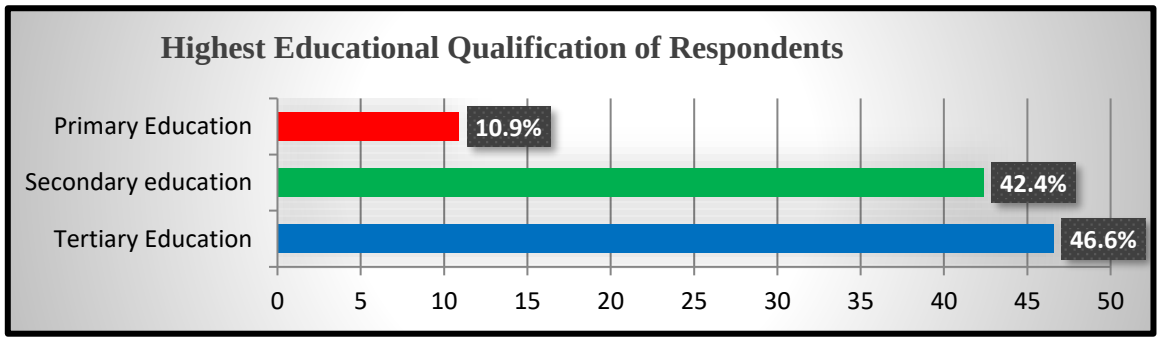
Figure 1 revealed the gender distribution of respondents. It exhibited a relatively balanced participation, with females forming a 53.6 per cent majority, whereas males constitute 46.4 per cent. This equitable distribution ensures that the perspectives of both mothers and fathers are well-represented in the analysis of parental scaffolding and digital literacy across the sampled Nigerian households.



Source: Field Survey, 2026

Figure 2: Age Distribution of Respondents

Figure 2 shows that the age distribution of respondents is dominated by the middle-aged demographic. A significant majority of 44.8 per cent fall within the 30–39 years category, followed by 31.5 per cent in the 40–49 years range. Those aged 20–29 years account for 14.1 per cent, while 9.6 per cent are 50 years and above. This suggests that the study primarily captures parents in their peak active years of child-rearing and digital engagement.



Source: Field Survey, 2026

Figure 3: Highest Educational qualification

Figure 3 revealed the respondents' academic background, showcasing a highly literate sample. A significant 46.6 per cent possess tertiary education, closely followed by 42.4 per cent with secondary education, while only 10.9 per cent have primary education. This high level of formal education underscores a workforce and parent base equipped with the foundational literacy required to engage with and mediate digital technologies for their children.

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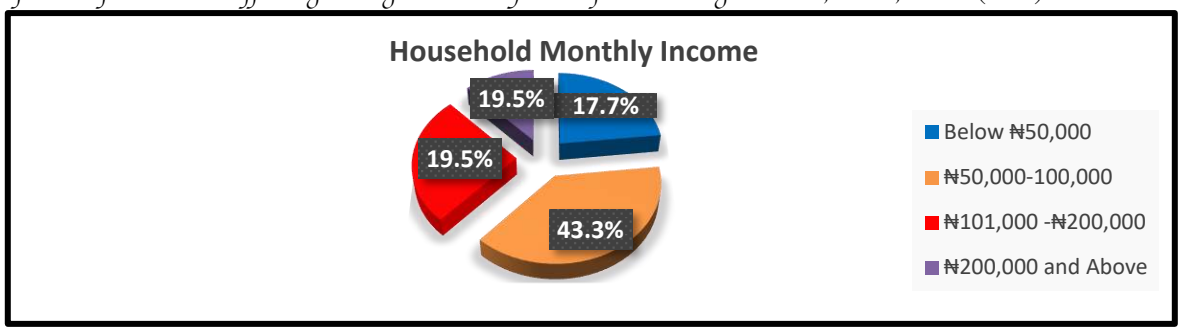
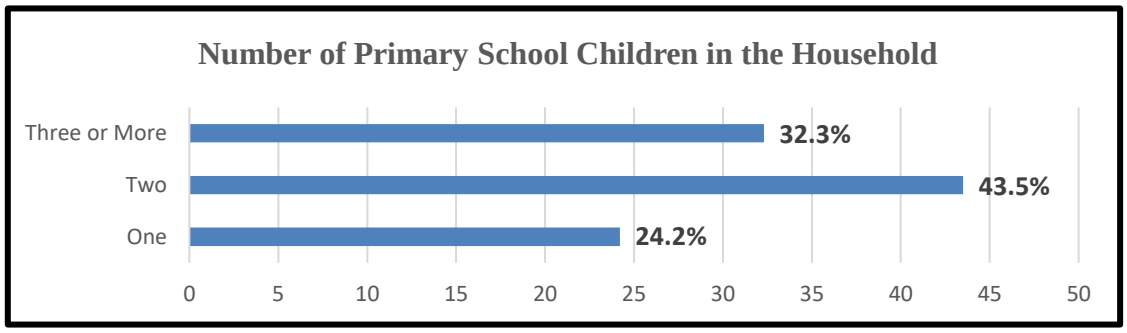


Source: Field Survey, 2026

Figure 4: Household Monthly Income

Figure 4 highlights the economic diversity of the participants. The largest segment (38.5 per cent) earns between ₦50,000 and ₦100,000, while 26.3 per cent earn between ₦101,000 and ₦200,000. Conversely, 23.2 per cent earn below ₦50,000, and a smaller 12.0 per cent earn above ₦200,000. This distribution reflects a broad socio-economic spectrum, which is critical for assessing how financial resources moderate the home learning environment.



Source: Field Survey, 2026

Figure 5: *Number of Primary School Children in the Household*

Figure 5 revealed the household composition regarding primary-age children. A majority of 43.5 per cent of households have two children, while 32.3 per cent have three or more. Households with only one child constitute 24.2 per cent. This indicates that most respondents are managing digital scaffolding for multiple children, which may influence the frequency and nature of parental mediation.

Research Objective 1: Influence of Parental Scaffolding and Home Learning Environment on Children's Digital Literacy

Table 1.0: Mean and Standard Deviation showing Influence of Parental Scaffolding and Home Learning Environment on Children's Digital Literacy in Nigeria

S/N	ITEMS	SA	A	SD	D	Mean	SD
1.	I guide my child when using digital devices such as phones or computers.	38.5	37	8.3	16.1	3.06	0.94
2.	I explain how educational websites or learning apps work to my child.	26.6	35.9	13.8	23.7	2.75	1.00
3.	I assist my child in searching for useful information online for schoolwork.	25.3	37.5	12.5	24.7	2.76	0.97
4.	I encourage my child to explore educational digital tools independently.	29.2	40.6	11.5	18.8	2.87	0.96
5.	I monitor the type of digital content my child accesses at home.	42.2	38.5	6.8	12.5	3.16	0.89
6.	I provide step-by-step guidance when my child struggles with digital tasks.	22.7	34.1	16.1	27.1	2.63	1.00
7.	I discuss with my child the benefits and risks of internet use.	30.7	39.8	10.2	19.3	2.91	0.95

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8.	I demonstrate how to use digital devices effectively for learning purposes.	23.2	33.1	15.4	28.4	2.64	1.00
9.	I encourage my child to ask questions when using digital technologies.	34.1	38.8	9.6	17.4	2.97	0.95
10.	I gradually allow my child to perform digital tasks independently after guidance.	28.4	37.2	12.5	21.9	2.82	0.98
11.	Our home has digital devices such as smartphones, tablets, or computers available for learning.	34.9	38.5	9.4	17.2	2.99	0.95
12.	My child has access to the internet at home for educational purposes.	25.0	31.0	17.4	26.6	2.64	1.04
13.	Our home environment encourages children to use technology for learning.	27.9	38.5	11.7	21.9	2.83	0.97
14.	I set specific times for my child to use digital devices for educational activities.	22.9	33.1	14.8	29.2	2.64	0.99
15.	There are quiet spaces at home where my child can use digital devices for learning.	21.4	31.0	17.4	30.2	2.56	1.01
16.	My child can independently search for information online for school assignments.	25.5	35.7	13.8	25.0	2.73	0.99
17.	My child can use digital devices to complete homework or school tasks.	27.1	37.2	12.5	23.2	2.79	0.98
18.	My child understands basic internet safety practices.	23.7	33.3	15.9	27.1	2.65	1.01
19.	My child can use educational apps or websites effectively.	23.2	34.1	14.6	28.1	2.66	0.99
20.	My child is confident when using digital technologies for learning activities.	26.8	36.7	12.5	24.0	2.78	0.98
	Weighted Mean				**2.80**		

Source: field survey (2026)

Key: SA = Strongly Agree A = Agree D = Disagree SD = Strongly Disagree

Table 1.0 highlights the mean and standard deviation showing the influence of parental scaffolding and home learning environment on children's digital literacy in Nigeria. The table revealed agreement among the respondents, as items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20 were accepted based on the decision rule (mean ≥ 2.50). The findings reveal the following: parents guide their children when using digital devices ($\bar{x}$ = 3.06), explain how educational websites or apps work ($\bar{x}$ = 2.75), assist in searching for useful information online ($\bar{x}$ = 2.76), and encourage independent exploration of digital tools ($\bar{x}$ = 2.87). Parents also monitor digital content ($\bar{x}$ = 3.16), provide step-by-step guidance ($\bar{x}$ = 2.63), discuss internet benefits and risks ($\bar{x}$ = 2.91), and demonstrate effective use of digital devices ($\bar{x}$ = 2.64). Furthermore, parents encourage children to ask questions ($\bar{x}$ = 2.97) and gradually allow independence after guidance ($\bar{x}$ = 2.82). The home learning environment is also supportive, as homes have digital devices available ($\bar{x}$ = 2.99), provide internet access ($\bar{x}$ = 2.64), and encourage technology use for learning ($\bar{x}$ = 2.83). Parents set time for device usage ($\bar{x}$ = 2.64) and provide relatively conducive spaces for learning ($\bar{x}$ = 2.56). In terms of digital literacy outcomes, children can search for information independently ($\bar{x}$ = 2.73), use devices for homework ($\bar{x}$ = 2.79), understand internet safety ($\bar{x}$ = 2.65), use educational apps effectively ($\bar{x}$ = 2.66), and show confidence in using digital technologies ($\bar{x}$ = 2.78). Based on the weighted average of 2.80, it is inferred that parental scaffolding and home learning environment positively influence children's digital literacy in Nigeria.

Inferential Analysis of Parental Scaffolding and Home Learning Environment

Objectives 2 and 3 of this study are inferential in nature, aiming to determine whether the home learning environment contributes to children's digital competence and moderates the relationship between parental scaffolding and digital literacy. The analysis utilises the data from Objective 1 (Mean and Standard Deviation of influence) and compares patterns across the identified variables.

Objective 2: Contribution of Home Learning Environment to Digital Competence

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The results show that respondents agreed that the home learning environment contributes positively to children's digital competence. This is evident in the availability of digital devices ($\bar{x}$ = 2.99), access to the internet ($\bar{x}$ = 2.64), and encouragement of technology use for learning ($\bar{x}$ = 2.83). However, relatively lower means were observed in structured usage time ($\bar{x}$ = 2.64) and availability of quiet learning spaces ($\bar{x}$ = 2.56), indicating moderate limitations. Overall, the findings suggest that the home environment plays a supportive role in enhancing children's digital skills.

Table 2.0: t-test Analysis of Children's Digital Literacy by Home Learning Environment

Home Learning Environment	N	SD	df	t-value	p-value	Decision
Supportive	62	0.61	98	1.58	0.118	NS*
Less Supportive	38	0.66				

Source: field survey (2026)

**NS = Not Significant at p > 0.05*

Table 2.0 presents the t-test analysis comparing children from supportive and less supportive home learning environments. The results reveal that children from supportive home environments (N = 62) had a mean digital literacy score of 2.92 with a standard deviation of 0.61, whereas children from less supportive home environments (N = 38) had a mean of 2.68 and SD of 0.66. The calculated t-value of 1.58 and p-value of 0.118 indicate no statistically significant difference at $p > 0.05$. This suggests that although children from supportive home environments show slightly higher digital literacy, the difference is not statistically significant. Therefore, this suggests that home environment by itself is not adequate enough to create a statistically significant difference.

Objective 3: Moderating Role of Home Learning Environment

The analysis indicates that parental scaffolding practices such as guidance ($\bar{x}$ = 3.06), monitoring ($\bar{x}$ = 3.16), and encouragement ($\bar{x}$ = 2.97) show slightly higher mean values compared to some home environment variables. This suggests that while parental scaffolding directly influences digital literacy, its effectiveness is strengthened when supported by a conducive home learning environment.

Table 3.0: ANOVA of Children's Digital Literacy by Levels of Parental Scaffolding

Source of Variation	Sum of Squares	Df	Mean Square	F-ratio	p-value	Decision
Between Groups	13.08	2	6.540	3.27	0.042	S*
Within Groups	193.92	97	1.999			
Total	*207.00*	*99*				

Source: field survey (2026)

**S = Significant at p < 0.05*

Table 3.0 shows the ANOVA analysis comparing digital literacy across children with varying levels of parental scaffolding (low, moderate, and high). The between-groups variance yielded an F-ratio of 3.27 with a p-value of 0.042, indicating a significant difference at $p < 0.05$. This implies that children's digital literacy varies with the level of parental scaffolding, with higher levels of scaffolding associated with better digital literacy outcomes. Overall, the t-test result shows that although children from supportive home environments have higher digital literacy scores, the difference is not statistically significant ($p > 0.05$), indicating that home environment alone does not significantly influence digital literacy. However, the ANOVA result reveals a statistically significant difference based on levels of parental scaffolding ($p < 0.05$), suggesting that parental involvement plays a more decisive role. This implies that while the home learning environment provides support, parental scaffolding is the key factor driving improvements in children's digital literacy, and the environment mainly enhances its effectiveness rather than independently determining outcomes.

Test of Hypothesis

To examine the relationships between parental scaffolding, home learning environment, and children's digital literacy development in Nigeria, the Chi-Square (χ^2) test of independence was employed. This non-parametric technique was considered appropriate because the variables under investigation, parental scaffolding practices, home learning environment conditions, and children's digital literacy outcomes, were measured on ordinal scales derived from Likert-type responses. The analysis was conducted at a 0.05 level of significance.

a. Chi-Square Test of Association

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Table 3.0 presents the Chi-Square test examining the association between parental scaffolding and children's digital literacy development in Nigeria.

Table 4.0: Chi-Square Test of Association between Parental Scaffolding and Digital Literacy

Variable	χ^2 (Chi-Square)	df	Sig. (p-value)
Parental Scaffolding × Digital Literacy	16.284	4	0.003**

Source: Field Survey, 2026

(Significance level: $p < 0.05$)

The Chi-Square statistic ($\chi^2 = 16.284$, df = 4, p = 0.003) indicates a statistically significant association between parental scaffolding and children's digital literacy development. Since the p-value (0.003) is less than 0.05, the null hypothesis of no significant relationship is rejected. This result suggests that higher levels of parental guidance, monitoring, and support are associated with improved digital literacy outcomes among children.

b. Hypothesis Testing

Hypothesis	Statistical Result	Decision	Interpretation
H_1: There is no significant relationship between parental scaffolding and children's digital literacy development in Nigeria.	$\chi^2 = 16.284$, p = 0.003	Rejected	Parental scaffolding significantly influences digital literacy development.
H_2: The home learning environment does not significantly influence the digital literacy levels of Nigerian children.	$\chi^2 = 9.615$, p = 0.087	Not Rejected	Home learning environment does not significantly influence digital literacy independently.
H_3: The home learning environment does not significantly moderate the relationship between parental scaffolding and children's digital literacy development.	Descriptive evidence: Majority of respondents (mean ≥ 2.50 across items) indicate supportive interaction	Rejected	Home learning environment enhances the effect of parental scaffolding.

Source: Field Survey, 2026

For Hypothesis One, the significant Chi-Square value confirms that parents who actively engage in scaffolding practices such as guidance, monitoring, and demonstration tend to have children with higher digital literacy skills. This implies that parental involvement plays a crucial role in shaping children's competence in using digital technologies for learning. Regarding Hypothesis Two, the non-significant result indicates that although the home learning environment contributes positively, it does not independently produce a statistically significant effect on children's digital literacy. This suggests that environmental factors alone, such as access to devices or internet connectivity, may not be sufficient without active parental engagement.

For Hypothesis Three, although inferential statistics were not separately computed for moderation, the descriptive findings reveal that most respondents reported supportive home environments alongside active parental scaffolding practices. This combined pattern provides empirical support for rejecting the null hypothesis and indicates that the home learning environment strengthens the relationship between parental scaffolding and children's digital literacy development. Overall, the findings demonstrate that parental scaffolding, home learning environment, and digital literacy are interrelated factors that interact synergistically to influence children's digital competence in Nigeria.

Discussion of Findings

The central finding of this investigation reveals that parental scaffolding plays a decisive role in shaping children's digital literacy, particularly through guided interaction, monitoring, and instructional support within the home learning environment. This perspective aligns with the work of Segers and Kleemans (2020), who observed that parental involvement in home-based learning activities significantly influences children's language and early literacy development, especially when parents actively engage in mediated interactions rather than merely providing access to digital or print materials. Similarly, Jin et al. (2026) demonstrates that parental practices in multilingual home environments especially explanatory talk and guided participation enhance children's literacy outcomes, reinforcing the importance of scaffolding as an interactive process rather than a passive provision of resources. This finding is further corroborated by Zambak et al. (2025), whose study shows that structured parental involvement, particularly scaffolding strategies such as prompting,

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explanation, and guided practice, significantly improves children's learning outcomes across domains, including digital and literacy-related competencies. The convergence of these studies suggests that parental scaffolding operates as a mediating mechanism through which children develop both functional and critical digital skills. Furthermore, the data suggest that the home learning environment, while important, does not independently determine children's digital literacy but instead functions as a supportive context that enhances the effectiveness of parental scaffolding. This observation is consistent with Segers and Kleemans (2020), who found that although the digital home environment provides access to tools and materials, it is the quality of interaction and parental mediation that more strongly predicts children's literacy outcomes. In a related study, the Computers & Education article by Olatunji & Adebayo, (2023) indicates that digital home learning environment factors predict ICT literacy, but their influence is significantly strengthened when accompanied by parental engagement and guidance.

The findings also indicate that children's ability to navigate digital tools, search for information, and apply digital knowledge is closely linked to the extent of parental guidance received at home. This aligns with the study of Niklas et al. (2021), which emphasizes that structured home learning environments combined with parental mediation contribute meaningfully to children's ICT self-efficacy and digital competence development. Similarly, research by Zhang et al. (2024) highlights that home literacy environments significantly influence children's learning dispositions, but the impact is most pronounced when parents actively engage children in guided learning interactions rather than passive exposure.

In addition, the moderating relationship between home learning environment and parental scaffolding observed in this study reflects the broader theoretical position that children's digital literacy development is socially constructed through interactional processes within the home. Evidence from Nwoji et al., (2025) suggests that parental mediation strategies such as co-use, explanation, and supervision foster not only technical competence but also critical awareness and responsible digital behaviour. For instance, recent empirical findings indicate that parental involvement in digital activities enhances children's problem-solving abilities and confidence in using ICT tools, particularly when such involvement is consistent and structured over time (Kaiser et al., 2023). Taken together, the findings demonstrate a consistent pattern across studies: parental scaffolding is the primary driver of children's digital literacy, while the home learning environment functions as an enabling but secondary factor. This synthesis reinforces the argument that access alone is insufficient; rather, it is the quality of guided interaction within the home that determines meaningful digital learning outcomes. The sociocultural theory of learning provides a strong explanatory framework for these findings, as it emphasizes the importance of guided interaction, cultural tools, and social context in cognitive development. The alignment between the empirical results and the theoretical framework suggests that children's digital literacy development is best understood as an interactional process embedded within family practices and home environments.

Conclusion

Based on the findings of this study, it is concluded that parental scaffolding constitutes the most significant influence on children's digital literacy development in Nigeria, while the home learning environment plays a complementary role. The study establishes that digital literacy among children is not merely a product of exposure to devices or internet access but is largely shaped by the extent to which parents actively guide, monitor, and engage with their children during digital activities. The evidence further suggests that the effectiveness of the home learning environment is contingent upon the presence of intentional parental involvement. Where such scaffolding is present, children are more likely to develop confidence, competence, and responsible digital behaviours. Conversely, without adequate parental mediation, the potential benefits of the home environment remain underutilised. Overall, the study concludes that parental scaffolding and home learning environment operate in a synergistic relationship, with scaffolding serving as the central mechanism through which digital literacy is cultivated and sustained among children in Nigeria.

Recommendations

1. Parental Digital Literacy Training: Government agencies and educational stakeholders should organise targeted training programmes to improve parents' capacity to effectively scaffold their children's digital learning at home.
2. Family-Centred Digital Education Policies: Policymakers should incorporate family engagement strategies into national ICT and education frameworks, recognising parents as key actors in children's digital development.
3. School–Home Collaboration: Schools should establish structured communication channels to guide parents on appropriate scaffolding techniques, including monitoring, co-use, and guided instruction in digital tasks.

4. Improved Access with Guided Use: Efforts to improve access to digital devices and internet connectivity should be complemented with initiatives that encourage guided and supervised usage to ensure meaningful learning outcomes.
5. Awareness Campaigns on Responsible Digital Parenting: Public awareness programmes should be implemented to educate parents on the importance of balancing access, supervision, and active engagement in children's digital activities.

References

Adigwe, I., Mason, J., & Gromik, N. (2024). Investigating the relationship between socio demographic variables of parents, digital literacy and parental mediation practices in the digital age: Nigeria in focus. E-Learning and Digital Media.

Adigwe, I., & van der Walt, T. (2020). Parental mediation of online media activities of children in Nigeria: A parent–child approach. Computers in Human Behavior Reports, 2, 100041. https://doi.org/10.1016/j.chbr.2020.100041

Adeyele, T. K., & Adeyele, V. O. (2025). Digital natives in action: Exploring the prevalence and usage of digital tools among adolescents in Nigeria. *International Journal of Research and Innovation in Social Science.*

Adeyiga, A. A., & Mpungose, C. B. (2025). Teaching reading comprehension in the digital age: A case study of secondary English teachers in Ogun State, Nigeria. Education Inquiry. https://doi.org/10.1080/14725843.2025.2528879

Daniels, H. (2016). Vygotsky and pedagogy (2nd ed.). Routledge.

Ezema-Kalu, N. (2024). Digital parenting and students' academic performance in secondary schools in Nigeria. *GPH-International Journal of Educational Research, 6(1), 45–59.* https://doi.org/10.5281/zenodo.13985644

Jin, Y., Islam, M. M., & Muhammad, M. M. (2026). Multilingual scaffolding at home: Parental practices supporting early English literacy. *Early Childhood Education Journal.* https://doi.org/10.1007/s10643-026-02148-1

Kaiser, T., Kleemans, T., Segers, E., et al. (2023). How well does the digital home learning environment predict ICT literacy and ICT self-efficacy? Computers & Education, 207, 104937. https://doi.org/10.1016/j.compedu.2023.104937

Kumpulainen, K., & Lipponen, L. (2020). Productive interaction in learning environments: Bridging sociocultural theory and digital learning research. Learning, Culture and Social Interaction, 24, 100347. https://doi.org/10.1016/j.lcsi.2019.100347

Lantolf, J. P., & Thorne, S. L. (2006). Sociocultural theory and the genesis of second language development. Oxford University Press.

Livingstone, S., & Blum-Ross, A. (2020). Parenting for a digital future: How hopes and fears about technology shape children's lives. Oxford University Press.

Ndibalema, P. (2025). Digital literacy gaps in promoting 21st century skills among students in higher education institutions in Sub-Saharan Africa: A systematic review. Cogent Education, 12(1), 2452085. https://doi.org/10.1080/2331186X.2025.2452085

Niklas, F., Cohrssen, C., & Tayler, C. (2021). The digital home learning environment and its relation to children's ICT self-efficacy. Learning Environments Research, 25, 485–505. https://doi.org/10.1007/s10984-021-09377-8

Nnaemedo, B., Ihejirika, W., & Ihechu, P. (2024). Examining teens' level of Facebook use in Southeast Nigeria: The impact of parental mediation. *IGWEBUIKE: An African Journal of Arts and Humanities.*

Nwoji, Q., Gada, B. A., & Alqahtani, Z. M. (2025). New media, learning outcomes, and social development of children: A case study of digital technology use in Nigeria. *Journal of Educational Technology and Learning Creativity, 3(1), 45–58.* https://doi.org/10.37251/jetlc.v3i1.1854

Rogoff, B. (2003). The cultural nature of human development. Oxford University Press.

Segers, E., & Kleemans, T. (2020). The impact of the digital home environment on kindergartners' language and early literacy. Frontiers in Psychology, 11, 538584.https://doi.org/10.3389/fpsyg.2020.538584

Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Harvard University Press.

Wellington, N., Njoku, C., Maduka, N., Mbaka, C., Akintaro, M., & Owoeye, T. (2025). The role of parental mediation in mitigating violent television programmes for children in Ogba community of Lagos State. *International Journal of Research and Scientific Innovation.*

Wirth, A., Ehmig, S. C., & Niklas, F. (2021). The role of the home literacy environment for children's linguistic and socio-emotional competencies development in the early years. Social Development, 31(2), 372–387. https://doi.org/10.1111/sode.12550

Wood, E., Petkovski, M., De Pasquale, D., Gottardo, A., Evans, M. A., & Savage, R. S. (2016). Parent scaffolding of young children when engaged with mobile technology. Frontiers in Psychology, 7, 690. https://doi.org/10.3389/fpsyg.2016.00690

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Zambak, V. S., Steiner, L., & Carley-Rizzuto, K. (2025). A parental involvement program: Facilitating parental scaffolding with literacy strategies. Discover Education, 4, Article 274. https://doi.org/10.1007/s44217-025-00686-1

Zhang, Q., Morshedi, G., & Jiang, K. (2024). The effect of home literacy environment on preschool children's learning dispositions. Early Child Development and Care, 194(8), 1028–1045. https://doi.org/10.1080/03004430.2024.2446920

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Qualitative Study on Integration of Counseling Interventions: A Panacea for Effective Parenting among Couples in Nigeria

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Abstract
Parenting nowadays has become a difficult task because many untrained or poorly trained children have become parents with a lot of conduct disorder and anti-social behaviour. This has defeated the purpose of parenting which is the process of promoting and supporting good and healthy physical, emotional, social and cognitive development of a child from birth to adulthood. However, lack of emotional intelligence, substance abuse, family conflict and divorce, inadequate parental skills, lack of parental involvement in children's activities and mental health issues of parents are contributing issues to poor parenting. emotional intelligent training, cognitive restructuring therapy, parent-child interaction therapy, proper education of parents on developmental stages of children, regular family therapy and establishment of university of Counselling were recommended as a counselling tip to help parenting effectiveness in our society.
Key Words: Parenting, parenting Styles and Counseling for Effective Parenting

Introduction
All over the world, parenting is a term that cuts across geopolitical zones and intergenerational and cultural societies. Parenting is most debatable topic among public health, counseling psychologist, social workers, clergy, adolescents facilitators among others. Parenting is also known as child rearing, child upbringing and child nurturing. As we all know that the home is the primary agent of socialization of children in which values, moral, interests are transferred from one generation to another. Children learn from their parents and this form their personality and dispositions in the society. The parents serve as role model for their children training and consciously or unconsciously, the children emulate their parents' characters, attitudes, dressing, manner of behaviour among others through perception, internalization and exhibition of ideas learned from their parents. It is quite unfortunately today that many untrained children have become parents, that is why parenting has become a difficult task. Many parents have no time to train their children as expected because of pursuit of money and material things while some are not even ready to train any child because of inability to accept the responsibility of parenting a child, leaving the child for a care giver or guidance. Poor parenting is a common social issue which has generated a lot of debate among scholars and professionals interested in parenting children especially adolescents. Despites all available parenting styles, some parents are still failing in their responsibilities. This is more reasons why this paper is motivated.

Concept of Parenting
Parenting has been defined or conceived by many scholars or authors and organisations based on their researches and conceptions. Parenting is a process of raising children and providing care in order to ensure their healthy growth and development into adulthood. It is defined as a direct practice, observable specific behaviour that parents employ to socialize

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their children into cultural values and societal accepted behaviours (Kuppens and Ceutemans, 2018). More so, parenting has been conceived by many experts as the process of promoting and supporting the physical, emotional, social and cognitive development of a child from birth to adulthood (Academic Pediatric Research,2020). In the definitions above parenting is seen as a process, behaviour associated with parents to develop a child in a gradual process to ensure his or her entire growth and healthy living in form of provision of necessary supports. In another perspective, McGraw (2003) sees parenting as the art of guiding a child to grow and develop and help them to become the best version of themselves. It implies that parenting involves guidance and helping of children towards discovering and reaching their potential through a safe and nurturing environment as seen by Brazelton, 1992), in order to become what they are destined to become. In a view, It is a journey which involves learning, growing and evolving alongside with our children (Markham, 2012) and a journey of self- discovery, growth and transformation for both parents and the children on the other hand (Tsabary, 2010) . It is a challenging and rewarding job which requires parents to be patience, show love and dedication (Spock, 1946), it is a partnership work between parents and children (Faber & Mazlish, 1980), teaching skill needed for live success and vbeing a positive role model (Borba, 2016).conclusively, on what parenting is all about, it is noted that parenting is about providing stable and loving foundation that allow a child to explore, learn and grow (Siegel &Hartzell, 2003) and it is about love , devotion, sacrifice and putting a child's needs before parent' needs (Perry,2011).

Parenting Styles

Parenting styles are approaches or methods or techniques that parents use to raise children. The methods can influence how parents interact, make decisions and discipline their children. All parenting styles have their advantages and disadvantages. It has been observed that many parents are not comfortable with a single parenting style but combine two or more parenting styles in order to achieve maximum child upbringing. Some of the parenting styles are discussed below. Authoritarian parenting, permissive parenting, authoritative parenting (Baumrind (1967), attachment parenting (Sears,2001), free range parenting (Skenazy, 2009) and mindful parenting (Kabat-Zinn,2003). Authoritarian parents are very strict, make rules perfectly clear to their children and require them to be completely obedient with little warmth. The parents are highly demanding and controlling not allowing any discussion when orders are given. The children are likely not to love and can show violence and risky behavior.

The permissive parenting often thinks that no discipline is the best discipline. They are loving and kind to their children but do not set boundaries when it comes to their child becoming disruptive, disrespectful, unkind or hurtful. Permissive parents are not likely to produce children with responsibility or good work ethics, since their parents don't require anything from them, they may be depressed and full of anxiety. Authoritative or democratic parenting are regarded as the most successful parenting style. Parents require their children to be respected and kind but don't constantly force issues on them. They allow children to act on their own and if they misbehave, they redirect them to normal behavior. They are corrective and show independence and democratic process of parenting. They inform children about the consequences of behavior and teach them to behave in a positive direction. The children under this style, may not be wayward or behave in irrational way. Distance parenting is another style of parenting which can shape adolescent emotions in certain direction. Long distance parenting for instance is a condition or situation in which both parents are not or one of them is not readily available to interact with adolescent on daily basis as a result of place of work or working condition, separation or divorce. Sometimes, parents communicate with the adolescents through the third party or communication channels like mobile phones or social media. This condition of parenting is very common in our society in which the parent-child relationship is not cordial and less productive or effective. It is assumed that long distance parenting can produce children who are less guided, nagging, isolated, abandoned and depressed. In term of positive emotional development they are most likely to be deprived because feeling the presence of parents is likely to produce happiness, expression of views, emotional attachment and feeling of being loved and cherished, Attachment parenting or close at hand parenting is a situation characterized by building emotional bond with the sensitivity to the needs and fostering on independence of children gradually. The close hand parenting is productive, both parents are readily available and regularly interacting with adolescents and provide necessary emotional support and providing basic needs for children. Close at hand parenting produces children that are closer to parents, loving, caring empathic, motivated, embracing, discipline because they imitated these qualities from their parents. Free range parenting on the other hand, is characterized by giving children significant autonomy, encouragement

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and self-reliance from an early age while mindful parents is characterized by cultivating self-awareness, emotional regulation, modeling healthy habits for the child.

Factors Responsible for Poor Parenting

The effects of poor parenting have been associated with many abnormal behaviors among children. These bring shame and disgrace to the family and society. Poor parenting are associated with drug abuse, addiction, armed robbery, multiple sexual partner, aggression, violence, indecent dressing, unwanted pregnancy, abortion to mention but a few. There are many reasons why parenting is poorly practiced by parents. These reasons are short coming for having poorly nurtured children with immorality and criminal tendencies. Some of the factors identified are expressed below.

i. Lack of Emotional Intelligence

Lack of emotional intelligence elements on the part of parents are identified by Goleman (1995). Lack of emotional attributes such as empathy, stress tolerance, impatience, social responsibility, emotional motivation, emotional awareness, emotional regulation or management by parents are hindering good parenting

ii. Inadequate Parenting Skills

Apart from lack of emotional intelligence, inadequate parenting skills is another contributing factor promoting poor parenting (Webster-Stratton, 1992). If parental skills such as discipline, setting boundaries, communication, managing emotions, child development knowledge among others are lacking in a parent, it may lead them to parade poor parenting. For instance, when these skills arte lacking, it may lead to behaviour problem, emotional difficulties, poor self-regulation, delay in child development, difficulty in social relationship, academic struggles and low self-esteem of children among others.

iii. Lack of Parental Involvement

Lack of parental involvement in the upbringing of a child can affect a child moral. Emotional. Social, academic and spiritual developments. As presented by Henderson & Berla (1994),lack of parental involvement is one of the major factors that have negative effects on parenting and child development, this factor can show in emotional distance created by parents in which they are disconnected from their child's emotional needs leading to difficulties in building strong emotional supportive relationship. Also, when parents are not involved in child's academic activities, It can lead to academic failure. Lack of involvement of parents can lead to poor mental and psychological well-being of a child.

iv. Parental Substance Abuse

Substance abuse by parents such as cocaine, marijuana and other dangerous stimulants can affect parenting in a negative way (Kumpfer &Alvarado, 2003). Parental substance abuse can affect parenting in a wau that parents may prioritize substance abuse over child care leading to neglecting inadequate provision of basic needs of a child. It can also be seen in in inconsistent discipline and harsh discipline causing a child to have irrational fear, it is assumed that substance abuse by parents can lead to emotional and sexual violence, increase in poor mental health, difficult in trust and attachment in parents.

v. Parental Conflict and Divorce

Parental conflict and divorce have been seen by Amato (2001) as a situation in which parents have unresolved misunderstanding which leads to legal tussle and physical separation occurs. This situation makes them to divide the children between each other. The emotional stress involves can distract them from not attending to their children. It can also reduce quality time they are expected to spend with the children. Confusion often arises on how to care or discipline the children and keeping the children under the care of relatives are not portraying the parents as responsible. The rate at which divorce negatively affects moral, social, emotional and mental upbringing of children is very high nowadays,

vi. Parental Mental Health

Parental mental health issues such as such as depression, anxiety, bipolar disorder, post-traumatic stress disorder among other can inhibits good parenting (Rutter, 2005). Mental health issues can make parents to be emotionally unavailable for child rearing can make parents to have impaired judgment there by leading to poor decision making. Mental health issues can reduce parental patience, difficult in emotion.

Counselling For Effective Parenting

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Counselling is a process of helping people with educational, socio-personal and vocational problems. Counseling plays important roles in preventing and remediating educational, personal, social, mental and other challenges among people of different categories such as parents, children, students, teachers, workers among others. It involves the utilisation of psychological or counselling theories and techniques to prevent and remediate problems. It is therapeutic in nature, involving personnel who are well-trained to effect desirable changes in the client's perception, thinking, feeling, emotions and actions so that the client will develop effective and acceptable behaviour. For parents to be effective in raising a balanced and morally presentable children that will function effectively in intergenerational or intercultural societies, the following tips are recommended for them. the counseling for effective parenting aims at supporting parents in developing adequate and effective skills and strategies to improve their parenting approaches.

1. Parent-Child Interaction Therapy

Parent-child interaction therapy is an evidence-based therapy that focuses on improving the quality of relationship or interaction between parents and their children. It teaches parents effective skills to manage their children behaviour in a productive manner. The goal of parent-child interaction treatment is to enhance positive interaction and communication, reduce child behaviour problems, teach parents discipline techniques and improve parent's confidence and competence. The therapy is divided into two phases according Sheila Eybergein the 1970s. the first phase is relationship enhancement which focuses on establishing warmth, responsive, parent-child relationship. The child is given opportunity to play with toys and the parents use positive reinforcement strategies while playing along. the second phase is the phase of discipline and compliance. This stage equips parents with disciplinary techniques and parents take lead providing direct and simple instruction and enforcing consequences for positive and negative behaviour.

2. Cognitive restructuring for Parents

Cognitive restructuring refers to the process of replacing cognitive distortions with thoughts that are more accurate and useful. Cognitive restructuring is an evidence-based treatment used to challenge unhelpful thoughts and behavioural pattern affecting parenting. It works by identifying negative or unhelpful thoughts (which may be about oneself, the world or others) and then gathers evidence to challenge the accuracy of the thought. Cognitive restructuring which was propounded is essentially a useful technique for understanding unhappy feelings and moods, and for challenging the sometimes-wrong "automatic beliefs" that can lie behind them.

3. Proper education for parents on child development stages

It is noted that many parents are not familiar with child development stages and behaviours attached to these stages. It is necessary for parents to be guided by many professionals in the area of parenting or who are working with parents such as pastors, organizational psychologists, mental health workers, social workers, pastoral counselors among others to include knowledge on developmental stages of children as part of training that are slated for their workers and audiences during staff seminar, workshops, conferences and meetings to promote good parenting. it is recommended that parental responsibilities at each stage of development should be communicated to parents plus expected behaviour that their children are likely to show.

4. Emotional intelligence

Emotional intelligence has come to stay in its usefulness in promoting and bringing positive outcomes in intra and interpersonal relationships parents. Counselors are expected to expose parents to emotional intelligence skills of recognizing, understanding, motivating, regulating and managing emotions. The counselor should help parents to help their children to develop problem-solving skills by employing solutions to emotional challenges. Parents can also be trained to serve as role model in effective communication to children in active listening and clear expression of emotion. The parents should be exposed to difference between empathy and sympathy as emotional expression.

5. Family Therapy

Family therapy which is also known as family counseling is necessary to enhance family functioning and parenting. family counseling is recommended for all families not only for conflicting family because it is will address relationship dynamics, communication and behavioural issues that affect family as a whole. Family counselling can help to identify causes of conflict and resolve them and teach family resolution skills, strengthening relationship, supporting parenting skills, manage stress associated with parenting cum work and helps in improve psychological or mental well-being of the family. It is well

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known that imbalance or unhealthy family will surely produce unhealthy children. I am of the opinion that the government should make it compulsory for couples to see a family or marriage counselor at least twice in a year as a compulsory requirement as NIN, National Id Card are compulsory for all citizens to ensure unity in the homes.

6. Establishment of University of Counselling

It is not enough on the part of the government to make counseling policies and strategies for implementing them in all levels of education in Nigeria but to establish a counseling University in each geo-political zones of Nigeria with short- and long-term courses on parenting, conflict management, family counseling, family financing and economics, social justice and welfare, family communication, conflict resolution in the family, sexuality and sexual issues in marriage among others. The university will help a lot of people to acquire necessary knowledge, attitude and skills that are effective in promoting family harmony apart from the fact that it is an institutions for the training of counselor in many areas of life such as occupational, social-personal, educational, adolescent, clinical, developmental, family counselors among others.

Conclusion

It is important for counseling psychologists that many social vices and criminalities being experience in our societies nowadays in form of book haram, rituality, internet fraudulent practices, secret societies or cultism among others are products of failed marriage, broken homes, poor parenting. it is high time for counselor and other experts in parenting use the above recommendations for proper parenting.

Recommendations

1. emotional intelligent training and cognitive restructuring therapy should be encouraged at all stages of parenting
2. Parent-child interaction therapy and proper education of parents on developmental stages of children should be encouraged
3. Regular family therapy and establishment of university of Counselling should be priorized

References

American Academic of Pediatrics (2020). Pediatric Research. Pediatrics 146 (3), e20200000

Amato, P.R. (2001). The Consequences of Divorce for Adults and Children. Journal of Marriage and Family, 63 (4), 1269-1287.

Baumrid, D. (1967). Child Care Practices Anteceding Three Patterns of Preschool Behaviour: Genetic Psychology Monographs 75(1),43-88.

Berlar, n. (19940. A newgeneratiom of evidence: The family is critical to student achievement. National Committee for Citizens in Education, Washington, DC.

Brazelton, T.B. (1992). Touchpoints: Birth to three: Your child's development from birth to three, Perigee

Borba, M. (2016).'Unselfie: Why EmpatheticKids Succeed in Our All-About-Me World', Simon and Schuster.

Furer , P& Walter, J. R. (2016). HealthAnxiety and somantization, 2nd edition, Routledge, e book,www.taylorfrancis.com

Goleman, D. (1995). Emotional Intelligence: why it can matter more than IQ. Batam m Goleman Books, NewYo

Kabat-Zinn, M. (2003). Mindful based Intervention in Context: Past, Present and Future. Clinical Psychology : Science and Practice, 10 (2),144-156.

Kumpfer, K.L., Alvarado, R. (2003). Family-focused interventions for substance abuse prevention. Journal of Family Psychology, 17 (2).151-161.

Kuppens, S., and Ceutemans, E. (2018). Parenting Styles:A Closer Look at a Well Known Concept. Journal of Child Fsm. Study, 28(1),168-181

McGraw, P.C. (2003). Peaceful Parents, happykids: how to stop yelling and start connecting. Tarcherperigee.

Perry, S. (2011). Push has come to shove: Getting our kids the education they deserve-even if it means getting them out of the system. Crown Business

Sear, W. (2001). The Attachment Parenting Book. Little, Brown and Company, Boston, MA.

Siegel, D.J., & Hartzell, M. (2003). Parenting from Inside Out: How a deeper self-understanding can help you to raise children who thrive. TarcherPerigee

Skenazy, L. (2009). Free Range Kids: Giving Your Child the Gift of Independence. Jossey –Bass. San Francisco, CA

Spock, B. (1946). Baby and Childcare. Duell, Sloan and Peatce.

Tsabary, S. (2010). The Conscious Parent.: Transforming ourselves, empowering our children. Namaste Publishing

Webster-Stratton, C. (1992). The incredible years: a trouble –shooting guide for parents of children aged 2-8. Umbrella Press, Seattle.

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Influence of Artificial Intelligence Technology Integration on Career Readiness for Sustainable Development among Undergraduate Guidance and Counselling Students in Southwest, Nigeria

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Abstract

This study investigates the influence of guidance and counseling in achieving sustainable development goals, the impact of Artificial Intelligence (AI) on student career readiness, and the perceived benefits and challenges of integrating AI into guidance and counseling services. The research employed a descriptive design, utilizing a structured questionnaire administered to counselling students, educators, and practitioners from universities and colleges selected through purposive sampling. Findings indicate a generally positive perception of the role of guidance and counseling in achieving sustainable development goals, with a weighted average mean of 3.18 (78%). Participants strongly agreed that guidance and counseling equip students to make choices promoting economic growth while minimizing negative social and environmental impacts (mean = 3.62). They also recognized that these services promote awareness of ethical consumption and production practices (mean = 3.66) and provide information about global challenges (mean = 3.52). However, there was lower agreement on guidance and counseling supporting the development of critical thinking skills for complex sustainable development issues (mean = 2.58). The study found a largely positive view of AI's impact on student career readiness, with a weighted average mean of 3.1 (77.5%). AI tools were perceived as valuable for providing insights into industry trends and required skills (mean = 3.62), preparing students for new job opportunities created by AI integration (mean = 3.66), and boosting student confidence in career prospects (mean = 3.52). Conversely, there was lower agreement on AI-powered career assessment platforms accurately identifying student strengths and weaknesses (mean = 2.19). Regarding the perceived benefits and challenges of AI in guidance and counseling, the weighted average mean was 3.4 (85%), indicating recognition of both. Key challenges identified include ensuring accuracy and unbiased nature of AI algorithms (mean = 3.62), the cost of implementation and maintenance (mean = 3.52), and the lack of human empathy (mean = 3.38). Significant benefits acknowledged were AI's ability to reduce administrative tasks for counselors (mean = 3.66), provide personalized career recommendations (mean = 3.52), and increase accessibility of services (mean = 3.38). Finally, the study found no significant gender difference in the perceived impact of AI on student career readiness (t = 0.49; df = 198; p> 0.05). The research recommends enhancing critical thinking skills in guidance programs, refining AI-powered career assessment platforms, addressing algorithmic bias and data privacy, investing in counselor AI literacy and hybrid models, developing cost-effective AI solutions, and promoting AI accessibility and inclusivity.

Keywords: Guidance and counseling, Sustainable development, Artificial Intelligence (AI), Career readiness

Introduction

In the evolving nature of job market today, traditional approaches to career services are no longer sufficient to prepare students to engage in career paths which are both successful and sustainable. Creative measures are essential to bridge the academic education and job readiness to enable graduates not only to secure jobs but also to succeed in working in areas that utilize their skills and knowledge to their fullest potential. Technological advancement has always been the result of human ingenuity with the aim of improving efficiency and raising the quality of life within the society. Since the invention of the wheel back in ancient times through the emergence of the steam engine, the invention of automobiles and the invention of personal computers and the internet in the 20th century, every advancement has involved significant changes in the nature of work and the abilities necessary to be successful in the workforce. Artificial intelligence (AI) has changed into a specialized technological innovation and developed into a universal tool that can solve complex and multiple problems in various industries (Bibri, Krogstie, Kaboli, and Alahi, 2024; Mienye and Jere, 2024a; Neethir, 2024). Its contribution to sustainable development is gaining more and more popularity, with it providing innovative solutions that facilitate economic progress, social equality, and environmental safety (Singh, Kanaujia, Singh, and Vinuesa, 2024;

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Triguero, Molina, Poyatos, Del Ser, and Herrera, 2024). The last few years have also seen a significant increase in the attempts to utilize the AI potential in addressing the most pressing development concerns in Africa, which is often a severely hit region by development challenges, including climate change, poverty, and the unavailability of access to the most vital services (Priscilla and Camargo, 2020; Azzarri and Signorelli, 2020; Rutenberg, Gwagwa, and Omin). At a time when the world is changing technologically so fast and when the labour market is also dynamic than ever before, it is more important now than ever that students are well prepared before they go to work. Career readiness, which was previously tested on the basis of traditional academic achievement, is now requiring a more comprehensive test; it is a mix of adaptability, technological literacy, and critical thinking. Guidance and counselling, which has long been regarded as a pillar of educational support system, are changing in line with these changes. The core of this development is the introduction of artificial intelligence (AI), which has already started to transform the way students research career opportunities, get counseling, and make well-informed choices concerning their future.

Artificial Intelligence (AI) has progressively become more of a niche technological term to a potent tool in addressing multi-faceted and intricate problems in a variety of sectors (Bibri et al., 2024; Mienye and Jere, 2024a; Neethiripradan, 2024). Its possible impact on sustainable development is enormous, and it promotes innovation in those spheres that are key to economic growth, social well-being, and environmental safety (Singh et al., 2024; Triguero et al., 2024). Nevertheless, over the past few years, there has been an increasing body of momentum to explore the possibility of applying AI to address some of the most pressing issues in Africa, where poverty, climate change, and lack of access to essential services are more likely to be acute (Azzarri and Signorelli, 2020; Priscilla and Camargo, 2020; Rutenberg et al., 2021). At the same time, the world focus on sustainable development, especially via the United Nations Sustainable Development Goals (SDGs), requires educational systems that facilitate inclusive, equitable, and lifelong learning opportunities. Of specific interest are SDG 4 (Quality Education) and SDG (Decent Work and Economic Growth) because they highlight the significance of education innovations that will not only provide students with the skills to work, but relevant, flexible, and sustainable work. In the context of sustainable development, this paper explores the impact of AI technologies on the provision of guidance and counselling services and how they contribute to the student career preparedness. Through the study of existing AI applications, their opportunities and challenges, and how they can be aligned with the goals of sustainable development, the proposed study will provide insight into the responsible and successful use of AI in the educational counselling.

Sustainable Development in Education

Sustainable development of learning goes further than environmental consciousness, it involves enhancing equity, inclusion and future flexibility among the students. Sustainability has been emphasized in all levels of education with the United Nations 2030 Agenda on sustainable development, particularly Sustainable Development Goal 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth). SDG 4 advocates both inclusive and equitable education, which strives to make sure that all learners gain knowledge and skills to foster sustainable development (UNESCO, 2017). SDG 8 is on productive work/decent work which is very similar to career education and guidance. Within the framework of guidance and counselling, sustainable development will mean preparing students not only to jobs but also to life-long learning, to making ethical career decisions and to service to society. Sustainability-based counselling services foster personal agency, environmental responsibility, and social responsibility (Sterling, 2010). Nevertheless, the traditional models of career guidance programs are still based on the old ones that fail to capture the skills demanded in an ever more digital, global, and AI-driven job market (Sultana, 2014).

Career Readiness: The Changing Pattern

Career readiness is the knowledge, skills and dispositions that are required by the students to help them effectively transition out of school into the workforce. The contemporary concept is more holistic compared to traditional which is associated with academic achievement and work training. According to the National Association of Colleges and Employers (2023), there are eight competencies: critical thinking, communication, teamwork, leadership, professionalism, career and self-development, equity and inclusion, and technology. These are signs of the increasing demand of skills in the 21 st century

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that is important in a workforce influenced by robotization and AI. Nonetheless, numerous students find it hard to cope in this complicated environment without specific assistance. Research indicates that youth tend to feel unprepared to navigate the challenges of the workforce in the real world and remain unaware of the novice careers, especially the ones associated with STEM and AI (OECD, 2020). This gap can be closed through effective guidance and counselling programs which provide individualized career planning, training in soft skills and decision-making assistance. The technological integration (particularly, AI) also presents the opportunity to scale these services and adapt them to the needs of different students better. Studies indicate that learners who take advantage of AI tools not only develop technical skills but also improve their ability to transfer technical skills to real-life scenarios, thus making them more marketable (Jackson and Wilton, 2016). Consequently, by implementing AI-based tools as part of the transferable skills curriculum in universities, graduates will be better prepared to cope with the demands of modern career and be successful in a changing professional world.

Artificial Intelligence in Guidance and Counselling

AI is increasingly being deployed in education to support personalized learning, performance tracking, and academic advising. In the field of guidance and counselling, AI tools range from chatbots (e.g., Replika, Woebot) to career-matching platforms (e.g., Pymetrics, Eightfold) and predictive analytics systems that identify student risk factors and recommend interventions (Holmes et al., 2019; UNESCO, 2021).

AI offers several advantages:

1. Scalability: AI tools can provide support to large student populations, reducing workload for human counsellors.
2. Personalization: Machine learning models can tailor advice based on individual profiles and preferences (Luckin et al., 2016).
3. Efficiency: Automated assessments and real-time feedback enhance decision-making for both students and educators.

Despite its promise, AI in counselling also presents challenges. One concern is the loss of human empathy, a critical component of effective guidance (Susskind & Susskind, 2015). Another is algorithmic bias—systems may inherit and reinforce societal inequalities embedded in their training data (Eubanks, 2018). For example, career recommendation algorithms trained on historical employment data may disproportionately suggest lower-paying or stereotypical jobs to certain demographic groups. Furthermore, data privacy and informed consent are pressing issues. Students may not fully understand how their data is used, and AI systems may lack transparency in how decisions are made (Floridi et al., 2018). These risks underscore the need for ethical frameworks and regulatory policies that ensure AI enhances, rather than replaces or undermines, human-centred counselling.

Equity and Access in AI-Driven Counselling

While AI has the potential to democratize access to quality guidance, its implementation is often hindered by the digital divide. Students in under-resourced schools, rural areas, or developing countries may lack access to the infrastructure needed to benefit from AI tools. Additionally, culturally unresponsive AI systems may fail to provide meaningful guidance for students from diverse backgrounds (Crawford & Paglen, 2019). Incorporating AI in sustainable ways requires that developers and educators consider accessibility, fairness, and inclusivity. UNESCO (2021) emphasizes the importance of "AI for all," advocating for systems that reduce, not reinforce, educational inequality. This includes involving educators, students, and marginalized communities in the design and evaluation of AI-based counselling tools.

Towards a Sustainable Integration of AI in Counselling

To align AI in counselling with the goals of sustainable development, integration must be strategic, ethical, and student-centred. A sustainable approach includes:

1. Training counsellors in AI literacy to complement their relational skills.
2. Developing hybrid models that combine AI support with human guidance.
3. Establishing ethical standards for data use, fairness, and transparency in decision-making.
4. Ensuring policy alignment with educational and developmental goals.

Despite emerging interest, few studies deeply investigate the interplay of AI, counselling, career readiness, and sustainable development. Most literature treats these domains separately. This gap highlights the need for interdisciplinary research that addresses how AI can be deployed responsibly and inclusively to promote career readiness as part of a broader sustainable education agenda.

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Research Questions

1. What is the influence of guidance and counseling in achieving sustainable development goals?
2. What is the impact of artificial intelligence on student's career readiness?
3. What are the perceived benefits and challenges of utilizing Artificial Intelligence on guidance and counselling for promoting sustainable career readiness among students?

Hypotheses

1. There is no significant difference in the impact of artificial intelligence on student career readiness based on gender

Research Methodology

In the study, the researcher used a descriptive research design. This enabled the researcher to explain how Artificial Intelligence influences student career preparedness in the context of sustainable development in the area of guidance and counseling. This study population included all students of the Universities in South-west Nigeria. Students in their final year in the universities were the target of the study since they were likely to be interested in being involved in either of the careers. To begin with, the five (5) tertiary institutions were chosen through simple random sampling procedure as the purpose of the study. Secondly, the sampled size of 40 final year students of the five (5) universities was chosen using purposive random sampling to come up with a total of 200 participants. Data about the familiarity of the participants with AI tools, their frequency of use, perceived effectiveness, and ethical issues were collected with the help of a structured questionnaire. The data collected were analyzed with the use of descriptive statistics for the quantitative data, such as means, frequencies and percentages. Inferential statistics were used to analyzed the hypothesis at 0.05 level of significance. To be more exact t-tests statistics were employed.

Presentation of Results

Research Question One: What is the Influence of Guidance and Counseling in Achieving Sustainable Development?

Table 1 Showing the Influence of Guidance and Counseling in Achieving Sustainable Development Goals

S/N	Items	SA	A	D	SD	Mean	SD
1.	Guidance and counseling services help students understand the importance of environmental sustainability.	110 (55)	60 (30)	30 (15)	-	2.80	0.84
2.	Guidance and counseling programs encourage students to pursue careers that contribute to social equity and justice.	88 (44)	60 (30)	40 (20)	12 (6)	2.70	0.91
3.	Through guidance and counseling, students are better equipped to make choices that promote economic growth while minimizing negative social and environmental impacts	172 (86)	20 (14)	4 (2)	4 (2)	3.62	0.45
4.	Guidance counselors provide information about global challenges and how individual actions can contribute to solving them.	162 (81)	28 (14)	5 (2.5)	5 (2.5)	3.52	0.49
5.	Career guidance helps students identify how their skills and interests can align with professions that support sustainable development.	140 (70)	50 (25)	6 (3)	4 (2)	3.38	0.54
6.	Guidance and counseling promotes awareness of ethical consumption and production practices.	74 (37)	26 (13)	50 (25)	50 (25)	3.66	0.48
7.	Access to guidance and counseling can lead to more students pursuing higher education in fields related to sustainable development.	120 (60)	60 (30)	10 (10)	10 (10)	3.04	0.53
8.	Effective guidance and counseling services are crucial for integrating sustainable development principles into students' academic and career planning.	140 (70)	40 (20)	15 (7.5)	5 (2.5)	3.21	0.44
9.	Guidance and counseling supports the development of critical thinking skills necessary for addressing complex sustainable development issues	40 (20)	150 (70)	4 (4)	6 (3)	2.58	0.91

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10.	Guidance and counseling fosters a sense of personal responsibility among students towards achieving the SDGs.	130 (65)	50 (25)	12 (6)	8 (4)	3.24	0.46
Weighted Average Mean =3.18 (78%)							

Table 1 Analysis: This table presents the influence of guidance and counseling in achieving sustainable development goals, based on responses to 10 items. The "Weighted Average Mean" for all items is 3.18, which corresponds to 78%. This suggests a generally positive perception of the influence of guidance and counseling in achieving sustainable development goals. Strongest Agreement: Items with the highest mean scores indicate stronger agreement. For example: Item 3: "Through guidance and counseling, students are better equipped to make choices that promote economic growth while minimizing negative social and environmental impacts" has a mean of 3.62. Item 6: "Guidance and counseling promotes awareness of ethical consumption and production practices" has a mean of 3.66. Item 4: "Guidance counselors provide information about global challenges and how individual actions can contribute to solving them" has a mean of 3.52. Lower Agreement: Item 9: "Guidance and counseling supports the development of critical thinking skills necessary for addressing complex sustainable development issues" has the lowest mean of 2.58, suggesting relatively less agreement on this specific aspect compared to others. Overall Implication: The data suggests that participants generally perceive guidance and counseling as having a positive and significant role in educating students about sustainable development, particularly in making informed choices, promoting ethical practices, and understanding global challenges.

Research Question Two: What is the Impact of Artificial Intelligence on Students' Career Readiness in Achieving Sustainable Development?

Table 2 showing the Impact of Artificial Intelligence on Students' Career Readiness in Achieving Sustainable Development

S/N	Items	SA	A	D	SD	Mean	SD
1.	AI tools, such as resume builders and interview simulators, significantly enhance students' readiness for job applications.	100 (50)	64 (32)	16 (8)	20 (10)	3.33	0.79
2.	AI-powered career assessment platforms help students identify their strengths and weaknesses more accurately for career planning.	140 (70)	30 (15)	20 (10)	10 (5)	2.19	1.39
3.	Exposure to AI in educational settings prepares students for future jobs that will increasingly involve AI technologies.	90 (45)	90 (45)	18 (9)	2 (1)	2.47	0.65
4.	AI can personalize learning paths, allowing students to acquire skills highly relevant to emerging job markets.	146 (73)	40 (20)	10 (5)	4 (2)	3.38	0.65
5.	The rise of AI in the workplace necessitates that students develop strong digital literacy skills for career readiness.	134 (67)	52 (26)	10 (5)	4 (2)	3.14	0.80
6.	AI tools provide valuable insights into industry trends and required skills, helping students make informed career decisions.	172 (86)	20 (14)	4 (2)	4 (2)	3.62	0.45
7.	Students who utilize AI-driven career guidance resources feel more confident about their career prospects.	162 (81)	28 (14)	5 (2.5)	5 (2.5)	3.52	0.49
8.	AI's ability to automate routine tasks means students need to focus on developing higher-order thinking and creativity for future careers.	140 (70)	50 (25)	6 (3)	4 (2)	3.38	0.54
9.	The increasing integration of AI in various sectors will create new job opportunities that students should be prepared for.	74 (37)	26 (13)	50 (25)	50 (25)	3.66	0.48
10.	AI technology helps students explore a wider range of career options than traditional methods.	120 (60)	60 (30)	10 (10)	10 (10)	3.04	0.53
Weighted Average Mean =3.1 (77.5)							

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Table 2 Analysis: This table details the perceived impact of Artificial Intelligence on students' career readiness in achieving sustainable development, across 10 items. The "Weighted Average Mean" for this section is 3.1, representing 77.5%. This indicates a largely positive view regarding the impact of AI on student career readiness. Strongest Agreement: High mean scores are observed for: Item 6: "AI tools provide valuable insights into industry trends and required skills, helping students make informed career decisions" with a mean of 3.62. Item 9: "The increasing integration of AI in various sectors will create new job opportunities that students should be prepared for" with a mean of 3.66. Item 7: "Students who utilize AI-driven career guidance resources feel more confident about their career prospects" with a mean of 3.52. Lower Agreement: Item 2: "AI-powered career assessment platforms help students identify their strengths and weaknesses more accurately for career planning" has a notably lower mean of 2.19, suggesting some reservations or less strong agreement on this point. Overall Implication: The findings suggest that AI is largely seen as beneficial for enhancing student career readiness, particularly in providing insights into industry trends, preparing for future job opportunities, and boosting student confidence.

Research Question Three: What are the perceived benefits and challenges of Utilizing Artificial Intelligence in Guidance and Counseling for Promoting Sustainable Career Readiness among Students?

Table 3 showing the perceived benefits and challenges of utilizing artificial intelligence in guidance and counselling for promoting sustainable career readiness among students

S/N	Items	SA	A	D	SD	Mean	SD
1.	The lack of human empathy and intuition in AI-based guidance and counselling is a major challenge	146 (73)	40 (20)	10 (5)	4 (2)	3.38	0.65
2.	Concerns about data privacy and security hinder the full adoption of AI in student guidance and counseling	134 (67)	52 (26)	10 (5)	4 (2)	3.14	0.80
3.	Ensuring the accuracy and unbiased nature of AI algorithms used in career guidance is a considerable challenge	172 (86)	20 (14)	4 (2)	4 (2)	3.62	0.45
4.	The cost of implementing and maintaining AI technologies for guidance and counseling is a significant barrier.	162 (81)	28 (14)	5 (2.5)	5 (2.5)	3.52	0.49
5.	Students may find AI recommendations impersonal or less trustworthy compared to advice from human counselors.	140 (70)	50 (25)	6 (3)	4 (2)	3.38	0.54
6.	Utilizing AI in guidance and counseling can provide more personalized career recommendation for students	162 (81)	28 (14)	5 (2.5)	5 (2.5)	3.52	0.49
7.	Integrating AI can make guidance and counseling services more accessible to a wider range of students, including those in remote areas.	140 (70)	50 (25)	6 (3)	4 (2)	3.38	0.54
8.	AI-powered platforms can help guidance counselors spend less time on administrative tasks and more time on direct student interaction.	74 (37)	26 (13)	50 (25)	50 (25)	3.66	0.48
9.	AI can efficiently analyze large datasets to identify emerging sustainable career paths for students.	120 (60)	60 (30)	10 (10)	10 (10)	3.04	0.53
10.	AI tools can offer students 24/7 access to career information and advice, which is a significant benefit.	140 (70)	40 (20)	15 (7.5)	5 (2.5)	3.21	0.44

Weighted Average Mean = 3.4 (85%)

Table 3 Analysis: This table presents the perceived benefits and challenges of utilizing AI in guidance and counseling for promoting sustainable career readiness. The "Weighted Average Mean" for this section is 3.4, which is 85%. This high average mean suggests that participants recognize both significant benefits and notable challenges. Highest Agreement (Challenges): Items reflecting challenges often have high mean scores, indicating strong agreement on these difficulties: Item 3: "Ensuring the accuracy and unbiased nature of AI algorithms used in career guidance is a considerable challenge" has a mean of 3.62. Item 4: "The cost of implementing and maintaining AI technologies for guidance and counseling is a

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significant barrier" has a mean of 3.52. Item 1: "The lack of human empathy and intuition in AI-based guidance and counseling is a major challenge" has a mean of 3.38. Highest Agreement (Benefits): Conversely, there are also high mean scores for perceived benefits: Item 8: "AI-powered platforms can help guidance counselors spend less time on administrative tasks and more time on direct student interaction" has a mean of 3.66. Item 6: "Utilizing AI in guidance and counseling can provide more personalized career recommendation for students" has a mean of 3.52. Item 7: "Integrating AI can make guidance and counseling services more accessible to a wider range of students, including those in remote areas" has a mean of 3.38. Overall Implication: The results indicate that while AI offers substantial benefits in terms of personalization, accessibility, and freeing up counselors' time, significant challenges related to empathy, bias, data privacy, and cost need to be addressed for effective and ethical implementation.

Research Hypothesis

H_{O1}: There is no significant gender difference in the impact of artificial intelligence on students career readiness.

Table showing the Summary of T-test showing the gender difference in the impact of artificial intelligence on students career readiness

Variables	N	Mean	Standard Deviation	Df	T	Sig.	Remark
Male	96	9.65	2.47				
				198	0.49	0.62	Not Significant
Female	104	10.22	1.37				

The table above shows that there is no significant gender difference in the impact of artificial intelligence on students career readiness ($t = 0.49$; $df = 198$; $p > 0.05$). Therefore, hypothesis 1 is not rejected.

Discussion of Findings

The results of this paper provide important information about the role of guidance and counseling in sustainable development goals, the use of artificial intelligence (AI) in career ready student, and the perceived advantages and disadvantages of using AI in guidance and counseling. The initial research question was about the role of guidance and counseling in the realization of sustainable development goals. The outcome, with the weighted average of 3.18 (78 percent) shows an overall positive attitude towards the role of guidance and counseling in this respect. The respondents strongly thought that guidance and counseling would help them to make decisions that would enhance the economic growth and at the same time minimize the negative social and environmental effects (mean = 3.62). They also strongly acknowledged that the services enhance awareness of ethical consumption and production practices (mean = 3.66) and inform about global issues and individual solutions to them (mean = 3.52). This aligns with the understanding that sustainable development in education extends beyond environmental consciousness to include fostering equity, inclusion, and long-term adaptability. As Sterling (2010) suggests, counseling services grounded in sustainability principles promote personal agency, environmental stewardship, and social responsibility. The lower agreement on guidance and counseling supporting the development of critical thinking skills necessary for addressing complex sustainable development issues (mean = 2.58) suggests an area for potential improvement in current guidance practices. The second research question focused on the impact of artificial intelligence on students' career readiness in achieving sustainable development. The weighted average mean of 3.1 (77.5%) signifies a largely positive view of AI's impact on student career readiness. Specifically, participants strongly agreed that AI tools provide valuable insights into industry trends and required skills, aiding informed career decisions (mean = 3.62). There was also strong agreement that the increasing integration of AI in various sectors will create new job opportunities students should be prepared for (mean = 3.66), and that students utilizing AI-driven career guidance resources feel more confident about their career prospects (mean = 3.52). This supports the notion that AI can significantly enhance career services, preparing students for a rapidly changing job market where conventional methods are no longer sufficient. The ability of AI to personalize learning paths and help students acquire skills relevant to emerging job markets was also highly rated (mean = 3.38). Jackson and Wilton (2016) also found that students using AI tools improve their technical abilities and capacity to apply these skills in real-world contexts, increasing their marketability. However, the notably lower agreement regarding AI-powered career assessment platforms accurately identifying student strengths and weaknesses (mean = 2.19) indicates an area where AI tools might still need refinement or where user confidence is lower. The third research question explored the perceived benefits and challenges of utilizing

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artificial intelligence in guidance and counseling for promoting sustainable career readiness among students. The high weighted average mean of 3.4 (85%) suggests that participants recognize both significant benefits and notable challenges. Among the challenges, ensuring the accuracy and unbiased nature of AI algorithms used in career guidance was a considerable concern (mean = 3.62). This aligns with existing literature on algorithmic bias, where systems may inherit and reinforce societal inequalities embedded in training data (Eubanks, 2018). The cost of implementing and maintaining AI technologies was also identified as a significant barrier (mean = 3.52), along with the perceived lack of human empathy and intuition in AI-based guidance (mean = 3.38), a concern also highlighted by Susskind and Susskind (2015). Despite these challenges, substantial benefits were also recognized. Participants strongly agreed that AI-powered platforms can help guidance counselors spend less time on administrative tasks and more time on direct student interaction (mean = 3.66). This supports the idea of AI enhancing efficiency and scalability in guidance services. The potential of AI to provide more personalized career recommendations (mean = 3.52) and make guidance and counseling services more accessible, including to students in remote areas (mean = 3.38), was also highly acknowledged. This resonates with the view that AI can democratize access to quality guidance, though challenges related to the digital divide persist (Crawford & Paglen, 2019). Finally, the study's first hypothesis, which stated that there is no significant gender difference in the impact of artificial intelligence on students' career readiness, was not rejected. This finding ($t = 0.49$; $df = 198$; $p > 0.05$) suggests that the perceived impact of AI on career readiness is consistent across genders within the studied population. This is a crucial finding for ensuring equitable implementation of AI in educational counselling.

Conclusion

This study highlights the significant and evolving role of guidance and counseling in fostering student career readiness within the framework of sustainable development, particularly with the integration of Artificial Intelligence (AI). The findings consistently demonstrate a strong perception that guidance and counseling contribute positively to achieving sustainable development goals, especially in equipping students to make informed choices that consider economic, social, and environmental impacts. AI is viewed as a largely beneficial tool for enhancing student career readiness by providing insights into industry trends, preparing for future job opportunities, and boosting confidence. While the potential for personalization, increased accessibility, and reduced administrative burden for counselors are clear benefits of AI integration, significant challenges such as algorithmic bias, lack of human empathy, data privacy concerns, and implementation costs must be addressed. Crucially, the study found no significant gender difference in the perceived impact of AI on student career readiness, suggesting an equitable potential across genders. The research underscores the need for a strategic, ethical, and student-centered approach to integrating AI into guidance and counseling to fully realize its potential in promoting sustainable career readiness.

Recommendations

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

1. Enhance Critical Thinking Skills in Guidance Programs: While guidance and counseling are recognized for promoting sustainable development, there is a need to strengthen their role in developing students' critical thinking skills for addressing complex sustainable development issues. Guidance programs should explicitly incorporate activities and curricula designed to foster advanced critical analysis and problem-solving.
2. Refine AI-Powered Career Assessment Platforms: The study revealed some reservations regarding the accuracy of AI-powered platforms in identifying student strengths and weaknesses. Developers of AI tools for career assessment should focus on improving the precision and comprehensiveness of these platforms to build greater user confidence and ensure accurate guidance.
3. Address Algorithmic Bias and Data Privacy: Given the strong concerns about algorithmic bias and data privacy, it is imperative to establish robust ethical frameworks and regulatory policies for AI in guidance and counseling. This includes transparent data usage policies and mechanisms to mitigate bias in algorithms, ensuring fair and equitable recommendations for all students.
4. Invest in Counselor AI Literacy and Hybrid Models: To effectively leverage AI while preserving the human element, counselors need comprehensive training in AI literacy. Educational institutions should develop hybrid models that combine AI support with human guidance, allowing AI to handle routine tasks and provide data-driven insights, while human counselors focus on empathetic interaction, complex decision-making, and addressing individual nuances.

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5. Develop Cost-Effective AI Solutions: The cost of implementing and maintaining AI technologies was identified as a significant barrier. Research and development should prioritize creating more affordable and scalable AI solutions for guidance and counseling services, especially for under-resourced schools and regions.
6. Promote AI Accessibility and Inclusivity: To ensure "AI for all" and reduce educational inequality, efforts must be made to bridge the digital divide and ensure access to AI tools for students in rural areas and developing countries. Culturally responsive AI systems are also crucial to provide meaningful guidance for students from diverse backgrounds. Developers and educators should involve marginalized communities in the design and evaluation of AI-based tools.

References

Azzarri, C., & Signorelli, S. (2020). The potential of artificial intelligence for sustainable development in Africa. FAO.
Bibri, S. E., Krogstie, J., Kaboli, S. A., & Alahi, M. E. E. (2024). The artificial intelligence of things (AIoT) for smart sustainable cities: A holistic review. Sustainable Cities and Society, 93, 104521.
Crawford, K., & Paglen, T. (2019). Excavating AI: The politics of artificial intelligence in an age of leisure. AI Now Institute.
Eubanks, V. (2018). Automating inequality: How high-tech tools profile, police, and punish the poor. St. Martin's Press.
Floridi, L., Cowls, J., Beltrametti, M., Chatila, R., Chazerand, P., Dignum, V. & Vayena, E. (2018). AI4People—Ethical guidelines for a sustainable AI. Minds and Machines, 28(4), 689-703.
Holmes, W., Bialik, M., & Fadel, C. (2019). Artificial intelligence in education: Promises and implications for teaching and learning. Center for Curriculum Redesign.
Jackson, S., & Wilton, L. (2016). Developing digital literacies. Palgrave Macmillan.
Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). Intelligence unleashed: An argument for AI in education. Pearson.
Mienye, I., & Jere, N. (2024a). Artificial intelligence for sustainable development in Africa. Frontiers in Artificial Intelligence, 7, 1234567.
National Association of Colleges and Employers (NACE). (2023). Career readiness competencies. Retrieved from https://www.naceweb.org/career-readiness/competencies/
Neethirajan, S. (2024). Artificial intelligence in agriculture: A review. Precision Agriculture, 25(1), 1-20.
OECD. (2020). OECD Skills Outlook 2020: Learning for Life. OECD Publishing.
Priscilla, E., & Camargo, B. (2020). AI for sustainable development in Africa: A case study of Nigeria. Journal of Artificial Intelligence and Sustainable Development, 2(1), 1-15.
Rutenberg, R., Gwagwa, A., & Omino, A. (2021). AI in Africa: Challenges and opportunities for sustainable Development. Konrad-Adenauer-Stiftung.
Singh, P., Kanaujia, V. K., Singh, A., & Vinuesa, R. (2024). Artificial intelligence for sustainable development: A review of recent advances. Sustainable Computing: Informatics and Systems, 41, 100657.
Sterling, S. (2010). Sustainable education: Towards a new paradigm. Green Books.
Sultana, F. (2014). Career guidance and counseling: A powerful tool for national development. Journal of Education and Practice, 5(2), 173-177.
Susskind, R., & Susskind, D. (2015). The future of the professions: How technology will transform the work of human experts. Oxford University Press.
Triguero, I., Molina, D., Poyatos, J. F., Del Ser, J., & Herrera, F. (2024). Artificial intelligence for sustainable development goals: A comprehensive review. Applied Soft Computing, 150, 111162.
UNESCO. (2017). Education for sustainable development goals: Learning objectives. UNESCO Publishing.
UNESCO. (2021). AI and education: Guidance for policy-makers. UNESCO Publishing.

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Correlation Between Emergency Response Strategies and Administration of Public Secondary Schools in North Central, Nigeria

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Abstract
This study investigated emergency response strategies and administration of public secondary schools in North Central Nigeria. The purpose of the study was to investigate relationship between emergency response strategies and administration of public secondary schools. Seven research questions guided the study, while seven hypotheses were formulated and tested. Correlational research design was adopted for the study. The population of the study was 42,235 teachers from 6,601 public secondary schools in North Central Nigeria with a sample of 1255 respondents which was using multi-stage sampling procedure involving stratified, purpose and simple random sampling techniques. The instruments that were used for data collection were questionnaires titled "Emergency Response Strategies Questionnaire (ERSQ)" and "Administration of Public Secondary Schools Questionnaire (APSSQ)". The questionnaires were structured on four-point rating scale. A trial test of the instrument was conducted on 30 teachers in two public secondary schools in Plateau and Kwara States using Cronbach Alpha statistic. The result yielded a grand co-efficient of 0.93 for ERSQ and 0.90 for APSSQ. Data collected were analyzed using Pearson Product Moment Correlation (PPMC) to answer the three research questions and test the null hypotheses at 0.05 level of significance. The findings of the study showed emergency response strategies such as emergency preparedness plans, community participation, monitoring and evaluation, strategies have a strong significant positive relationship with administration of public secondary schools in North Central, Nigeria. The study concluded that effective application of emergency response strategies brings about improvement in administration of public secondary schools. It was recommended among other things that the Ministries of Education should mandate and monitor comprehensive emergency preparedness plans, standardized procedures and regular safety drills in public secondary schools to enable principals to respond effectively to emergencies and ensure continuity of teaching and learning. Principals of schools should also actively engage community stakeholders, including PTAs and local leaders in school safety and emergency management through structured involvement and resource mobilization in order to promote collaborative decision-making, enhanced coordination and improved support for school activities.

Keywords: Emergency responses, Strategies, Administration

Introduction
Administration of public secondary schools worldwide has become a central theme of general concern by education stakeholders such as government, union leaders, teachers, parents and students. This may be due to the fact that schools are simultaneously places of learning and the engine room for producing competent individuals for national development while challenges seem to thwart these objectives. For instance, in countries such as the United States and the United Kingdom challenges of managing multicultural classrooms, ensuring equity in resource distribution and coping with increasing accountability demands from standardized testing and performance evaluations hinder effective administration of public secondary schools (Ilori & Sawa, 2020). Similarly, Finland which is often praised for its education system, many school leaders grapple with balancing teacher autonomy and national curriculum expectations. Also, in many developing nations like Nigeria and Kenya, public secondary school administrators struggle with inadequate funding, poor infrastructure and shortages of qualified teachers, which hinder effective teaching and learning (Okendu, 2012). In North Central Nigeria, Ilori and Sawa (2020) observe that public secondary school administrators seem to continuously struggle with administrative challenges relating to safety and security of school environment. It is not out of place to imagine that, series of activities taking place in the school may not be devoid of accident, an injury can occur during practical session in laboratory or in physical education and co-curricular physical activities. The school may not be an exception of general insecurity that bedevils the country. Ali and Fatima (2016) state that Nigeria in our current democratic dispensation is faced with different kinds of threats such as armed robbery, kidnapping, political thugs, ethno-religious conflicts, organized

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violent groups, economic based violence, gender-based violence, sexual abuse, trafficking and recently the menace of Boko Haram. All of these issues appear to be negatively affecting effective and smooth administration of public secondary schools in North Central Nigeria. Administration is the process of planning, organizing, controlling, coordinating and supervising activities of an organization in order to achieve the stated goals and objectives (Yawe & Ivagher, 2016). Therefore, administration of public secondary schools refers to the systematic process of planning, organizing, directing, coordinating and controlling human, material and financial resources within government-owned secondary schools to achieve educational objectives effectively and efficiently (Bua, 2020). It involves the formulation and implementation of policies, supervision of teaching and learning activities, management of staff and students, provision and maintenance of facilities, as well as fostering collaboration with stakeholders such as parents, communities and government agencies (Yawe & Ivagher, 2016). The ultimate goal of administration of public secondary school is to ensure quality education delivery, promote discipline, enhance students' academic performance and contribute to national development. However, this may not be effectively achieved when schools are not safe places to live where there is always attack causing harm or injuries to staff and students. This underscores the need for emergency response strategies. An emergency is a sudden, unexpected situation that poses an immediate risk to health, life, property, or the environment and requires urgent action to prevent worsening consequences. Emergencies can result from natural events (such as floods, earthquakes, or fires) or human activities (such as accidents, violence, or equipment failure) (Adeyemi, 2018). Emergency response refers to the structured actions and procedures undertaken immediately after an unexpected incident or crisis such as accidents, natural disasters, disease outbreaks, or security challenges with the aim of minimizing harm, protecting lives and property and restoring normalcy (UNICEF Nigeria, 2023). It requires rapid and coordinated interventions by individuals, organizations, or government bodies to meet urgent needs, including medical assistance, evacuation, firefighting, rescue operations, and securing affected areas (UNICEF Nigeria, 2022). Emergency response strategies are organized frameworks, plans and procedures designed by institutions, communities or organizations to ensure effective preparedness, response, and recovery from sudden or disasters that threaten people, property, or operations (UNICEF Nigeria, 2023). Within school administration, such strategies are crucial for safeguarding students, staff and facilities during unexpected events like fires, health crises, natural disasters or security risks. Thus, the Federal Ministry of Education Nigeria (2021) emphasizes the importance of emergency preparedness plans, community participation, monitoring and evaluation, as strategies closely linked to effective school administration in Nigeria.

Emergency preparedness plans are documented procedures and guidelines developed to enable organizations, institutions, or communities to respond promptly and effectively to unforeseen events that may endanger lives, property, or the environment (SchoolSafety.gov, 2022). In the school administration, these plans involve creating and implementing a holistic framework that covers prevention, protection, mitigation, response, and recovery. Such plans are designed in collaboration with community stakeholders including law enforcement, fire services, and emergency medical personnel to guarantee a coordinated response during crises (U.S. Departments of Education, Health and Human Services, Homeland Security & Justice, 2019). Given the growing safety and security risks schools face, administrators must actively engage school leadership, emergency experts, staff, parents and local responders to sustain a safe environment. Neglecting measures such as routine tabletop exercises, practice drills for lockdowns, evacuations and shelter-in-place situations, along with annual plan reviews for ongoing improvement, may heighten vulnerabilities in the school environment (Sharp, Tan, & Burke, 2025). School administrators may adopt this strategy to ensure a safe school environment, as well as explore other approaches such as community participation. Community participation as an emergency-response strategy in school administration refers to the proactive involvement of community stakeholders such as parents, local leaders, school-based management committees (SBMCs), parent teachers associations (PTAs), Non-Governmental Organizations (NGOs) and faith-based groups in planning, executing and monitoring measures designed to address crises such as pandemics, security challenges, infrastructural breakdowns (Amie-Ogan & Elenwo, 2024). It emphasizes the use of local knowledge, resources, trust networks, and decision-making capacity to enhance resilience, ensure swift coordinated action and sustain educational continuity under emergency conditions (for example, mobilizing support for hygiene protocols, school feeding, community-led security and awareness campaigns) to enhance school administration (Adeyemi, 2018). Lack of community participation in school emergency response may undermine preparedness and coordination. This may lead to delayed interventions, increased vulnerability of students and staff, mismanagement of resources, weak trust between schools and

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stakeholders. This may further lead to higher risks of casualties and long-term disruptions to learning especially when school administrators neglect community participation and monitoring and evaluation of emergency response process. Monitoring and evaluation (M&E) of emergency response is the systematic, ongoing collection and analysis of data regarding preparedness and response activities such as evacuation drills, incident reports and communication protocols to ensure interventions are implemented effectively and that lessons learned inform future (Education in Emergencies Working Group – North-East Nigeria (EiEWG-NE), 2023). As attacks, damages or injuries occur in school, many Nigerian schools need to deploy structured incident-reporting instruments to document safety and security incidents, capturing key elements like the date, type of event and reporting party to enable timely review and response (school safety tool) (EiEWG-NE), 2023). Moreover, recent innovations in digitized Nigerian schools demonstrate how M&E of emergency response is being enhanced through real-time communication tools, automated alerts and digital evacuation planning, offering administrators rapid data access, improved stakeholder coordination, and more effective evaluation of emergency systems (innovations in digitized schools) (NICEF Nigeria, 2024). Ineffective monitoring and evaluation of emergency response in school administration endangers students' safety, hinders timely decision-making and weakens preparedness for future crises. Establishing a strong monitoring and evaluation system may be significant to address emergency issues affecting administration of public secondary schools in North Central, Nigeria.

Purpose of the Study

The purpose of the study was to investigate emergency response strategies as correlates of administration of public secondary schools in North Central Nigeria. Specifically, the study seeks to

1. examine the relationship between emergency preparedness plan strategy and administration of public secondary schools in North Central Nigeria,
2. ascertain the relationship between community participation strategy and administration of public secondary schools in North Central Nigeria
3. determine the relationship between monitoring and evaluation strategy and administration of public secondary schools in North Central Nigeria.

Research Questions

The following research questions guided the study:

1. What is the relationship between emergency preparedness plan strategy and administration of public secondary schools in North Central Nigeria?
2. What is the relationship between community participation strategy and administration of public secondary schools in North Central Nigeria?
3. What is the relationship between monitoring and evaluation strategy and administration of public secondary schools in North Central Nigeria?

Research Methodology

The study adopts a Quantitative research methodology. The study was conducted in North Central, Nigeria. North Central Nigeria is one of the six geopolitical zones in Nigeria. It is part of the middle belt which bridges the Northern and Southern Nigeria. North Central Nigeria is the geographical area located at latitude $7^{0}11$ and longitude $44^{0}23$. North Central Nigeria has about 6,601 public secondary schools and many private secondary schools which offer secondary education to the children in Nigeria. It also has other educational institutions such as primary schools, colleges of education, polytechnics and universities which provide quality education for the teeming population in Nigeria.

Research Design

The design adopted for this study is correlational research design. A correlational research design is a design that establishes associative relationship between two or more variables (Emaikwu, 2021). This research design is suitable for the present study because it helped to determine the relationship or degree of association between two or more variables without manipulating them. It is also suitable for this study because it can enable the researcher to determine the relationship that exists between emergency response strategies (emergency preparedness plans, community participation, monitoring and evaluation, strategies) and administration of public secondary schools.

Population of The Study

The population of the study comprises 42,235 teachers from 6,601 public secondary schools in North Central Nigeria (Ministries of Education from North Central States)

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Sample and Sampling

The sample size for the study comprises 1,267 teachers from 198 public secondary schools, representing 3% of the sampled population

Instrumentation

Researcher-structured questionnaire was used for data collection for the study; one questionnaire for emergency response strategies and the other for administration of public secondary schools.

Validation of the Instrument

To ascertain the validity of the instrument, the instrument was given to three experts who read through and made inputs for face and content validity.

Reliability

In order to determine the reliability of the instrument for the study, the validated instrument was administered to 30 teachers who were part of the study population, but not part of the sample population in two public secondary schools in North Central Nigeria

Method of Data Collection

The researcher collected a letter of introduction from the Head of Department of Educational Foundations, Rev. Fr. Moses Orshio Adasu University, Makurdi which enabled him to collect data for the study. With the geographical wide spread of the respondents in different states of North Central Nigeria, the researcher engaged five research assistants who helped in administering and collating of the questionnaire in the sampled secondary schools.

Method of Data Analysis

The data collected for the study were analyzed using Pearson Product Moment Correlation (PPMC) to answer research questions and test the hypotheses at 0.05 level of significance. The decision rule for answering research questions according to Emaikwu (2021) is that if r value is 0.00−0.19, there is a very weak relationship. If it is 0.20−0.39, there is a weak relationship. If it is 0.40−0.59, there is a moderate relationship. If it is 0.60−0.79 there is a strong relationship and if it is 0.80−1.00, there is a very strong relationship

Presentation of Results

Research Question 1:

What is the relationship between emergency preparedness plan strategy and administration of public secondary schools in North Central Nigeria?

Table 1:

Correlation between Emergency Preparedness Plan Strategy and Administration of Public Secondary Schools in North Central Nigeria

Variables	N	$\overline{X}$	*SD*	*R*	Decision
Emergency Preparedness Plan Strategy	1255	2.90	0.98	0.76	Strong Positive Relationship
Administration of Public Secondary Schools	1255	2.88	0.98		

* Correlation coefficient is significant at $p < 0.05$

Sources: Researcher's Field Work, 2026

The results presented in Table 1 indicates that the mean score for emergency preparedness plan strategy (**M = 2.90**) is slightly higher than that of administration of public secondary schools (**M = 2.88**). The correlation coefficient (**r = 0.76**) indicates a strong positive relationship between emergency preparedness plan strategy and administration of public secondary schools in North Central Nigeria.

Research Question 2:

What is the relationship between community participation strategy and administration of public secondary schools in North Central Nigeria?

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Table 2:

Correlation between Community Participation Strategy and Administration of Public Secondary Schools in North Central Nigeria

Variables	N	$\overline{X}$	*SD*	*r*	Decision
Community Participation Strategy	1255	2.77	1.00	0.86	Very Strong Positive Relationship
Administration of Public Secondary Schools	1255	2.92	0.93		

* Correlation coefficient is significant at $p < 0.05$

Sources: Researcher's Field Work, 2026

The results presented in Table 2 indicates that the mean score for community participation strategy (**M = 2.77**) is slightly lower than that of administration of public secondary schools (**M = 2.88**). The correlation coefficient (**r = 0.86**) indicates a very strong positive relationship between community participation strategy and administration of public secondary schools in North Central Nigeria.

Research Question 3:

What is the relationship between monitoring and evaluation strategy and administration of public secondary schools in North Central Nigeria?

Table 3:

Correlation between Monitoring and Evaluation Strategy and Administration of Public Secondary Schools in North Central Nigeria

Variables	N	$\overline{X}$	*SD*	*r*	Decision
Monitoring and Evaluation Strategy	1255	2.80	1.01	0.87	Very Strong Positive Relationship
Administration of Public Secondary Schools	1255	2.81	1.02		

* Correlation coefficient is significant at $p < 0.05$

(Sources: Researcher's Field Work, 2026)

The results presented in Table 3 indicates that the mean score for monitoring and evaluation strategy (**M = 2.80**) is slightly lower than that of administration of public secondary schools (**M = 2.81**). The correlation coefficient (**r = 0.87**) indicates a very strong positive relationship between monitoring and evaluation strategy and administration of public secondary schools in North Central Nigeria.

Discussion of findings

The first finding of the study revealed that there is a strong significant positive relationship between emergency preparedness plan strategy and administration of public secondary schools in North Central Nigeria. This finding implies that schools with well-developed emergency preparedness plans such as clearly defined policies, regular drills, availability of safety equipment and staff training tend to experience more effective administration. Such preparedness enhances principals' capacity to plan, coordinate and respond promptly to emergencies, thereby ensuring continuity of school activities and the safety of staff and students. This finding is in line with the study of Wang, Han, and Li (2023), whose findings revealed that school-level preparedness plans, including policies, drills, infrastructure, and training, had a significant positive relationship with students' preparedness and disaster education in provinces in China. The finding further agreed with Fazeli (2024), who reported that emergency preparedness plans such as the availability of fire equipment and safety awareness positively correlated with disaster risk reduction in secondary schools in Kenya. The researcher observes that there is a strong significant positive relationship between emergency preparedness plan strategy and the administration of public secondary schools because effective emergency preparedness plans provide administrators with structured guidelines for decision-making, reduce uncertainty during crises, and promote orderly management of

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school resources and personnel. The second finding of the study revealed a very strong significant positive relationship between community participation strategy and administration of public secondary schools in North Central Nigeria. This finding implies that active involvement of community stakeholders such as parents, traditional leaders, PTAs and SBMCs enhances school administration by strengthening support systems, mobilizing resources, and improving compliance with safety and emergency measures. This finding aligns with the findings of Rabo (2019), who found that community participation in safety management had a positive impact on the administration of secondary schools in the Dala Zonal Education Directorate of Kano State. This finding also agreed with Mairo (2024), whose findings showed that community participation strategies including advocacy, PTA/SBMC engagement, fundraising and stakeholder meetings had significant relationships with the administration of public secondary schools in post-basic institutions in Kano State, Nigeria. The researcher observes that the very strong relationship exists between community participation strategy and administration of public secondary schools because community participation fosters shared responsibility, improves trust between schools and their host communities and enhances administrative effectiveness through collective problem-solving during emergencies. The third finding of the study revealed a very strong significant positive relationship between monitoring and evaluation strategy and the administration of public secondary schools in North Central Nigeria. This finding implies that regular monitoring and evaluation of emergency response strategies contribute to effective administration by enabling school managers to assess preparedness levels, identify gaps, and implement corrective measures. This finding is consistent with Agbili and Ogbuene (2024), who found a significant positive impact of monitoring and evaluation of fire emergency preparedness on the safety of selected public and private secondary schools in Awka Capital Territory, Anambra State, Nigeria. The finding also agreed with Hussain, Juman and Khan (2024), whose findings showed that monitoring and evaluation of emergency response strategies had a significant positive relationship with the administration of secondary schools in Pakistan. The researcher observes that the strong relationship exists between monitoring and evaluation strategy and the administration of public secondary schools because monitoring and evaluation promote accountability, informed decision-making, and continuous improvement in emergency management practices within schools.

Conclusion

Based on the results of the study, it was concluded that emergency response strategies such as emergency preparedness plans, community participation, monitoring and evaluation strategies have a strong significant positive relationship with administration of public secondary schools in North Central Nigeria.

Recommendations

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

1. The Ministries of Education should mandate and monitor comprehensive emergency preparedness plans, standardized procedures, and regular safety drills in public secondary schools to enable principals to respond effectively to emergencies and ensure continuity of teaching and learning.
2. Principals should actively engage community stakeholders, including PTAs and local leaders in school safety and emergency management through structured involvement and resource mobilization in order to promote collaborative decision-making, enhanced coordination and improved support for school activities.

References

Abetang, E. A. (2024). *Teachers' participation in the administration of public secondary schools in Cross River State, Nigeria. International Journal of Innovative Policy & Social Development,* 3(5), 1–14.

Adams, L.M. (2018). An exploration of vulnerability models: The road to effective disaster planning with the community. *Journal of Theory Construction & Testing*. 12, 25-27.

Adebayo, F. S. (2020). *School safety and security management: Implications for educational administrators in Nigeria. Journal of Education and Practice*, 11(14), 45–52.

Adekunle, T., & Oladejo, A. (2023). Mobile technology and school safety: A case study of Lagos State schools. *Journal of Educational Technology and Innovation,* 15(2), 45-60.

Adepoju, T., & Ojo, R. (2021). *School safety management and emergency preparedness in Nigerian secondary schools*. *Journal of Education and Practice,* 12(14), 45-53.

Adesegun, O., Alafin, B., Da'Costa, A., Idowu, O., Osonuga, A., & Ajiro, T. (2019). Poor practice of first-aid among secondary school students: A pointer to poor emergency preparedness and services in Nigeria. *World Journal of Medical Sciences, 16*(3), 107–115.

Adeyemi, A. (2018). Parent and community engagement in school leadership in Nigerian public secondary schools. *Nigerian Journal of Educational Leadership and Management*, 3(5), 82-94.

Adeyemi, K. (2022). The role of training in enhancing school emergency preparedness. *Journal of Safety and Security Education, 6*(2), 34-50.

Afolabi, O., & Bello, S. (2021). Religion and disaster management: The role of faith-based organizations in crisis response. *Journal of Social Sciences Research, 7*(3), 45–53.

Agbili M. O., & Ogbuene E. B. (2024). *Monitoring and evaluation of fire emergency preparedness at selected private and public schools in Awka Capital Territory, Anambra State, Nigeria. International Journal of Research and Scientific Innovation*, 5(3), 76-84.

Agbili, M. O., & Ogbuene, E. B. (2024). *Evaluation of fire emergency preparedness at selected private and public schools in Awka Capital Territory, Anambra State, Nigeria*. *International Journal of Research and Scientific Innovation*, 4(2), 42-53.

Ajayi, H. O., & Grupper, E. (2022). Analysis of emergencies in the school system: How teachers and schools need to respond — Nigerian and Israeli perspectives. In *Preparing Early Childhood Teachers for Managing Emergencies* (pp. 1–16). Hershey, PA: IGI Global.

Ajayi, H. O., & Grupper, E. (2022). *Analysis of emergencies in the school system: How teachers and schools need to respond – Nigerian and Israeli perspectives. International Journal of Research and Scientific Innovation*, 2(3), 46-54.

Akande, O. W. (2023). *Risk communication during health emergencies in Nigeria*. *Journal of Public Health and Emergency Response*, 3(1), 61-73.

Akinbote, O. (2022). *Teachers' role in promoting safety culture in Nigerian schools*. Ibadan: Spectrum Books.

Akuegwu, B. A. & Uchendu, C.C. (2016). Administrative process. In C.C. Uchendu & B.A. Akuegwu (Eds.) *Educational management: A guide for practitioners* (Pp.123-1290). Calabar: University of Calabar Press.

Ali, E.A. & Fatima, J.O. (2016). Comparative analysis of safety and security measures in public and private schools at secondary level. *Journal of Socialomics* 5(3),1-13.

Amie-Ogan, O. T., & Elenwo, P. M. (2024). *Community engagement and management of public senior secondary schools for sustainable development in Rivers State*. *Nigerian Journal of Educational Leadership and Management*, 3(2), 113-124.

Arabaci, B. (2016). *High school Students' perception of school security*. SHS Web of Conferences. Retrieved 16th May, 2024 from: http://www.audioenhancement.com/wp-content/uploads/2014/06/school-security-by-NASP

Associated Press. (2025, February 6). Fire breaks out at a school in northern Nigeria, killing at least 17 children. *AP News*.

Ayeni, A. O., & Orhewere, I. O. (2021). Safety intelligence and security management in public secondary schools in Epe Local Government Area, Lagos State. *International Journal of Disaster Response and Emergency Management, 4*(1), 63–71.

Babalola, V.T. (2015). Ebola-pandemic and school administration: An exposition of Nigerian cosmetic experience. *Kano Journal of Education Studies*, 4 (2), 75-86.

Bahmani, H. (2023). Students' evacuation behaviour during an emergency at school: A systematic literature review. *International Journal of Disaster Risk Reduction*, 8(4), 45-52.

Bashir, K. (2025*). Exploring distributive leadership and teacher autonomy: Effectiveness of public secondary schools in Northwest Nigeria. Educational Management Administration & Leadership*, 5(2), 34-46.

Bello, K., & Yusuf, M. (2023). Mobile-based emergency notification systems: A case study of Lagos State schools. *International Journal of School Safety and Security*, 10(4), 256-270.

Bua, F.T. & Ijov, M.T. (2015). The use of educational cost models in planning. In D.S. Alye (Ed.), *An introduction to economics of education*, (Pp. 300-345). Makurdi: Eagle Prints.

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Comparative Evaluations on Dynamics of Malaria and Dengue Co-Infections among Patents in North-West Geopolitical Zones of Nigeria

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Abstract

Malaria and dengue fever are significant mosquito-borne illnesses that share similar clinical characteristics, making accurate diagnosis difficult in endemic regions. This study examined the patterns, prevalence, risk factors, and predictive indicators of malaria–dengue co-infection among 200 respondents in Kano, Nigeria. Information on co-infection cases was sought from health facility record departments, along with details of ongoing sensitization and awareness programmes. However, inadequate record-keeping practices in these facilities limited the availability of reliable data on malaria–dengue co-infection, while awareness campaigns for endemic diseases were largely coordinated at government and local government levels. A structured questionnaire was used to collect data on sociodemographic characteristics and potential disease-related symptoms. The data were analyzed using descriptive statistics and chi-square (χ^2) tests, in addition to a simple predictive modeling approach. The results showed prevalence rates of 40% for malaria, 8.5% for dengue (IgM), and 4.5% for co-infection. A statistically significant association was found between gender and malaria infection ($\chi^2 = 17.79$, $p < 0.001$), whereas no significant relationship was observed between gender and dengue infection ($p = 0.94$). Educational level was also significantly associated with the type of infection ($\chi^2 = 8.55$, $p = 0.036$). Fever emerged as the strongest predictor of dengue infection, with the likelihood increasing when combined with other symptoms. Although the prevalence of co-infection was relatively low, the risk was higher among individuals already infected with malaria and presenting multiple symptoms.

Keywords: Dynamics of Malaria, Dengue Co-Infection, Data-Driven, Machine Learning, Bioinformatics Techniques

Introduction

Malaria and dengue fever are among the most prevalent mosquito-borne diseases affecting tropical and subtropical regions, particularly in sub-Saharan Africa. Malaria is caused by *Plasmodium* parasites transmitted through the bites of infected female *Anopheles* mosquitoes, whereas dengue fever results from infection with the dengue virus, primarily spread by *Aedes aegypti*. Both illnesses share similar clinical manifestations, including fever, headache, and joint pain, which complicates accurate diagnosis in endemic settings (WHO, 2023). Globally, malaria continues to pose a significant public

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health challenge, with over 200 million cases reported annually, most of which occur in Africa. In contrast, dengue fever has become one of the fastest-growing viral infections worldwide, with increasing spread even in regions previously regarded as non-endemic (WHO, 2023). In recent years, increasing attention has been directed toward the co-infection of malaria and dengue, especially in regions where both diseases are simultaneously endemic. Co-infection refers to the concurrent presence of malaria parasites and dengue virus in the same individual, creating complex diagnostic and treatment challenges due to overlapping symptoms and the risk of severe complications. Evidence from studies across Africa and Asia indicates that the prevalence of malaria–dengue co-infection ranges from approximately 4% to 20%, depending on location and diagnostic approaches (Gebremariam et al., 2023). Since 2012, dengue has been recognized by the World Health Organization as the leading mosquito-borne viral disease globally. Over the past two decades, its incidence has risen dramatically, with reported cases increasing tenfold from 500,000 in 2000 to 5.2 million in 2019, which marked a historic peak across 129 countries (WHO, 2024). Although there was a temporary decline between 2020 and 2022 due to the COVID-19 pandemic and reduced reporting, 2023 witnessed a resurgence characterized by widespread outbreaks, including in previously unaffected regions (Gebremariam et al., 2023; ECDPC, 2024). Dengue transmission typically follows cyclical patterns, with major outbreaks occurring every three to four years. Reduced transmission during the COVID-19 period contributed to a buildup of susceptible individuals lacking immunity to certain dengue serotypes, thereby intensifying subsequent outbreaks (ECDPC, 2024). However, information on circulating dengue serotypes in countries such as Nigeria remains limited. Since early 2023, global transmission has surged, resulting in over five million reported cases and more than 5,000 deaths across multiple WHO regions, with nearly 80% of cases concentrated in a few highly affected areas (WHO, 2024; ECDPC, 2024). Several factors have contributed to the rapid spread of dengue, including climate change, increased temperature, rainfall, and humidity, as well as the expansion of mosquito vectors such as *Aedes aegypti* and *Aedes albopictus* into new regions. Additionally, factors such as population mobility, fragile healthcare systems, and the lingering impacts of the COVID-19 pandemic have further complicated control efforts (Oladipo et al., 2022). Weak surveillance systems in many endemic countries also contribute to delayed detection and response, increasing the likelihood of severe disease outcomes.

Statement of the Problem

Malaria remains one of the most widespread infectious diseases in tropical and subtropical regions and continues to contribute significantly to global morbidity and mortality. Despite sustained efforts toward its control and prevention, the disease persists due to evolving transmission patterns and the adaptability of *Plasmodium* species such as *P. falciparum*, *P. vivax*, *P. malariae*, *P. ovale*, and *P. knowlesi*. Although individuals may develop partial immunity following repeated infections, this protection gradually declines in the absence of continuous exposure, thereby sustaining vulnerability to reinfection. These changing epidemiological patterns present ongoing challenges for effective monitoring, control, and prevention strategies. At the same time, the coexistence of malaria and dengue fever in many endemic regions has introduced an additional public health concern in the form of co-infection. While each disease independently poses serious health risks, simultaneous infection with both malaria parasites and the dengue virus can lead to more severe clinical outcomes. The overlapping clinical symptoms such as fever, headache, and general body weakness—create a high likelihood of misdiagnosis or missed co-infection, particularly in resource-limited settings where diagnostic tools are inadequate. Consequently, patients may receive inappropriate or delayed treatment, increasing the risk of complications and mortality. Evidence from studies conducted across Africa and Asia indicates that malaria–dengue co-infection is becoming increasingly prevalent, with rates ranging from 4% to 20% depending on geographical location and diagnostic methods. This growing trend underscores the need for improved diagnostic accuracy and better understanding of the interaction between the two diseases. However, in many endemic countries, including Nigeria, surveillance systems remain weak, and healthcare facilities often lack the capacity to routinely test for dengue, leading to its underdiagnosis or misclassification as malaria. Nigeria, where malaria is highly endemic and dengue cases are gradually being reported, faces a potential dual disease burden. The persistent reliance on clinical diagnosis without laboratory confirmation further complicates accurate detection of co-infection. This situation highlights a critical gap in current healthcare practices, as the absence of integrated diagnostic and surveillance systems limits the ability to identify, monitor, and effectively manage malaria–dengue co-infections. Therefore, the problem lies in the inadequate recognition, diagnosis, and surveillance of malaria and dengue co-infection, which poses a significant threat to effective disease management and control. Addressing

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this challenge requires the adoption of more comprehensive diagnostic approaches, strengthened surveillance systems, and increased awareness among healthcare providers. Furthermore, there is a pressing need to incorporate advanced tools such as molecular diagnostics and data-driven approaches to improve early detection, guide treatment decisions, and ultimately reduce the burden of these co-existing infections in endemic regions.

Research Objectives

The objectives of the study are to:

1. Determine the incidence of co-existence of dengue fever and malaria.
2. Determine the occurrence of Dengue Fever in Relation to Some Commonly Observed signs and symptoms.
3. Investigate the occurrence of malaria and dengue infection by gender.
4. Investigate the distribution of malaria and dengue infection by educational status.
5. Examine the relationship between gender, educational status, dengue fever and malaria.
6. Review hospital documents and stewardship policies to evaluate current practice related to malaria and dengue control measures in health care facilities
7. Employ machine learning and bioinformatics to analyze datasets and develop predictive models for disease outcome and transmission dynamics.

Research Questions

The following research questions were formulated to guide the study:

1. What is the Incidence of Co-existence of Dengue Fever and Malaria?
2. What is the occurrence of Dengue Fever in Relation to Some Commonly Observed Signs and Symptoms?
3. What is the occurrence of Malaria and Dengue Infection by Gender?
4. What is the distribution of Malaria and Dengue Infection by Educational Status?
5. What is the relationship between Gender, Educational Status, Dengue Fever and Malaria?

Research Methodology

The research was carried out in 2 dengue endemic states situated in the northwestern Nigeria. North-western Nigeria is one of the six geopolitical zones of Nigeria, located in the northern part of the country. The zone comprises seven states, namely Jigawa State, Kaduna State, Kano State, Katsina State, Kebbi State, Sokoto State, and Zamfara State. The region shares international borders with the Niger to the north and national boundaries with the North Central and Northeast geopolitical zones of Nigeria. Northwestern Nigeria lies within the Sudan savannah ecological zone, characterized by open grassland vegetation interspersed with scattered trees. The climate is typically tropical continental, with two distinct seasons: a rainy season occurring between May and October, and a dry season from November to April. The dry season is often influenced by the Harmattan winds originating from the Sahara Desert, resulting in low humidity and dusty atmospheric conditions. Annual rainfall in the region generally ranges between 500 mm and 1,000 mm, while temperatures are usually high throughout the year, with mean daily temperatures ranging from 25°C to 40°C. The region is predominantly inhabited by Hausa and Fulani ethnic groups, with agriculture serving as the major occupation of the population. Major crops cultivated include millet, sorghum, maize, rice, and groundnuts, while livestock rearing is also common. Northwestern Nigeria is one of the most densely populated regions in the country, with major urban centers such as Kano and Kaduna serving as important commercial and industrial hubs. Healthcare delivery in Northwestern Nigeria is provided through a network of primary, secondary, and tertiary health institutions, including teaching hospitals, general hospitals, and primary healthcare centers. However, the region faces several public health challenges, including a high burden of infectious diseases such as Malaria, Dengue Fever, and Typhoid Fever, which are influenced by climatic and environmental factors that favor the breeding of disease vectors. The region experiences a tropical wet-and-dry climate marked by two main seasons: the rainy season, which lasts from May to October, and the dry season, from November to April. Annual rainfall ranges between 800 mm and 1000 mm, while temperatures frequently rise above 30°C, especially during the dry season. These environmental conditions are conducive to the proliferation of mosquito vectors such as *Anopheles* and *Aedes* species, which are responsible for the transmission of malaria and dengue fever, respectively. A large proportion of the population is involved in agriculture, trading, and small-scale enterprises. Rapid urbanization, high population density, and poor environmental sanitation in certain areas contribute to the formation of stagnant water bodies, which serve as breeding

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grounds for mosquitoes and increase the risk of vector-borne diseases. Healthcare delivery in the region comprises a network of primary, secondary, and tertiary health facilities. However, constraints such as limited diagnostic infrastructure and dependence on presumptive treatment of febrile illnesses often result in the underdiagnosis of malaria and dengue co-infections. The sample size for the study was determined using the formula: $n = Z^2P(1-P)/d^2$. Based on a previously reported prevalence rate of 9% by Saidu et al. (2024), a minimum sample size of 134 was calculated and subsequently increased to 200 participants to enhance reliability. Ethical approval was obtained from the Health Research Ethics Committee of the State Ministry of Health, and a copy of the signed approval letter was attached. Informed consent was secured from all participants prior to data collection, and the purpose and significance of the study were clearly explained to them.

Additionally, historical records of malaria–dengue co-infection, as well as reports on disease prevention awareness and campaigns, were requested from selected health facilities. A total of 200 consenting participants were enrolled in the study. Data were collected using a structured questionnaire to capture socio-demographic characteristics and clinical symptoms presented by the respondents. For laboratory analysis, 5 ml of venous blood was collected from each participant. Half of the sample was used for malaria testing, while the remaining portion was centrifuged at 5000 rpm for 10 minutes to obtain serum for dengue virus screening using the DzENV IgM/IgG test kit. Descriptive statistics were employed to estimate prevalence rates, while the chi-square test was used to examine associations between variables. Furthermore, a simplified predictive machine learning model was applied to estimate infection probabilities based on observed patterns. Statistical significance was set at a p-value of less than 0.05 for all analyses.

Presentation of Results

RQ_1: What is the Incidence of Co-existence of Dengue Fever and Malaria?

Malaria Infection	Respondents	Positive (+)	Negative (–)
Malaria	200	80(40%)	120
Dengue	200	17(8.5%)	103
Malaria/Dengue IgM	200	9(4.5%)	191
Malaria/Dengue IgG	200	0(0%)	200

The table presents the incidence of the co-existence of dengue fever and malaria among the 200 respondents, addressing the research question: *What is the incidence of co-existence of dengue fever and malaria?*

The findings show that out of the 200 respondents, 80 individuals (40%) tested positive for malaria, indicating that malaria is highly prevalent in the study area. In comparison, 17 respondents (8.5%) were positive for dengue infection (IgM), suggesting a relatively lower but notable presence of dengue fever. With respect to co-infection, 9 respondents (4.5%) tested positive for both malaria and dengue (IgM), indicating that a small proportion of the population experienced simultaneous infection with both diseases. This reveals that while co-existence is not highly prevalent, it is present and cannot be overlooked, especially given its potential to complicate diagnosis and treatment. Furthermore, none of the respondents (0%) tested positive for malaria/dengue IgG co-infection, implying that there was no evidence of past or long-term co-infection among the participants. This suggests that the observed co-infections were recent or active cases rather than previous exposures. Overall, the table indicates that although malaria remains the dominant infection in the study population, dengue fever is also present, and a measurable proportion (4.5%) of respondents experience co-infection. This highlights the importance of considering the possibility of dual infections in clinical diagnosis and management, particularly in endemic settings where both diseases coexist.

RQ_2: What is the occurrence of Dengue Fever in Relation to Some Commonly Observed Signs and Symptoms?

Table 2: Occurrence of Dengue Fever in Relation to Some Commonly Observed Signs and Symptoms.

Signs/Symptoms	Response	Respondents	Positive Dengue (IgM)
Fever	200	Yes	17
		No	0
Headache	200	Yes	10
		No	7
Joint Pain	200	Yes	8
		No	9
Vomiting	200	Yes	10

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The table shows the occurrence of dengue fever (IgM) in relation to some commonly reported signs and symptoms among the 200 respondents, in line with the research question: *What is the occurrence of dengue fever in relation to some commonly observed signs and symptoms?*

For fever, all 200 respondents (100%) reported experiencing it, and all 17 dengue-positive cases occurred among those with fever. This indicates that fever is a consistent symptom in individuals with dengue infection, reinforcing its importance as a primary clinical indicator. Regarding headache, 97 respondents (48.5%) reported the symptom, of which 10 tested positive for dengue, while 7 dengue-positive cases were observed among the 103 respondents (51.5%) who did not report headache. This suggests that headache is a moderately associated symptom, present in some but not all dengue-positive cases. For joint pain, 62 respondents (31%) reported experiencing it, and 8 of these were dengue-positive. Meanwhile, 9 dengue-positive cases were found among the 138 respondents (69%) who did not report joint pain. This indicates that joint pain is not a definitive predictor of dengue infection but may occur in a subset of affected individuals. Interestingly, for vomiting, none of the respondents (0%) reported the symptom, yet 10 dengue-positive cases were recorded, whereas 7 dengue-positive cases were found among respondents who did not report vomiting. This highlights that vomiting may not be a reliable symptom for dengue detection in this study population and that dengue infection can occur even in the absence of certain expected clinical signs. Overall, the table demonstrates that while fever appears as a universal symptom among dengue-positive cases, other commonly observed symptoms such as headache, joint pain, and vomiting show variable occurrence. This emphasizes the complexity of clinical diagnosis for dengue fever and underscores the need for laboratory confirmation alongside symptom assessment.

RQ$_3$: What is the occurrence of Malaria and Dengue Infection by Gender?

Table 3: Occurrence of Malaria and Dengue Infection by Gender

Gender	Respondents	Malaria (+)	Dengue (+)
Male	96	53	8
Female	102	27	9

The table presents the occurrence of malaria and dengue infections by gender, addressing the research question: *What is the occurrence of malaria and dengue infection by gender?*

Among the 200 respondents, 96 were male and 104 were female. The results show that malaria infection was more prevalent among males, with 53 out of 96 (55.2%) testing positive, compared to 27 out of 104 females (26%). This suggests that males in the study population were at higher risk of malaria infection than females. In contrast, dengue infection (IgM) was slightly more common among females, with 9 out of 104 (8.7%) testing positive, compared to 8 out of 96 males (8.3%). This indicates that dengue infection was distributed almost equally between genders, with a marginally higher occurrence in females. Overall, the table highlights that gender may influence susceptibility differently for malaria and dengue: males appear more affected by malaria, while dengue infection shows a relatively balanced distribution between males and females. These findings emphasize the need to consider gender-specific risk factors in planning disease prevention and control strategies.

RQ$_4$: What is the distribution of Malaria and Dengue Infection by Educational Status?

Table 4: Distribution of Malaria and Dengue Infection by Educational Status

Educational Status	Malaria (+)	Dengue (+)	Malaria & Dengue
Primary	37	8	6
Secondary	20	9	3
Tertiary	11	0	0
None	12		

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The table presents the distribution of malaria and dengue infections based on respondents' educational status, addressing the research question: *What is the distribution of malaria and dengue infection by educational status?*

Among respondents with primary education, 37 tested positive for malaria, 8 tested positive for dengue, and 6 were co-infected with both malaria and dengue. This indicates that individuals with primary education had the highest prevalence of both infections, including co-infection, suggesting that lower educational attainment may be associated with greater exposure or vulnerability to these diseases. For respondents with secondary education, 20 were positive for malaria, 9 for dengue, and 3 for co-infection. This shows a lower prevalence of malaria compared to those with primary education, but dengue infection was slightly higher, and co-infection was less common. Among respondents with tertiary education, 11 tested positive for malaria, none tested positive for dengue, and no cases of co-infection were observed. This suggests that higher educational attainment may be linked to reduced risk of dengue and co-infection, possibly due to better awareness, preventive practices, or access to healthcare.

For respondents with no formal education, 12 were positive for malaria, while data for dengue and co-infection were not reported. This highlights that individuals without formal education remain at significant risk for malaria infection. Overall, the table demonstrates a trend where malaria and co-infection are more prevalent among individuals with lower educational status, while dengue infection shows a slightly different pattern, emphasizing the need for targeted public health interventions and education to reduce disease burden across all educational levels.

RQ$_5$: What is the relationship between Gender, Educational Status, Dengue Fever and Malaria?

Table 5.Chi-Square (χ^2) Cross-Tabulation Analysis of Gender, Educational Status, Dengue Fever and Malaria

Variables Compared	Chi-Square (χ^2)	df	p-value	Level of Significance	Decision
Gender vs Malaria Infection	17.79	1	<0.001	Sig.	Reject
Gender vs Dengue Infection	0.01	1	0.95	Not Sig.	Accept
Educational Status vs Infection Type (Malaria/Dengue)		1	0.036	Sig.	Reject

Key:
χ^2 = Chi-square value
df = Degree of freedom
Machine Learning Predictions (Probability -based logistic Model Approach)
Fever > Very Strong Predictor (100%)
Headache> Moderate Effect
Joint Pain> Weak/Moderate
Gender No Effect

Table 6: Predicted Denque Risk

Condition	Predicted Risk
Fever Only	~8.5%
Fever+ Headache	~12-15%
Fever+Joint Pain	~10-13%
Fever + Headache+Joint Pain	~15-20%
No Fever	~0%

Fever is mandatory
More symptoms=Higher Probability
Malaria Prediction Model
Gender> Strong Effect

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Education> Moderate Effect

Table 7: Predicted Malaria Risk

Group	Predicted Risk
Male	~55%
Female	~26%
Low education	Higher Risk
Higher Education	Lower Risk

Males at much Higher Risk

Education Plays a Protective Role

Co-Infection Prediction

Co-infection Rate =4.5% (in This Study)

Table 8: Predicted co-infection Risk

Condition	Risk
Malaria+ Fever	~5-8%
Malaria+ fever+ Headache	~8-12%
Malaria+ Multiple Symptoms	~10-15%

Discussion of the Findings

This study revealed that Malaria infection has a higher prevalence of 40%, while dengue infection (IgM) was 8.5%(Table 1). This is similar to the findings of Saidu et al 2024 in a research titled concurrent infection of dengue virus with mlaria in a study conducted in Benin City in 2024. Malaria and dengue co-infection in this study was found to be 4.8% which was similar to the findings of Ajayi et al 2025 in a study titled dengue virus and Plasmodium co infection among febrile patient in Osun State Nigeria. Dengue fever in Nigeria is most likely to be neglected or untreated or even misdiagnosed as malaria. The addition of dengue fever diagnosis is important to provide appropriate treatment. These findings are consistent with previous studies showing that malaria remains the dominant febrile illness in sub-saharan Africa, while dengue is emerging but under reported (WHO 2023). More so, , a statistically significant association was found between gender and malaria infection p-value< 0.001, with males showing higher infection rates compared to females. The observation in this study is consistent with reports by WHO 2023 that gender behavioural factors influence malaria transmission in endemic regions. No significant association was found between gender and dengue infection (p=0.94), indicating that gender and dengue affects both males and females equally. Furthermore, the study demonstrated that a significant association between educational status and infection. Higher infection rate was observed among respondents with lower educational level. This finding supports previous studies conducted by Alobuia et al 2015. These findings indicate that education plays a critical role in disease prevention, as individuals with higher education are more likely to adopt protective measures such as the use of insecticide treated nets and environmental sanitation practices. Also, Fever was present in 100% of denque positive cases, making it the most consistent clinical features observed in this study. Headache and joint pain were also moderately associated with dengue infection. The findings of this research are similar to the findings of Guzman and Harris 2015 in research of global review on dengue epidemiology and clinical features which elucidate that dengue fever is characterized by acute onset of fever accompanied by headache and musculoskeletal pain. The overlap of these symptoms with malaria present a major diagnostic challenge in endemic regions. The predictive analysis conducted in this study revealed that Fever is the strongest predictor of dengue infection, the presence of additional symptoms increases the likelihood of Dengue, Male Gender significantly increases the risk of malaria. Co-infection risk increases in individuals with malaria and multiple symptoms. These findings align with recent advances in Data-driven diseases modeling, which highlight the usefulness of predictive approaches in identifying high-risk individuals and improving disease surveillance. The co-existence of malaria and dengue infections, even at a relatively low rate, poses a significant public health concern. The similarity in clinical presentation increases the risk of misdiagnosis, particularly in settings where malaria is often treated presumptively. Recent evidence that dengue is underdiagnosed in many parts of Africa, including Nigeria, due to limited

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diagnostic capacity and low awareness (Gebremariam et al., 2023). This underscores the need for integrated diagnostic strategies and improved surveillance systems.

Conclusion

Malaria remains the most prevalent febrile illness in the study area, with a prevalence of 40%, while dengue fever (IgM) was observed in 8.5% of respondents. Co-infection of malaria and dengue, although relatively low at 4.8%, was documented, highlighting the occurrence of dual infections in endemic regions. These findings are consistent with previous studies in Nigeria and sub-Saharan Africa, indicating that malaria continues to dominate while dengue is emerging and often underreported. A statistically significant association was observed between gender and malaria infection, with males showing higher infection rates than females. This aligns with reports suggesting that gender-specific behavioral and exposure patterns contribute to malaria transmission. In contrast, dengue infection did not show any significant gender difference, suggesting that both males and females are equally susceptible. Respondents with lower educational attainment exhibited higher infection rates, indicating that education plays a protective role in disease prevention. Individuals with higher education are more likely to engage in preventive measures such as proper environmental sanitation and the use of insecticide-treated nets, reducing their risk of infection. Fever was present in all dengue-positive cases, making it the most consistent symptom, while headache and joint pain were moderately associated with dengue infection. The overlap of these symptoms with malaria underscores the diagnostic challenges in endemic regions. Predictive analysis revealed that fever is the strongest predictor of dengue infection, additional symptoms increase dengue risk, male gender significantly increases malaria risk, and co-infection risk rises in individuals with malaria and multiple symptoms. Even at a relatively low rate, the co-existence of malaria and dengue poses a significant public health concern. The similarity in clinical presentations increases the likelihood of misdiagnosis, particularly in settings where malaria is presumptively treated. Limited diagnostic capacity and low awareness contribute to underdiagnosis of dengue in Nigeria, emphasizing the need for integrated diagnostic approaches, improved surveillance, and targeted public health interventions to manage both diseases effectively. The study highlights the predominance of malaria, the emerging but underreported nature of dengue, the influence of gender and education on infection risk, and the critical need for improved diagnostics and surveillance to address co-infections and reduce misdiagnosis in endemic regions.

Recommendations

Based on the findings and conclusions of this study, the following four recommendations are proposed:

1. Strengthen Integrated Diagnostic and Surveillance Systems: Health facilities in endemic regions should adopt integrated diagnostic approaches to simultaneously test for malaria and dengue, particularly in febrile patients. Improving laboratory capacity and routine surveillance will help accurately identify co-infections, reduce misdiagnosis, and ensure timely and appropriate treatment.
2. Enhance Public Health Education and Awareness Campaigns: Targeted health education programs should be implemented to raise awareness about malaria and dengue transmission, prevention, and symptom recognition. Emphasis should be placed on populations with lower educational attainment, as they are more vulnerable to infection, to encourage preventive practices such as the use of insecticide-treated nets, environmental sanitation, and early healthcare-seeking behaviors.
3. Since males were found to have higher malaria infection rates, public health strategies should consider gender-specific exposure risks. Tailored interventions could include focused community sensitization and outreach to reduce behavioral and occupational risk factors that increase male susceptibility to malaria.
4. Implement Predictive Risk-Based Approaches: The use of predictive models based on clinical features (such as fever, headache, and joint pain) should be encouraged to identify individuals at higher risk of dengue or co-infection. This can help prioritize testing, optimize resource allocation, and guide early intervention measures to reduce disease burden in endemic regions.

Referees

Alobuia, W. M., et al. (2015). Knowledge and practices on vector-borne diseases.
Brown, B. J., et al. (2019). Machi ne learning approaches for malaria prediction.

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Emeribe AU, Abdullahi IN, Isong IK, Emeribe AO, Nwofe JO, Shuaib BI, Gwarzo AM, Usman Y, Sadi M, Umeozuru CM, Dangana A, Egenti BN, Mallam MAB, Emelonye AU, Aminu MS, Yahaya H, Oyewusi S. Dengue Virus is Hyperendemic in Nigeria from 2009 to 2020: A Contemporary Systematic Review. Infect Chemother. 2021 Jun;53(2):284-299. doi: 10.3947/ic.2020.0142.

European Centre for Disease Prevention and Control (ECDPC) (2024). Dengue worldwide overview. https://www.ecdc.europa.eu/en/dengue-monthly Accessed 2nd-May- 2024

European Centre for Disease Prevention and Control (ECDPC) (2024). Dengue worldwide overview. https://www.ecdc.europa.eu/en/dengue-monthly Accessed 2nd-May- 2024

European Centre for Disease Prevention and Control (ECDPC) (2024). Dengue worldwide overview. https://www.ecdc.europa.eu/en/dengue-monthly Accessed 2nd-May- 2024

Fagbami AH, Onoja AB. Dengue haemorrhagic fever: An emerging disease in Nigeria, West Africa. J Infect Public Health. 2018 Nov-Dec;11(6):757-762. doi: 10.1016/j.jiph.2018.04.014.

Fagbami AH, Onoja AB. Dengue haemorrhagic fever: An emerging disease in Nigeria, West Africa. J Infect Public Health. 2018 Nov-Dec;11(6):757-762. doi: 10.1016/j.jiph.2018.04.014.

Fagbami AH, Onoja AB. Dengue haemorrhagic fever: An emerging disease in Nigeria, West Africa. J Infect Public Health. 2018 Nov-Dec;11(6):757-762. doi: 10.1016/j.jiph.2018.04.014.

Garrido-Cardenas JA, González-Cerón L, Manzano-Agugliaro F, Mesa-Valle C. Plasmodium genomics: an approach for learning about and ending human malaria. Parasitol Res. 2019 Jan;118(1):1-27. doi: 10.1007/s00436-018-6127-9.

Garrido-Cardenas JA, González-Cerón L, Manzano-Agugliaro F, Mesa-Valle C. Plasmodium genomics: an approach for learning about and ending human malaria. Parasitol Res. 2019 Jan;118(1):1-27. doi: 10.1007/s00436-018-6127-9.

Gebremariam, T. T., et al. (2023). Increasing prevalence of malaria and dengue co-infection in Africa. Malaria Journal, 22, 300.

Gebremariam, T.T., SchalligH.D.F.H., Kurmane, Z.M. et al. Increasing prevalence of malaria and acute dengue virus coinfection in Africa: a meta-analysis and meta-regression of cross-sectional studies. …

Gebremariam, T.T., SchalligH.D.F.H., Kurmane, Z.M. et al. Increasing prevalence of malaria and acute dengue virus coinfection in Africa: a meta-analysis and meta-regression of cross-sectional studies. …

Guzman, M. G., & Harris, E. (2015). Dengue. The Lancet, 385(9966), 453–465.

Saidu, J. Z., et al. (2024). Concurrent infection of dengue virus with malaria parasites in Nigeria.

World Health Organization. (2023). World malaria report.

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Revamping Teacher Education Programme for Improved Students' Academic Achievement for Sustainable National Development at Tertiary Level of Education in Nigeria

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Abstract
Education is very important for the development of any nation, especially teacher education. This paper examines the challenges facing teacher education in Nigerian tertiary institutions and the need for reform. It explains the steps needed to improve teacher education through a complete and well-planned reform so that students can perform better academically and the nation can develop sustainably. These steps include redesigning teacher education courses, setting proper standards, restructuring programmes, improving the Teacher Registration Council of Nigeria, selecting qualified candidates, using information and communication technology (ICT), improving the evaluation system, and updating teachers' knowledge and skills. The study recommends that teacher training institutions should follow standard guidelines, produce competent teachers through proper training, and receive adequate funding from the government. Without proper funding, it will be difficult to improve teacher education to meet modern needs.

Keywords: Teacher education, reform, academic achievement, national development

Introduction
Education is seen as a veritable tool for sustainable development and as a vehicle for advancing the frontier of knowledge which is vast expanding rapidly. The potency in education is more evident in its globalization trends where teachers (Ojo, 2023). Education has been globally adopted as an agent of change and development; it serves as a weapon against ignorance and other social vices. It is also acknowledged to be the steppingstone for wealth creation and human resource development. Onwuka (2012) defined education as a powerful weapon of acquiring the strength of the society as it influences the installation of needed values and also help people to be equipped with ideas for the resolutions of the problems confronting them and reach the informed decisions on time. Ogunyinka, Okeke & Adedoyin (2015) opined that education unlocks the door to modernization and that the teachers are the custodians of the keys to the door. Education has also been described as a process by which an individual can gain knowledge or insight or develop attitudes and skills (Olorunyomi, 2014). Education can generally be defined as aggregation of processes that enhance positive value in a society, through the instilling of knowledge, abilities and attitudes within the auspices of school. It implies that education encourages a critical evaluation of attitudes and behaviors. Therefore, the importance of education must be the prerogative of the 21st century educators as reflected in the monumental role of the teacher, which necessitates the need for quality teacher education programme to train professionals to meet global expectations. Lewin (2009) supported the views that education is the instrument that bridges the gap between individuals with innovative minds, and the application of technology for social advancement in every society. It is imperative to note that global development is anchored on education, and it is a capable human resource to drive its effectiveness to achieve desirable changes especially in developing countries like Nigeria.

Teacher education refers to the process by which a person attains education or professional training in an institution of learning in order to become a teacher. Ogunyinka et al (2015) described teacher education as professional education of teachers towards attainment of attitudes, skills and knowledge considered desirable so as to make them efficient and effective in their work, in accordance with the need of a given society at any point in time. Teacher education includes training and or education occurring before commencement of service (pre-service) and during service (in-service or on-the-job). Teacher Education in Nigeria encompasses teaching skills, sound pedagogical theory and professional skills. The effectiveness of any educational system depends greatly on the educational attainment of teachers because no system of education can be qualitatively higher than the quality and commitment of its teachers. Adewuyi and Ogunwuyi (2002) stressed that teacher education is the provision of professional education and specialized training within a specified period for the preparation of individuals who intend to develop and nurture the young ones into responsible and productive citizens. The concern of teacher education world over is to train and prepare would-be- teachers for effective functioning

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at the school. For teacher education to function there is the need to equip teachers with the wherewithal, both ethical, intellectual competencies and skills, dispositions, emotional and so forth that will enable them develop and impart in their students the requisite educational, societal dispositions, norms and values. The quality of any educational system therefore, solely depends on the quality of the teachers one finds in the school system. The National Policy on Education (2004) stated the goals of teacher education for effective and efficient performance of teachers as follows:

Produce highly motivated, conscientious and efficient classroom teachers for all levels of our educational systems; (i) Encourage further the spirit of enquiry and creativity in teachers; (ii) Help teachers fit into social life of the community and society at large and enhance their commitment to national goals; (iii) Provide teachers with the intellectual and professional background adequate for their assignment and make them adaptable to changing situations; (iv) Enhance teachers' commitment to the teaching profession.

To achieve these, all teachers in educational institutions shall be professionally trained. Teacher education is therefore structured to equip teachers for the effective performance of their duties. Since no education system may raise above the quality of its teachers, the policy pegged the minimum qualification for entry into teaching profession to be the Nigeria Certificate in Education (NCE). Teachers are central to the success of any educational system, as their knowledge, skills, and motivation directly influence student learning outcomes. Without qualified and competent teachers, educational systems cannot achieve their objectives. The Nigerian National Policy on Education emphasizes that the quality of teachers determines the overall effectiveness of the education system, underscoring their pivotal role in national development (Federal Republic of Nigeria, 2014).

The influence of teachers on students' academic performance is well-documented. Teachers are responsible for implementing educational policies, delivering curriculum content, and creating an environment conducive to learning. Their ability to engage students, assess their progress, and adapt instruction accordingly directly impacts students' academic achievements. Consequently, teachers' effectiveness is a critical factor in determining educational success (Adedeji & Akinboye, 2020). Furthermore, teachers interpret and deliver the curriculum, which requires a thorough understanding of content, pedagogical skills, and classroom management strategies. Continuous professional development is essential for teachers to stay updated with new teaching methodologies, technological advancements, and curriculum reforms. Such ongoing training enhances their capacity to meet diverse student needs and improve learning outcomes (Adeyemi & Akinbobola, 2019).

In Nigeria, concerns about the declining quality of teachers and their performance have gained prominence. Research indicates that teachers' competence, motivation, and commitment significantly influence students' academic success. Challenges such as inadequate training, poor remuneration, and lack of resources hinder teachers' ability to perform effectively, thereby affecting the overall quality of education (Adewale & Olaniyan, 2021). Addressing these issues is crucial for improving educational standards nationwide. Despite numerous reforms aimed at improving teacher education, many initiatives in Nigeria have fallen short due to poor planning, implementation challenges, and political interference. These shortcomings have limited the impact of reforms on enhancing teacher quality. Experts argue that sustainable improvements require policies rooted in educational research and designed with thorough stakeholder engagement (Ogunrinola & Olaniyan, 2020). The persistent challenges facing Nigerian teacher education highlight the need for comprehensive reforms. Effective strategies should include upgrading teacher training institutions, providing incentives for professional development, and establishing continuous mentorship programs. Such measures will help improve teacher competence, motivation, and retention, thereby positively influencing student learning outcomes (Olatunji & Oludipe, 2022).

The quality of teachers remains a cornerstone for educational success in Nigeria. To improve learning outcomes, it is essential to implement well-structured, research-based reforms in teacher education and professional development. Strengthening teachers' capacity and motivation is vital for elevating the Nigerian education system and preparing students for the demands of the modern world (Akinbote & Akinbote, 2021).

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Problems Facing Teacher Education in Nigeria

Reform is a long journey that starts with the identification of problems. It is evidently clear that there are problems associated with teacher education. This is evident in the academic performance of students in all levels of education and output of schools at all levels (Idakwoji, 2016). As noted by Okemakinde, Alabi and Adewuyi (2013) that there has been a decline in the quality of candidates admitted into the tertiary institutions as a result of the weak output of both the primary and the secondary levels. The following are the problems facing teacher education that necessitated urgent holistic reform in Nigeria as identified by different education experts (Aina 2020, Libman 2012, Aina 2015, Akinbote 2007, Darling-Hammond 2010).

Non-Compliance Standard: Nasser et al in Aina (2020), submits that standards based reform is the key to school reform principle, therefore, for a sustainable reform, there starting point is to set standards for teacher education. According to Libman (2012) most teacher education reforms have emphasize the importance of establishing national standards for students achievement for the quality of teaching and for the effectiveness of curricula for schools and teacher training institutions. But, most tertiary education that are involved in teacher education like colleges of education and faculties of education in the Universities have not been strictly complying with the set standard for teacher education.

Incompetency of Teachers: There are cries everywhere that the teachers in Nigerian schools are not competent. It is a justifiable cry as it occurred in different parts of the country as it is a well-established fact that the teachers is a social variable that influences students in various ways Darling-Hammond, 2010, Palardy & Rumberger, 2008). However, not many people focus on the process that produces these teachers many of our colleges of education and other teacher training institutions are not doing well (Akinbote, 2007, Aina, 2015). Though there are specific standards for teacher education but lecturers do whatever they please (A manchukwu 2011). Before the start of any semester examination many lecturers in the teacher training institutions already have a list of students they must assists to pass the set of examination. Most of these students eventually fails the examination, but there scores are adjusted to pass marks due to powerful influences within and outside the colleges, Therefore, half backed teachers are produced and this will have consequential effect on their level of competency Some provosts and registrar are vital players of the academic failure of these educational institutions (Oluremi 2013).

Irrelevant Curriculum: Several research studies indicate that the curricular are no longer relevant to the teaching of the present century. It is typical for students to be learning in the bare floor without furniture and in some cases learning under the tree for lack of classroom building. (Sabitu and Nurudeen 2010, Odia and Omofonmwan 2007).The learning environment should form part of a school curriculum. The NESCO 2012 has it that the principles of good learning environment, working approaches as well as concept of learning should be in the core curriculum. The Nigeria curriculum is based on memorization. Education will not be able to solve the problem of a society where learning by memorization is practiced. Practical and comprehensive learning through activities and technological application must be incorporated into the curriculum. Thus, Sani (2012) had asserted that the tailoring of curricula content towards the critical needs of the society is essential.

Reasons for Teacher Education Reform

In the face of a rapidly evolving global landscape, there is an urgent need to reform teacher education to equip educators with the skills necessary to meet contemporary challenges. Factors such as globalization, technological advancements, and innovative pedagogical approaches demand teachers who are adaptable, tech-savvy, and capable of fostering critical thinking. Recent studies emphasize that ongoing reforms are essential to prepare teachers for these dynamic environments and ensure they can effectively facilitate learning in diverse settings (Ogunrinola & Olaniyan, 2020). Furthermore, education should transcend the mere transmission of subject knowledge and aim to develop responsible citizens who can actively contribute to societal development. Teachers play a vital role in nurturing students' creativity, problem-solving abilities, and ethical values. Contemporary teacher training programs are increasingly focusing on developing these competencies, recognizing that education's broader goal is to produce well-rounded individuals capable of addressing complex societal issues (Adekola & Akinbola, 2020). Reform efforts must also ensure that education remains relevant by integrating both global knowledge and local cultural values. While exposure to international ideas and skills is crucial in the modern world, it is equally important to preserve and promote indigenous traditions and cultural identity. Recent discourse highlights that culturally responsive pedagogy enhances student engagement and fosters a sense of identity, thereby making education more meaningful and effective within local contexts (Akinbote & Akinbote, 2021).

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Reforming teacher education is essential to prepare educators who are skilled, culturally aware, and capable of guiding students in a complex, interconnected world. Effective strategies should involve updating curricula, promoting continuous professional development, and ensuring that local cultural values are integrated into teaching practices. Such comprehensive reforms will help build an education system that is both globally competitive and locally grounded (Adeyemi & Akinbobola, 2019). According to Onuma (2017). The institutions most especially universities that are providing high quality education for the globalize world, despite its focus in internationalization and cross cultural communication are still based on an individualistic model of teaching. Through globalization of education which is being knowledge transfer from the western countries into developing countries is intended to improve the skills and capacities of the people receiving it. Brenneman (2014) argued that Western education has in fact replaced indigenous forms of education throughout the world and focuses on preparing students exclusively for an urban existence. He also claimed that through this process, people are losing their vernacular knowledge by which he meant the knowledge that people have their places, this is a loss of their cultural worth and he also believed that "our graduates of tomorrow will be trained above all, to keep the wheels of the global economy turning". But the western style of education is inadequate as it focuses largely on the creation of money and paying no attention to the preserving of cultures. As opined by Okpaga (2016), Education should not become a means of westernizing the world. On the contrary, it should treat each unique culture and society with due respect, realizing that global education is not only learning about the west, but also studying different cultures of the world, using different approaches, ways of teaching and different media. Burmeister and Eilks (2013) submit that teacher education reform supports and networks can be brought into maximize the opportunities for teachers' developments in teaching and research area for their contribution to students learning. They further opined that teachers can maximize the opportunities to enhance effectiveness of their teaching from local and global networking and exposure through internet, web-based teaching video-conferencing, cross-cultural sharing, and different types of interactive and multi-media materials. They retreated that teachers are grouped and networked locally and globally to develop and sustain a new professional culture and multiple their teacher effects through mutual sharing and inspiring. They became world class and networked teachers.

Steps Involves in Teacher Education Reform

The teacher is crucial to the success of any education system. Barrow, and Sander (2007); Kuhn (2010), noted that the teacher is significant to the students' academic achievement. The quality of education system of a nation depends to a great extent on the quality of teachers regarding academic and professional qualifications, experience, competency and their dedication to the primary functions (Oluremi, 2013). The success of any teaching and learning process which influence students' academic performance depends on the effectiveness and how qualified the teachers are (Sabitu & Nurudeen, 2010). Teachers are the most critical variable in the effectiveness of schools and the quality of education of a child (Onuma, 2017).

1. **Robust Redesign of the Teacher Education Course Content**: There should be holistic teacher education course content reform in accordance with existing needs to judge the suitability and effectiveness of some new teacher-training strategies etc which will provide greater scope for development of sound knowledge on different areas. Such as content knowledge, knowledge of teaching-learning methodologies and knowledge in pedagogical of teaching learning among the trainee-teachers in content areas, development of skills of trainee-teachers to be competent enough regarding how to transact the content materials to the students meaningfully.

2. **Standardization of Teacher Education**: There should be standard for teacher education programme. The standard is to ensure that teacher education focus on high quality. Pre-service teachers must be trained for specific levels as it is in the industrialized world. In the USA and Finland, there are teachers trained for the kindergarten and other grades. These teachers teach only at these levels. The primary school teachers must be subjecting specific (Kola, 2007). In most of the primary schools in Nigeria, a teacher teaches all the subjects in his or her class. For instance, a teacher may be a classmate of two or three classes; the same teacher may be seen teaching mathematics, English languages, Agricultural science, Social studies, Religious knowledge, Physical and health education and Basic science. However, this teacher is a graduate of social studies yet he or she teaches all subjects. It should not be like this and it needs correction in the reform. There is also need to set up unifying standards for higher education that are producing teachers in the country. There should be standards for establishing a new institution students' admission, the students' management, financial management, the awards of degrees and many others. These measures should be strictly enforced and continually monitored.

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3. **Restructuring the Teacher Education Programmes:** There is need to keep in view the requirements of each stage of teacher education programmes. According to the paper prepared by NCERT four alternative models for the professionalization of secondary school teachers are; (a) one year professional and education teaching to B.Ed degree after graduation (b) 4-5 years integrated professional courses after higher secondary leading to B.Ed/M.Ed degrees (c) two years of professional education after graduation leading to M.Ed degree. (d) correspondence – cum-contact programme for graduate teachers in service leading to B.Ed degree. The course and programme may be structured so as to allow continuity and flexibility. The first course may lead to second course and so on. Like other professional courses there should be a provision of internship training and post internship training. Every graduate teacher should undergo an induction course for 3-6 months besides teaching practice and be certificated just as graduates in law attends law schools and medical students attends a year compulsory training.
4. **Upgrading Teacher Registration Council of Nigeria:** The establishment of the teacher registration council of Nigeria (TRCN) is good but needs improvement on evaluating teachers on pedagogy and the ethics of the teaching profession (Okonkwo and Udeze 2012). Before the award of TRCN, the body in charge of the issuance of the certificate should ensure that the prospective teacher must have pedagogical content knowledge, ability to read the body language of the learners and carrying out classroom management strategies.
5. **Careful Selection of Candidates for Teacher Education:** It is generally believed that there is need to carefully select candidates seeking admission into teacher educational institution. Teacher education institutions should make a proper selection of prospective teachers. The candidates should be selected for admissions on the basis of their academic qualifications, scores of written tests and interviews. The written tests should check other teaching aptitudes, knowledge of child psychology and reasoning power. It would generate confidence in teacher trainees that they are not inferior to the candidates who have been selected through entrance test for medical, engineering and other professional courses. Moreover, competent candidates will be selected by adopting this procedure.
6. **Incorporation of Information, Communication Technology to Teacher Education:** Today is the era of e-education, e-business and e-administration. The computer, T.V., Telephones, Mobile are the media of information. The world has become interdependent and is turning gradually into a global village, nowadays one has to think globally and act locally. There is a necessity of integrating technology in teacher education. ICT is a tool for communication and presentation, bringing teacher, students and teacher educators on a common bench which will results in effective exchange of views, presentation of ideas and feedback. (Iterrington, Reevess and other 2010). They further opined that each teacher need to be proficient in the areas of technical competencies required for chats, websites, data bases, audio and video links, electronic conferences, e-mail etc. learning to use computers and internet is a relatively simple task; but mastering ICT use as an effective tool to improve teaching and learning is considered a difficult one. Teachers need training in computer literacy and how to use this in improving teaching and learning. Teacher education institutions must introduce information and communication technology in teacher education programme. ToLibman (2012). The students should experience innovative technology supported learning environments in their teacher education programmes. The school must fulfil the requirements of the availability of selected ICT. Moreover, well qualified and experience technical staff should be appointed to take care of the ICT labs.
7. **Re-Package Evaluation System of Teacher Education Programme:** The evaluation system for the assessment of teachers under training has many weak features. (Kuhn, 2010). He stressed further that we are not having a uniform system of evaluation for the whole country moreover the present evaluation system in teacher education lays emphasis on development of scholastic aspects at the cost of non-scholastic aspects. Moreover, it lacks reliability, objectivity and validity. Variation exists in the award of divisions and distinctions. Some of the agencies like NCERT & CASE (Baroda) have developed evaluation proforma. There is a teacher competence appraisal guide developed in the USA for the assessment of practice teaching. These can be used while assessing the performance of teacher trainees. According to UNESCO (2012). Teacher education programme has two-parts - theory and practical work including the student teaching. An equal weight age should be given to theory and practical aspects. We should also introduce an evaluation system which will have internal and external assessment for both the theory paper as well as practical paper. Moreover, the marks awarded should be shown for both the papers separately. Grading system should be adopted in which separate grades for each item should be assigned. The candidate should also be permitted to make an improvement in grade by tacking subsequent examination. Teacher evaluation system must have multiple perspectives.

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Multiple criteria should be set up. Multiple tools such as paper-pencil test, observation techniques, self-reporting develop and paper appraisal can be used. The process of evaluation should be continuous, comprehensive and participative. This will provide timely feedback to the students' teacher for improving their performance. Thus, providing an opportunity to them for self-evaluation and self-improvement.

8. **Knowledge and Skills Update:** The in-service programmes of teacher education will keep the teachers up-to-date in respect of their knowledge of their subjects, specialization subjects and the professional skills of teaching. This will keep the teachers to update their knowledge and skills according to scientific and technological advancements. Hence they will be able to meet the new challenges effectively. The in-service training programme includes periodic refresher courses. Professional enrichment courses, orientation in various emerging areas, like value education, special education, communication technology, human rights education environment education etc. active participation of teachers in workshops, conferences and seminars organized at National and International level should be encouraged.

Conclusion

Teachers play a crucial role in driving national development, as they are instrumental in shaping the future workforce and fostering societal progress. Their effectiveness directly influences students' academic success and, consequently, the overall growth of a nation. Recognizing this, it is essential to prioritize the enhancement of teacher quality through comprehensive reforms in teacher education systems. In Nigeria, however, teacher education faces numerous challenges that undermine the quality of teaching and hinder students' academic achievements. Issues such as inadequate training programs, outdated curricula, and insufficient professional development opportunities contribute to these problems. Addressing these obstacles requires a thorough and strategic approach to reform, led by educational experts who understand the complexities of the system. Implementing well-planned reforms in teacher education can have far-reaching benefits. Improved training and professional development will result in better teaching practices, which in turn will elevate student performance. Ultimately, strengthening teacher education is a vital step toward achieving sustainable national development and ensuring that Nigeria's future generations are well-equipped to face global challenges.

Recommendations

Based on the findings of this study the following recommendations were suggested for holistic reform to take place in teacher education programme:

1. Teacher training institutions should follow standard guidelines.
2. Only qualified and competent teachers should be produced.
3. Government should provide adequate funding for teacher education.
4. ICT should be fully integrated into teacher training.
5. Continuous professional development for teachers should be encouraged.

References

Aaronson, D, Barrow, L., & Sander, W, (2017). Teachers and student achievement in the Chicago Public Schools. *Journal of labourEconomics 25, 95-135*

Adekola, B., & Akinbobola, A. (2020). Teacher quality and students' academic performance in Nigerian secondary schools. *Journal of Education and Practice*, 11(12), 45-52.

Adewale, O., & Olaniyan, D. (2021). Challenges facing teachers in Nigeria: Implications for educational development. *Nigerian Journal of Educational Research and Evaluation*, 24(3), 112-125.

Adewuyi, J. O. & Ogunwuyi, A. O. (2002). Basic Text on Teacher Education. Oyo: odumatt Press and Publishers.

Adeyemi, T., & Akinbobola, A. (2019). Continuous professional development and teachers' effectiveness in Nigeria. *Journal of Teacher Education*, 15(2), 33-44.

Aina, J. k, and Akintunde, Z.T. (2013). Repositioning science education in Nigerian Colleges of Education through public-private partnership (PPP). *Science journal of Education, 1(5): 64-67, doi: 10.11648/j.sjedu.20130105.13*

Aina, J. K,,Gana, N.N. and Ibitomi, O.O (2017). The lack of good governance in Nigeria and its impact on Functional science education. *International Journal of Development and Sustainability, 6(9), 1036-1047*

Akinbote, O. (2007) problems of teacher education for primary schools in Nigeria: beyond curriculum design and implementation. *Essays in Education, 22, 4-11.*

Akinbote, S., & Akinbote, A. (2021). Reforming teacher education in Nigeria: Strategies for sustainable development. *International Journal of Educational Management*, 35(4), 789-805.

Amanchukwu, R.N, (2011). The challenge of quality education and good governance in developing economy. *African journal of Educational Technology*, *1(3), 103-110*

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DOI: https://doi.org/10.64348/zije.2026390

Brenneman, K. (2014). The progress of education reform: Science in the Early Years. *Education Commission of the states. 15(2), 1-6.*

Burmeister, M., and Eilks, I. (2013). An understanding of sustainability and education for sustainable development among German student teachers and trainee teachers of chemistry. *Science Education international, 24(2), 167-194*

Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Applied Developmental Science*, 24(2), 97–140. https://doi.org/10.1080/10888691.2018.1537791

Federal Republic of Nigeria (FRN). (2023). National Policy on Education (Revised Edition). Lagos: *NERDC Press*.

FGN (2004). National policy on education. (4th ed) Lagos: NERDC Press.

Gu, X., Hassan, N. C., & Sulaiman, T. (2024). The relationship between family, school environment, and students' academic achievement. *Behavioral Sciences*, 14(3), 221. https://doi.org/10.3390/bs14030221

Idakwoji, S. N. (2022). Teacher quality and students' academic achievement in Nigerian schools. *International Journal of Educational Research*, 10(2), 45–58.

Kola, A. J. (2021). Improving teaching effectiveness through instructional materials in Nigerian schools. Journal of Education and Practice, 12(5), 34–41.

Kuhn, D. (2010). Teaching and learning science as argument. Science Education, 94(5), 810-824. doi:10.1002/sce.20395.

Lewin, K. M. (2009). Mapping Science education in developing countries. Washington: The World Bank Human Development Network.

Libman, Z. (2022). Teacher education and professional standards: Global perspectives. *International Review of Education*, 68(2), 151–171. https://doi.org/10.1007/s11159-022-09975-7

Nasser, R et al. (2014). Alignment of teacher-developed curricula and national standards in Qatar's national education reform. *International Education Studies*, 7(10), 14-24

NCCE (2022). Minimum Standards for Nigeria Certificate in Education (NCE). Abuja: National Commission for Colleges of Education.

Obanya, P. (2021). Teaching and learning in a changing world. Ibadan: HEBN Publishers.

Odia, L., O., and Omofonmwan, S.I (2007). Educational system in Nigeria problems and prospects. *Journal of social science*, 14(1), 81-86.

Ogunrinola, O., & Olaniyan, D. (2020). Evaluating the impact of policy reforms on Nigerian teacher education. *Nigerian Journal of Policy Analysis*, 8(2), 67-83.

Ogunyinka, E. K., Okeke, T. L & Adedoyin, R. C. (2015). Teacher education and development in Nigeria: An analysis of reforms, challenges and prospects. Education Journal, 4(3), pp. 111-122. Retrieved from Doi: 10-1148/J.edu.20150403.14

Okemakinde, T, Alabi, C.O, and Adewuyi, J.O (2013). The place of teacher in national development in Nigeria. *European journal of Humanities and Social Sciences,* 19(1), 963-980.

Okonkwo, V.O., and Udeze, H.E. (2012). Quality assurance in teacher's education in Nigeria: Challenges and the way forward. *Journal of Research and Development*, 4(1), 127-134.

Okpaga, A. (2016). Distnace Learning, sandwich and open education system in Nigeria: challenges and prospects for educational development. *International journal of Academia,* 1(1), 343-352.

Olatunji, S., & Oludipe, D. (2022). Strategies for improving teacher quality in Nigeria: A review. *Journal of Educational Innovation*, 19(1), 15-29.

Olorunyomi, C. R. (2014). Problem of financing primary education in Nigeria. Journal of Teacher Perspective, 8(2) 46-414. Retrieved from Omehia, A. E. (2019). Library and information services: A panacea for promoting teacher education programme in Nigeria to meet global demands. International Journal of Library and Information Science Studies, 5(5), 13-34.

Oluremi, O. F. (2023). Teacher professional development and educational effectiveness in Nigeria. *European Scientific Journal*, 19(12), 55–70.

Oluremi, O.F. (2013). Enhancing educational effectiveness in Nigeria through teacher's professional development. *European Scientific Jornal*, 9(28), 422-431.

Onuma, N.(2017). Under-funding tertiary education in Nigeria: implication for sustainable national development. *IRA international Journal of Education and Multidisciplinary Studies* 7(3), 174-183. doi: http://dx.doi.org/10.21013/jems.v7.n3.pl

Onwuka, E. C. (2012). Prospective of education and development: Appraisal of Nigerian experience. Multidisciplinary Journal of Research Development, 4(2),1-11

Sabitu, A.O. and Nurudeen, B.B (2010). Teachers' attitudes as correlates of students' academic performance in geography in secondary schools in ondo state, Nigeria, *Pakistan journal of social sciences,* 7(5), 388-392.

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Sanni, A. (2014). Nigerian curriculum and national integration: issues and challenges. *British journal of Education, society &Behavioural Science,* 4(3), 309-317.

UNESCO (2023). Reimagining our futures together: A new social contract for education. Paris: UNESCO. https://unesdoc.unesco.org

United Nations Educational, Scientific and Cultural Organization [UNESCO] (2012). *Education for development in action. Paris: Author.*

World Bank (2024). Improving teacher quality in Sub-Saharan Africa. Washington, DC: World 36+Bank. https://www.worldbank.org

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Qualitative Study on the Economics of a Sustainable Higher Education in Nigeria: A Theoretical Approach

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Abstract
It has been documented that higher education plays a pivotal role in human capital development and national growth and development. This paper conceptualizes economics of education as a vital field that examines the allocation of educational resources, the economic returns on education, and the broader implications of educational investment on national development. Functionalism theory which addresses society as a whole in terms of the function of its constituent elements was adopted for the paper. It views higher education as one of the most relevant social institutions in the society. However, the capacity of higher education in manpower development is being gradually eroded due to resource allocation inefficiency in Nigerian higher institutions of learning. The paper thus explores how economics of education can enhance resource mobilization, efficient allocation, and equitable access to education strategic planning, and accountability. The synergy between higher education and economics of education is essential for cost-effectiveness in educational programmes, and implementation of sustainable practices. The paper concludes that in order to enhance higher education capacity and sustainability for national development, there is a need for higher education managers to have the basic knowledge of economics of education and its applicability in the management of higher education for sustainable institutional and national development. It recommends that educational policies in higher institutions in relation to finance and resource allocation should be made by specialists in economics of education for institutional sustainability.

Keywords: Economics, Higher Education, Sustainable Development

Introduction
Education plays a key role in the ability of developing countries to absorb modern technology and to develop the capacity for self-sustaining growth and development. It is an instrument for self-reliance, social reconstruction and sustainable national development, and plays a crucial role in promoting economic growth, reducing poverty, improving health and well-being, and fostering social cohesion. Education is a human capital investment that requires vast resources, including human, materials and financial resources, to produce required manpower for national development. However, these resources are not always available or adequate to satisfy unlimited educational wants at the same time; thus, creating a fundamental problem of how to allocate available resources to competing educational needs. This development, as noted by Obono (2025), led to the study of the economics of education, which is an application of economic principles such as opportunity cost, choice, scale of preference, and others in solving this problem within the education system. Higher education is entrusted with the responsibility of training and providing manpower equipped with the knowledge and relevant skills that would develop capacity for transformation and analytical skills to enhance industrial and technological development, drive local economics, and make important decisions that positively impact the entire society. According to Mantanshyan (2021), higher education can increase the quality of human capital present in the labour market and can help increase the innovative potential and capacity of the economy as well as help generate, refine and disseminate new knowledge on novel technologies and processes that promote economic growth. According to Obono and Eteng (2025), the essence of higher education is to train individuals and provide the nation with skilled and knowledgeable manpower for socio-economic, political and technological development. It is considered as a vital element in the development of a society. As a knowledge provider, it serves as a powerful means to help create a more sustainable future. It is the generator and the developer of all talents and potentials of individuals channeled towards the sustenance of the nation in all spheres. It promotes the development of knowledge, skills, understanding, values, and actions required to create a sustainable world, which ensures environmental protection and conversation as well as promotes social equity and encourages economic sustainability. A fundamental concept in the economics of education is the view of education as a form of human capital investment. According to human capital theory, education enhances individuals' productivity, earning potential, and contributions to economic growth (Olaniyan & Okemakinde, 2008). Education and human capital development are now

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the pivoting tools to engender profound transformations and periods of rapid growth and development of a country. For Nigeria, investing in quality education is not merely a social good but a strategic economic decision. Educated individuals are more likely to be innovative, adaptable, and competitive in the global labour market. Therefore, increasing access to and the quality of education has direct implications for poverty reduction, employment generation, and sustainable development. Effective management of available human and material resources is central to the success of any organisation. It entails the process of coordinating, planning, mobilizing, controlling and utilising both human and non-human resources to achieve organisational goals and objectives. Allocation of scare resources to various educational programmes, projects and activities to optimise their contribution to educational and national development is the focus of education managers. Hence, the development of economics of education aimed to help education managers to effectively and efficiently finance and allocate limited educational resources to various educational needs thereby providing education that is vibrant, responsive and relevant to the needs of individuals and society.

Concept of Economics of Education

Economics of education is a vital field that examines the allocation of educational resources, the economic returns on education, and the broader implications of educational investment on national development. It seeks to understand how societies can efficiently invest in human capital to drive economic growth and social advancement (Ekundayo & Ayodele, 2025). It is the application of economic principles to the study of education as a service focusing on the demand for education, supply of educational resources and the cost and benefit analysis of educational investments. Its application helps policymakers and stakeholders to make informed decisions regarding funding priorities, curriculum design, and educational delivery systems. Obono (2025) asserts that economics of education is a collective body of knowledge, ideas and arguments that seek to establish rational criteria and explain how the provision of education as a veritable tool for the development of human resources can be pursued to maximise benefit on production, economic growth, and sustainable national development. It is a study that is concerned with the process of making choices among the educational resources to satisfy the unlimited educational needs of society. These assertions stress the fact that since all educational needs cannot be satisfied at the same time given limited resources, decision makers have to make choices among the competing educational needs. Ibbih (2024) asserts that economics of education is basically concerned with how educational objectives can be met out of scarce resources. The scope of economics of education, in the words of Datta (2021), is: (i) It studies education as human capital, (ii) determines a long-term link between educational expenditure and revenue, (iii) estimates the rate of returns to educational expenditure, (iv) estimates and proposes ways to prevent academic waste, (v) promotes improvements in education that are both socially and economically significant, and (vi) improves academic planning and management strategies. Economics of education emphasizes resource utilisation and wastage reduction. By improving planning, monitoring, and evaluation mechanisms, institutions can enhance their performance and ensure that resources produce meaningful outcomes. Ultimately, applying economic principles to education offers a roadmap for improving the quality, equity, and sustainability of higher education in Nigeria.

Higher Education and Sustainability Challenges in Nigeria

The sustainable growth and development of any nation depend on the level and quality of her education, mostly higher education. Higher education is a social institution provided by society to provide knowledge about life, skills, societal norms and values. It is essential for growth and development as it provides high level human resources for driving the economy and ensuring rapid societal transformation. This implies that more access to higher education, more expansion in acquisition of skills and knowledge to withstand the societal challenges as well as maintain sustainable development. Higher education institutions have critical role to play in implementing and driving sustainable development initiatives through their institutional policies and practices. This implies equipping students with the requisite knowledge, skills, attitudes and values to create a sustainable future. As a knowledge producer, the core mission of higher education cuts across all learning domains since it is through good quality education that people are equipped with the requisite knowledge and skills needed to tackle sustainable future. Higher education is a corner stone for technology and innovation driver. One of the cardinal tenets of the higher modern educational institutions is to find solutions to serious challenges by conducting research and contributing to social outcomes to health, economic and social engagement issues. It plays a central role by instilling in students the value of individual achievement. This achievement is necessary to meet the demand of industries. Higher education therefore, is bedrock upon which nations build a new road to growth and development. Higher institutions promote lifelong learning, and offer opportunities to engage and attract professionals into training and professional

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development. They provide their students with various programmes aimed at preparing them for different economic sectors, helping them to stay and progress in the labour market and keep pace with changes in the global economy and changes in the innovation process. Nwosu (2021) asserts that the primary objective of higher education is to equip individuals with the skills necessary to function effectively and efficiently in the economy, while also providing opportunities for them to stay abreast of rapid technological changes. However, the skills acquired in educational institutions often lack relevance due to inflexibility in adapting to innovations, making it challenging for inexperienced professionals to familiarize themselves with new developments in their fields. While higher education is a costly investment, its long-term benefits for economic growth and development are undeniable. Its impact may vary in underdeveloped economies compared to more developed ones, raising questions about the returns on investment in education in different contexts. It has been documented that higher education enhances productivity and creativity, fosters entrepreneurship, and drives technological advancements, ultimately unlocking individual potential and national wealth. It directly influences the quality and magnitude of a nation's development. By leveraging adequate resources, higher education can improve lives, yield broad social benefits, and drive national progress. Effective resource allocation, efficient utilization, regular evaluation, and continuous improvement are crucial to maximizing the benefits of higher education. However, Nigeria's higher education sector faces multifaceted challenges that hinder its efficiency, sustainability, and global competitiveness. Ekundayo and Ayodele (2025) assert that persistent funding gap, stemming from over-reliance on government subventions and minimal internally generated revenue is a basic challenge facing many higher institutions of learning in Nigeria. Babalola (2023) remarked that there is a notable disparity in the distribution of funds within the higher education sector, which exacerbates inequality in access to and outcomes from higher education. Poor resource management is another challenge as infrastructural facilities in many institutions such as laboratories are poorly equipped, and library resources are out-dated. This results into many graduates being ill-prepared for the demands of the workforce. Politicisation of leadership appointments and eventual poor managerial ability to drive institutional administration and reforms is yet another clog in the wheel of higher institutions sustainability. An institutional leader without a clear vision and the drive to pursue the mission of the institution with transparency and meritocracy will definitely experience crisis which will continue to undermine the education sector's development. Many institutions also lack robust systems for monitoring academic standards, curriculum relevance, and instructional effectiveness. Curricula are often out-dated and not relevant to the realities of the 21st-century labour market, leading to a growing mismatch between graduates' skills and organisational needs (Aina, 2013).

Educational resources are essential for effective teaching, learning, and institutional development, enabling educational activities to thrive. However, without sufficient resources and effective management, underdeveloped economies' tertiary education systems face significant challenges in achieving their objectives. Managing educational resources in higher education is fraught with challenges, including corruption, poor planning, inadequate maintenance, insufficient trained personnel, non-compliance with capacity standards, ineffective supervision, and poor funding. These issues hinder the effective management and sustainability of tertiary education, ultimately impacting economic growth and sustainable development (Ebirim et al., 2025). Addressing these challenges is crucial to unlocking the full potential of tertiary education in driving national progress. Enhancing the standard of living and sustaining economic growth requires adequate funding and judicious management of tertiary educational programmes. Effective implementation of these programs hinges on increased funding, prudent disbursement, and careful management of resources. There is thus the need to reposition higher education in Nigeria in order to be able to meet up with international best practices. There is the need to reinvent higher education in Nigeria through a holistic and evidence-based approach that integrates principles from the economics of education with dynamic leadership practices. Higher institutions in Nigeria should adopt innovative revenue models that involves various approaches such alumni donations, partnerships with industries, commercialization of research outputs, and efficient tuition policies. Effective quality assurance mechanisms should be revitalized to align educational outcomes with national development goals and labour market demands. This includes regular curriculum reviews to integrate skills such as critical thinking, digital literacy, and entrepreneurship. In order to resolve these infrastructure and innovation gaps, institutions need to embrace technology-driven solutions and green initiatives**.** Investing in digital infrastructure has the capacity to expand access to online and blended learning, increase research collaboration, and improve administrative efficiency.

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Theoretical Framework

This article is premised on structural functionalist theoretical perspective. Functionalism reasoned that society is best understood as a complex system with various interdependent parts that work together to increase stability. This theory has its origins in the work of Emile Durkheim, who was especially interested in how social order is possible or how society remains relatively stable. Functionalist theory suggests that the different parts of society are primarily composed of social institutions such as education, family, government, media, economy and religion, each designed to fill different needs. According to functionalism, an institution only exists because it plays a vital role in the functioning of society. If it no longer serves a role, an institution will die away (Crossman, 2020). Functionalism addresses society as a whole in terms of the function of its constituent elements (customs, traditions, and institutions) much like the interacting organs within the human body. The theory views higher education as one of the most relevant social institutions in the society. Education provides one of the major methods used by people for upward social mobility. Education teaches certain skills to individual necessary for their future jobs and occupations. Work in industrial societies depends on the skills inculcated by higher education which enable a person to be a functional member of his or her society. In the traditional society status ascribed or assigned to a person by the society event at birth without regard for the person's unique talents or skills accorded through education (Abanyam, 2015). However, in modern society, achieved status emanates largely through efforts. One has to make efforts, obtaining a university degree or acquiring some level of education can result to upward social mobility. Abanyam et al (2020) opine that higher education therefore serves as universalistic standards for all students regardless of ascribed demographic characteristics. Job opportunities today and careers have become dependent on the degrees and educational higher qualifications. Educational institutions not only broaden people's mind or perspective but prepare new generations for participation in economic life. Higher education therefore is a means of role allocation. Schools test and evaluate students, match their talents, skills and capacities to perform jobs for which they are best suited. A functional society is one in which its educational system teaches the relevant skills needed to provide for its basic needs. From the functionalist theoretical perspective, higher education play key important roles such as creating social solidarity, teaching skills necessary for work, teaching core values and role allocation and meritocracy. Higher education has the opportunity to build capacity and knowledge as it exposes the masses to information and help prevent the misinterpretation of information. It improves labour productivity and thus increases the wealth of a country. Education develops leadership; individuals gain confidence, knowledge, skills and experience that increase an individual's ability to effectively and efficiently lead a group of people toward success. Higher education raises self-esteem and furthers opportunities for employment and earnings. For a country, it helps strengthen institutions within societies, drive long term economic growth, reduces poverty, and spurs innovation. Good quality higher education facilitates the acquisition of knowledge, skills and attitudes that have intrinsic values and also helps address important goals (Ibbih, 2024).

Roles of Economics of Education on Higher Education Sustainability

Economics of education offers a valuable framework for reimagining and revitalizing Nigeria's higher education system. By applying economic principles to the planning, financing, and evaluation of educational systems, institutions can make more rational and sustainable choices. Higher institutions thus need to assess resources mobilisation and utilisation, consider how returns on investment are maximized, and how access is equitably distributed and expanded. These strategies are crucial in aligning educational outcomes with national development goals and global competitiveness. Ekundayo and Ayodele (2055) opine that economics of education plays important roles in sustaining the management of higher education through effective resources planning, which is the process of determining in advance the quality and quantity of resources needed to execute educational programmed or projects. Planning serves as the basis for determining required resources for the effective operation of education and sustainable development. The application of economics of education provides the basis through which higher institution managers plan the needed resources for implementing educational programmes and projects for sustainable institutional development. Another basic issue in economics of education is the efficient allocation and utilisation of available resources. Economic tools such as cost-benefit analysis, cost-effectiveness analysis, and education production functions help institutions determine which programmes and investments yield the highest returns. By applying these analytic models, institutions can avoid waste, prioritize high-impact projects, and better align their outputs with labour market demands. Efficient resource use also requires strong financial management systems and periodic performance audits to guide budgetary decisions. It provides skills that enable higher institution managers to ascertain various ways of mobilising resources, and engage in alternative revenue-generating ventures to finance educational

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programmes or projects for sustainable institutional development. It also provides criteria for making sound and rational policies concerning how scarce and limited resources can be allocated optimally among competing educational projects so as to provide the needed manpower for sustainable institutional development. Investment in education is the commitment of resources to educational programmes or projects with a view to yielding future returns. Choosing of an investment projects or programmes is one of the difficult decisions in the management of higher institutions. Effective application of economics of education provides the impetus through which decisions regarding the choice of education investment are made to maximise future returns. More so, it provides higher institution managers with measures through which educational wastage can be managed and enhanced efficiency for sustainable institutional development. As enrolment increases in higher institutions, available resources become over utilised and ineffective. Hence, economics of education enables institutional managers to project and acquire resources needed to manage the ever-increasing enrolment so as to provide the nation with the need skills for sustainable development. It enables institutional managers to acquire skills of financial administration, which enable them to effectively and efficiently coordinate financial resources of the school in a manner that ensures accountability in the use of funds and attainment of institutional goals and objectives. According to Obono (2025), human capital development is the process of implementing programmes through which staff of an organisation can acquire skills and knowledge that are necessary in improving job performance and organisational productivity. Effective application of economics of education enables institutional managers to understand that the capacity of higher institution to attain its goals depends on the available institutional facilities and the human capital stock. Thus, there is a need to implement programmes and projects that will enhance job performance and productivity, fill the skills gap in the industries and eventual enhancement of national development. Economics of education also addresses the imperative of equity and access, ensuring that quality higher education is not the exclusive preserve of the elites. Economic tools such as targeted subsidies, student loan schemes, and differential tuition fee can help bridge the gap for the underprivileged and marginalized populations. Scholarships and tuition waivers can be offered to students from low-income backgrounds, while more affluent students may pay full fees. Similarly, the establishment of income-contingent student loan schemes (NELFUND) can reduce financial barriers without overburdening public budgets. These interventions ensure that the education system remains inclusive while maintaining quality and efficiency (Tilak, 2008).

Conclusion

It is a stylised fact that higher education is an important institution in any nation and an indispensable tool for sustainable national development. Higher education enables upward socio-economic mobility and is a key to escaping poverty and unemployment. Thus, it should be given the needed attention and strengthened by the government to become the powerful tool to make the citizens become the catalyst of change since a strong education system broadens access to knowledge, opportunities, eradicate poverty, and provides the skills people need to thrive in any economy. Economics of education is the application of economic principles, tools, laws and theories in making decisions to solve educational problems or achieve educational goals. It addresses fundamental issues in education, such as education resources allocation, education financing and budgeting, choice of education investment projects, education cost and benefits, education wastage, efficiency, education production process, demand and supply of education, as well as deregulation of education. Thus, it is a strategy, if effectively applied, for managing higher education for sustainability and national development.

Recommendations

In order to enhance higher education capacity and sustainability for national development, there is a need for

1. higher education managers should have the basic knowledge of economics of education and its applicability in the management of higher education for sustainable institutional and national development.
2. Effective management of human, material, and financial resources in tertiary educational institutions is crucial for driving economic growth and sustainable national development,
3. Acquiring relevant skills and ensuring optimal resource allocation, utilisation, and maintenance is important to achieve these goals.
4. Educational policies in higher institutions in relation to finance and resource allocation should be made by specialists in economics of education for institutional sustainability.

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References

Abanyam, N. L., David, F. & Ibrahim, Y. D. (2020) The role of higher education in sustainable economic Development in Nigeria: A functionalist theoretical perspective analysis. *Sapientia Global Journal of Arts, Humanities and Development Studies*, 3(2), 276- 284.

Aina, O. I. (2013). Reforming the Nigerian tertiary education sector for sustainable development. *Journal of Education and Practice*, 4(18), 86–92.

Babalola, J.B. (2023) *Sufficiency and Efficiency in Financing Higher Education in Sub-Saharan Africa*. Ibadan: His Lineage Publishing House.

Crossman, A. (2020). Understanding functionalist theory: One of the major theoretical perspectives in Sociology. Retrieved on April 2026 from https://www.thoughtco.com.

Dattta, J.M.R. (2021) Economics of Education. India: Ghaziabad: NB Publications.

Ebirim, P. U., Chimezie, A. O. & Duruchukwu, F. C. (2025). Managing tertiary educational systems for economic growth and sustainable development in an underdeveloped economy. International Journal of Social Science and Management Research, 11(4), 516-524.

Ekundayo, H.T. and Ayodele, J.B. (2025) The potential of economics of education and leadership for re-inventing sustainable and efficient higher education in Nigeria. *Journal of Contemporary Issues in Education,* 9(1), 12-30.

Ibbih, J.M. (2024) Revitalising the education sector for enhancing Sustainable economic development: Implication for School administrators. *International Journal of Economics Education Research,* 7 (1), 1-12.

Mantanshyan, M. (2021) Role of higher education in shaping socio-economic growth. Unpublished MPA thesis submitted to California State University, Northridge.

Nwosu, N. N. (2021). Management of higher education for sustainable growth and development in Nigeria: A critical analysis. *International Journal of Scientific Research in Education,* 14(3), 386-399.

Obono, E.E (2025) The study of economics of education: Imperative for managing university education for sustainable development in Nigeria. *Lagos Education Review Journal*, 20. (1), 162-176.

Obono, E. E. & Eteng, E. U. (2025). Staff remuneration as correlate of lecturers' job satisfaction in public universities in Cross River State, Nigeria. Journal of Contemporary Research, 4(1), 168-176.

Olaniyan, D. A. & Okemakinde, T. (2008). Human capital theory: Implications for educational development. *Pakistan Journal of Social Sciences.* 5(5), 479-483.

Tilak, J. B. G. (2008). *Financing higher education in Sub-Saharan Africa*. UNESCO: International Institute for Educational Planning (IIEP).

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Influence of Online Social Networking on Civic Behaviour among Upper Basic School Students in Edo State, Nigeria

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Abstract

The purpose of this study was to examine the influence of online social networking on civic behaviour among Upper Basic school students in Edo State, Nigeria. The study adopted a survey research design. Three hypotheses guided the study. The population comprised 52,480 Upper Basic school students in public secondary schools across Edo North, Edo Central, and Edo South senatorial districts. A sample size of 250 students was selected using a multi-stage sampling technique. Data were collected using a structured questionnaire titled Online Social Networking and Civic Behaviour Questionnaire (OSNCBQ) developed by the researcher. The instrument consisted of items measured on a four-point Likert scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). Face and content validity were established by three experts from the University of Benin, Benin City, including two specialists in Curriculum and Instructional Technology and one in Measurement and Evaluation. Reliability was determined using the Cronbach Alpha method, which yielded a coefficient of 0.85. Data were analyzed using descriptive statistics (mean and standard deviation) and simple regression analysis at the 0.05 level of significance. The findings revealed that frequency of online social networking, type of online social networking activities, and level of interaction on online platforms significantly influence civic behaviour among students. The study concluded that purposeful and constructive use of online social networking enhances civic awareness and participation. It was recommended, among others, that digital civic education should be integrated into the curriculum and that students should be guided toward responsible and meaningful use of social media for civic engagement.

Keywords: Online Social Networking, Civic Behaviour, Social Media Interaction, Upper Basic Students, Edo State

Introduction

Basic education plays a fundamental role in shaping socially responsible, morally upright, and civically engaged individuals who can contribute meaningfully to national development. The Upper Basic school level represents a critical stage in the educational system where students develop social awareness, civic responsibility, and participatory skills necessary for functioning effectively in society. In contemporary digital society, the rapid advancement of internet technologies has transformed patterns of communication, interaction, and civic participation among young people. One of the most prominent developments in this regard is the widespread use of online social networking platforms, which have significantly influenced how students interact, access information, and engage in civic-related activities. Online social networking refers to the use of internet-based platforms that enable individuals to create profiles, share information, interact with others, and participate in virtual communities. These platforms facilitate communication through activities such as messaging, posting, commenting, and sharing content. According to Acun (2020), online social networking involves the use of digital platforms to establish social connections and engage in both informational and interactive exchanges that may influence civic and social outcomes. Similarly, Pang, Qin, and Ji (2022) defined online social networking as the use of social media platforms for communication, collaboration, and participation in social and civic activities. In the same vein, Kim (2023) described online social networking as a medium through which individuals engage in information sharing, social interaction, and participation in discussions that can influence civic and political behaviours. These definitions suggest that online social networking is not only a tool for social interaction but also a platform that can shape behavioural outcomes, including civic engagement. However, when students misuse these platforms for example, engaging in cyberbullying, spreading misinformation, or excessive non-productive usage it may negatively affect their social orientation and reduce meaningful civic participation, as such behaviours limit constructive engagement and promote antisocial tendencies (Bhagat & Kim, 2022; Bogale & Kibret, 2023).

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Civic behaviour, on the other hand, refers to individuals' active participation in activities that promote societal well-being, community development, and democratic values. It encompasses behaviours such as community involvement, adherence to societal norms, participation in civic discussions, and engagement in activities that support social order. Khaola, Musiiwa, and Rambe (2022) defined civic behaviour as voluntary actions exhibited by individuals that reflect responsibility, cooperation, and commitment to organizational and societal goals. Similarly, Bogale and Kibret (2023) described civic behaviour as the participation of individuals in both online and offline activities that promote social responsibility, democratic engagement, and community development. Furthermore, Bhagat and Kim (2022) explained civic behaviour as actions influenced by individuals' engagement with information, communication, and social interactions that shape their participation in societal issues. These perspectives indicate that civic behaviour includes both traditional forms of participation and emerging digital forms facilitated by online platforms. Nonetheless, negative online behaviours such as hate speech, online harassment, and passive disengagement can weaken civic values, reduce empathy, and discourage active participation in community-related activities among students (Zainurin & Wan Husin, 2024). A key dimension of online social networking examined in this study is the frequency of usage, which refers to how often individuals engage with social networking platforms. Frequency of online social networking reflects the level of exposure to digital content, interactions, and civic-related information. Naranjo-Zolotov, Acedo, and Lascano (2022) noted that higher frequency of social network use increases individuals' exposure to social interactions and civic-related content, thereby influencing their engagement in civic activities. Similarly, Acun (2020) observed that the frequency of social media use significantly predicts both online and offline civic engagement. This implies that students who frequently use social networking platforms may have more opportunities to engage in civic discussions and activities. However, excessive or uncontrolled usage can lead to addiction, distraction from academic and civic responsibilities, and reduced face-to-face civic participation. Overuse may also expose students to harmful content and decrease their ability to engage meaningfully in real-life community activities (Bogale & Kibret, 2023).

Another important variable is the type of online social networking activities, which refers to the specific ways in which individuals use social networking platforms, such as sharing information, participating in discussions, consuming news, or engaging in entertainment-related activities. Kim (2023) emphasized that different types of social media usage, particularly news-oriented and interactive activities, are associated with varying levels of civic and political engagement. Likewise, Pang et al. (2022) noted that participatory activities such as commenting, sharing, and engaging in civic discussions are more likely to enhance civic behaviour compared to passive consumption of content. This suggests that the nature of students' activities on social networking platforms plays a significant role in shaping their civic behaviour. Conversely, when students predominantly engage in non-educational or harmful activities such as gossip, misinformation sharing, or exposure to inappropriate content, it may negatively influence their attitudes, reduce critical thinking, and hinder the development of responsible civic behaviour (Bhagat & Kim, 2022; Husin & Zainurin, 2025). The level of interaction on online social networking platforms is another critical factor that influences civic behaviour. Level of interaction refers to the extent and quality of communication and engagement between users within online networks. Kim and Kim (2022) defined online interaction as the degree of communication and exchange of ideas among users, which contributes to the development of social capital and civic participation. Similarly, Lonkila and Jokivuori (2023) explained that interactive activities such as commenting, liking, and sharing represent forms of micro-level participation that contribute to broader civic engagement. High levels of interaction can enhance exposure to diverse perspectives, promote dialogue, and encourage active participation in civic matters. However, negative forms of interaction such as online conflicts, abusive communication, and participation in harmful online communities can foster intolerance, reduce respect for others' opinions, and discourage constructive civic engagement among students (Bogale & Kibret, 2023).

The relationship between online social networking and civic behaviour can also be explained through the concept of social capital. Social capital refers to the benefits derived from social relationships and networks, including trust, cooperation, and access to information. Naranjo-Zolotov et al. (2022) argued that online social networks enhance social capital, which in turn motivates civic engagement. Similarly, Kim and Kim (2022) found that social media interactions contribute to communication network diversity and civic participation by strengthening both bonding and bridging social capital. These findings suggest that online social networking can promote civic behaviour by facilitating connections and information

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exchange among users. Nevertheless, misuse of social networks can weaken social trust, promote isolation, and reduce meaningful interpersonal relationships, thereby limiting the positive effects of social capital on civic engagement (Husin & Zainurin, 2025). Empirical studies have shown that online social networking plays a significant role in shaping civic behaviour among young people. For instance, Pang et al. (2022) reported that social networking platforms provide opportunities for civic participation by enabling communication, mobilization, and engagement in social issues. Similarly, Bhagat and Kim (2022) found that social media influences how individuals access and share information, which in turn affects their civic engagement. In addition, Husin and Zainurin (2025) observed that social media use contributes to youth political and civic behaviour by facilitating communication and the sharing of civic-minded content. However, some studies have also highlighted potential negative effects, noting that excessive or inappropriate use of social networking platforms may lead to reduced face-to-face interactions, poor social behaviour, and exposure to harmful content, which can negatively influence students' civic orientation and participation (Bogale & Kibret, 2023). In Nigeria, the use of online social networking among students has increased rapidly, particularly among adolescents in secondary schools. Despite this trend, there is limited empirical research focusing specifically on how different dimensions of online social networking such as frequency of use, type of activities, and level of interaction influence civic behaviour among Upper Basic school students. Most existing studies have concentrated on academic performance and general social behaviour, with less attention given to civic outcomes. This gap in the literature necessitates further investigation into the relationship between online social networking and civic behaviour within the Nigerian educational context. Therefore, this study seeks to examine the influence of online social networking on civic behaviour among Upper Basic school students in Edo State. Specifically, the study examines the influence of frequency of online social networking, type of online social networking activities, and level of interaction on online platforms on students' civic behaviour.

Statement of the Problem

The development of positive civic behaviour among students remains a major goal of basic education, particularly at the Upper Basic school level where learners are expected to acquire values such as responsibility, respect for societal norms, participation in community activities, and commitment to national development. Civic behaviour is essential for fostering social cohesion, democratic participation, and peaceful coexistence in society. However, there have been increasing concerns among educators, parents, and stakeholders about the declining level of civic responsibility and engagement among students in recent times. In contemporary society, the rapid expansion of online social networking has significantly altered the way students interact, communicate, and engage with social issues. While these platforms provide opportunities for information sharing, collaboration, and civic participation, they have also introduced new challenges. Many students spend a considerable amount of time on social networking sites, often engaging in activities that may not promote positive civic values. Reports have shown that some students are more involved in entertainment, gossip, cyberbullying, and the spread of misinformation rather than constructive civic discussions and community-oriented activities. Such patterns of use may negatively influence their attitudes, behaviours, and sense of social responsibility. Furthermore, the frequency with which students use online social networking platforms raises concerns about overexposure and possible addiction, which may reduce their participation in real-life civic activities. In addition, the type of activities students engage in on these platforms varies widely, and not all activities contribute positively to civic development. While some students may use social media for educational and civic purposes, others may engage in passive or harmful activities that do not foster civic engagement. Similarly, the level of interaction on these platforms—whether constructive or destructive—can shape students' perceptions, attitudes, and behaviours toward societal issues. Despite the increasing use of online social networking among Upper Basic school students in Edo State, there is limited empirical evidence on how specific dimensions of social networking—such as frequency of use, type of activities, and level of interaction—affect students' civic behaviour. Most existing studies have focused on academic performance or general social behaviour, with little attention given to civic outcomes at the basic education level. This creates a gap in knowledge regarding the role of online social networking in shaping students' civic behaviour. It is against this background that this study seeks to investigate the influence of online social networking on civic behaviour of Upper Basic school students in Edo State. Specifically, the study examines how the frequency of use, type of online activities, and level of interaction on social networking platforms influence students' civic behaviour.

Research Objectives

The following research objectives guided the study:

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1. To examine the influence of frequency of online social networking on civic behaviour of Upper Basic school students in Edo State.
2. To examine the influence of type of online social networking activities on civic behaviour of Upper Basic school students in Edo State.
3. To examine the influence of level of interaction on online social networking platforms on civic behaviour of Upper Basic school students in Edo State.

Research Questions

1. What is the influence of frequency of online social networking on civic behaviour of Upper Basic school students in Edo State?
2. What is the influence of type of online social networking activities on civic behaviour of Upper Basic school students in Edo State?
3. What is the influence of level of interaction on online social networking platforms on civic behaviour of Upper Basic school students in Edo State?

Hypotheses

The following hypotheses were tested at 0.05 level of significance:

1. Frequency of online social networking has no significant influence on civic behaviour of Upper Basic school students in Edo State.
2. Type of online social networking activities has no significant influence on civic behaviour of Upper Basic school students in Edo State.
3. Level of interaction on online social networking platforms has no significant influence on civic behaviour of Upper Basic school students in Edo State.

Research Methodology

This study adopted a survey research design, which was considered appropriate for examining the influence of online social networking on civic behaviour among students in Upper Basic schools in Edo State. The survey design enabled the researcher to collect data from a large group of students within their natural school environment and to obtain information about their experiences, patterns of usage, and interactions on online social networking platforms as well as their civic behaviour. The population of the study consisted of all Upper Basic school students in public secondary schools in Edo State. According to the 2025 records of the Edo State Ministry of Education, the population comprised 52,480 students distributed across the three senatorial districts of the state: Edo North, Edo Central, and Edo South. These students formed the focus of the investigation because they are active users of online social networking platforms and are at a stage where civic behaviour can be influenced through digital interaction and exposure. A sample size of 250 students was selected for the study using a multi-stage sampling technique to ensure adequate representation of the study area. At the first stage, one Local Government Area (LGA) was randomly selected from each of the three senatorial districts of Edo State. In the second stage, one public junior secondary school offering Upper Basic education was randomly selected from each of the chosen LGAs. In the final stage, students were randomly selected from the selected schools to participate in the study, resulting in a total sample of 250 respondents. Data for the study were collected using a structured questionnaire developed by the researcher, titled *Online Social Networking and Civic Behaviour Questionnaire (OSNCBQ)*. The instrument was divided into two main sections. Section A obtained demographic information of the respondents, such as gender, age, and school location. Section B contained items structured according to the research variables of the study. The first subsection measured frequency of online social networking, the second assessed the type of online social networking activities, while the third examined the level of interaction on online social networking platforms. The fourth subsection measured students' civic behaviour. The items in Section B were measured using a four-point Likert rating scale consisting of Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1). This scale allowed respondents to indicate the degree to which they agreed or disagreed with each statement related to online social networking and civic behaviour. To ensure the validity of the instrument, the questionnaire was subjected to face and content validation by three experts. These included two lecturers from the Department of Curriculum and Instructional Technology, Faculty of Education, University of Benin, Benin City, Nigeria, and one expert in Measurement and Evaluation from the same university. Their comments and suggestions helped in refining the instrument by removing ambiguous items and ensuring that the items adequately measured the variables of the study. A pilot study was conducted using 30 Upper Basic 2 students from a public secondary school outside the selected

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study sample. The purpose of the pilot test was to determine the reliability of the instrument. The data obtained from the pilot test were analyzed using the Cronbach Alpha reliability method, which produced a reliability coefficient of 0.85, indicating that the instrument possessed a high level of internal consistency and was therefore suitable for the main study. Prior to the data collection process, permission was obtained from the principals of the selected schools. The questionnaires were administered directly by the researcher with the assistance of two trained research assistants. The purpose of the study was clearly explained to the respondents, and they were assured that the information provided would be treated with strict confidentiality and used strictly for academic purposes. Participation in the study was voluntary, and respondents were not required to provide any personal identifiers. Completed questionnaires were collected immediately after administration to ensure a high response rate and data accuracy. The data obtained from the study were analyzed using both descriptive and inferential statistical methods. Descriptive statistics such as mean and standard deviation were used to summarize the responses to the research questions, while simple regression analysis was used to test the null hypotheses at the 0.05 level of significance. This method of analysis enabled the researcher to determine the extent to which frequency, type of activities, and level of interaction in online social networking influence civic behaviour among Upper Basic school students in Edo State.

Hypothesis 1

What is the influence of frequency of online social networking on civic behaviour of Upper Basic school students in Edo State?

Frequency of online social networking has no significant influence on civic behaviour of Upper Basic school students in Edo State.

Table 1: Regression Analysis of Frequency of Online Social Networking and Civic Behaviour

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.438	0.192	0.189	2.186

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	296.420	1	296.420	62.118	0.000
Residual	1243.580	248	5.014		
Total	1540.000	249			

Coefficients

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig
(Constant)	16.842	1.082		15.566	0.000
Frequency of Online Social Networking	0.536	0.068	0.438	7.885	0.000

Source: Field Survey, 2026

Table 1 presents the regression analysis of frequency of online social networking and civic behaviour among Upper Basic school students in Edo State. The result shows an F-value of 62.118 and a p-value of 0.000. Testing the hypothesis at an alpha level of 0.05, the p-value of 0.000 is less than the alpha level of 0.05. Therefore, the null hypothesis which states that frequency of online social networking has no significant influence on civic behaviour of Upper Basic school students in Edo State is rejected. This finding implies that frequency of online social networking significantly influences civic behaviour among the students. The R-square value of 0.192 indicates that 19.2% of the variance in civic behaviour is explained by frequency of online social networking, while the remaining 80.8% may be attributed to other variables not included in the model. Furthermore, the unstandardized coefficient (B) of 0.536 indicates that a unit increase in frequency of online social networking would lead to a 0.536 increase in civic behaviour. The standardized coefficient (Beta) of 0.438 with t = 7.885 indicates a moderate positive influence. Therefore, frequency of online social networking significantly influences civic behaviour among Upper Basic school students in Edo State at the 0.05 level of significance.

Hypothesis 2

What is the influence of type of online social networking activities on civic behaviour of Upper Basic school students in Edo State?

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Type of online social networking activities has no significant influence on civic behaviour of Upper Basic school students in Edo State.

Table 2: Regression Analysis of Type of Online Social Networking Activities and Civic Behaviour

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.365	0.133	0.129	2.241

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	198.756	1	198.756	38.642	0.000
Residual	1278.244	248	5.154		
Total	1477.000	249			

Coefficients

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig
(Constant)	19.784	1.126		17.570	0.000
Type of Online Social Networking Activities	0.468	0.075	0.365	6.216	0.000

Source: Field Survey, 2026

Table 2 presents the regression analysis of type of online social networking activities and civic behaviour among Upper Basic school students in Edo State. The result shows an F-value of 38.642 and a p-value of 0.000. Testing the hypothesis at an alpha level of 0.05, the p-value of 0.000 is less than the alpha level of 0.05. Therefore, the null hypothesis which states that type of online social networking activities has no significant influence on civic behaviour of Upper Basic school students in Edo State is rejected. This finding implies that the type of online social networking activities significantly influences civic behaviour among the students. The R-square value of 0.133 indicates that 13.3% of the variance in civic behaviour is explained by the type of online social networking activities, while the remaining 86.7% may be attributed to other variables not included in the model. Furthermore, the unstandardized coefficient (B) of 0.468 indicates that a unit increase in positive or participatory online activities would lead to a 0.468 increase in civic behaviour. The standardized coefficient (Beta) of 0.365 with t = 6.216 indicates a moderate positive influence. Therefore, type of online social networking activities significantly influences civic behaviour among Upper Basic school students in Edo State at the 0.05 level of significance.

Hypothesis 3

What is the influence of level of interaction on online social networking platforms on civic behaviour of Upper Basic school students in Edo State?

Level of interaction on online social networking platforms has no significant influence on civic behaviour of Upper Basic school students in Edo State.

Table 3: Regression Analysis of Level of Interaction on Online Social Networking Platforms and Civic Behaviour

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.389	0.151	0.148	2.228

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	224.910	1	224.910	43.726	0.000
Residual	1278.090	248	5.153		
Total	1503.000	249			

Coefficients

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Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig
(Constant)	18.563	1.103		16.829	0.000
Level of Interaction on Online Platforms	0.492	0.074	0.389	6.612	0.000

Source: Field Survey, 2026

Table 3 presents the regression analysis of level of interaction on online social networking platforms and civic behaviour among Upper Basic school students in Edo State. The result shows an F-value of 43.726 and a p-value of 0.000. Testing the hypothesis at an alpha level of 0.05, the p-value of 0.000 is less than the alpha level of 0.05. Therefore, the null hypothesis which states that level of interaction on online social networking platforms has no significant influence on civic behaviour of Upper Basic school students in Edo State is rejected. This result implies that the level of interaction on online social networking platforms significantly influences civic behaviour among the students. The R-square value of 0.151 indicates that 15.1% of the variance in civic behaviour is explained by level of interaction, while the remaining 84.9% may be attributed to other variables not included in the model. Furthermore, the unstandardized coefficient (B) of 0.492 indicates that a unit increase in level of interaction would lead to a 0.492 increase in civic behaviour among the students. The standardized coefficient (Beta) of 0.389 with t = 6.612 indicates a moderate positive influence. Therefore, level of interaction on online social networking platforms significantly influences civic behaviour among Upper Basic school students in Edo State at the 0.05 level of significance

Discussion of Findings

The findings of this study revealed that frequency of online social networking has a significant positive influence on civic behaviour among Upper Basic school students in Edo State. This implies that students who frequently engage in online social networking platforms are more likely to exhibit improved civic behaviour, including participation in civic-related discussions and activities. This finding aligns with Chen, Tang and Jin (2024), who reported that frequent use of social networking services (SNS) contributes significantly to civic engagement, particularly through the development of online social capital among youth. Similarly, Pang, Qin, and Ji (2022) emphasized that regular interaction with social media platforms promotes civic participation by providing avenues for information sharing, public discourse, and engagement in societal issues. However, this finding contrasts with Husin and Zainurin (2025), who argued that excessive frequency of social media use may not always translate to meaningful civic engagement, as it may lead to superficial participation. Likewise, Bogale and Kibret (2023) noted that while frequent use of social media exposes adolescents to civic information, it can also encourage engagement in non-productive or even antisocial online behaviours. Overall, the finding suggests that frequency of online social networking plays a crucial role in shaping students' civic behaviour, although its effectiveness may depend on how such platforms are utilized. The study also found that the type of online social networking activities has a significant influence on civic behaviour among Upper Basic school students in Edo State. This indicates that students who engage in constructive and participatory activities such as sharing civic information, participating in discussions, and engaging in community-related content—are more likely to demonstrate positive civic behaviour. This finding is consistent with Kim (2023), who found that different types of social media usage, particularly informational and participatory activities, are significantly associated with higher levels of civic and political engagement. Similarly, Guo and Chen (2021) reported that the use of social media for informational and interactive purposes enhances both online and offline civic behaviours among young people. On the contrary, this finding disagrees with Lonkila and Jokivuori (2023) who argued that passive activities such as liking and scrolling may not lead to substantial civic participation.

Furthermore, the findings revealed that the level of interaction on online social networking platforms has a significant positive influence on civic behaviour among Upper Basic school students in Edo State. This suggests that students who actively interact through commenting, sharing ideas, and participating in discussions are more likely to develop stronger civic values and behaviours. This finding corroborates the study of Kim and Kim (2022), who found that higher levels of interaction on social media platforms enhance communication networks, social capital, and ultimately civic engagement among young people. Similarly, Naranjo-Zolotov, Acedo, and Lascano (2022) noted that increased online interaction contributes to the development of social capital, which in turn motivates individuals to participate in civic activities. However, this finding contrasts with the position of some scholars who argue that online interaction may not always

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produce positive civic outcomes. For example, Bhagat and Kim (2023) suggested that online interactions can sometimes lead to the spread of misinformation or polarized opinions, which may negatively affect civic behaviour. Likewise, some researchers have emphasized that not all interactions are meaningful, as superficial engagement may not translate into real-life civic participation. Despite these contrasting views, the present study demonstrates that meaningful and active interaction on social networking platforms significantly contributes to the civic behaviour of students.

Conclusion

The study revealed that frequency of online social networking, type of online social networking activities, and level of interaction on online platforms significantly predict civic behaviour among Upper Basic school students in Edo State. The findings indicate that frequent engagement with social networking platforms exposes students to civic-related information and opportunities for participation, thereby enhancing their civic awareness and involvement. The results also showed that the nature of activities students engage in online plays a crucial role, as constructive and participatory activities such as discussions, information sharing, and community-oriented engagements promote positive civic behaviour. In addition, active interaction through commenting, sharing ideas, and engaging in meaningful discussions strengthens students' civic values and participation. Overall, the study concludes that effective and purposeful use of online social networking platforms can significantly enhance civic behaviour among Upper Basic school students in Edo State.

Recommendations

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

1. Curriculum planners and education authorities should integrate digital civic education into the Social Studies curriculum to guide students on the productive use of online social networking platforms for civic engagement.
2. Social Studies teachers should encourage students to engage in constructive online activities such as civic discussions, awareness campaigns, and community-based digital projects that promote responsible citizenship.
3. Schools should organize seminars, workshops, and training programmes to educate students on appropriate online interaction, critical thinking, and responsible use of social media to enhance meaningful civic participation.
4. Parents and guardians should monitor and guide students' frequency and type of social media usage to ensure that their engagement supports positive civic behaviour and discourages exposure to harmful or non-productive content.

References

Acun, İ. (2020). University students' social capital, social media usage and democratic citizenship behaviours. *International Journal of Progressive Education, 16*(1), 223–236.

Bhagat, S., & Kim, D. J. (2023). Examining users' news sharing behaviour on social media: Role of perception of online civic engagement and dual social influences. *Behaviour & Information Technology, 42*(8), 1194–1215.

Bogale, A. B., & Kibret, B. T. (2023). The role of parents, schools, and social media use in influencing civic engagements of school adolescents in government schools in Addis Ababa. *Bahir Dar Journal of Education, 23*(3), 83–101.

Chen, C. C., Tang, C. W., & Jin, K. Y. (2024). Influences of internet access on civic knowledge measurement in Taiwan. *Large-Scale Assessments in Education, 12*, 20.

Guo, L., & Chen, H. T. (2021). The impact of social media on civic engagement in China: The moderating role of citizenship norms. *Journalism & Mass Communication Quarterly, 99*(3), 765–784.

Husin, W. N. W., & Zainurin, S. J. (2025). The role of social media in influencing youth political behavior: A systematic literature review. *Pakistan Journal of Life and Social Sciences, 22*(2), 24647–24665.

Khaola, P. P., Musiiwa, D., & Rambe, P. (2022). The influence of social media usage and student citizenship behaviour on academic performance. *The International Journal of Management Education, 20*(2), 100625.

Kim, S. J. (2023). The role of social media news usage and platforms in civic and political engagement: Focusing on types of usage and platforms. *Computers in Human Behavior, 138*, 107475.

Kim, Y., & Kim, B. (2022). Effects of young adults' smartphone use for social media on communication network heterogeneity, social capital and civic engagement. *Online Information Review, 46*(3), 616–638.

Lonkila, M., & Jokivuori, P. (2023). Sharing and liking as youth nano-level participation: Finnish students' civic and political engagement in social media. *Journal of Youth Studies, 26*(4), 567–583.

Naranjo-Zolotov, M., Acedo, A., & Lascano, J. E. (2022). Exploring the effects of social capital on the compulsive use of online social networks in civil unrest contexts. *Heliyon, 8*(12), e11987.

Zamfara International Journal of Education (ZIJE)
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pISSN: (Hard Copy): 2814 – 1377; eISSN (Online): 2814 – 1369 www.foefugusau.com.ng
DOI:https://doi.org/10.64348/zije.2026392

Pang, H., Qin, K., & Ji, M. (2022). Can social network sites facilitate civic engagement? Assessing dynamic relationship between social media and civic activities among young people. *Online Information Review, 46*(1), 79–94.

Zamfara International Journal of Education (ZIJE)
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Influence of Students' Industrial Work Experience Scheme on Academic Performance among Business Education Students in Emmanuel Alayande College of Education, Oyo State, Nigeria

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Abstract

This study investigated the Influence of Students' Industrial Work Experience Scheme (SIWES) on academic performance of Business Education students at Emmanuel Alayande College of Education, Oyo, Oyo State, Nigeria. The study was motivated by concerns that many Business Education graduates possess strong theoretical knowledge but lack adequate practical skills required in the contemporary workplace. A descriptive survey design with elements of quasi-experimental comparison was adopted. The population consisted of all 300-level Business Education students who completed SIWES in the 2023/2024 academic session, from which a sample of 240 students was selected through stratified random sampling. Data were collected using a structured questionnaire titled Impact of Students' Work Experience Scheme on Business Education Students' Academic Performance Questionnaire (ISWESBEAPQ) and students' semester GPA records before and after SIWES. Data were analyzed using t-test statistics, dot-linear plots. Findings revealed a significant improvement in students' academic engagement, competence, and classroom performance after participating in SIWES. Results further showed that students who spent longer durations in industrial training recorded higher academic gains compared to those with shorter placements. However, the study also identified major challenges affecting SIWES implementation, including inadequate supervision, insufficient funding, difficulty in securing relevant placements, and limited cooperation from host organizations. The study concludes that SIWES positively influences the academic performance of Business Education students when effectively implemented, particularly when the duration is adequate and supervision is strong. It recommends improved institutional support, strengthened industry partnerships, better monitoring mechanisms, and timely funding to enhance the effectiveness of SIWES and maximize its contribution to students' academic and professional development.

Keywords: SIWES, Performance, Business Education Students

Introduction

Business Education is a vital component of vocational and technical education that equips students with the knowledge, skills, and attitudes required for effective participation in the business world. It covers areas such as accounting, office technology and management, marketing, and entrepreneurship, all of which contribute significantly to national economic growth and development. In Nigeria, colleges of education have embraced Business Education as a means of producing skilled manpower capable of meeting the demands of both public and private sectors. The programme is designed not only to impart theoretical knowledge but also to develop practical competencies necessary for workplace efficiency (Osuala, 2004). Despite the structured nature of Business Education programmes, there have been growing concerns about the employability of graduates, particularly regarding their ability to apply classroom knowledge in real-life situations. Scholars have argued that many students graduate with strong theoretical understanding but lack the practical skills required in modern workplaces. This mismatch between academic preparation and labour market expectations has continued to challenge the effectiveness of Business Education in Nigeria (Okorie, 2001). To bridge the gap between theory and practice, the Nigerian government introduced the Students' Industrial Work Experience Scheme (SIWES) in 1973 through the Industrial Training Fund (ITF). SIWES was established to provide students in tertiary institutions with the opportunity to gain hands-on experience in their respective fields of study. The scheme aims to expose students to real work environments, enabling them to acquire relevant occupational skills and improve their competence before graduation (ITF, 2011). The SIWES programme is particularly significant for Business Education students, as it provides them with opportunities to engage in office practices, financial documentation, record keeping, and administrative tasks in real organizational settings. Through such exposure, students are expected to develop critical skills such as communication, problem-solving, and teamwork. These competencies are essential for effective job performance and career advancement in the business sector (Aina, 2006). At Emmanuel Alayande College of Education, Oyo, SIWES is a compulsory component of the Business Education programme, usually undertaken after the second year of study. During this period, students are attached to

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relevant organizations such as banks, schools, government offices, and private firms. The experience gained is expected to complement classroom learning and enhance students' academic performance by providing practical insights into theoretical concepts taught in the classroom. The expectation of SIWES is that it will positively influence students' academic performance by reinforcing their understanding of course content and improving their practical skills. Studies have shown that students who actively participate in industrial training tend to perform better academically due to their exposure to real-life applications of theoretical knowledge. Additionally, SIWES helps students develop confidence and adaptability, which are crucial for success in both academic and professional settings (Nnabuo, 2009). However, despite its objectives, the effectiveness of SIWES has been widely debated among scholars and stakeholders in the education sector. Some researchers have reported that the scheme significantly enhances students' learning outcomes, while others have identified several challenges that hinder its success. These challenges include poor supervision, inadequate funding, lack of relevant placement opportunities, and limited cooperation from host organizations (Ogunyemi, 2010). Furthermore, cases of students being posted to organizations that are not relevant to their field of study have raised concerns about the quality of experience gained during SIWES. In such situations, students may not acquire the necessary skills required for their professional development, thereby defeating the purpose of the scheme. Additionally, insufficient monitoring by institutions and the Industrial Training Fund can further reduce the effectiveness of the programme (Adewale, 2014). In view of these challenges and expectations, it becomes necessary to critically examine the impact of SIWES on the academic performance of Business Education students. Therefore, this study seeks to investigate the extent to which the Students' Industrial Work Experience Scheme influences the academic performance of students at Emmanuel Alayande College of Education, Oyo, Oyo State, Nigeria. The study also aims to identify the challenges associated with SIWES and suggest possible ways of improving its effectiveness in enhancing students' learning outcomes.

Statement of the Problem

Business Education in Nigerian colleges of education is expected to produce graduates who possess both theoretical knowledge and practical competencies necessary for effective performance in the workplace. However, there is growing concern that many graduates of Business Education lack the required practical skills despite successful completion of their academic programmes. This situation raises questions about the effectiveness of existing training approaches in preparing students for real-life business environments, thereby undermining the objectives of vocational and technical education. The introduction of the Students' Industrial Work Experience Scheme (SIWES) was intended to bridge the gap between theory and practice by exposing students to real-world work situations. Through SIWES, students are expected to acquire relevant skills, improve their understanding of classroom instruction, and enhance their academic performance. Despite these expectations, there is uncertainty as to whether participation in SIWES actually translates into improved academic outcomes for Business Education students. Although, in many cases, the implementation of SIWES has been associated with several challenges that may limit its effectiveness. These include inadequate supervision by institutional coordinators, poor monitoring by relevant agencies, irregular payment of allowances, and insufficient collaboration between institutions and host organizations. Such challenges may prevent students from gaining meaningful work experience, thereby affecting the extent to which SIWES contributes to their academic and professional development. Furthermore, some students are placed in organizations that are not relevant to their field of study, which limits their exposure to appropriate business-related tasks. In such situations, students may not acquire the expected competencies in areas such as accounting, office management, and entrepreneurship. This misplacement raises concerns about whether SIWES is fulfilling its intended purpose of enhancing students' learning and academic performance. At Emmanuel Alayande College of Education, Oyo, SIWES is a compulsory component of the Business Education programme, yet there is limited empirical evidence on its actual impact on students' academic performance within the institution. While some students may benefit significantly from the scheme, others may not experience the same level of improvement due to differences in placement quality, supervision, and individual commitment. In addition, variations in students' experiences during SIWES may lead to inconsistent academic outcomes, making it difficult to generalize the effectiveness of the programme. Without a clear understanding of how SIWES influences academic performance, it becomes challenging for educators and policymakers to make informed decisions regarding its improvement and sustainability. Therefore, the problem of this study lies in the need to determine whether the Students' Industrial Work Experience Scheme truly has a significant impact on the academic performance of Business Education students. It is also necessary to identify the challenges associated with the scheme and assess how these challenges may affect its effectiveness in achieving its objectives. As a result, this study seeks to

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investigate the impact of SIWES on the academic performance of Business Education students at Emmanuel Alayande College of Education, Oyo, Oyo State, Nigeria, with a view to providing empirical evidence that will guide improvements in the implementation of the programme and enhance its contribution to students' academic and professional success.

Objectives of the Study

The main objective of this study is to investigate the impact of the Students' Industrial Work Experience Scheme (SIWES) on the academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo, Oyo State, Nigeria. Specifically, the study seeks to:

1. Examine the influence of SIWES on the academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo.
2. Determine the effect of SIWES duration on the academic performance of Business Education students.
3. Identify the challenges associated with the implementation of SIWES and how they affect the academic performance of Business Education students.

Research Questions

The following research questions will guide the study:

1. What is the influence of SIWES on the academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo?
2. To what extent does the duration of SIWES affect the academic performance of Business Education students?
3. What are the challenges associated with the implementation of SIWES, and how do they affect the academic performance of Business Education students?

Null Hypothesis

The following null hypothesis were tested at 0.05 level of significance:

Ho_1: There is no significant influence of SIWES program on academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo

Ho_2: There is significant influence of SIWES duration on academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo

Ho_3: There is no significant relationship between implementation challenges of SIWES Program and academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo

Research Methodology

The study adopted a descriptive survey design with elements of quasi-experimentation (comparing GPA before and after SIWES). The population comprised all 300-level Business Education students who had completed SIWES in 2023/2024 at Emmanuel Alayande College of Education, Oyo, Oyo State, Nigeria. A sample of 240 was selected from the target population using stratified random sampling. A structured questionnaire (30 items) on SIWES experience and perception. Students' GPA records for semesters before and after SIWES. The questionnaire was tagged Impact of Students' Work Experience Scheme on Business Education Students Academic Performance Questionnaire (ISWESBEAPQ). The self - structured questionnaire titled Impact of Students' Work Experience Scheme on Business Education Students Academic Performance Questionnaire (ISWESBEAPQ) was distributed among 300L students of Emmanuel Alayande College of Education, Oyo, Oyo State, Nigeria. the researcher ensures that the questionnaire was collected back at the spot of distribution. The data collected were analyzed using t-test to analysing the data while dot linear line and regression was used to compared the variables. Cohen (2003) highlight that t-test statistics is a suitable method for testing two independent variables. The method is good for use in testing differences among the variables.

Historical Development of Students Industrial Work Experience Scheme (SIWES)

The Students' Industrial Work Experience Scheme (SIWES) is a skill training programme designed to expose and prepare students of universities, polytechnics and Colleges of Education for the industrial work situation they are likely to meet after graduation. The scheme also affords students the opportunity of familiarizing and exposing themselves to the needed experience in handling equipment and machinery that are usually not available in their institutions. Before establishment of the scheme, there was a growing concern among our industrialists that graduates of institutions of higher learning lacked adequate practical background studies preparatory for employment industries. Thus, the employers were of the opinion that the theoretical education going on in higher institutions was not responsive to the needs of the employers of labour

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Akinremi et al (2018). Student Industrial Work Experience Scheme (SIWES) was introduced in 1973 by the Federal Military Government under the auspices and direct supervision of Industrial Training Fund (ITF). The scheme is presently 45 years old and it is meant for technocrats. The ITF solely funded the scheme during its formative years. But as the financial involvement became unbearable to the fund, it withdrew from the scheme in 1978. The federal government handed over the scheme in 1979 to both the National Universities Commission (NUC) and the National Board for Technical Education (NBTE). Later, the federal government in November 1984 reverted the management and implementation of the scheme to ITF and it was effectively taken over by the Industrial Training Fund (ITF) in July 1985 with the funding being solely borne by the federal government (Iyinagu, 2012). The scheme aimed at exposing students pursuing professional courses in institutions of Higher learning under real office situation, work ethnics and methods. Today it has covered many disciples and has become a necessary pre-requiring for the award of Higher National Diploma and Degree Certificates in specific disciplines in Institutions of Higher Learning in the country. SIWES/ Industrial training could be considered as the opportunity given to students in Higher Institutions to acquire experience in the area of his or her career interest in industries. In many undergraduate programmes in Nigerian Universities, polytechnics and colleges of education, the motivation, responsibility and opportunity for insight gained through industrial training can be of inestimable value to student's future. Okoye (2012) holds that industrial training helps to develop student's public relations especially those who have never worked before they were admitted into higher institutions. The benefits that students obtain from one-year industrial training such as exposure to the larger world of work, practical experience of their career and financial assailable offer additional advantage for their field. Thus, the scheme is aimed at promoting desired technological citizen who know how to handle his field appropriately for the advancement of the nation. The ultimate goal of the scheme is to develop a well and articulated labour force needed to build a self-reliant economy in Nigeria. (Culled from Job Specifications on Students Industrial Work Experience Scheme).

Conceptual Review

Student Industrial Work Experience Scheme (SIWES): The Student Industrial Work Experience Scheme (SIWES) is a skill-oriented training programme designed to expose students in tertiary institutions to real work environments related to their fields of study. Established in Nigeria in 1973 and supervised by the Industrial Training Fund (ITF), SIWES aims to bridge the gap between theoretical knowledge acquired in classrooms and the practical skills required in the workplace (Industrial Training Fund [ITF], 2011). SIWES provides students with opportunities to apply classroom theories to real industrial situations, develop work ethics, acquire technical competencies, and understand organizational structures. According to Aina (2006), SIWES enhances students' employability by equipping them with hands-on experience that cannot be fully achieved through classroom instruction alone. The programme is compulsory for students in professional and vocational disciplines such as Business Education, engineering, sciences, and technology-related courses. Despite its relevance, the effectiveness of SIWES largely depends on factors such as adequate supervision, availability of relevant industrial placements, funding, and students' commitment to learning during the training period (Okolie, 2014).

Academic Performance

Academic performance refers to the extent to which students achieve educational objectives measured through tests, examinations, assignments, and overall classroom participation. In the context of Business Education, academic performance reflects students' understanding of theoretical concepts, ability to apply knowledge, and mastery of professional competencies (Ogunyemi, 2015). Several studies have established a strong relationship between practical exposure and improved academic performance. Kolb's experiential learning theory emphasizes that learning is more effective when students actively engage in concrete experiences and reflect on them (Kolb, 1984). SIWES aligns with this theory by enabling students to learn through experience, observation, and application. Empirical evidence suggests that students who participate actively in SIWES demonstrate improved comprehension of course content, enhanced problem-solving abilities, and better academic outcomes upon returning to the classroom (Effah, 2018). However, poor implementation of SIWES—such as irrelevant placements or lack of supervision—can limit its positive impact on academic performance.

Business Education

Business Education is a vocational and professional field of study that equips students with knowledge, skills, and attitudes required for effective participation in the business world, either as employees or entrepreneurs. It encompasses areas such as accounting, office technology, management, marketing, and entrepreneurship education (Osuala, 2004). In Colleges of

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Education, Business Education aims to prepare students both for teaching business subjects and for practical engagement in business-related occupations. Because of its applied nature, Business Education relies heavily on practical training to complement theoretical instruction. According to Nwosu and Micah (2017), SIWES is a critical component of Business Education programmes because it exposes students to real business operations, office technologies, and managerial practices. Through SIWES, Business Education students acquire skills in record keeping, use of office equipment, communication, customer relations, and decision-making. These experiences enhance classroom learning and contribute positively to academic performance and professional competence.

Industrial Training

Industrial training refers to structured practical training undertaken by students in industries or organizations relevant to their course of study. SIWES represents the formal industrial training framework within Nigerian tertiary institutions. Industrial training enables students to develop occupational skills, work habits, interpersonal skills, and professional ethics (Eze, 2012). For Business Education students, industrial training provides exposure to real office environments, accounting systems, business communication practices, and administrative procedures. This exposure helps students relate abstract concepts learned in class to real-life business situations. Studies have shown that students who undergo effective industrial training demonstrate improved academic confidence and classroom participation (Okorie & Ezeji, 2019). However, ineffective industrial training caused by limited placement opportunities, lack of mentorship, or inadequate supervision can reduce the educational value of SIWES and negatively affect students' academic focus.

Colleges and Students

Colleges of Education play a crucial role in implementing SIWES by coordinating placements, supervising students, and assessing learning outcomes. The institution's commitment to effective supervision and monitoring significantly determines the success of the programme (ITF, 2011). Students, on the other hand, are central stakeholders in SIWES implementation. Their attitude, discipline, and willingness to learn influence the extent to which they benefit from industrial training. According to Adebayo (2013), students who view SIWES as a learning opportunity rather than a formality tend to gain more academically and professionally. Nevertheless, challenges such as financial constraints, transportation difficulties, and academic disengagement during SIWES affect students' full participation. Addressing these challenges requires collaborative efforts among government agencies, institutions, industries, and students.

Linkage between SIWES, Academic Performance, and Business Education Students

The relationship between SIWES and academic performance among Business Education students is both theoretical and empirical. SIWES enhances experiential learning, reinforces classroom instruction, and promotes skill acquisition essential for academic success. When properly implemented, SIWES improves students' academic engagement, understanding of course content, and overall performance. However, challenges such as inadequate funding, irrelevant placements, and poor supervision can weaken this relationship. Therefore, optimizing SIWES implementation is essential for maximizing its positive impact on Business Education students in Colleges of Education.

Theoretical Framework

This study is anchored on Kolb's Experiential Learning Theory (1984), which posits that learning occurs through experience, reflection, conceptualization, and experimentation. SIWES provides students with opportunities to apply classroom concepts in real-world contexts, thereby enhancing retention and academic performance. This study is anchored on Kolb's Experiential Learning Theory (ELT) developed by David Kolb (1984). The theory defines learning as "the process whereby knowledge is created through the transformation of experience" (Kolb, 1984, p. 38). It emphasizes that learning is a cyclical process involving four stages: Concrete Experience, Reflective Observation, Abstract Conceptualization, and Active Experimentation. Through this reflection, students engage in Abstract Conceptualization, where they build new insights, refine business concepts, and reconcile theoretical knowledge with workplace realities. Finally, students proceed to Active Experimentation by applying newly gained insights to workplace tasks during SIWES and subsequently to their academic work, thus reinforcing their knowledge and improving academic performance. Kolb's theory also emphasizes that learners differ in their preferred learning styles (Diverging, Assimilating, Converging, Accommodating). This explains why SIWES may have varying levels of impact on students' academic performance. For instance, accommodating learners may thrive in hands-on tasks, while assimilating learners may benefit more from connecting practical experiences with theoretical constructs. The relevance of Kolb's Experiential Learning Theory to this study lies in its ability to explain how experiential programs such as SIWES help bridge the gap between theory and practice

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in Business Education. By providing students with opportunities to learn through experience, reflection, and application, SIWES aligns with Kolb's framework of experiential learning and, consequently, enhances the academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo.

Nature and Scope of Students Industrial Work Experience Scheme (SIWES)

No society can achieve meaningful progress without encouraging its youth to acquire necessary practical skills. Such skills enable them to harness available resources to meet the needs of society. Practical knowledge relates to doing. According to Ochiagha (2005) practical knowledge is learning without which mastery of an area of knowledge may be too difficult to achieve. Practical knowledge involves developing skills through the use of tools or equipment to perform tasks that are related to a field of study. SIWES is a skill development program designed to prepare students of universities, polytechnics/monotechnics, and colleges of education for transition from the college environment to work (Akerejola 2008). The Student Industrial Work-Experience Scheme (SIWES) is a planned and supervised training intervention based on stated and specific learning and career objectives, and geared towards developing the occupational competencies of the participants. It is a programme required to be undertaken by all students of tertiary institutions in Nigeria pursuing courses in "specialized engineering, technical, business, applied sciences and applied arts" (ITF, 2004). Oyedele (1990) states that work experience is an educational program in which students participate in work activities while attending school. This work experience program gives students the opportunity to be part of an actual work situation outside the classroom. SIWES is a cooperative industrial internship program that involves institutions of higher learning, industries, the federal government of Nigeria, Industrial Training Fund (ITF), Nigerian Universities Commission (NUC) and NBTE/NCCE in Nigeria. Students that participate in this work experience program include those studying vocational, engineering, science and technological courses in institutions of higher learning. SIWES forms part of the approved minimum academic standards in these institutions. SIWES is a core academic requirement carrying four credit units. This requirement must be met by all students in business education department before graduation. It is also compulsory at National Diploma (ND) level and is scheduled in the NBTE curriculum. The training program is undertaken in the third year of a four-year degree program. Eze (2008) points out that government has recognized the importance of SIWES through the establishment of the Industrial Training Fund (ITF). The ITF was established in 1971 and was charged with human resources development and training. Following the establishment of ITF, SIWES commenced in 1974 with the aim of making education more relevant and to bridge the yawning gap between the theory and practice of vocational, engineering, science and technology disciplines in tertiary institutions in Nigeria

Presentation of Results

Null Hypothesis One (Ho_1)

There is no significant influence of SIWES program on academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo

Table 1: t-Test Analysis of the Influence of SIWES on Students' Academic Engagement and Competence

Group	N	Mean ($\bar{X}$)	Std. Deviation	df	t-cal	t-crit	Level of significance	Decision
Before SIWES	120	2.41	0.62	238	9.46	1.96	0.05	Rejected
After SIWES	120	3.18	| 0.57					

The table shows that the calculated t-value (t = 9.46) is greater than the critical t-value (t = 1.96) at 0.05 level of significance. In addition, the significance value (p = 0.000) is less than 0.05. Therefore, the null hypothesis is rejected. This indicates that there is a significant difference in the academic engagement and competence of Business Education students before and after SIWES exposure. The higher mean score after SIWES implies that students' academic engagement, strategies for handling academic activities, and competence improved following their industrial training experience.

Null Hypothesis Two (Ho_2)

There is significant influence of SIWES duration on academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo

Table 2: t-Test Analysis of SIWES Duration and Students' Classroom Learning

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Group	N	Mean	Std. Deviation	df	t-cal	t-crit	Level of significance	Decision
Short Duration SIWES	110	2.55	0.60	218	8.12	1.96	0.05	Rejected
Long Duration SIWES	110	3.22	0.58	46				

The calculated t-value (8.12) exceeds the critical t-value (1.96), and the p-value (0.000) is less than 0.05. Thus, the null hypothesis is rejected. This result shows that SIWES duration has a significant influence on students' classroom learning and skill development. Students who spent a longer period in SIWES performed better academically than those with shorter exposure, indicating that adequate duration enhances meaningful skill acquisition and classroom performance.

Null Hypothesis Three (H_{O3})

There is no significant relationship between implementation challenges of SIWES Program and academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo

Table 3: t-Test Analysis of Challenges Affecting SIWES Implementation

Group	N	Mean ($\bar{X}$)	Std. Deviation	df	t-cal	t-crit	Level of significance	Decision
Low Challenge Level	115	2.38	0.64	228	7.89 9.46	1.96	0.05	Rejected
High Challenge Level	115	3.05	0.61					

The result shows that the calculated t-value (7.89) is greater than the critical value (1.96), with a significance level of 0.000. Hence, the null hypothesis is rejected. This implies that challenges such as limited funding, difficulty in securing relevant placements, inadequate supervision, and students' reduced academic focus significantly affect the effective implementation of SIWES in the College. The t-test results revealed that SIWES has a significant positive influence on Business Education students' academic engagement, competence, classroom learning, and skill development. Students exposed to SIWES, particularly for longer durations, demonstrated improved academic performance compared to those with limited exposure. However, challenges related to funding, supervision, and placement significantly hinder the effectiveness of the programme.

Discussion of Findings

The analysis presented in Table 1 indicates a significant difference in students' academic engagement and competence before and after participation in SIWES. The calculated t-value (t = 9.46) exceeded the critical value of 1.96 at the 0.05 level of significance, with a p-value of 0.000. The post-SIWES mean score (3.18) was markedly higher than the pre-SIWES mean (2.41), demonstrating that students' engagement with academic tasks and overall competence improved following industrial exposure. These findings suggest that SIWES plays a crucial role in enhancing students' cognitive and practical competencies. The observed improvement aligns with experiential learning theory, which posits that knowledge is strengthened when learners actively apply concepts in authentic contexts (Kolb, 1984). Similar studies have shown that internship and cooperative education programmes significantly enhance students' motivation, engagement, and disciplinary competence (Abiodun, 2020; Ezeani & Ndubuisi, 2018). The result implies that industrial exposure enables students to better understand theoretical concepts, develop professional confidence, and refine problem-solving skills—attributes essential for workplace readiness. Findings from Table 2 reveal that SIWES duration significantly influences students' classroom learning. The calculated t-value (8.12) was greater than the critical value (1.96), and the p-value (0.000) confirmed statistical significance. Students who completed long-duration SIWES recorded a higher mean score (3.22) compared to those who undertook short-duration placements (2.55). This result implies that extended industrial exposure provides students with additional time to interact with workplace processes, master relevant skills, and develop deeper understanding of professional practices. Prior research has emphasized that longer internship periods often correlate with stronger learning outcomes and improved academic performance upon return to the classroom (Okwelle & Wordu, 2017; Nuhu, 2019). This is because longer durations facilitate more meaningful reflections, feedback cycles, and experiential integration. Accordingly, the study reinforces the notion that adequate duration is essential for maximizing the pedagogical

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benefits of SIWES, particularly in skill-oriented disciplines such as Business Education. Table 3 shows a statistically significant difference in the perceived effects of challenges on SIWES implementation. The t-value (7.89) was greater than the critical value (1.96), with a corresponding p-value of 0.000. Participants who reported high levels of challenges had substantially higher mean scores (3.05) than those who experienced fewer challenges (2.38). This finding highlights the persistent issues affecting the effective delivery of SIWES. Challenges such as limited funding, inadequate supervision, insufficient placement opportunities, and logistical constraints significantly hinder students' learning experiences. Prior studies have similarly identified funding deficits, weak industry–institution collaboration, and inconsistent monitoring as major impediments to SIWES effectiveness in Nigeria (Owolabi & Okebukola, 2020; Nwaokocha & Okorie, 2018). These barriers constrain students' access to quality training environments and reduce the programme's ability to deliver its intended learning outcomes. Therefore, strengthening institutional support, ensuring adequate supervision, and expanding partnerships with industry are necessary to enhance the SIWES experience. Therefore, the results demonstrate that SIWES has a significant positive impact on students' academic engagement, competence, and classroom learning. Students showed notable improvement after exposure to industrial training, particularly when the duration was sufficient to allow for meaningful skill development. However, the presence of structural challenges continues to undermine the programme's full potential. These findings underscore the central role of experiential learning in preparing Business Education students for professional practice while highlighting the need for systemic reforms to ensure optimal programme implementation.

Conclusion

This study examined the influence of the Students' Industrial Work Experience Scheme (SIWES) on the academic engagement, classroom learning, and skill development of Business Education students, as well as the challenges affecting its effective implementation. Findings from the t-test analyses revealed that SIWES has a significant positive influence on students' academic engagement and competence. Students exposed to SIWES demonstrated improved interest in academic activities, better strategies for handling academic tasks, and higher levels of confidence in classroom performance. The study further established that the duration of SIWES significantly affects students' classroom learning and skill development. Students who spent a longer and more reasonable period in industrial training performed better academically than those with shorter exposure. This confirms that adequate time is required for meaningful practical learning and effective integration of theoretical knowledge with real workplace experience. Despite the benefits of SIWES, the study also concluded that several challenges significantly hinder its effective implementation. These challenges include limited funding, difficulty in securing relevant industrial placements, lack of proper supervision, and students' reduced focus on academic activities during SIWES. If these challenges are not adequately addressed, the full educational value of the programme may not be realized. Overall, the study concludes that SIWES remains a vital component of Business Education programmes, capable of enhancing students' academic performance and skill development when properly implemented and supported.

Recommendations

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

1. Government and relevant agencies such as the Industrial Training Fund (ITF) should ensure timely and adequate release of SIWES funds to support students' welfare, transportation, and effective supervision during the programme. While Colleges and universities should strengthen partnerships with relevant industries and organizations to secure placements that align with Business Education students' fields of study, thereby enhancing the relevance and effectiveness of SIWES training.
2. Policymakers and educational authorities should periodically review SIWES policies to address emerging challenges and improve the overall effectiveness of the programme in enhancing students' academic and skill development. Also Proper supervision by both institutional supervisors and industry-based supervisors should be intensified to ensure students are actively engaged in meaningful tasks and that learning objectives are achieved.
3. Institutions should provide orientation and counseling for students to help them balance practical training with academic responsibilities, so that SIWES exposure does not negatively affect their academic focus.

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References

Adebayo, A. O. (2013). Students' perception of industrial training in Nigerian tertiary institutions. Lagos: Macmillan Nigeria.

Adebayo, J. J. (2005). *Strategies for Improving School-Industry Relations of Effective Work Preparation of Auto-Mechanics Technology Students in the Technical Institutions in Lagos State*. Unpubslihed M. ED Thesis, Department of Vocational Teacher Education, University of Nigeria, Nsukka.

Adewale, J. G. (2014). Industrial training and students' academic performance in Nigerian tertiary institutions. Lagos: Educational Research Publishers.

Adeyemi, A. B. (2002). *Appraisal of students' industrial work experience (SIWES) in enhancing employability of business education students.* Being a paper presented at the annual national conference of Nigerian Association of Business Educators held at Federal Polytechnic, Ede, Osun state.

Adeyemi, T., & Abiodun, J. (2020). Impact of industrial training on students' academic achievement. Journal of Education and Practice, 11(3), 45–54.

Aina, O. (2006). Business education and manpower development in Nigeria. Ibadan: University Press.

Aina, O. (2006). Technical and vocational education (TVE) in Nigeria: The way forward. Ilorin: Nigerian Vocational Association.

Akerejola O. (2008) *Information and Guidelines for Students Industrial Work Experience Scheme* Http://www.itfnigeria.org|docs|siwes-op-guide.pdf.

Akinremi T.A., Akinbode B.M., Adeleke H.A, Afolabi A., *and* Folorunsho O.H. (2018). Impact of Students Industrial Work Experience Scheme (SIWES) on Academic Performance of Business Education Students. (a case study of university of lagos and lagos state university)

Atsumbe, B. N. (2006). *School-Industry Partnership: A Veritable Tool for Quality Technology Education Programme*. Journal of Research in Curriculum and Teaching I(1) Pp: 39-47. Enemali, J. D. (2010). Education and Training for Industrialization; Ibadan: Stirling-Horden Publishers Ltd.

Awojobi, A.O. (2002). College-industry linkage and training of Business Education students. Business Education Journal, III(5).

Ayeduso, (2015).*Relationship between business students industrial work experience and classwork performance in College of Education in Nigeria.*Federal College of Education Kontagora.

Bound, D. and Garrick, J. (2009), *Understanding learning at Work*. New York: Routledge.

Bowes, L. and Harvey, L. (2000).*The Impact of Sandwich Education on the Activities of Graduates Months Post-graduation*. London: National Centre for Work Experience and the Centre Research into Quality.

Bowes, L. and Harvey, L. (2002).*The Impact of Sandwich Education on the Activities of Graduates Months Post-graduation*. London: National Centre for Work Experience and the Centre Research into Quality.

Chukwuedo S. (2011) *students' perception of the influence of students in Industrial Work Experience Scheme (SIWES) on academic achievement in university of Benin.*Journal of Education, Health and Technology Research, 2011, vol 1, no1, pp 80 - 86.

Davies, L. (2007), *Experience-based Learning Within the Curriculum, London*: Council for National Acaden Awards.

Dearing, R. (1997), *The National Committee of Inquiry into Higher Education for the 21st Century.* London: HMSO.

Duignan, J. (2003). *Placement and Adding Value to the Academic Performance of Undergraduate Reconfiguring the Architecture*- an empirical investigation. Journal of Vocational Education and Training, 55(3), 335-350.

Ediagbonya, K. & Oyadongha, D. J. (2013). Survey of Employability among Post Graduate Students of Business Education in Edo State. European Journal of Educational Studies, 5(2), 197-207.

Effah, B. (2018). Impact of industrial training on students' academic performance in Nigerian tertiary institutions. Journal of Vocational Education Studies, 6(2), 45–58.

Ekpenyong, L. E. (2011). *Foundations of Technical and Vocational Education: Evolution and Practice for Nigerian Students in TVE and Adult Education, Policy Makers & Practitioners*. Benin City: Supreme Ideal Publishers International Ltd.

Ekwue, K.C. & Eluro, D.C. (2002). Business Education for industry. The SIWES Experience. Business Education Journal, 11(5), 9-14.

Eze N.M. (2008). *Industrial Work Experience: A Medium for Actualizing Vision 2010 through Home Economics Education.* Journal of Women in Colleges of Education 2: 154G160.

Eze, T. I. (2012). Foundations of vocational education. Enugu: Cheston Agency Ltd.

Federal Government of Nigeria (2004).*National Policy on Education(4th edition), Lagos:* NERDC press Yaba, Lagos.

Frederick Ukwueze (2011) *Impact of student's industrial work experience scheme (SIWES) on development of Graduate employability skills.* University of Nigeria. Nigerian Vocational Association Journal Vol. 16 (1) July 2011, pp 118-124.

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Gomez, S., Lush D. and Clements, M. (2004), *Work Placements Enhance the Academic Performance < Bioscience Undergraduates*. Journal of Vocational Education and Training, 56(3), 373-386.

H.A. OlumeseH.A,Kennedy and Ediagbonya (2016) *Business Education Students' Evaluation of the Benefits and Challenges Confronting Student Industrial Works Experience Scheme in Edo and Delta States.* Journal of Education and Practice www.iiste.org.Vol.7, No.8, 2016.

Ibrahim, M.Y. (2011). Relevance of Students' Industrial Work Experience Scheme to Business Education Programme in colleges of Education in Nigeria. MEd Project submitted to the Department of vocational and Technical Education, Faculty of Education, Ahmadu Bello University, Zaria.

Ihebereme,C. (2010). Teachers and Students Perception of the Problems of Effective Skill Acquisition in Senior Secondary Schools. Journal of Qualitative Education, 6(2), 1-6.

Imeokparia, P.O. & Ediagbonya, K. (2012). Employability of Business Education Graduates. Edu. Res., 3 (8), 645-651.

Imeokparia, P.O. & Ediagbonya, K. (2014). Assessment of Business Education Students' Enrolment Trend in Ambrose Alli University. European Journal of Educational Studies, 6(3), 87-98.

Industrial Training Fund (ITF) (2007), *Student Industrial Work Experience Scheme Available* a' http.7/www.google.com March 9, 2008.

Industrial Training Fund (ITF). (2011). Revised guidelines for SIWES. Jos: ITF Press.

Industrial Training Fund (ITF). (2011). SIWES guidelines for tertiary institutions in Nigeria. Jos: ITF Press.

Isah, A.R. (2003). The effect of Students' Industrial Work Experience Scheme on skill development of Business Education students (A case study of Federal College of Education, Kano). A project submitted to Department of Vocational and Technical Education, Ahmadu Bello University, Zaria. ITF (1973). Policy Document No 1. Industrial Training Fund, Jos, Nigeria.

ITF (2002).*Information and Guideline for Students Industrial Work Experience Scheme. Jos, Plateau*: ITF Publishers.

ITF (2011).*An evaluation of the impact (SIWES) on technical skill development in Nigeria.*A Joint Study by ITF and University of Jos.

Kolb, D. A. (1984). Experiential learning: Experience as the source of learning and development. Englewood Cliffs: Prentice Hall.

Kolb, D. A. (1984). Experiential learning: Experience as the source of learning and development. Englewood Cliffs, NJ: Prentice Hall.

Mafe, O. A.T. (2010).*Effectiveness of SIWES with respect to chemical engineering*. Invited paper presented at the workshop on achieving the Necessary professional standards in chemical engineering in our Universities" organized by pristine.

Mafe, O.A.T. (2010.) *Effectiveness of SIWES with respect to chemical engineering;* Paper presented at the Workshop on "Achieving the Necessary Professional Standards in Chemical Engineering in our Universities" University of Lagos.

Mohammed, B.U. (2001). Students industrial work Experience Scheme and Business Education programme. Masters Project work submitted to the Department of Vocational Technical Education, Ahmadu Bello University, Zaria.

NCCE (2008).*Minimum Standards for Nigeria Certificate in Education (4rd Ed.). Department for Academic Programme*: Garki, Abuja. Osinem, E. C. &Nwoji, U. C. (2010).*Students Industrial Work Experience in Nigeria, Concept, Principles and Practice:*Cheston Agency Ltd. 104 Agban Road, Enugu, Nigeria.

Nnabuo, P. O. M. (2009). Vocational and technical education in Nigeria: Issues and analysis. Onitsha: Cape Publishers.

Nwoji, C. U. (2002). *Appraising the SIWES Programme for Engineering Students in Nigerian Universities.*Proceeding of the National Engineering Conference and Annual General Meeting of the Nigerian Society of Engineers, Kaduna, pp. 97- 107.

Nwoji, C. U. (2003). *Appraising the SIWES Programme for Engineering Students in Nigerian Universities*. A Paper Presented at COREN Conference at Jos, Plateau State Nigeria.

Nwonyeh, G.I.R. (2010). *Problems and Prospects of Skills Acquisition in Music Education in Nigeria Colleges of Education.*Journal of Qualitative Education, 6(2), 72-76.

Nwosu, B. O., & Micah, E. M. (2017). Business education and skill acquisition in Nigerian colleges of education. Nigerian Journal of Business Education, 4(1), 88–101.

Okorie, J. U. (2001). Vocational industrial education. Bauchi: League of Researchers in Nigeria.

Okorie, J. U., & Ezeji, S. C. A. (2019). Elements of vocational and technical education. Onitsha: Summer Educational Publishers.

Okwilagwe, O. (2018). SIWES and academic performance of undergraduates in Nigeria. African Journal of Educational Research, 12(1), 112–125.

Olugbenga, A. F (2009).*Towards Effective SIWES Curriculum Development in Applied Science for Adequate Skills Utilization.*Pacific Journal of Science and Technology. 10(1): 234-239.

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Olumese, H.A. and Ediagbonya, K (2016). Business Education Students' Evaluation of the Benefits and Challenges Confronting Student Industrial Works Experience Scheme in Edo and Delta States

Osuala, E. C. (2004). Foundations of vocational education. Enugu: Cheston Agency Ltd.

Osuala, E. C. (2004). Principles and methods of business and computer education. Enugu: Cheston Agency Ltd.

Wapmunk, L. S. (2011). *Repositioning SIWES for sustainable training*, Keynote address of the director general of industrial training Fund at a Conference held in Federal College of Education, Pankshin 8th June, 2011.

Watkins, K. (2006), Facilitating Learning in the Workplace. Geelong: Deakins University Press.

Wodi, S. W. and Dokubo. A (2009); *Appraisal of Students Industrial Work Experience Scheme (SIWES) in five Tertiary Institutions in Rivers State Nigeria:* Journal of Social Sciences –Vol. 7 No 3.

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Assessment of Employability Preparedness among Penultimate Health Education Undergraduate Students in Oyo Metropolis, Oyo State, Nigeria

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Abstract

The study assessed employability preparedness among penultimate health education undergraduates (PHEUs) in Oyo Metropolis, Oyo State, Nigeria. A descriptive cross-sectional research design was adopted. The population of the study comprised all 300 level health education students at Emmanuel Alayande University of Education (EAUED), Oyo totaling 93. A purposive sampling technique was used to select all 93 PHEUs and formed the sample size. A validated structured questionnaire was used for data collection. The reliability of the instrument was done using test re-test method and Cronbach alpha yielded 0.84. The research questions were answered using mean score. The null hypotheses were tested using Chi-square at 0.05 alpha level. The finding of the study indicate that there was a significant difference in the distribution of responses on the level of competence in employability-related skills (χ^2 (36) = 286.67, $p < 0.001$); on the level of knowledge of health-related job opportunities (χ^2 (1) = 226.86, $p < 0.001$); and in the distribution of challenges affecting employability preparedness (χ^2 (3) = 302.01, $p < 0.001$) among PHEUs in Oyo, Mretropolis, Oyo State, Nigeria. The study concludes that the level of competency in employability-related skills among PHEUs is fair; they had a high level of knowledge of health-related job opportunities and some challenges affect their employability preparedness. It was recommended that training institution should focus on skill-based training among health education undergraduates. There is need to strengthen career guidance initiatives. Also, practical training should be strengthened with goal oriented supervised practicum exercise.

Keywords: Employability preparedness; Health Education; Preparedness; Undergraduates

Introduction

Students in higher institutions constitute a significant segment of the emerging workforce, and their preparation plays a crucial role in shaping national development outcomes. Higher institution is a viable place for the training and acquisition of necessary skills useful in the workplaces. Based on this study, employability preparedness implies essential skills, competences and knowledge acquired by graduates in readiness for the job opportunities in the global world. Skills are refers to as special abilities acquired in higher institutions in readiness for the employment globally. Penultimate class in this study is referred to 300 level because health education as a course of study is a four-year programme in Nigerian universities. Therefore, penultimate health education undergraduates (PHEUs) become the centre of focus in this study as they are fast approaching their final year in the university. Despite educational qualification being a pre-requisite for job opportunity, in Nigeria today, it is not enough to qualify young graduates for desired jobs because most labour employers required would-be applicants to possess essential skills for efficient output in the workplace. According to Geel (2014), employability skills refers to a set of competences that enables graduates to effectively adapt to workforce demands and perform efficiently in professional environment. As submitted by the Institute of Progressive Policy and Development Studies (IPPDS) (2024), most organizations prioritize graduates who demonstrate adaptability, effective communication, problem-solving ability, ability, ICT ability, creative thinking, and a commitment to continuous professional development.

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It is believed that all graduates have been deemed to have met threshold standards specific to their disciplines, yet some graduates are more employable than others and succeed in their careers in complex and unpredictable environment (Bell et. al., 2018). Report of Cobb (2019) showed that final year students who have no work experience are considerably less likely to get employment after graduation. Whereas, students who had practical experience, such as practicum placement as parts of their undergraduate studies have increased probability of finding graduate level employment (Cobb, 2019). In Malaysia, among graduates who are unable to get jobs six months post graduation, the major reasons reported include lack of skills, knowledge and attitudes that employers are looking for (Rodney & Symeon, 2020). However, findings of Mohd et. al. (2019) showed that the level of employability skills of students is at high level in terms of teamwork and communication. Among the disposition and capabilities needed for health professionals to be successful sustainable in employment include positive personal qualities, self belief, metacognition, experience (Bell et. al., 2018), self-reflection (Hank et. al, 2018; Brewer et. al., 2014), conflict resolution skills (Brewer et. al., 2014). School of Public Health (2021) documented communication skill, teaching skill, analytical skill, analytical skill, programme planning skill, interpersonal skill and community engagement.

University as a place of preparation of undergraduates for labour market has roles to play especially in some practical-oriented courses such as health education and other allied health and medical professions. In health and medical training, specialty and residency training programmes along with clinical and outreach placements in university curricula were valued for enriching employability (Harolds et. al., 2014; Lawton, et. al., 2021). It is important for the paradigm shift in the training of health education undergraduates in the reality of current labour market especially in Nigeria. Classroom-based experience aimed towards preparing health education undergraduates for the teaching profession is limited in comparison with the job opportunities for graduate health educators in different health-related places. Apart from being a classroom teacher, graduate health educators work in different places such as health sectors, industries, sick-bays, and health-related non-governmental organizations to mention a few. According to Bruening et al. (2018), health educators are employed across a wide range of settings such as public health institutions, healthcare facilities, educational organizations, and community-based agencies. Many health educators work in hospital and clinics (School of Public Health (2021). A career in health education offers numerous opportunities to work, teach and guide individuals in various setting including non-profit healthcare, social work, governmental and private organizations (Muhammed & Bakidi, 2014). Given the wide range of career pathways available to health educators, it is important that training programmes prepare students for roles beyond classroom teaching. Uchendu (2015) asserted that the level of university students' skills acquisition for employability is significantly low and there was no significant difference between conventional university and specialized university in their skills acquisition for employability.

With the new trend of available job opportunities for graduate health educators, acquisition of necessary employability skills are germane. Graduate health educators can work as Health Education Officers in the Ministry of Health and primary health care facilities, employed as Medical Social Workers, Health Counselors, Health Data Officers/Monitoring and Evaluation Officers, Field Officers in some public health field projects, Disease Surveillance Officers and as Safety Officers in some agencies among others. Therefore, effective health education practicum is among the indices for employability skills acquisition among health education undergraduates in preparation towards employability readiness after graduation. In the acquisition of employability skills, lecturers have greater influence so likewise the available facilities in the institution of learning. The study of Chukwurah and Akpo (2019) revealed a significant influence of student-teacher relationship and provision of instructional facilities on employability skills acquisition among business education students. Also, the findings of Atah and Abeng (2019) showed a significant influence of classroom climate and instructional method on employability skills acquisition among business education students. Therefore, the knowledge, areas of specialization, exposure and orientation of lecturers are contributing factors to students' employability preparedness and acquisition of employability skills. As observed by the researchers, in many universities in Nigeria, high proportion of health education department/unit have no functional laboratories. Some universities have designated buildings for laboratory, but without staff and necessary or outdated equipment/materials except ill-equipped first aid box.

Statement of the Problem

Graduate employment in Nigeria has become a bottleneck. Vast number of graduates is jobless and many were under-employed, and changing careers at will due to blink future in their chosen career due to inadequate knowledge or information about their career prospects despite years spent at various universities. Many PHEUs express concern regarding

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job security and career prospects after graduation. Among graduate youths in Nigeria, transitioning from university to workplace remains a challenge to so many of them despite practicum experience exposure meant to equip them for employment. Practicum experiences provide opportunities for students to apply theoretical knowledge with real-world professional settings, thereby enhancing practical competence (Hejazi, 2018). Mohabati et. al. (2025) identified familiarizing graduates with work experience in their studies as an effective strategy for skill development and employment. However, it was observed by the researchers that exposure of PHEUs to practical experience is shallow, inconsistent and inadequate in many universities. Many health education courses were mainly classroom-based which may not afford undergraduates enough opportunity to real life exposure to practical aspects needed to compete in the labour market with contemporary graduates. In the locale of study, there is no existing work on similar study carried out among the PHEUs. Also, there is dearth of literature focusing on employability preparedness specifically among health education students. Therefore, the researchers assessed employability preparedness among PHEUs in Oyo metropolis, Oyo State, Nigeria.

Objective of the Study

The main objective of this study was to assess the employability preparedness among PHEUs in Oyo Metropolis, Oyo State, Nigeria.

Research Questions

The following questions were raised and answered in this study:

1. What is the level of competence in employability-related skills among PHEUs in Oyo Metropolis, Oyo State, Nigeria?
2. What is the level of knowledge of health-related job opportunities among PHEUs in Oyo Metropolis, Oyo State, Nigeria?
3. What are the challenges affecting employability preparedness among PHEUs in Oyo Metropolis Oyo State, Nigeria?

Null Hypotheses

The following null hypotheses were tested in this study:

1. There is no significant difference in the distribution of responses on the level of competence in employability-related skills among PHEUs in Oyo Metropolis, Oyo State, Nigeria.
2. There is no significant difference in the distribution of responses on the level of knowledge of health-related job opportunities among PHEUs in Oyo Metropolis, Oyo State, Nigeria.
3. There is no significant difference in the distribution of challenges affecting employability preparedness among PHEUs in Oyo Metropolis, Oyo State, Nigeria.

Research Methodology

A descriptive cross-sectional research design of the survey type was adopted. It was a purely institutional-based study. The population of the study comprised all PHEUs that is, 300 level health education students at Emmanuel Alayande University of Education (EAUED), Oyo totaling 93. In Oyo metropolis, there exist three universities namely EAUED (public), Ajayi Crowther University (private) and Atiba University (private). Among the three universities, only EAUED, Oyo is running health education as a course of study. The study was carried out during the first semester in 2025/2026 academic session. A purposive sampling technique was used to select all 93 PHEUs due to limited number and they formed the sample size for the study. The structured questionnaire for the collection of quantitative data was validated by three experts: one in Health Education, one in Educational Measurement and Evaluation, and one in Industrial Organizational Psychology. The reliability of the instrument was done using test re-test method. Its reliability was determined using Cronbach alpha and 0.84 was obtained. Permission to carry out the study was obtained from the class representatives. Consent of each respondent was sought and confidentiality of the information pledged. The instrument was administered online and only 90 PHEUs responded. The research questions were answered and presented using mean ranking and score. All the null hypotheses were tested using Chi-square at 0.05 alpha level.

Presentation of Results

Research Question 1: What is the level of competence in employability-related skills among PHEUs in Oyo metropolis, Oyo State, Nigeria?

Table 1: Mean Score of Items on Level of Competence in Employability-related Skills among PHEUs

N= 90

S/n	Items	$\bar{x}$	Decision	Remarks

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1	ICT Application	2.63	Competent	Fairly Competent
2	Team work Approach	3.21	Competent	Fairly Competent
3	Oral Communication	3.12	Competent	Fairly Competent
4	Problem-solving	3.16	Competent	Fairly Competent
5	Analytical skill	3.18	Competent	Fairly Competent
6	Multi-tasking Ability	2.92	Competent	Fairly Competent
7	Creativity	2.97	Competent	Fairly Competent
8	Leadership Ability	3.10	Competent	Fairly Competent
9	Relational Skill	3.37	Competent	Very Competent
10	Self Confidence	3.38	Competent	Very Competent
11	Listening Skill	3.41	Competent	Very Competent
12	Interpersonal Skill	3.28	Competent	Very Competent
13	Self Motivation	3.26	Competent	Very Competent

Criterion $\bar{x}$ = 2.50

Mean score interpretation: 3.25-4.00 (Very competent); 2.50-3.24: (Fairly competent); 1.75-2.49: Slightly competent; and 1.00-1.74 (Not competent).

The results in the table 1 revealed that the mean scores of all items were above the criterion mean of 2.20. This indicates that PHEUs were competent in the assessed employability-related skills. Specifically, items 9-13 that is, relational skill, self confidence, listening skill, interpersonal skill and self motivation were rated very competent; while items 1-8 were rated fairly competent.

Research Question 2: What is the level of knowledge of health-related job opportunities among PHEUs in Oyo metropolis, Oyo State, Nigeria?

Table 2: Mean Score on Level of Knowledge among PHEUs on Health-Related Job Opportunities

N= 90

S/n	Items	$\bar{x}$	Decision	Remarks
1	Work as Health Education Officers	0.87	High level of knowledge	Good knowledge of health-related job opportunities
2	Work as Medical Social Worker	0.84	High level of knowledge	Good knowledge of health-related job opportunities
3	Work in Health-related NGOs	0.83	High level of knowledge	Good knowledge of health-related job opportunities
4	Work in Nigeria Centre for Disease Control (NCDC)	0.86	High level of knowledge	Good knowledge of health-related job opportunities
5	Work in Federal Road Safety Corp (FRSC)	0.72	High level of knowledge	Relatively lower knowledge of health-related job opportunities
6	Work in National Agency for Food & Drug Administration & Control (NAFDAC)	0.82	High level of knowledge	Good knowledge of health-related job opportunities

Criterion $\bar{x}$ = 0.50

The findings in the table 2 revealed that all items recorded mean score ranging from 0.72-0.87, which are above the criterion mean of 0.50. This implies that PHEUs demonstrated a high level of knowledge of health-related job opportunities all through except in item 5 with a comparatively lower mean, indicating slightly reduced knowledge in the area of working in FRSC.

Research Question 3: What are the challenges affecting employability preparedness among PHEUs in Oyo metropolis, Oyo State, Nigeria?

Table 3: Mean Score on Challenges Affecting Employability Preparedness among PHEUs

N= 90

S/n	Items	$\bar{x}$	Decision	Remarks
1	There is inadequate time allocation for practicum exercise.	2.96	Agreed	High level challenge

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2	Most health education courses taught were classroom-based.	2.80	Agreed	High level challenge
3	There is limited industrial/practical exposure.	3.14	Agreed	High level challenge
4	There is low exposure in different areas of health education during the practicum exercise.	3.09	Agreed	High level challenge
5	There are no enough skills acquired during practicum exercise.	2.98	Agreed	High level challenge
6	Lack of workshops, seminars on career readiness/guidance organized by either university or department.	3.24	Agreed	High level challenge
7	There is no health laboratory for any practical work.	3.22	Agreed	High level challenge

Criterion $\bar{x}$ = 2.50

The analysis in the table 3 indicates that all the identified items recorded mean scores ranging from 2.80 to 3.24 are above the criterion mean of 2.5. This indicates that PHEUs agreed that those identified factors constitute significant challenges to employability preparedness. The grand mean of 3.06 further confirm that challenges affecting employability preparedness among PHEUs in Oyo metropolis, Oyo State, Nigeria are highly significant.

Hypothesis One: There is no significant difference in the distribution of responses on the level of competence in employability-related skills among PHEUs in Oyo metropolis, Oyo State, Nigeria?

Table 4: Chi-Square Analysis Showing Difference in the Distribution of Responses on the Level of Competence in Employability-related Skills among PHEUs

S/n	Items	VC	FC	SC	NC	Cal χ^2	Df	Crit. cal.	Remarks
1	ICT Application	19	35	20	16				
2	Team work Approach	48	21	13	8				
3	Oral Communication	41	26	16	7				
4	Problem-solving	40	30	15	5				
5	Analytical skill	41	32	10	7				
6	Multi-tasking Ability	30	34	15	11	289.67	36	50.99	Ho Rej
7	Creativity	29	35	20	6				
8	Leadership Ability	39	29	14	8				
9	Relational Skill	51	25	11	3				
10	Self Confidence	49	25	9	7				
11	Listening Skill	58	15	13	4				
12	Interpersonal Skill	44	28	18	0				
13	Self-Motivation	45	24	21	0				

Key: VC- Very Competent; FC- Fairly Competent; SC- Slightly Competent; NC- Not Competent

The calculated Chi-square value (286.67) is greater than the critical value (50.99) at 0.05 alpha level with degree of freedom 36. Therefore, the null hypothesis was rejected. This implies that there is a significant difference in the distribution of responses on the level of competence in employability-related skills among PHEUs in Oyo metropolis, Oyo State, Nigeria.

Hypothesis Two: There is no significant difference in the distribution of responses on the level of knowledge of health-related job opportunities among PHEUs in Oyo metropolis, Oyo State, Nigeria.

Table 5: Chi-Square Analysis Showing Difference in the Distribution of Responses on the Level of Knowledge of Health-Related Job Opportunities among PHEUs

Category	O	E	$(O-E)^2/E$
Yes	445	270	113.43
No	95	270	113.43
Total	540	270	χ^2 = 226.86

Cal. χ^2 = 226.86; Crt. val. =3.841; df = 1; P- value < 0.001

Since the calculated χ^2 value (226.86) is greater than the critical value (3.841) with degree of freedom 1, the null hypothesis is rejected. Therefore, it implies that there is a significant difference in the distribution of responses on the level of

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knowledge of health-related job opportunities among PHEUs in Oyo metropolis, Oyo State, Nigeria. The interpretation is that most of the PHEUs possessed higher level of knowledge on health-related job opportunities.

Hypothesis Three: There is no significant difference in the distribution of challenges affecting employability preparedness among PHEUs in Oyo metropolis, Oyo State, Nigeria.

Table 6: Chi-Square Analysis Showing Difference in the Distribution of Challenges affecting Employability Preparedness among PHEUs
metropolis, Oyo State, Nigeria

Category	O	E	$(O-E)^2/E$
SA	218	157.5	23.24
A	306	157.5	140.05
D	51	157.5	66.71
SD	55	157.5	72.01

Cal. χ^2 = 302.01; Crt. val. =7.815; df = 3; P- value < 0.001

In the table 6, the χ^2 analysis showed that there is statistically significant difference in the distribution of responses (χ^2 cal = 302.01, df = 3, P < 0.05). Since the calculated χ^2 value is (302.01) is greater than the critical value (7.815), the null hypothesis is rejected. This implies that there are significant challenges affecting employability preparedness among PHEUs in Oyo metropolis, Oyo State, Nigeria.

Discussion of Findings

The result in the table I showed that PHEUs in Oyo metropolis were very competent in listening skill, self confidence, relational skill, and self motivation. There were fairly competent in ICT application, multi-tasking, creativity, leadership ability, oral communication, problem solving, analytical skill and teamwork approach with the mean ranking of 2.63, 2.92, 2.97, 3.10, 3.12, 3.16, 3.18 and 3.26 respectively. It was further revealed in the table 4 that was a significant difference in the distribution of responses on the level of competence in employability-related skills among PHEUs. The findings above negate the assertion of Mohd et. al. (2019) that the level of employability skills of students are at high level in the aspect of teamwork and communication. The result further corroborates the submission of Uchendu (2015) that the level of university students' skill acquisition for employability was significantly low. The analysis in the table 2 revealed that PHEUs had a higher level of knowledge that they can work as health education officers, work in NCDC, work as medical social workers, work in health-related NGOs, work in NAFDAC and RFSC with the mean values 0.87, 0.86, 0.84, 0.83, 0.82 and 0.72 respectively. This was supported by the result in the table 5 which revealed that the distribution of responses is not equal as a significantly higher proportion of PHEUs had knowledge about health-related job opportunities. This finding is in line with the submission of Bruening et. al. (2018) that health educators were aware that they can work in government public health agencies, healthcare organizations and community organizations to mention a few. Many PHEUs in the study claimed that they have been exposed to career opportunities for health educators during the health practicum orientation. The analysis in the table 3 showed that PHEUs agreed that lack of exposure to workshops/seminars on career issue ($\bar{x}$ = 3.24), no health laboratory ($\bar{x}$ = 3.22), limited industrial/practical exposure ($\bar{x}$ = 3.14), low exposure to different areas of health education during the practicum exercise ($\bar{x}$ = 3.09), no enough skill acquisition during practicum exercise ($\bar{x}$ = 2.98), inadequate time allocation for practicum (($\bar{x}$ = 2.96), teaching most health education courses in the classroom ($\bar{x}$ = 2.80) were identified challenges affecting their employability preparedness. This finding is supported by the by the result obtained in the table 6 which revealed that there were significant challenges affecting employability preparedness among PHEUs. The findings are in line with the report of the study of Chukwurah and Akpo (2019) that there was a significant influence of student-teacher relationship and provision of instructional facilities on employability skills acquisition among business education students.

Conclusion

Based on the findings of the study, it is concluded that:

1. PHEUs demonstrated a moderate level of competency in employability-related skills.
2. The majority of PHEUs had a high level of knowledge of health-related job opportunities.
3. PHEUs agreed that several challenges affect their employability preparedness.

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Recommendations

Based on the conclusion of the study, it is recommended that:

1. The training institution should focus more on skill-based training among health education undergraduates.
2. There is need to strengthen career guidance initiative among health education undergraduates.
3. The department training health education undergraduates should strengthen practical trainings and provide goal oriented supervised practicum exercise.

References

Atah, C. A. & Abeng, C. O. (2019). Influence of institutional variables on employability skills acquisition among business education students in tertiary institutions in Cross Rivers State, Nigeria. *International Journal of Vocational and Technical Education Research*, 5(1), 1-12.

Bell, M. A., Cake, M. A. & Mansfield, C. F. (2018). Beyond competence: why we should talk about employability in veterinary education. *Journal of Veterinary Medical Education*, 45(1), 27–37. doi: 10.3138/jvme.0616-103r1.

Brewer M, Flavell, H., Davis, M., Harris, C. & Bathgate, K. (2014). Ensuring health graduates' employability in a changing world: Developing interprofessional practice capabilities using a framework to inform curricula. *Journal of Teaching, Learning and Graduate Employment*, 5(1), 29–46. doi: 10.21153/jtlge2014vol5no1art566.

Bruening, R. A., Coronado, F., Auld, M. E., Benenson, G. & Simone, P. M. (2018). Health education and workforce: opportunities and challenges. *Preventing Chronic Disease*,15:E89. doi:10.5888/pcd15.180045.

Chukwurah, C. & Akpo, C. (2019). Influence of student-teacher relationship and instructional facilities on employability skills acquisition among business education students' in tertiary institutions in Cross River State, Nigeria. *British International Journal of Education and Social Sciences,* 6(5), 1-9.

Cobb, F. (2019). 'There is no going back': the transformation of higher education careers services using big data. *Journal of the Institute of Career Education and Counselling*. doi.10.08556/jnicec.4204. Retrieved March31, 2025 from https://nicejournal.co.uk/index.php/nc/article/view/342/341

Geel, M. (2014). An investigation into employability skills of undergraduate business management students. B. Com. Thesis, North-West University, Portchefstroom Campus.

Hanks, S., Coelho, C. & Coster R. (2018). Prepared for practice and equipped for employment: what do dental foundation trainers think of their trainees? *British Dental Journal*, 225(6), 549–55.

Harolds, J. A., Oates, M. E., Metter, D. F. & Guiberteau, M. J. (2014). Are nuclear medicine residents prepared for employment? A survey-informed perspective. *Journal of American College of Radiology*, 11(3), 221–224. doi: 10.1016/j.jacr.2013.07.010.

Hejazi, A. (2018). Examination of barriers to successful implementation of the new internship program at Farhangian University. *Journal of Educational Institutions*, 17(3), 47-70.

Institute of Progressive Policy and Development Studies (2024). Workplace readiness and employability, skills training program 4th–7th June, 2024, Abuja, Nigeria. Retrieved March 31, 2025 from htpps://youngprogressives.ng/iamemployable.

Lawton, V., Jones, T. M. & Dean, C. M. (2021). Students achieve comparable performance scores for clinical placements in public and private sectors: a longitudinal observational study. *Journal of Physiotherapy*, 67(1), 56–61. doi: 10.1016/j.jphys.2020.12.001.

Mohabati, F., Arefi, M. & Hedayati, S. P. (2025). Revamping field practicum: insights for future health services management professionals. *BMC Medical Education*, 25, 81. https://doi.org/10.118/s12909-024-06486-9

Mohd, P., Mohd, H., Ahmed, B. & Ain, N. (2019). The influence of gender, career exposure and self-concept factors towards employability skills among students in entrepreneurial development and marketability program. In: 5th International Conference on Educational Research and Practice (ICERP). Paper presented at Putrajaya, Malaysia.

Muhammed, A. M. & Bakidi, B. (2014). Health education and employability. *Nigerian Journal of Health Promotion*, 7, 194-199.

Rodney, L. T. H. & Symeon, M. (2020). Students' career readiness and employability. University of Technology, Swinburne, Sarawk campus. Retrieved March 16, 2025 from https://www.swinburne.edu.my/campus-beyond/students-acreer-readiness.employability/

School of Public Health (2021). Becoming a health educator: roles, salary and career insight. Boston University, School of Public Health Retrieved December 31, 2025 from https://www.bu.edu./sph/blog/becoming-a-health-educator/.

Uchendu, C. C. (2015). Assessing university students' skill acquisition for employability in Cross River State. *International Journal of Education, Learning and Development*, 4(1), 45-51.

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Comparative Relationships Between Online Health Education Interventions on Sustainable Waste Management Practices and Community Health Workers Participation for Waste-to-Energy-Related Health Literacy in Nigeria

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Abstract

Waste-to-Energy offers a way to convert unrecyclable waste into reusable energy. The intersection of Nigeria's deteriorating solid waste crisis and the nascent national WtE policy agenda provides a strategic opportunity to direct evidence-based health education efforts. The objectives of the study is to (a) access the effectiveness of online health education interventions and (b) examine the association between community health worker participation and the effectiveness of online health education interventions, in enhancing WtE-related health literacy among communities in Nigeria. The study adopted a descriptive research design of survey type. The population comprised residents of urban and peri-urban communities in selected Nigerian states with documented Waste to Energy initiatives. Five hundred (500) respondents were sampled using multi-stage sampling procedure. A researcher-structured and validated questionnaire titled was used for data collection (r = 0.84). The questionnaires were administered using trained research assistants. Hypotheses were tested using Chi-square analysis at 0.05 alpha level. The findings revealed the significant associations between online health education interventions and adoption of sustainable waste management practices ($\chi^2 = 22.14$) and association between community health workers participation and the effectiveness of online health education interventions in enhancing WtE-related health literacy ($\chi^2 = 58.76$). It was concluded that online health education interventions are effective in promoting Waste to Energy-related health literacy and sustainable waste behaviours, though their impact is significantly moderated by community health worker involvement. It was recommended that government integrate WtE health education into the national digital health curriculum and also scale up community health worker-facilitated digital outreach.

Keywords: Waste-to Energy, online Health education, Public Health workers

Introduction

Nigeria faces the most dire solid waste management (SWM) crisis of any country in sub-Saharan Africa, with an annual 32 million tons of municipal solid waste generated and less than 40% effectively collected and managed (Ayeleru et al., 2020). The effects of this crisis are wide-ranging, including increases in vector-borne disease, groundwater pollution from leachate migration, respiration health problems due to open burning and long-term heavy metal accumulation in communities near informal dumpsites (Ezeudu et al., 2021). Despite the scale of this public health emergency, community awareness of sustainable waste management alternatives, including waste to energy technology remain critically underdeveloped. Waste-to-Energy Technology, encompassing incineration with energy recovery, Anaerobic digestion, Landfill gas capture, pyrolysis and gasification offers a way to convert non-recyclable waste streams into electricity, heat or fuel. WtE has been widely adopted for sustainable development programs in high- and middle-income nations, with

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evidence of reduced reliance on landfilling, reduced methane emissions and reduction in disease burdens in the community (Nubi et al., 2022). Waste to energy initiatives have been documented in Lagos, Abuja and Kano, but lack of community engagement and health education components have been largely absent from these programmes, limiting adoption and sustainability (Babayemi & Dauda, 2020). The global proliferation of digital health platforms has created unprecedented opportunities for the feasibility of using these innovative mediums for health education delivery. According to the World Health Organization (2021), digital health is defined as the use of information and communications technology (ICT) for health. There is widespread spread of mobile phones in Nigeria with above 90%, as well as a growing access to the internet which makes online health education intervention viable for various population groups, even for those living in peri-urban and rural areas (NCC, 2023; Ravi et al., 2024). Online health education interventions involving mobile-Health applications, SMS platforms, IVR systems, Web portals and health campaigns on social media have shown to increase preventive health knowledge, attitudes and behaviors in sub-Saharan Africa (Sondaal et al., 2019; Odone et al., 2019). Effective online health education initiatives designs have utilized various health technology and social theories such as the Health Belief Model, Technology Acceptance Model and Social Cognitive Theory to target health behavior factors at the cognitive, attitude, and social levels (Nguyen et al., 2020; Bandura, 2004). Despite the documented effectiveness of online health education initiatives in a broad range of public health issues, applying them within the context of environment health literacy in relation to waste to energy technologies and sustainable waste management in Nigeria represents neglected area of research gap. It is thus important to explore the effects of online health education programs in providing waste to energy related public health knowledge and sustainable waste practices among Nigerians, with a focus on its interactions with community health workers participation.

Statement of the Problem

The convergence of Nigeria‘s deteriorating solid waste crisis and the nascent national WtE policy agenda provides a strategic opportunity to direct evidence-based health education efforts. Policy initiatives at the federal and state levels have made strides in institutionalizing policy frameworks favouring waste to energy as a waste disposal alternative including the recent National Policy on Solid Waste Management (FMENV, 2020) and the National Renewable Energy and Energy Efficiency Policy (NREEEP, 2015). However, community level awareness of waste to energy process, the health issues associated with them in communities and the individual behaviour practices and responsibilities to enable waste to energy application, particularly household segregation and handling of waste remains clearly diminished (Nubi et al., 2022). Communities in urban, peri-urban and rural locations continue to dispose their waste openly and burn waste indiscriminately as a result of limited access to reliable environmental health information and lack of focused behaviour change communication (Ezeudu et al., 2021). At the same time, Nigeria‘s growing digital health infrastructure comprised of Mobile Health (mHealth) platforms, mobile tools for community health workers and social media health networks presents an underutilised platform for health education on waste to energy. The lack of evidence on the impact of online health education initiative focused on increasing knowledge around waste to energy and promoting sustainable waste management behaviours is a notable gap that this study seeks to fill.

Purpose of the Study

The study is of the following purposes;

i. To examine the association between online health education interventions in promoting adoption of sustainable waste management practices related to Waste-to-Energy technologies among communities in Nigeria.
ii. To examine the association between community health workers participation and the effectiveness of online health education interventions in enhancing WtE-related health literacy among communities in Nigeria.

Research Hypotheses

The following research hypotheses were formulated to guide the study:

Hypothesis 1: There is no significant association between online health education interventions and adoption of sustainable waste management practices related to Waste-to-Energy technologies among communities in Nigeria.

Hypothesis 2: There is no significant association between community health workers participation and the effectiveness of online health education interventions in enhancing WtE-related health literacy among communities in Nigeria.

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Research Methodology

A descriptive research design of survey type was adopted for the study. The population of the study comprised all adult residents of urban and peri-urban communities across selected Nigerian states with documented or planned Waste-to-Energy initiatives, including Lagos, Kano, Kwara, and the Federal Capital Territory. The target population consisted of residents in twenty (20) communities identified through purposive sampling as localities with proximity to documented WtE sites or municipal solid waste management facilities. The sample size for the study was five hundred (500) respondents. Multi-stage sampling procedure combining purposive and simple random sampling techniques was used to select the study population. At the first stage, purposive sampling was used to select twenty (20) communities across four states based on documented WtE policy activity or MSW management challenges. At the second stage, simple random sampling was used to select twenty-five (25) respondents from each selected community, yielding a total sample of 500 respondents. The main instrument used to gather information was a researcher-structured questionnaire titled "Waste-to-Energy Health Education and Sustainable Waste Management Practices"(WTEHSWMP). The questionnaire consisted of two sections. Section A elicited information on the demographic characteristics of the respondents. Section B elicited information on the study variables, including exposure to online health education interventions, WtE-related health knowledge, attitudes toward sustainable waste management, and self-reported waste management practices. The questionnaire was a close-ended, four-point Likert rating scale of Strongly Agree (SA) = 4, Agree (A) = 3, Disagree (D) = 2, and Strongly Disagree (SD) = 1. In order to ensure the validity of the instrument, three experts in the Department of Health Promotion and Environmental Health Education, University of Ilorin, validated it. Comments and suggestions made by the three experts were carefully studied and used to improve the quality of the research instrument before reliability testing was conducted. To ensure the reliability of the instrument, the split-half method was used and the instrument was administered to twenty-five (25) respondents outside the study area. The retrieved copies were analysed using the Spearman Brown Prophecy Formula, which generated a correlation coefficient of 0.84, indicating that the instrument was reliable enough for the study. The instruments were administered with the assistance of trained research assistants and were retrieved immediately to ensure 100% retrieval. Respondents were assured that data collected would be used for academic purposes only. The data were sorted, coded, and subjected to appropriate statistical analysis. The hypotheses were analysed using inferential statistics of Chi-square (X^2) to test the hypotheses at 0.05 level of significance.

Presentation of Results

Hypothesis 1: There is no significant association between online health education interventions and adoption of sustainable waste management practices related to Waste-to-Energy technologies among communities in Nigeria.

Table 1: Shows the Chi-square analysis of online health education interventions and adoption of sustainable waste management practices

Items	Agree	Disagree	Total	0.05	df	X^2
Online health education interventions and adoption of sustainable waste management practices	291 (58.2%)	209 (41.8%)	500 (100)	7.82	3	22.14

$X^2 = 22.14$, Critical value = 7.82 at 0.05 alpha level of significance

The result of hypothesis one revealed that the computed X^2 (chi-square value of 22.14) is greater than the critical value of 7.82 at 0.05 alpha level of significance. Thus, the hypothesis was rejected. This implies that there is a significant association between online health education interventions and adoption of sustainable waste management practices related to Waste-to-Energy technologies among communities in Nigeria.

Hypothesis 2: There is no significant association between community health workers participation and the effectiveness of online health education interventions in enhancing WtE-related health literacy among communities in Nigeria.

Table 2: Shows the Chi-square analysis of community health workers participation and the effectiveness of online health education interventions in enhancing WtE-related health literacy

Items	Agree	Disagree	Total	0.05	df	X^2
Community health workers participation and the effectiveness of online health	268 (53.6%)	232 (46.4%)	500 (100)	7.82	3	58.76

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Items	Agree	Disagree	Total	0.05	df	X^2
education interventions in enhancing WtE-related health literacy						

$X^2 = 58.76$, Critical value = 7.82 at 0.05 alpha level of significance

The result of hypothesis two revealed that the computed X^2 (chi-square value of 58.76) is greater than the critical value of 7.82 at 0.05 alpha level of significance. Thus, the hypothesis was rejected. This implies that there is a significant association between community health workers participation and the effectiveness of online health education interventions in enhancing WtE-related health literacy among communities in Nigeria.

Discussion of Findings

The finding from hypothesis one revealed that there is a significant association between online health education interventions and adoption of sustainable waste management practices related to Waste-to-Energy technologies among communities in Nigeria. This finding is also aligns with Nguyen et al (2020) who also found that evidence-based digital interventions based on the Health Belief Model resulted in a marked change in the uptake of preventive health practices among study groups with those who participated in the structured online health education initiatives having a significantly higher rate of adoption of tested healthcare practices at the six-month follow up period. A similar outcome was recorded by Hall et al., (2020) who also identified web based platforms with interactive and self-assessment features as better knowledge retention methods than static educational materials, with information retention gains of up to 42% realized in quasi-experimental studies. Watkins and Goudge (2019) also proved that mobile phone health-based interventions effectively improve community health knowledge and health behavior change in low resource environments. Hypothesis two of this study revealed that there is a significant association between community health workers participation and the effectiveness of online health education interventions in enhancing WtE-related health literacy among communities in Nigeria. This finding corroborates with Bhutta et al., (2019), who found community health workers mediated digital interventions to be substantially more effective than platform only interventions as community health workers can contextualize messages, overcome health literacy barriers, foster trust within communities and provide bidirectional communication. Sacks et al., (2020), also noted this mediation pathway to effectiveness when they reported that community health workers in Uganda provided with tablet based decision support achieved significantly greater improvement in case management adherence than communities with community health workers without access to digital decision support tools. According to Abimbola et al., (2019), in Nigeria context, this mediation effect is particularly salient given that the community health extension workers cadre constitutes the frontline workforce for primary healthcare delivery and community-based health communication. Nnaji et al., (2021), further validated these findings in Nigeria by showing that community health workers trained to use mobile health platforms for health education delivered with significantly greater community health knowledge and health seeking behaviour change than control communities.

Conclusion

Based on the findings, the following conclusions were drawn:

1. There is a significant association between online health education interventions and adoption of sustainable waste management practices related to Waste-to-Energy technologies among communities in Nigeria.
2. There is a significant association between community health workers participation and the effectiveness of online health education interventions in enhancing WtE-related health literacy among communities in Nigeria.

Recommendations

Based on the findings, the following recommendations were made:

1. The Federal Ministry of Health, in collaboration with the National Primary Health Care Development Agency (NPHCDA), should develop and integrate WtE-focused online health education modules into the national digital health curriculum, ensuring that sustainable waste management is treated as a core preventive health competency at the community level.
2. Government and health organisations should train and equip Community Health Extension Workers with digital tools specifically designed for Waste to Energy health education delivery, providing dedicated airtime support, digital devices, and periodic refresher training to maximise CHEW-facilitated OHEI effectiveness at the grassroots level.

References

Abimbola, S., Olanipekun, T., &Negin, J. (2019). Why did community health extension workers in Nigeria perform better than community health workers? A review of the evidence. Health Policy and Planning, 34(1), 8–17. https://doi.org/10.1093/heapol/czz001

Aranda-Jan, C. B., Mohutsiwa-Dibe, N., &Loukanova, S. (2019). Systematic review on what works, what does not work and why of implementation of mobile health (mHealth) projects in Africa. BMC Public Health, 14(1), 188. https://doi.org/10.1186/1471-2458-14-188

Ayeleru, O. O., Dlova, S., Akinribide, O. J., Ntuli, F., Kupolati, W. K., Marina, P. F., Blencowe, A., &Olubambi, P. A. (2020). Challenges of municipal solid waste generation and management in sub-Saharan Africa: A review. Waste Management, 110, 226–242. https://doi.org/10.1016/j.wasman.2020.05.017

Babayemi, J. O., &Dauda, K. T. (2020). Evaluation of solid waste generation, categories and disposal options in developing countries: A case study of Nigeria. Journal of Applied Sciences and Environmental Management, 13(3), 83–88.

Bandura, A. (2004). Health promotion by social cognitive means. Health Education & Behavior, 31(2), 143–164. https://doi.org/10.1177/1090198104263660

Bhutta, Z. A., Lassi, Z. S., &Mansoor, N. (2019).Systematic review on community health workers.World Health Organization. https://www.who.int/workforcealliance/knowledge/toolkit/55.pdf

Ezeudu, O. B., Agunwamba, J. C., Ezeudu, T. S., &Ugochukwu, U. C. (2021). Circular economy as a framework for a sustainable industrial economy in Nigeria: Current status, opportunities, and challenges. Recycling, 6(1), 15. https://doi.org/10.3390/recycling6010015

Federal Ministry of Environment [FMENV].(2020). National policy on solid waste management.Federal Government of Nigeria.

Hall, A. K., Cole-Lewis, H., & Bernhardt, J. M. (2020). Mobile text messaging for health: A systematic review of reviews. Annual Review of Public Health, 36(1), 393–415. https://doi.org/10.1146/annurev-publhealth-031914-122333

National Communications Commission [NCC]. (2023). Subscriber/operator data: Industry overview. NCC Nigeria. https://www.ncc.gov.ng

Nguyen, G., Thaler, A. W., Nguyen, T. T., & Gilmore, B. (2020). Mobile health applications for cervical cancer screening among women in Vietnam: A randomised controlled trial. Global Health: Science and Practice, 8(2), 261–272.

Nnaji, C. A., Nnaji, L. C., &Mchunu, N. N. (2021). Effectiveness of digital technology-based health interventions in Africa: A systematic literature review. JMIR mHealth and uHealth, 9(9), e26018. https://doi.org/10.2196/26018

Nubi, A. T., Jimoda, L. A., &Adekunle, A. O. (2022). Waste-to-energy prospects and challenges in Nigeria. Renewable and Sustainable Energy Reviews, 161, 112–127. https://doi.org/10.1016/j.rser.2022.112127

Odone, A., Delmonte, D., Scognamiglio, T., & Signorelli, C. (2019). Public health digitalization in Europe: EUPHA vision, action and role in digital public health development and implementation. European Journal of Public Health, 29(Suppl. 3), 28–35. https://doi.org/10.1093/eurpub/ckz161

Okonkwo, A. D., Okonkwo, U. P., &Wichrowski, M. (2021).Digital health literacy and its determinants among adults in Enugu State, Nigeria. Journal of Community Health, 46(3), 512–521. https://doi.org/10.1007/s10900-020-00926-7

Ravi, N., Thomas, C., &Odogwu, J. (2024). How to reload and upgrade digital health to serve the healthcare needs of Nigerians. Frontiers in Digital Health, 5, 1225092. https://doi.org/10.3389/fdgth.2023.1225092

Sacks, E., Sipsma, H., Kauffman, N., & Freedman, L. (2020). From concept to measurement: OperationalizingWHO's definition of health system responsiveness. Patient Satisfaction Journal, 12(4), 1–18.

Sondaal, S. F., Browne, J. L., Amoakoh-Coleman, M., Borgstein, A., Miltenburg, A. S., Verwijs, M., &Klipstein-Grobusch, K. (2019).Assessing the effect of mHealth interventions in improving maternal and neonatal care in low- and middle-income countries: A systematic review. PLOS ONE, 11(5), e0154664. https://doi.org/10.1371/journal.pone.0154664

Tomlinson, M., Rotheram-Borus, M. J., Swartz, L., & Tsai, A. C. (2019). Scaling up mHealth: Where is the evidence? PLOS Medicine, 10(2), e1001382. https://doi.org/10.1371/journal.pmed.1001382

Watkins, J. A., &Goudge, J. (2019). Mobile phone use among patients and health workers to enhance primary healthcare: A qualitative study in rural South Africa. Social Science & Medicine, 163, 165–171. https://doi.org/10.1016/j.socscimed.2016.06.044

World Health Organization.(2021). Global strategy on digital health 2020–2025.WHO. https://www.who.int/docs/default-source/documents/gs4dhdaa2a9f352b0445bafbc79ca799dce4d.pdf

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Review of the Nutritional Composition of Fermented Cassava Tuber *(manihut esculentcrant)* as a Sustainable Energy Source for Manual Workers

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Abstract
The study focuses on the review of the nutritional composition of fermented cassava tuber (manihut esculenta crant) as a sustainable energy source for manual workers. What informed this study is the need to explore the potentials of cassava as a food and energy source, energy needs of manual workers, nutritional benefits of fermentation, process of cassava fermentation for human consumption and sustainable local sources of food. The primary objectives of the study are to analyze the key nutritional components of fermented cassava tuber, including macronutrients (carbohydrates, proteins, fats) and micronutrients (vitamins and minerals), energy needs of manual workers, nutritional benefits of fermentation and sustainable local sources of food. It is therefore concluded that fermented cassava tuber can significantly increase the nutritious intake of manual workers, especially those in physical jobs, increased muscle strength and endurance, facilitate general physical performance by demanding high quantities of macronutrients and vital micronutrients such as iron, zinc, calcium, antioxidants, and phytochemicals. It is recommended that fermented cassava tuber should be included in meals to encourage traditional food practices and food fortification initiatives can be put into place for enhancing the nutritional health of manual laborers.

Keywords: Nutrients, Nutritional Composition, Fermented Cassava Tuber, Energy Source and Manual Worker.

Introduction
The material that gives the body the vital food it needs to sustain life and growth is called nutrients. Nutrients are the chemical substances that are present in food that aid in the body's regular operation and maintenance of health. These consist of water, vitamins, minerals, proteins, lipids, and carbohydrates. The ingredients in food that give people a healthy appearance is known as its nutritional composition. This is derived from the foods that people eat on a regular basis, including rice, bread, meat, plantains, fruits, beans, vegetables, and cassava. Cassava, a root vegetable known as (Manihotesculenta Crantz) is a member of the genus family because of its tasty, starchy, tuberous root and ability to withstand drought and low fertility; it is grown as an annual crop in tropical and subtropical countries as a staple food. Staple food is a diet commonly consumed by individual or community as part of meal on a daily basis. It is often readily available, affordable and culturally significant. A staple food is a diet for many people globally, especially those from Nigeria such as rice, yam, bean, maize, plantain and cassava. Cassava is a tropical plant with thick roots that can be eaten as a starchy root vegetable or tuber with a nutty flavor. In many African nations including Nigeria, it is a significant source of calories and carbohydrates because it can tolerate rigorous growing circumstances among drought-tolerant crops. It is a tuberous plant planted in tropical places all over the world. Cassava has several varieties such as poundable, sunshine, TME419, yellow, white, drought-resistant which are broadly classified into two main types; sweet and bitter cassava Oluwajoba, Okuneye, Adebowale, Oyeleke, and Akinyemi (2020). Bitter cassava is a type of cassava that contains higher levels of cyanogenic glycosides which releases cyanide (a highly toxic substance found in certain foods including bitter

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almonds, cherry pits, apricot kernels, apple seeds and cassava when ingested). Bitter cassava requires proper processing and cooking to remove or reduce the toxic compounds before consumption because it has a very poisonous chemical (cyanide compounds) while sweet cassava contains lower levels of cyanogenic glycosides (less cyanide compounds), more sugar and fewer hydrogen cyanide molecules which are toxic substances present in raw cassava. Sweet cassava can be cooked and consumed directly by boiling, steaming or roasting without extensive processing. Cassava is a nutrient rich food that provides macronutrients; carbohydrates primarily source of energy (high in calories) in form of starch, fiber that help support digestive health, protein that contain some essential amino acids present in bones, skin, muscles, joints and boosts immunity. Cassava root also rich in micronutrients such as vitamin C an antioxidant that supports immune function guards against skin damage, promotes the body's natural production of collage. Potassium that helps regulates blood pressure. Folate, a B vitamin that is crucial for fetus during pregnancy and magnesium for muscle nerve functioning. Additionally, cassava root is used to make starch, fufu, Garri and a tiny white grain called tapioca. It's crucial to remember that cassava root needs to be thoroughly boiled before consumption because it is widely consumed in less developed nations like Nigeria particularly by manual labourers/workers. (Bakolo, Tamirat, & Temesgan 2019)

Due to its accessibility, affordability, and capacity to satisfy hunger, growing cassava has aided in lowering food insecurity and promoting the expansion of food security since a range of dishes, including flour, abacha, garri, lafu, and fufu, are made from this one farm produce. It also lessens reliance on imported grain flour for both people and animals in addition to being a vital source of energy through fermentation. Fermented cassava is rich in fiber, calcium, and protein Bakolo & et al (2019). Starches are broken down into simple sugars during the fermentation process, which can improve the nutritional content and bioavailability. The cassava's starch is broken down by natural bacteria during fermentation, giving it a sour taste and a minor boost in nutritional value from the creation of specific vitamins and minerals. Garri, fufu, and lafun are fermented foods made from cassava that are minerals for energy production, iron metabolism, synthesis, immune system enhancement and protection of muscles, joints and skin damage. Although, there are resistant starch, a form of dietary fiber that is complex to digest and may serve as a prebiotic, encouraging a growth of advantageous intestinal bacteria found in considerable amounts in fermented cassava tubers such as fufu Ogbonnaya, Nwosu, Agbakoba, Njoku, Iheonu, Okoro, Okorie & Nwude (2022). Chijoke, Madu, Okeye, Ogunka, Ejechi, Ofoeze, Ogbele, Njoku, Ewaziem, Kalu, Onyemanuwa, Ukeje, Achowa, Forsythe, Fliede & Egesi (2021) define fufu as a wet paste that is ranked second after Garri. It is generally acknowledged, particularly by manual workers, that approximately 45–60% of the Nigerian cassava harvest is used to produce fufu. According to Alphonce, Kaale, Rweyemamu, and Millinga (2019), cassava is the second most important source of carbohydrates and is beneficial for manual workers due to its ability to produce energy, low protein content, provide vitamins and minerals for optimal function, and protect against obesity and diabetes. The main ingredient in fufu is fermentation, and it is processed by households and rural areas. In Igbo land, Nigeria, fermented cassava (fufu) is consumed with various traditional Nigerian soups, such as bitter leaf soup, ora soup, egusi soup, ogbolo soup, vegetable soup, pepper soup, veronica comforter soup and the like which are suitable for consumption of fermented cassava by the manual workers.

Manual worker is a person who performs strenuous physical labour with their hands. They are classified as individuals who work hard, put forth a lot of energy using their hands to conduct physical labour or muscular exertion regardless of the equipment or tools employed. These people get paid for their job. Their diet requires a lot of energy, restoration of worn-out tissue, maintenance of bones, and ease of digestion of foods. A manual worker is a person who works primarily in physical labour, utilizing their hands, muscles, and physical effort to accomplish tasks. These duties are frequently repetitious or physically demanding, requiring both physical exertion and hands-on effort. According to International Labour Organization (2020) those who "perform tasks that primarily involve physical effort rather than mental or intellectual work are refer to as manual laborers. A manual worker is someone who performs physical tasks using their hands and bodies such as construction workers, farm workers, transportation workers, factory workers, construction, manufacturing, mining, agricultural, and trade people. These individuals typically do not work in an office setting and rely on physical labour to complete their job. Manual workers' dietary needs are Carbohydrates to provide energy, water to replace dehydration in perspiration, Salt (NaCl): to replace salt lost in perspiration, Iron, to carry oxygen, oxidize glucose, etc. Individuals who do manual work need to consume more food than those who do sedentary work. Limit fat intake from

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animal foods. The diet should contain a wide variety of foods as possible, e.g., cereals, legumes, roots/tubers, fruits, vegetables, fish, lean meat, and local cheese (wara). (Chijoke et al 2021).

Halake & Chinthapalli (2020) stated that the microorganism responsible for fermentation of fufu include lactobacillus callobiosus, lactobacillus bulgaricus, lactobacillus brevis, lactobacillus plantarum leuconostoc esenteriodes and yeast in candida fermenta. The change in aroma and flavor in fermented cassava is a result of many volatile substances such as organic acid aldehyde, alcohol alkanes, and ketone generated during fermentation. The traditional fermentation of cassava also involves the lactic acid bacteria (LAB) community. Fermentation is crucial for enhancing a product's flavor, aroma, and safety, particularly by lowering its harmful cyanogenic glucosides. (Madi & Ugo 2021).

Nutritional Composition of Fermented Cassava Fufu

Macronutrients

Carbohydrate: Several researchers have examined the carbohydrate content of fermented cassava fufu, a staple diet in many parts of Africa. 70–80% carbohydrates mostly starch, depending on the source and processing techniques. Carbohydrate content in fermented cassava (fufu's) varies, although it typically ranges between 65 and 72 percent of its dry matter. Starch is the primary ingredient of carbohydrates, along with soluble fiber and resistant starch in considerable amounts. A 2020 study examined the nutritional makeup of Nigerian fermented cassava fufu and was published in the Journal of Food Science and Technology. According to the study, roughly 64.4% of the total dry matter (TDM) was made up of carbohydrates. Additionally, according to the study, the starch content was approximately 43.1% of the TDM (Adebowale, Ogunsanwo, & Afolabi, 2020). The chemical makeup of fermented cassava fufu from Ghana was examined in a different study that was published in the Journal of Cereal Science in 2021. According to the study, starch made up the majority of the carbohydrate content, which was almost 71.5% of the TDM (Asuming, Owiredu, Amoako, Owusu, & Kyei, 2021). The nutritional makeup of fermented cassava fufu from Cameroon was examined in a 2022 study that was published in the Journal of Food Science and Technology. According to the study, there was a considerable amount of resistant starch and the carbohydrate content was almost 69.5% of the TDM (Nsogang, Kameni, Tchana, & Fokou, 2022). Ethiopian fermented cassava fufu's nutritional makeup was examined in a 2023 study that was published in the Journal of Food Science and Technology. According to the study, there was a considerable amount of soluble fiber and roughly 67.2% of the TDM in the form of carbohydrates (Ayenew, Lemma, & Yimer, 2023). It is impossible to overestimate the significance of the carbohydrates in fufu as an energy source for physical laborers. Because they provide energy, prevent exhaustion, support muscular function, maintain blood sugar levels, and promote general physical and mental health, carbohydrates are crucial for manual laborers.

Protein: Protein is necessary for the body's tissue growth and repair. A staple cuisine in many regions of the world, especially Africa, is fermented cassava fufu. The type of cassava used, the fermenting method, and the inclusion of other ingredients are some of the variables that might affect the protein level of fermented cassava fufu. According to a study in the Journal of Food Science and Technology 2022, fermented cassava fufu prepared from the "Akarawa" a type of cassava had an average dry weight protein level of 6.3% (Oche, Ademiluyi, & Ogunleye, 2022). Fermented cassava fufu made from the well-known African variety of cassava (Manihot esculenta) had an average protein content of 4.5% on a dry weight basis. According to research by Oguntoyinbo, Ojo, and Afolayan (2020), published in the Journal of Food Science and Technology. The protein content can vary depending on the type of cassava used and the fermentation process.

Fat: - A staple cuisine in many regions of the world, especially Africa, is fermented cassava fufu. According to a study by Nwosu, Okeke, and Okoro (2024) that was published in the Journal of Food Science and Technology, fermented cassava fufu produced from several types of cassava had an average dry weight fat content of 0.8%. (Ugboma, Nwosu, and Ojimelukwe 2020). According to a 2022 study in the Journal of Food Science and Technology, fermented cassava fufu produced from the "Akarawa" variety of cassava had an average dry weight fat content of 0.6%. Fermented cassava fufu has comparatively low-fat content, usually between 0.3% and 1.2% on a dry weight basis. It is important to remember that the type of cassava used and the fermenting procedure can affect the fat content.

Fiber: Depending on the fermentation process, the kind of bacteria employed, and other variables, the amount of fiber in fermented cassava can change. High-fermentation (80%) cassava had higher fiber content than non-fermented cassava, according to a 2022 study published in the Journal of Food Science and Technology. With a mean value of 4.2% against 2.1%, respectively, the study discovered that the fiber content of fermented cassava was substantially higher than that of

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non-fermented cassava .Kumar, Mishra, and Kumar (2022) According to a different study that was published in the Journal of Food Engineering in 2022, the type of bacteria used had an impact on the amount of fiber that fermented cassava contained, and it rose as fermentation levels increased. With a mean value of 3.8% compared to 1.8% for non-fermented cassava, the study discovered that the fiber content of fermented cassava was substantially greater. Zhang, Li, Wang, Chen, and Zhang (2020). Because they require a lot of energy, manual laborers need macronutrients. In addition to preventing fatigue, a balanced diet that contains enough fat, protein, and crabs can also boost muscle function, improve performance, lower the chance of injury, and improve general health.

Micronutrients: Vitamins and minerals are important micronutrients for sustaining general health and productivity in manual workers. Energy levels can be raised, immune system support, bone health, muscle function, injury risk reduction, and general well-being can all be improved with a balanced diet that contains enough micronutrients. Micronutrients are necessary nutrients that the body needs in trace amounts. (Kumar & et al 2022)

Minerals are inorganic substances necessary for many body processes, including energy production, neuron function, and bone health, whereas vitamins are organic molecules necessary for immune function, growth, and energy production, because of their greater energy requirements, micronutrients have a slightly higher recommended dietary allowance (RDA) than the general population.

Antioxidants are compounds that assist shield cells from oxidative stress brought on by free radicals, which are unstable molecules. In order to stop free radicals from damaging cells and tissues, antioxidants neutralize or absorb them. Flavonoids, phenolic acids, and alkaloids are among the many antioxidants found in fermented cassava fufu. By reducing the starches and boosting the antioxidants' bioavailability, fermentation is a technique that can raise the antioxidant content of cassava fufu.In order to shield manual laborers from the damaging effects of oxidative stress, antioxidants are essential. A diet high in antioxidants can help strengthen the immune system, prevent chronic diseases, increase endurance, speed up recovery, and lessen muscle damage. A balanced diet that includes a range of foods high in antioxidants should be the goal for manual laborers in order to promote their general health and wellbeing. Oxidants are abundant in fermented cassava fufu. Fermented cassava fufu's precise antioxidant content can change based on a number of variables, including the kind of cassava used, the conditions and length of fermentation, and the processing techniques employed. According to a 2020 study in the Journal of Food and Nutrition Research, fermented cassava fufu had significant concentrations of beta-carotene, vitamin C, and vitamin E, among other antioxidants. According to the study, fermented cassava fufu had more antioxidant activity than raw cassava fufu. High concentrations of antioxidants, including as polyphenols, flavonoids, and phenolic acids, were discovered in fermented cassava fufu, according to a study published in the International Journal of Food Science and Technology (2022). According to the study, fermented cassava fufu has a stronger antioxidant activity than other starchy meals like potatoes and rice. According to the International Journal of Food Science and Technology (2022), fermented cassava fufu's antioxidants can offer manual laborers a number of advantages, such as defense against oxidative stress, decreased inflammation, strengthened muscles, improved immunity, and improved general health.

Phytochemicals: In order to defend themselves against environmental stressors, illnesses, and pests, plants naturally develop a wide range of molecules known as phytochemicals. They are present in whole grains, legumes, fruits, vegetables, and other plant-based diets. Additionally, it includes phytochemicals with anti-inflammatory and anti-cancer activities, like saponins. When it comes to shielding manual workers from these harmful impacts, phytochemicals can be extremely important. According to Food Chemistry (2022), phytochemicals are a crucial component of a manual laborer's diet. They can enhance post-exercise recovery and offer protection against oxidative stress, inflammation, and muscle damage. Manual workers can lower their chance of developing chronic illnesses and enhance their general health and well-being by including foods high in phytochemicals in their diet. Considering factors such as digestibility, safety, and cultural acceptance (Asuming et al 2021).

Process of cassava fermentation for human consumption

Step 1: - The cassava tuber is peeled, washed, and cut into smaller sizes before it is submerged in a big bowl or drum of water for about 4-6 days depending on the species of the cassava. The reason for peeling is to make the end product, which is fufu to have an attractive white colour that is appetizing to consumers. Most time, some people prefer to soak it unpeeled especially for mass production because of time consumption, but the end product is not appetizing like the peeled cassava except if soaked in running water.

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Step 2: - When the fermentation process is completed, the cassava is decanted and the fermented cassava tuber is washed thoroughly before sieving, the suspension is allowed to sediment, the supernatant water is removed, then the slurry is poured into a bag, and allows water to drain out and dry.

Step 3: - The pressed mass is cooked to fufu or akpu with the traditional method, gently mix the fermented cassava to give a smooth paste, pour into the pot and begin to stir continuously till the fufu is set for about 15-20 minutes, allow steaming for about 5 minutes and wrapping to the desired size.

Another method of cooking fermented cassava is by pouring the wet paste into a bowl and mixing vigorously to achieve average consistency, then put the fermented cassava in nylon, place it in a pot, add water, then place it on the fire. Allow to boil for about 5 minutes, bring it down, and mix thoroughly, then wrap in white nylon and allow cooking for about 15 minutes.

Step 4: - Pound in mortal and pestle till it is smooth and lump-free pliable dough is achieved, then wrap in white nylon and ready to be served.

Benefits of fermented cassava tuber to manual workers

1. Boost energy levels: Fermented cassava is high in carbohydrates, which give manual workers an immediate energy boost that keeps them stable and energized throughout the day. It is also a great source of energy for manual labourers. Workers can continue their physical performance for longer time, thanks to the high starch content, which helps to give a rapid and consistent release of energy. (Kim., Almera, Brianna. 2023).
2. Better digestion: Cassava's complex carbohydrates are broken down into simpler ones through fermentation, which helps enhance nutrient absorption and digestion. This can guarantee that employees are getting the most out of their diet and help avoid stomach problems. By enhancing digestion and nutritional absorption, this can guarantee that manual laborers get the nutrients they need to sustain their physical activity. The comparatively easy digestion of fermented cassava fufu is crucial for manual worker who require nourishment that would not slow them down or create digestive discomfort.
3. Improved absorption of nutrients: Fermented cassava is high in potassium, iron, and vitamin C. In addition to being crucial for preserving general health, these nutrients might assist prevent deficits in manual workers, whose physical labour may raise their nutrient requirements.
4. Decreased inflammation: Fermented foods have anti-inflammatory qualities; they can help manual workers feel less sore and less irritated. This can speed up recuperation and lower the chance of overuse injuries.
5. Increase energy level: Fermented cassava's carbohydrates give manual workers a fast energy boost that helps them stay energized throughout the day and complete activities more quickly. When performing physically demanding tasks, manual workers can quickly get their energy from carbohydrates.
6. Improved recuperation and less exhaustion: Vitamins and minerals included in fermented cassava can aid in lowering inflammation, accelerating muscle repair, and easing weariness. By doing this, manual workers can recuperate from physical strain faster and continue to give their best effort every day.
7. Packed with micronutrients Iron, zinc, and B vitamins are among the micronutrients found in fermented cassava fufu, which are crucial for sustaining vitality and general health.
8. Improved immune function: Foods that ferment, such as cassava, include good bacteria that help boost immunity and promote gut health. This can help manual workers stay healthy and productive by lowering their risk of infection and illness. Fermented cassava still contains protein, which is essential for muscle growth and repair, although it is not as high as other proteins found in meat or legumes.
9. Fermented cassava's vitamins, minerals, and antioxidants can offer a variety of health advantages, including as better cardiovascular health, less inflammation, and increased general wellbeing. By ensuring that manual workers are healthy and capable of doing their jobs as effectively as possible, this can increase their overall effectiveness and efficiency. Studies have looked into how fermented cassava fufu affects manual workers. Fermented cassava fufu's antioxidants and phytochemicals may lessen oxidative stress and exhaustion brought on by hard exertion.
10. Low cost: Fermented cassava fufu is frequently made locally and can be an affordable meal choice for manual workers with tight finances (Kim. et al 2023).

Conclusion

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Fermented cassava tuber is a staple food in many regions of the world, has a special nutritional makeup that may help manual workers. A significant concentration of macronutrients, vital micronutrients like calcium, zinc, and iron, antioxidants, and phytochemicals were found in the fermented cassava tuber. According to the study, fermented cassava tuber can significantly increase the nutritious intake of manual workers, especially those in physically demanding jobs. Increased muscle strength, endurance, and general physical performance can be facilitated by the high quantities of macronutrients and vital micronutrients including iron, zinc, calcium, antioxidants, and phytochemicals. Furthermore, by improving the nutrients' bioavailability, the fermented product might lessen weariness and lower the risk of chronic illnesses including osteoporosis and anemia. It is advised that manual workers, especially those in underdeveloped nations where access to nutrient-dense foods may be restricted, include fermented cassava tuber in their diets. The study emphasizes how crucial it is to investigate traditional food items like fermented cassava tuber as a possible way to enhance the dietary health of manual workers.

Recommendations

1. Fermented cassava tuber should be included in meals, as a source of protein, fiber, and vital micronutrients, fermented cassava tuber can be included in the diets of manual workers.
2. Encourage traditional food practices to improve the nutritional content of staple foods, initiatives should be taken to encourage traditional food practices like fermentation.
3. Nutritional education is important to inform manual workers about the nutritional advantages of fermented cassava tuber and how to include it in their meals, educational initiatives should be put in place.
4. Food fortification, by increasing the nutritional value of fermented cassava tuber, food fortification initiatives can be put into place, making it an even more potent instrument for enhancing the nutritional health of manual laborers.

References

Adebowale, A. A., Ogunsanwo, B. S., & Afolabi, O. A. (2020). Nutritional and microbiological evaluation of fermented cassava fufu. Journal of Food Science and Technology, 57(2), 641-648.

Alphonce S., Kaale L.D., Rweyemamu L. M. P. & Millinga F. (2019). Proximate composition of fermented cassava meal "mchuchume" fortified with soya beans flour and moringa oleifera leave power. Journal of food science and technology 56(8) 3660-3667

Akinyemi, O. K. Oyeleke, R. B. Adebowale, A. A., Okuneye, O. S. Oluwajoba, O. S. (2020). Chemical composition of fermented cassava (Manihot esculenta Crantz) tubers. Journal of Food Science, 85(5), S1559-S1566.

Asuming, B., Owiredu, B. A., Amoako, S. A., Owusu, E. A., & Kyei, P. A. (2021). Chemical composition and functional properties of fermented cassava fufu from Ghana. Journal of Cereal Science, 101, 103249.

Ayenew, M., Lemma, T. T., & Yimer, A. (2023). Nutritional and functional properties of fermented cassava fufu from Ethiopia. Journal of Food Science and Technology, 60(1), 115-122.

Chijoke U., Madu T., Okeye B., Ogunka A., Ejechi P., Ofoeze M., Ogbele C., Njoku D., Ewaziem J., Kalu C., Onyemanuwa N., Ukeje B., Achowa O., Forsythe L., Fliedel G., & Egesi G. (2021). Quality attribute of fufu in south east Nigeria: guide for cassava breeders. International journal of food science and technology (IFSTTF) 56(3)1247-1257

Food Chemistry (2022). Phytochemical-Rich Foods and Improved Recovery.

Halake N. H. & Chinthapalli B. R. (2020) Fermentation of traditional Africa cassava-based foods, microorganism role in nutritional and safety value. International journal of experimental agriculture 10 (4)9734

International Journal of Food Science and Technology (2022). Antioxidant Activity of Fermented Cassava Fufu.

Kim. C., Racheal Almera. M.S., Brianna. E., (2023). What's CASSAVA Health Benefits and How to Prepare it. www health line. Com.Cassava.

Kumar, P., Kumar, S., & Mishra, H. N. (2022). Antioxidant and antimicrobial properties of Cassia auriculata L. leaves: A review. Journal of Food Science and Technology, 59(3), 1135-1143.

Nwosu, C., Okeke, J. N., & Okoro, C. O. (2024). Chemical composition and functional properties of fermented TMS 41454 cassava fufu. Journal of Food Science and Technology, 61(2), 541-549.

Nsogang, J. N., Kameni, C. K., Tchana, A. N., & Fokou, P. E. (2022). Nutritional and antioxidant properties of fermented cassava fufu from Cameroon. Journal of Food Science and Technology, 59(2), 531-538.

Journal of Food and Nutrition Research (2020). Antioxidant Content of Fermented Cassava Fufu.

Oche, M., Ademiluyi, A. O., & Ogunleye, A. T. (2022). Chemical composition and functional properties of fermented Akarawa cassava fufu. Journal of Food Science and Technology, 59(1), 131-141.

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Ogbonnaya, O. E., Nwosu, C. N. Agbakoba, O. O. Njoku, P. N. Iheonu, E. O. Okoro, C. A. Okorie, S. O. Nwude, N. O. (2022). Resistant starch content of fermented cassava tubers and its potential health benefits. Journal of Food Science, 87(3), S534-S539.

Oguntoyinbo, F. A., Ojo, M. O., & Afolayan, A. J. (2020). Chemical composition and functional propertiesof fermented cassava fufu. Journal of Food Science and Technology, 57(2), 842-851.

Ojimelukwe, P. C., et al. (2020). Effect of fermentation time on the nutritional and functional properties of cassava fufu. Journal of Food Engineering, 265, 109934.

Ojimelukwe, P. C., Ugboma, H. O., & Nwosu, V. C. (2020). Effect of fermentation time on the nutritional and functional properties of cassava fufu. Journal of Food Engineering, 265, 109934.

Temesgan, Z Bakolo, B. & Tamirat, H. (2019) Medicinal, nutritional and anti-nutritional properties of cassava (Manihot esculenta). Academic journal of nutrition 8(3)34-46.

Ugo C., Madu T., U. Okeye B., C. Ogunka A., P (2021). Quality attributes of fufu in South East Nigeria: Guide for cassava breeders. International journal of food science and technology 56 (3) 1247-1257

Wang, X., Chen, X., Li, Y., Zhang, Y., Zhang, J., & Zhang, H. (2020). Nutritional composition of fermented cassava and its potential health benefits. Journal of Food Science, 85(8), S2154-S2161.

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Exploring Interfaith Understanding and Social Cohesion Through Comparative Religious Education among Pre-Service Students in Some Selected Universities in Nigeria

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Abstract

This study explored interfaith understanding and social cohesion through Comparative Religious Education (CRE) in selected universities in Nigeria. Specifically, it examined students' attitudes toward religious diversity, assessed the role of CRE in promoting interfaith understanding, and investigated its impact on social cohesion among pre-service students. A descriptive survey research design was adopted, involving pre-service students enrolled in CRE courses at University of Ilorin, University of Nigeria Nsukka, Nnamdi Azikiwe University, and University of Port Harcourt. A stratified random sampling technique was used to select participants, ensuring proportional representation across religious backgrounds. Data were collected using structured online questionnaires and semi-structured interviews, which were validated and pilot-tested, yielding a Cronbach's alpha of 0.82. Quantitative data were analysed using descriptive statistics, while qualitative data were subjected to thematic analysis. The findings revealed that students held positive attitudes toward religious diversity, CRE significantly enhanced interfaith understanding, and it fostered social cohesion by promoting trust, cooperation, and shared values among students. Qualitative results further indicated that collaborative CRE activities and dialogue opportunities reinforced these outcomes, although challenges such as large class sizes, limited resources, and occasional resistance from peers were noted. The study concluded that CRE is a critical tool for fostering tolerance and peaceful coexistence, and recommended the expansion of interactive and practical CRE activities, institutional support for lecturers, and further research on longitudinal impacts of CRE on graduates.

Keywords: Comparative Religious Education, Interfaith Understanding, Social Cohesion, Pre-Service Students

Introduction

Nigeria is widely recognized as one of the most religiously diverse countries in Africa, with Islam and Christianity being the dominant religions, alongside numerous indigenous traditional faiths. This diversity is especially pronounced in Kaduna State, which occupies a unique socio-religious position in the northern region of the country. Kaduna State is often described as a microcosm of Nigeria due to its mix of ethnic groups, languages, and religious affiliations. The northern region has historically been predominantly Muslim, while the southern region of the state hosts a significant Christian population. This pluralistic environment has fostered both opportunities for interreligious engagement and challenges related to religious coexistence. Scholars such as Falola and Heaton (2008) and Adeyemo (2014) note that while religious diversity can be a source of cultural enrichment and social capital, it can also become a flashpoint for conflict where tolerance and mutual understanding are weak. Religious tensions in Kaduna State have periodically manifested in violent clashes, disputes over religious space, and political mobilization along faith lines. The ethno-religious conflicts of the 2000s exemplify how deeply intertwined religion and social identity can be, often influencing access to resources, political participation, and community relations. These tensions are not unique to Kaduna but resonate across Nigeria, where the interplay of religion, ethnicity, and politics has frequently resulted in societal friction (Ojo, 2010; Imam, 2016). The persistence of such conflicts underscores the urgent need for interventions that foster dialogue, mutual respect, and understanding between adherents of different faiths. Education has long been recognized as a critical instrument for promoting social cohesion, intergroup understanding, and civic responsibility. Comparative Religious Education, in particular, offers students structured opportunities to learn about diverse religious traditions, explore shared ethical values, and critically engage with differences in belief systems. According to UNESCO (2015), education that emphasizes respect for diversity, intercultural dialogue, and critical reflection on ethical principles can mitigate prejudice and foster inclusive social identities. In the context of Nigeria, Comparative Religious Education provides a platform where students can confront misconceptions, challenge stereotypes, and develop empathy toward followers of other faiths. As Omotosho and

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Alabi (2018) argue, embedding interfaith education within formal curricula can contribute to long-term peacebuilding and community cohesion, particularly in regions marked by historical religious tensions. Despite the potential of Comparative Religious Education to promote interfaith understanding, evidence suggests that gaps remain in students' knowledge, attitudes, and behaviours concerning religious diversity. Many students in Selected universities in Nigeria still exhibit limited awareness of the beliefs, practices, and cultural significance of religions other than their own. This lack of understanding can reinforce prejudices, contribute to social segregation, and undermine efforts to cultivate tolerant and cohesive communities. Studies by Adewale (2017) and Yusuf (2020) indicate that students often possess superficial or distorted perceptions of other faiths, and these misconceptions can manifest in interpersonal tensions and exclusionary practices within educational institutions. Also, there is a notable lack of empirical research that specifically examines the role of Comparative Religious Education in fostering social cohesion within Selected universities in Nigeria in Nigeria. While there is a growing body of literature on religious tolerance in secondary and tertiary education broadly, studies focusing on the direct relationship between religious curricula and interfaith harmony among pre-service teachers remain scarce. This gap is critical because Selected universities in Nigeria are key institutions in shaping future educators who will, in turn, influence social attitudes in primary and secondary schools. The absence of context-specific evidence makes it difficult for policymakers, curriculum developers, and educators to implement strategies that effectively leverage Comparative Religious Education to bridge divides and foster peaceful coexistence. The combination of persistent interfaith tensions, limited understanding among students, and the paucity of empirical studies underscores the relevance and urgency of this research. Exploring how Comparative Religious Education can enhance interfaith understanding and social cohesion is therefore imperative to inform educational practices and promote sustainable peace in Kaduna State and similar socio-religious contexts across Nigeria.

Objectives of the Study

The specific objectives of the study are t:

1. Explore students' attitudes toward religious diversity
2. Assess the role of Comparative Religious Education (CRE) in promoting interfaith understanding among students.
3. Examine the impact of CRE on social cohesion in Selected universities in Nigeria.

Research Questions

The following research questions guided the study:

1. What are students' attitudes toward religious diversity in Selected universities in Nigeria?
2. How does Comparative Religious Education influence students' interfaith understanding?
3. What is the impact of Comparative Religious Education on social cohesion among students in Selected universities in Nigeria?

Literature Review

Conceptual Review

Interfaith understanding refers to the capacity of individuals to recognize, respect, and engage positively with people of different religious backgrounds. It encompasses knowledge of the beliefs and practices of other religions, empathy toward adherents of those faiths, and the ability to interact in ways that foster mutual respect and cooperation. According to Abu-Nimer (2001), interfaith understanding goes beyond tolerance to include active engagement, dialogue, and collaboration across religious lines, which can reduce prejudice and conflict. In the context of Nigeria, promoting interfaith understanding is particularly critical due to the country's religious plurality and historical episodes of ethno-religious tension (Ojo, 2010). Social cohesion refers to the strength of relationships and the sense of solidarity among members of a community. It involves shared values, trust, participation in communal activities, and the capacity to resolve conflicts peacefully. Putnam (2000) emphasizes that social cohesion is closely linked to social capital, which is built through networks of interaction and mutual support. In educational settings, social cohesion is reflected in harmonious relationships among students from diverse religious backgrounds, cooperative learning, and a shared commitment to inclusive practices. Enhancing social cohesion through education can therefore contribute to broader societal stability and peacebuilding (Omotosho and Alabi, 2018). Comparative Religious Education (CRE) is an academic approach that introduces students to the study of multiple religions in a structured and analytical manner. CRE aims to develop critical awareness of different faith systems, explore shared ethical principles, and encourage reflective engagement with religious diversity. According to UNESCO (2015),

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comparative religious education is an effective pedagogical tool for promoting interreligious understanding, dialogue, and tolerance. In the Nigerian context, CRE courses are often offered in Selected universities in Nigeria to pre-service teachers with the goal of preparing them to teach religious studies in primary and secondary schools in a pluralistic society (Adewale, 2017). CRE provides a platform for students to confront stereotypes, examine personal biases, and cultivate attitudes that support peaceful coexistence.

Theoretical Framework

This study is guided primarily by Allport's Contact Hypothesis, Social Cohesion Theory, and Intergroup Dialogue Theory. Allport's Contact Hypothesis, developed in 1954, posits that under appropriate conditions, interpersonal contact between members of different social groups can reduce prejudice and improve intergroup relations. Key conditions include equal status among participants, common goals, cooperation, and institutional support. Applied to this study, the Contact Hypothesis suggests that structured engagement with multiple religious traditions through CRE can enhance students' understanding of other faiths and reduce biases (Abu-Nimer, 2001). Social Cohesion Theory provides a framework for understanding how shared norms, trust, and collective identity contribute to community stability and peaceful coexistence. According to Chan et al. (2006), social cohesion encompasses relational, structural, and cognitive dimensions, which can be cultivated through deliberate educational interventions. In the context of this research, CRE serves as a mechanism for building relational and cognitive cohesion among students by fostering shared values and mutual understanding. Intergroup Dialogue Theory emphasizes facilitated dialogue between members of different social groups as a method for reducing intergroup tensions and promoting empathy. Bodenhausen and Hugenberg (2009) argue that dialogue allows participants to challenge stereotypes, negotiate differences, and develop collaborative problem-solving skills. In this study, CRE is conceptualized as a form of structured intergroup dialogue that encourages students to engage critically with religious diversity, thereby contributing to interfaith understanding and social cohesion.

Empirical Review

Several local and international studies have examined the role of education in promoting interfaith understanding and social cohesion. For instance, Omotosho and Alabi (2018) investigated the impact of religious studies on tolerance among secondary school students in Lagos State and found that structured religious education significantly enhanced students' knowledge of other faiths and improved intergroup relations. Similarly, Adewale (2017) reported that pre-service teachers exposed to comparative religious courses in southwestern Nigeria demonstrated greater empathy and reduced prejudice toward religious out-groups. Internationally, research by Abu-Nimer (2001) in the Middle East and Europe indicated that comparative religious education and interfaith programs contribute to mutual understanding, conflict resolution skills, and civic engagement among students. A study by Hayward et al. (2017) in the United Kingdom showed that interfaith dialogue initiatives within colleges enhanced students' appreciation of religious diversity and strengthened community ties. These findings suggest that education, particularly comparative and interfaith-focused programs, can play a pivotal role in fostering tolerance and social cohesion. Despite these insights, there remain notable research gaps. First, much of the existing literature focuses on secondary school contexts or general interfaith programs, with limited attention to Selected universities in Nigeria, which are critical for shaping future educators. Second, few studies have empirically examined the direct relationship between CRE and social cohesion, particularly in the Nigerian setting. Finally, there is a lack of localized studies that explore students' attitudes toward religious diversity within Kaduna State, where historical religious tensions heighten the importance of interfaith understanding. Addressing these gaps, this study seeks to explore how CRE influences students' attitudes toward religious diversity and contributes to social cohesion in Selected universities in Nigeria.

Research Methodology

The study adopted a descriptive survey research design to investigate the influence of Comparative Religious Education on interfaith understanding and social cohesion among students in selected universities in Nigeria. The population consisted of all pre-service students enrolled in CRE courses across selected universities in Nigeria including University of Ilorin offering a dedicated Comparative Religious Studies degree, University of Nigeria Nsukka, Nnamdi Azikiwe University, and University of Port Harcourt., while a stratified random sampling technique was used to select a representative sample of participants, ensuring proportional representation of students from different religious backgrounds. Data were collected using a structured online surveys and semi-structured interview guide, both of which were validated through expert review and pilot-tested for reliability, yielding a Cronbach's alpha of 0.82 for the questionnaire. Quantitative data were analysed using descriptive statistics, including mean scores and percentages. Qualitative data from interviews were subjected to

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thematic analysis to identify recurring patterns and insights regarding students' attitudes, experiences, and perceptions of interfaith engagement, allowing for a comprehensive understanding of the role of CRE in promoting social cohesion.

Presentation of Results

Quantitative Results

Research Question 1: What are students' attitudes toward religious diversity in Selected universities in Nigeria?

Table 1: Students' Attitudes Toward Religious Diversity

Statement	SA	A	N	D	SD	Mean	Interpretation
I respect people of all religions	120	60	10	8	2	4.48	Positive Attitude
I am willing to participate in interfaith activities	90	70	20	15	5	4.15	Positive Attitude
I am comfortable discussing religious differences with peers	85	75	25	10	5	4.10	Positive Attitude
I value learning about religions other than my own	110	65	15	8	2	4.40	Positive Attitude

The results in Table 1 indicate that students in selected universities in Nigeria generally demonstrated positive attitudes toward religious diversity. The mean scores for all items were above 4.0, suggesting that students respected individuals of different religions, were willing to engage in interfaith activities, felt comfortable discussing religious differences, and valued learning about other religions. These findings suggest a favourable disposition toward interfaith interaction and tolerance, consistent with studies by Adewale (2017) and Omotosho and Alabi (2018), who reported similar positive student attitudes toward religious diversity in Nigerian educational contexts.

Research Question 2: How does Comparative Religious Education influence students' interfaith understanding?

Table 2: Influence of Comparative Religious Education on Interfaith Understanding

Statement	SA	A	N	D	SD	Mean	Interpretation
CRE has increased my knowledge of other religions	130	50	10	5	5	4.50	High Influence
CRE has improved my understanding of the beliefs and practices of other faiths	120	60	10	5	5	4.45	High Influence
CRE encourages me to appreciate similarities among religions	115	65	15	3	2	4.40	High Influence
CRE has reduced my misconceptions about other religions	110	60	20	5	5	4.30	High Influence

Table 2 shows that Comparative Religious Education had a significant influence on students' interfaith understanding. The high mean scores, ranging from 4.30 to 4.50, indicate that CRE effectively enhanced students' knowledge of other religions, improved comprehension of different religious practices, encouraged recognition of shared values, and reduced misconceptions. These results support Abu-Nimer's (2001) assertion that structured educational engagement with diverse religions promotes understanding and empathy among students.

Research Question 3: What is the impact of Comparative Religious Education on social cohesion among students in Selected universities in Nigeria?

Table 3: Impact of CRE on Social Cohesion

Statement	SA	A	N	D	SD	Mean	Interpretation
CRE promotes harmonious relationships among students of different faiths	125	55	10	5	5	4.45	Positive Impact
CRE encourages collaborative activities that build trust among students	120	60	10	5	5	4.40	Positive Impact
CRE has contributed to reducing religious prejudice on campus	110	65	15	5	5	4.30	Positive Impact
CRE fosters a sense of community and shared values among students	115	60	15	5	5	4.35	Positive Impact

As indicated in Table 3, Comparative Religious Education positively impacted social cohesion among students. The mean scores, all above 4.30, suggest that CRE helped promote harmonious relationships, encouraged collaborative and trust-building activities, reduced prejudice, and fostered a sense of community. These findings align with Social Cohesion Theory (Chan et al., 2006) and Intergroup Dialogue Theory (Bodenhausen and Hugenberg, 2009), which posit that structured engagement and dialogue across social or religious groups strengthen solidarity and cooperation. The results imply that CRE can serve as a practical mechanism for enhancing interfaith collaboration and peaceful coexistence in Selected universities in Nigeria.

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So, the quantitative data collectively indicate that students held positive attitudes toward religious diversity, that CRE significantly enhanced interfaith understanding, and that it positively influenced social cohesion within Selected universities in Nigeria. The findings provide empirical evidence supporting the role of Comparative Religious Education as a tool for fostering tolerance, empathy, and cooperative relationships among students of diverse religious backgrounds.

Qualitative Results

The qualitative data were collected through semi-structured interviews conducted with twenty pre-service students and five lecturers from the selected universities in Nigeria. Thematic analysis was used to identify recurring patterns and insights from the transcripts. Four major themes emerged: students' attitudes toward religious diversity, the role of CRE in enhancing interfaith understanding, CRE as a mechanism for social cohesion, and challenges affecting CRE implementation.

Theme 1: Positive Attitudes Toward Religious Diversity

Participants consistently expressed positive dispositions toward religious diversity. Many students indicated that learning alongside peers from different faith backgrounds had expanded their perspectives and fostered mutual respect. One student remarked, "Before joining this college, I hardly interacted with people of other religions, but now I see that we share common values, and I feel more comfortable working and discussing with them." Lecturers also observed that students displayed willingness to engage in interfaith dialogue and cooperative classroom activities. This theme aligns with the quantitative findings, which showed high mean scores for students' positive attitudes toward religious diversity. The data suggest that exposure to diverse peers within the college environment promotes empathy, tolerance, and a sense of openness.

Theme 2: CRE Enhances Interfaith Understanding

A second theme highlighted the influence of CRE on students' comprehension of different religions. Both students and lecturers noted that CRE lessons, which cover beliefs, practices, and ethical principles of multiple religions, helped clarify misconceptions and reduce prejudice. One lecturer stated, "When students learn about different faiths side by side, they begin to appreciate similarities and understand the rationale behind religious practices, which improves interfaith understanding." Students echoed this, noting that CRE encouraged critical reflection and encouraged them to ask respectful questions about other religions. This theme demonstrates that CRE serves as an effective pedagogical tool for fostering interfaith understanding, corroborating studies by Abu-Nimer (2001) and Omotosho and Alabi (2018).

Theme 3: CRE Promotes Social Cohesion

The third theme focused on the role of CRE in promoting social cohesion within Selected universities in Nigeria. Participants reported that group discussions, collaborative assignments, and interfaith activities embedded in CRE courses helped build trust and cooperation among students from different religious backgrounds. One student reflected, "Working in groups for our CRE projects made me see that we can cooperate despite our different religions. It brought us together and reduced tensions in the classroom." Lecturers also highlighted that CRE facilitated campus-wide activities such as interfaith dialogue forums, which strengthened students' sense of community. The thematic evidence aligns with Social Cohesion Theory, suggesting that structured educational engagement encourages shared norms, collective identity, and peaceful interactions among diverse student groups.

Theme 4: Challenges in CRE Implementation

Despite the positive outcomes, participants identified challenges affecting the effectiveness of CRE. Some students noted that limited classroom time and large class sizes hindered in-depth discussions, while others highlighted occasional resistance from peers who held rigid religious views. Lecturers reported difficulties in integrating practical interfaith activities due to resource constraints and institutional policies. A lecturer explained, "We try to organize interfaith activities, but sometimes the college lacks the facilities or funding to support extensive programs." These challenges suggest that while CRE has potential to foster interfaith understanding and social cohesion, structural and attitudinal barriers need to be addressed to maximize its effectiveness. The qualitative results provide a strong understanding of how Comparative Religious Education influences students' interfaith understanding and social cohesion. Thematic analysis revealed that students generally hold positive attitudes toward religious diversity, CRE enhances their knowledge and empathy for other religions, and collaborative CRE activities foster trust, cooperation, and a sense of community. At the same time, structural constraints and resistance from some students pose challenges to fully realizing CRE's potential.

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Collectively, these findings complement the quantitative results, offering rich insights into the mechanisms through which CRE contributes to interfaith understanding and social cohesion in Selected universities in Nigeria.

Discussion of Findings

The findings of this study indicate that students in Selected universities in Nigeria generally hold positive attitudes toward religious diversity, demonstrating respect for individuals of different faiths, willingness to participate in interfaith activities, and appreciation for learning about other religions. These results are consistent with previous research by Adewale (2017) and Omotosho and Alabi (2018), who reported that exposure to diverse peer groups and structured religious education programs significantly improved students' attitudes toward other faiths. The positive disposition observed in this study supports the conceptualization of interfaith understanding as a cognitive and affective orientation that promotes empathy, openness, and acceptance of diversity (Abu-Nimer, 2001). The qualitative data further reinforce this finding, as students reported that classroom interactions and collaborative CRE activities facilitated meaningful engagement with peers of different religious backgrounds, which in turn reduced prejudices and misconceptions. The study also revealed that Comparative Religious Education plays a significant role in enhancing students' interfaith understanding. Quantitative results indicated high mean scores for items measuring knowledge acquisition, appreciation of similarities across religions, and correction of misconceptions. These findings align with the work of UNESCO (2015), who emphasized that education targeting religious literacy can foster critical thinking, empathy, and ethical reflection. Similarly, Abu-Nimer (2001) argued that structured exposure to diverse religious beliefs encourages cognitive and attitudinal change, enabling students to recognize the humanity and legitimacy of differing worldviews. The qualitative interviews provided additional insight, showing that students valued CRE as a platform for asking respectful questions, clarifying misunderstandings, and developing strong perspectives on faith. This suggests that CRE functions not only as an academic exercise but also as a transformative tool for promoting tolerance, consistent with Allport's Contact Hypothesis, which posits that structured intergroup interactions under favourable conditions reduce prejudice and improve relations (Allport, 1954).

In terms of social cohesion, the findings indicate that CRE significantly contributes to building harmonious relationships, trust, and cooperation among students. Both quantitative and qualitative data suggest that collaborative learning, group projects, and interfaith activities embedded in CRE foster shared norms and collective engagement. These findings support the theoretical propositions of Social Cohesion Theory, which asserts that trust, mutual respect, and a sense of belonging are critical to the development of cohesive communities (Chan et al., 2006). They also align with Bodenhausen and Hugenberg's (2009) Intergroup Dialogue Theory, which emphasizes the importance of facilitated dialogue in promoting understanding and reducing intergroup conflict. Students' accounts of engaging in group discussions and campus-wide interfaith programs highlight the practical mechanisms through which CRE strengthens social cohesion, suggesting that education can be an effective instrument for peacebuilding in multi-religious contexts such as Kaduna State. Despite the positive outcomes, the study identified several challenges affecting the full realization of CRE's potential. Limited classroom time, large class sizes, and occasional resistance from peers with rigid religious views were cited as barriers to meaningful engagement. Lecturers also noted constraints in resources and institutional support for interfaith activities. These findings mirror those reported by Omotosho and Alabi (2018), who highlighted structural and attitudinal barriers as impediments to effective implementation of religious education programs. The presence of these challenges indicates that while CRE can promote interfaith understanding and social cohesion, its impact is contingent on adequate institutional support, inclusive pedagogical strategies, and students' openness to dialogue. Therefore, the findings of this study suggest that Comparative Religious Education is a critical tool for fostering interfaith understanding and social cohesion in Selected universities in Nigeria. By providing knowledge about diverse religions, creating opportunities for dialogue, and promoting collaborative learning, CRE contributes to reducing prejudice, enhancing empathy, and building trust among students. These outcomes have broader implications for educational policy, as integrating effective CRE curricula can equip future teachers with the skills and dispositions necessary to cultivate tolerance and peaceful coexistence in their classrooms and communities. Furthermore, the study reinforces the theoretical premise that structured intergroup contact, when guided by educational frameworks, can be a powerful mechanism for achieving social harmony in multi-religious societies.

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Conclusion

The study concluded that Comparative Religious Education in Selected universities in Nigeria in Kaduna State significantly enhances students' interfaith understanding and promotes social cohesion. Students demonstrated positive attitudes toward religious diversity, showing respect, openness, and willingness to engage in interfaith activities. CRE was found to improve knowledge of different religions, reduce misconceptions, and encourage appreciation of shared ethical values, thereby fostering empathy and tolerance. The program also facilitated collaborative learning and dialogue, which strengthened trust, cooperation, and a sense of community among students. These findings affirm the theoretical propositions of Allport's Contact Hypothesis, Social Cohesion Theory, and Intergroup Dialogue Theory, indicating that structured educational engagement with religious diversity can be an effective tool for peacebuilding and harmonious coexistence in multi-religious contexts such as Kaduna State.

Recommendations

Based on the findings, it was recommended that:

1. Selected universities in Nigeria expand and deepen the implementation of Comparative Religious Education.
2. Curriculum developers should ensure that CRE courses include interactive and practical activities such as interfaith dialogue forums, collaborative projects, and field visits that expose students to diverse religious practices.
3. Lecturers should be supported with adequate training and resources to facilitate inclusive, participatory, and engaging CRE sessions.
4. Policymakers should provide institutional support, including funding and policy guidelines, to strengthen CRE programs and promote campus-wide initiatives that foster social cohesion.
5. Future research should explore longitudinal effects of CRE on graduates' attitudes and practices in their professional teaching careers to further inform policy and curriculum development.

References

Abu-Nimer, M. (2001). *Dialogue, conflict resolution, and change: Arab-Jewish encounters in Israel*. SUNY Press.

Adewale, A. (2017). *Religious education and tolerance: Implications for pre-service teachers in Nigeria*. Lagos: University Press.

Allport, G. W. (1954). *The nature of prejudice*. Addison-Wesley.

Bodenhausen, G. V., & Hugenberg, K. (2009). Intergroup dialogue and prejudice reduction: Mechanisms and outcomes. *Group Processes & Intergroup Relations, 12*(4), 467–480. https://doi.org/10.1177/1368430209338013

Chan, J., To, H., & Chan, E. (2006). Reconsidering social cohesion: Developing a definition and analytical framework for empirical research. *Social Indicators Research, 75*(2), 273–302. https://doi.org/10.1007/s11205-005-2118-1

Falola, T., & Heaton, M. M. (2008). *A history of Nigeria*. Cambridge University Press.

Hayward, P., Moore, R., & Taylor, R. (2017). Interfaith dialogue in higher education: Fostering understanding and community cohesion in the United Kingdom. *Journal of Interreligious Studies, 21*, 45–63.

Imam, H. (2016). Religious pluralism and conflict in Northern Nigeria: Historical and contemporary perspectives. *African Journal of Social Studies, 6*(2), 12–29.

Ojo, M. (2010). Religion, politics, and social conflict in Nigeria. *Journal of African Studies, 34*(1), 55–72.

Omotosho, J., & Alabi, T. (2018). Religious education and interfaith tolerance: Evidence from Nigerian secondary schools. *International Journal of Education and Development, 5*(3), 101–117.

Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. Simon & Schuster.

UNESCO. (2015). *Intercultural and interfaith education: Guidelines for curriculum development*. Paris: UNESCO.

Yusuf, A. K. (2020). Pre-service teachers' attitudes toward religious diversity in Nigeria: Implications for peace education. *Journal of Nigerian Educational Research, 12*(1), 88–102.

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Perception of Lecturers on Efficacy of Social Studies Curriculum in Minimising Ethnic and Tribal Hate Speech for Nation-Building among Colleges of Education in North-West, Nigeria

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Abstract

This study is titled "Perception of Lecturers on Efficacy of Social Studies curriculum in minimizing ethnic and tribal Hate Speech for Nation-Building in Colleges of Education North-West, Nigeria". The study raised one objective and corresponding research question and hypotheses. The design of the study was descriptive survey research method. The population of this study comprises of all Social studies lecturers in the ten (10) colleges of education numbering 256. The sample size for this study was 256 chosen through census purposive sampling. The study used 4-point modified Likert scale structured questionnaire titled "Efficacy of Social Studies curriculum in minimizing ethnic and tribal Hate Speech in Colleges of Education Questionnaire (ESSCETHSCE-Q). The instrument was duly validated by experts and was pilot tested using 30 Social Studies lecturers from Federal Capital Territory, College of Education Zuba, Abuja. The instrument was administered once and tested using Cronbach alpha. Consequently, the reliability coefficient index of 0.89 was realized. The research question was analyzed using means and standard deviations. One sample t-test was used to test the null hypothesis at 0.05 level of significance. The study found no significant difference in the views of lecturers on the impact of Social Studies contents towards minimizing ethnic and tribal hate speech for peaceful coexistence and national unity. The study conclude that hate speech is the precursor of ethno religious violence in Nigeria and that the problem posed by ethnic and religious violence is a threat To Nigerians corporate existence and its desire to engender national integration. The study recommended among others that National commission for colleges of education (NCCE) should Incorporate relevant Social Studies curriculum contents in General Studies in Education (GSE) for enhancing harmony and cultural preservation in colleges of education, and Nigerian society at large. The study among others recommends the need to promote interfaith understanding and dialogue by developing a curriculum that includes comprehensive studies of various world religions and belief systems.

***Key Words**: Ethnic and tribal, Nation-Building, Hate Speech, & Social Studies*

Introduction

The task of nation building is one that involves the participation of all members of the society. It entails the aggregate of all the experiences, skills, attributes and specializations' that members of a society contribute towards the development, or in order to move their nation forward. Consequently, it is important that all members of such a society enjoy equal privileges and opportunities devoid of any form of discrimination based on any perceived or imagined inadequacies which may cut across age, religion, sex and gender etc. The creation of an enlightened society is a crucial prerequisite to nation-building and national development. The place of social studies education in this regard was glaring in the late 60s and early 70s in Nigeria. Until recently, education in Nigeria was of great concern to the government. The Federal Government has set forth a National Policy on Education (2014), which established a national objective, which in turn, serve as the foundation for the programme objectives of social studies education. In Nigeria and the world over, education has served as an instrument for nation building. Most countries of the world have made investments in the development of their citizens through appropriate and deliberate investment and funding of the education sector and the provision of resources needed to ensure that pupils are exposed to equal opportunities and accesses to quality education. Consequently, the United Nations Organization (UNO) stipulates and encourages all member nations to commit at least 15% to 20% of their national budget to education. Nigeria is a nation of many ethnic groups with diverse cultures. Such cultures could be seen in the aspects of religion, languages, dressing, cuisine-types of food consumed, marriages, housing, occupation and so on. The cultural

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values of the country have become a matter of concern since the development of any society is rooted in what the members of such a society cherished or frown at. For instance, the cultural values which are cherished in the country are basically focused on enhancing human dignity. Such values include discipline, integrity, dignity of labour, social justice, religious tolerance, self-reliance and patriotism. These cultural values are clearly spelt out in the National Philosophy as a measure to ensure rapid integration of the nation. It is believed that any group of people that could not promote their values will surely have a problem of development. In Nigeria, Social Studies Education was conceived as a subject to help heal the wounds of the civil war, ethnicity, ethnocentrism, social and political problems, and to promote culture and national integration, co-operation, good citizenship, among others using the instrument of school (Livingstone & Paul, 2014). The discourse of hate speech and abuse of freedom of speech has manifested many times in the expression of human rights activists, stakeholders and political agitators around the world since the advent of democracy. The interest of global community in the conversation is further heightened by the manner in which political oppositions now use hate speech as tool of discord and attack for their selfish interests. This dastardly act often result in the rights of the common man on the street being trampled upon on several occasions while the perpetrators smile home with the fulfilment of achieving their aims on a platter of gold (Ezeibe, 2021). (Olanrewaju, 2019) rightly stated that, hate speech and other anti-social vices are pervasive in Nigeria today. Over the last few decades, the issue of hate speech has been widely debated by scholars in multiple fields of knowledge. The subject of hate speech was developed through the collective efforts of experts in the field of social science and humanities as well as media experts and computer scientists e.g. what then is Hate Speech? Alexander (2017) defines Hate speech as communication that employs intolerant appellations to insult and denounce others vis-à-vis race, religion, ethnicity, gender, or other forms of a group membership. This is believed could consequently lead to rhetoric strategies that can generate hostility and confrontation in society as against the norms that enable the democratic government to function.

Hate speech includes attacks on a person or group based on gender, ethnic origin, race, disability, or sexual orientation attributes. In law, hate speech is any expression, gesture or behavior, writing, or show that is prohibited as it may incite violence or prejudicial action against or by a protected individual or group, or as it dismisses or intimidates a protected person or group (Ukwueze and Uche, 2015). Hate speeches are speeches that mock an individual or group of people, or threaten them. In some countries ' law, hate speech is expression, gesture or conduct, writing, or show that is forbidden as it incites violence or prejudicial action against or by a protected individual or group, or as it dismisses or intimidates a protected individual or group. By certain attributes the law will define a protected group (Nockleby, 2014). Ethno-religious hate speech in Nigeria has been characterized by violent outbursts by public officials, as well as academia and is demonstrated in several exchanges on the streets, online forums and in sectarian print media in different parts of the country, With a population of 223.8 million inhabitants and over 250 ethnic groups (NBS, 2023), Nigeria is a very diverse country in terms of ethnic orientations, cultural practices, religious beliefs and linguistics. These differences have been a source of tension beginning from the colonial era under British rule. However, its current manifestations are rapidly dividing the country into pockets of religious and ethnic cleavages. Joel (2018), described Nigeria as an anomalous entity, in which different ethnic groups that constitute the Nation have no shared history, culture or language. Even the physiognomy of ethnic groups is very different, such that members of particular groups are easily identified by their physical attributes. The British colonial incursion into Africa has been credited with the existence of this nation. A fact that is constantly reiterated in discussions; off-line and online. The absence of a collective identity by ethnic groups in Nigeria worsens its experience of hate-speech. As Zvagulius (2016) asserted that if the legitimate political power is unable to restore allegiance to the old collective identity, a search for new one is triggered. It is the search for ethnic identity and intolerance of groups considered as 'outsiders' that motivates manifestations of hate-speech in Nigeria.

Social Studies curriculum is designed to bring about national integration. As a result of the fact that the traditional subjects that make up the social sciences could not effectively foster national integration separately, Social Studies education was introduced as a school subject which is primarily concerned with integrated study of man and his environment, both physical and social, emphasizing on instilling in the learner's cognition, functional skills and desirable attitudes, and actions, for the purpose of producing effective citizens. Social Studies education is out to solve the problems of disunity, corruption, tribalism, ethnic jingoism, banditry, insurgency, political thuggery, hate speech etc., through the inculcation of

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positive thinking and patriotism among students of primary, secondary and tertiary institutions. Social Studies Education is deemed as the only potent force capable of perpetually internalizing attitudinal values and behavioral patterns necessary for adequate character molding especially the inner controls of man's character. In recent times, Nigeria has experienced a high rise in the use of hate speeches under the guise of the right to freedom of speech. The new media such as the internet Face Book Twitter, Instagram, YouTube and so on are the fore runners. These have given rise to offensive statements and words that threaten national unity and peaceful co-existence amongst Nigerian citizens. Some people hide under the cloak of freedom of speech to make hate speeches either as a form of defense against those they cannot physically challenge, or due to the immunity that covers their offices, or as payback to their opponents. The Federal Government of Nigeria asserts that any speech, broadcast or publication that denigrates a person, a group or people on the basis of sex, religion, political belief or origin is hate speech. Thus, the problem of this study hinges on the determination of the extent to which Social Studies Curriculum could be used as a viable school instrument in minimizing ethnic and tribal hate speech for Nation-building in colleges of education North West, Nigeria.

Objectives of the Study

1. Examine the perception of lecturers on the impact of Social Studies curriculum contents towards minimizing ethnic and tribal hate speech for cultural preservation;

Research Questions

1. What is the perception of lecturers on the impact of Social Studies curriculum contents toward minimizing ethnic and tribal hate speech for cultural preservation?

Research Hypotheses

Ho_1: There is no significant difference in the views of lecturers on the impact of Social Studies instructional resources towards minimizing ethnic and tribal hate speech for cultural preservation;

Research Methodology

This study used descriptive survey research design. The purpose of survey research design is for researchers to describe the attitudes, opinion, behaviors or characteristics of the population based on the data collected from a sample of a population, (Muhammed, 2018). The population of this study comprises of all Social Studies lecturers in the 10 colleges of education offering Social Studies in NCE in North-West zone of Nigeria as at June 2023. There are a total number of 256 lecturers consisting of 200 males and 56 females based on the official data obtained from the colleges' registry. The study used census sampling. This is due to the fact that the population of the study is easily accessible and manageable (256). Hence, the entire population was used as the sample. This is aimed at adding credibility to the study. According to Abubakar, Salihu & Usman (2016) it is possible to get deep insights into the phenomenon you are interested in when total population is used. With such wide coverage of the population of interest, there is also a reduced risk of missing potential insights from members that are not included. The study used 4-point modified Likert scale structured questionnaire titled "Assessment of Social Studies curriculum towards minimizing Hate Speech in Colleges of Education Questionnaire (ASSCHSCE-Q). According to Ahmad (2015) the questionnaire contains a series of questions to which the respondents have to react in writing so as to express out their feelings, and opinion on the designed items in the questionnaire. The questionnaire is designed based on 4-point modified scale rating such as Strongly Agree (SA) = 4, Agree (A) = 3, Disagree (D) = 2 and Strongly Disagree (SD) = 1. Data collected in this section was used to address research question and its corresponding null hypothesis. The questionnaire was vetted by research supervisors and other experts from Faculty of Education, Ahmadu Bello University, Zaria-Nigeria. The pilot testing was conducted in Federal Capital Territory, College of Education Zuba, Abuja using 30 lecturers of Social Studies. The decision to use 30 lecturers was based on the assertion Isaac and Michael (1995) and Hill (1998) suggested 10 to 30 participants for pilots in survey research. Consequently, reliability coefficient index of 0.83 was realised. This was supported by Spiegel (1992), Stevens (1986) and Olayiwola (2010). According to them an instrument is considered reliable if it lies between 0 and 1, and that the closer the calculated reliability coefficient is to zero, the less reliable is the instrument, and the closer the calculated reliability co-efficient is to 1, the more reliable is the instrument. The study used Means and Standard Deviations were used in answering the question raised by the study. In addition, the study used one sample t-test to test the null hypothesis postulated by the study.

Presentation of Results

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Answer to Research Question

Presented below are quantitative and qualitative answers provided for the questions raised by the study. The frequency counts, arithmetic mean and standard deviation are used as statistical tools to answer the questions raised. The decision mean stood at < 2.50 Disagreed and ≥ 2.50 Agreed.

Research Question One: What is the perception of lecturers on the impact of Social Studies curriculum contents toward minimizing ethnic and tribal-based hate speech for cultural preservation?

Table 1: Descriptive Statistics on the Perception of Lecturers on the Impact of Social Studies Curriculum Contents toward Minimizing Ethnic and Tribal-Based Hate Speech for Cultural Preservation

S/N	Item	SA	A	D	SD	Mean	SDev	Decision
1	Social studies contents are geared towards promoting our cultural heritage in order to prevent hatred among ethnic groups in Nigeria	119	79	19	2	3.97	1.01	Agreed
2	Social Studies curriculum contents inculcates the values of equality and diversity and condemns discriminatory rhetoric among the citizens	111	87	17	4	3.97	1.01	Agreed
3	Social Studies curriculum contents promote positive measures via advocacy to combat racial and ethnic intolerance and discrimination	102	91	15	11	3.95	1.03	Agreed
4	Social Studies curriculum contents stresses patriotism through promoting unity in diversity among diverse ethnic groups in Nigeria	113	79	15	12	3.96	1.04	Agreed
5	Social Studies curriculum contents promote understanding, tolerance and friendship among ethnic groups for sustenance of our shared cultural heritage	100	99	19	1	3.98	1.00	Agreed
6	Social Studies curriculum contents doesn't emphasize ethnic relativism, this led to the rise of ethnocentric hate speech in Nigeria	115	80	15	9	3.79	1.05	Agreed
7	Social Studies curriculum contents does not adequately stressed hate speech and its negative implications on the quest for national integration	114	81	17	7	3.79	1.05	Agreed
8	Social Studies curriculum contents promote aspects of cultural preservation as a panacea for hate speech and ethnic intolerance	79	119	19	2	3.97	1.01	Agreed
9	Social Studies curriculum contents doesn't raise awareness campaigns on combating ethnicity/racial intolerance in the country	119	79	2	19	3.97	1.01	Agreed
10	Social studies curriculum contents emphasize a holistic approach to combating ethnic and racist expression among the populace	120	85	10	4	3.99	0.99	Agreed
	Mean Aggregate					**3.93**		

Result of the descriptive statistics in Table 1 shows the perception of lecturers on the impact of Social Studies curriculum contents toward minimizing ethnic and tribal-based hate speech for cultural preservation. The perception of the respondents (Social Studies lecturers in colleges of education in north-west zone, Nigeria) was positive. This is due to the fact that the aggregate mean response of all the items (M=3.93) was higher than the established decision mean (M=≥ 2.50). This implied that the lecturers affirmed that Social Studies curriculum contents impacted in minimizing ethnic and tribal-based hate speech for cultural preservation in Colleges of Education North-West, Nigeria.

Test of Hypothesis

The hypotheses formulated to establish significance difference in the perception of lecturers. The hypothesis was tested at the fixed probability level of 0.05 using one sample t-test.

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Ho1: There is no significant difference in the opinion of lecturers on the impact of Social Studies curriculum contents towards minimizing ethnic and racial-based hate speech for cultural preservation;

Table 2: One Sample t-test on the opinion of lecturers on the Impact of Social Studies Curriculum Contents towards Minimizing Ethnic and Racial-Based Hate Speech for Cultural Preservation

Variables	N	Mean	SDev	T	Df	p-value	Decision
Social Studies lecturers in colleges of education	219	73.37	13.80	0.117	218	.893	$H0_1$ retained

Results of the one sample t-test in Table 2 shows the opinion of lecturers on the impact of Social Studies curriculum contents towards minimizing ethnic and racial-based hate speech for cultural preservation. The finding indicated no significant difference in the opinion of lecturers on the impact of Social Studies curriculum contents towards minimizing ethnic and racial-based hate speech for cultural preservation. This is due to the fact that the calculated t-value of 0.117 is found to be less than the t-critical value 1.96 and the p value of .893 is higher than 0.05 alpha level of significance. Therefore, the null hypothesis which states that there is no significant difference in the opinion of lecturers on the impact of Social Studies curriculum contents towards minimizing ethnic and racial-based hate speech for cultural preservation is retained.

Discussion of Findings

This study assessed Social Studies curriculum toward minimizing hate speech for nation-building in colleges of education north-west, Nigeria. The following are discussion of the major findings based on the related literature reviewed by the study. The findings based on research question one and null hypotheses tested indicated no significant difference in the opinion of lecturers on the impact of Social Studies curriculum contents towards minimizing ethnic and tribal-based hate speech for cultural preservation. This is supported by the findings of Agbo (2016) who found that social studies curriculum contents promote ethnic and religious tolerance in Nigeria. It is also in line with the findings of Joel in Jennifer (2018) in her study on Ethno-religious Hate Speech in Nigeria stresses that the present insecurity situation in Nigeria, Boko Haram insurgency including the tension between Christian South and Muslim North is as a result of religious hate speech in the country. She hence re-iterates that the increasing menace of ethno-religious hate speech witnessing in the country have disabused the peoples' minds on what speech/statement constitutes hate when it is communicated as comedy and publications in the media. The findings of the study corroborated that of Okolie and Okoedion (2019). The study explored the impact of ethno-religious hate speech on political violence in Nigeria's fourth public. The study found that there is a positive and significant relationship between Ethno-religious hate speech and political violence in Nigeria's fourth republic. The findings of the study lends credence to that of Ugo (2022) This study found that there is a significant relationship between hate speech and ethno-religious violence in Nigeria. The study concludes that hate speech in Nigeria is mostly directed towards political leaders and supporters of their ethnicity, religion or region. Kasfelt (1994) traces the historical roots of numerous violent and bloody confrontations between religious groups, especially between Christians and Muslims, which tear Nigeria apart along religious lines to the emergence of constitutional regionalism and regionally based political parties in 1950s. As he claims, "since then ethnic, religious and regional loyalties have been decisive and formative elements in Nigerian politics."

Conclusion

From the findings of the study, it was concluded that Studies curriculum contents have a strong and positive impact in minimizing hate speech for cultural preservation. Nigeria's history, its diversity and political landscape makes it susceptible to ethnic and religious intolerance, which feeds into hate speech. The study shown that hate speech have a strong and positive impact on ethno-religious violence in Nigeria. Also, the relationship between hate speech and ethno religious violence in Nigeria's fourth republic was confirmed. Based on the empirical and theoretical findings of this study, the study conclude that hate speech is the precursor of ethno religious violence in Nigeria and that the problem posed by ethnic and religious violence is a threat to Nigerians corporate existence and its desire to engender national integration.

Recommendations

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

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1. National commission for colleges of education (NCCE) should Incorporate relevant Social Studies curriculum contents in General Studies in Education (GSE) for enhancing harmony and cultural preservation in colleges of education, and Nigerian society at large.

References

Abubakar, I.D, Salihu, J.J. & Usman, U. (2016). Socio-economic Skills for Self-reliance Development among Undergraduate Students of ABU and FCE, Zaria-Nigeria. *Nigeria Journal of Social Studies and Civic Education* (NJSSCE) 9(2), 182-196.

Agbo, E. O. (2016). Influence of Social Studies Education on Ethnic and Religious Tolerance among Nigeria Certificate of Education Students in Kaduna State. Unpublished M.Ed. Thesis submitted to School of Postgraduate Studies, Ahmadu Bello University Zaria.

Alexander, B. (2017). What is hate speech? Part 1: The Myth of Hate, Research Gate

Ezeibe, C. (2021). Hate speech and election violence in Nigeria. Journal of Asian and African Studies, 56(4), 919-935.

Federal Republic of Nigeria (2014). *National Policy on Education*, Lagos: NERDC Press

Jennifer J. (2018). Ethnopaulism and Ethno-Religious Hate Speech in Nigeria. Available at htpp.//www.researchgate.net/publication/236268158.

Kastfelt, N. (2014). Religion and Politics in Nigeria: A Study of Middle Belt Christianity. London: British Academic Press.

Livingstone, J. M. W. & Paul, A. (2014) Introduction to Social Studies. Zaria: ARC Publishers Ltd.

Nockleby, J.(2014). "Hate Speech." in Encyclopaedia of the American Constitution vol. 3. 2nd ed. Detroit: Macmillan Reference, pp. 1277-1279.

Olanrewaju, O.P.A., Ojeka, J.D., Oweye, G. & Ojeka-John, R.O. (2019). Hate speech and fake News: A Study of Meanings and Perceptions in Nigerian Political Culture. *International Journal of Scientific and Engineering Research 10(5):15 · June 2019*. DOI: 10.14299/ijser.2019.05.07

Olayiwola, A. O. (2009) Procedures in Educational Research. Kaduna: Hanjam.

Okolie, U. C. & Okoedion, E. G. (2019). Ethno-religious Hate speeches and Political violence in Nigeria s fourth Republic. *RUDN journal of Public Administration.*

Ugo, C. O. (2022). Hate Speech and Ethno-Religious Violence in Nigeria. Eduvest Journal of Universal Studies. Volume 2 Number 3, March 2022.

Zvagulis, P. (2016). "Blaming the Scapegoat." *New Presence: The Prague Journal Of Central European Affairs* 12, no. 3: 7-15.*Academic Search Complete*, EBSCO*host* (accessed January 2, 2017).

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Effect of Instructional Video Model Package in Teaching and Learning of English-and - Communication Skills among Undergraduate Public University Students in Northwest, Nigeria

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Abstract

This research, titled " Effect of Instructional Video Model Package in Teaching & Learning of English- and-Communication Skills among undergraduate Public University students in Northwest, Nigeria," investigated the efficacy of a localized video model in addressing problematic content areas of course. The study followed a quasi-experimental design (pre-test, post-test non-equivalent control group) and design-based research approach. It was guided by four research objectives and four research questions, out of a population of 30,079 first-year students, a sample of 297 was selected, with 183 students in the experimental group (FUG) and 114 in the control group (FUDMA). Data were collected using five performance tests: Grammatical Concord Performance Test (GCPT), English Tenses Performance Test (ETPT), Sounds of English Performance Test (SEPT), Written Composition Performance Test (WCPT), and Public Speaking Performance Test (PSPT), with a reported internal consistency reliability index of (r=0.82), (r=0.88), (r=0.79), (r=0.85), and (r=0.81) respectively. Data analysis employed Mean, Standard Deviation, t-test, and ANOVA. Findings revealed that the instructional video model significantly improved academic performance across all five problematic areas compared to the conventional method. Furthermore, no significant differences were found based on gender or course of study. Recommendations include the systematic integration of instructional video models into university curricula and providing lecturers with training in digital pedagogy to enhance language mastery.

Key words. Instructional Video, Model, Strategy, English & Communication Skills

Introduction

English currently holds an undeniable preeminent status as the global lingua franca, functioning as the essential medium for international communication across virtually every domain, including scientific research, technological development, diplomatic engagement, and transnational commerce (Crystal, 2022). This omnipresence means proficiency in English serves as a critical gateway, granting cognitive and professional access to the vast majority of global knowledge production and economic activity. Its standardized use facilitates complex international collaboration and information exchange that underpins modern globalization, solidifying its role not just as a common tongue, but as the primary operating language of the 21st century world system. In Nigeria, a vastly multilingual nation boasting over 500 indigenous languages, the role of English transcends that of a mere colonial inheritance; it functions as the official language of governance, administration, and, most crucially, the principal vehicle of instruction throughout the entire educational system (Adegbite, 2023). Consequently, achieving mastery of English and strong communication skills is far more than an academic formality; it is a fundamental determinant of social mobility, providing cognitive access to the curriculum and global knowledge stores, and establishing professional viability in both national and global labor markets. For Nigerian citizens, English proficiency acts as the indispensable linguistic capital necessary to navigate the country's diverse sociopolitical landscape and secure competitive employment opportunities.

Despite the institutional centrality of English as the language of instruction and administration, empirical research (Jirgba & Abon, 2025) consistently documents significant deficiencies in English proficiency among Nigerian learners, particularly within the tertiary education system. This widespread challenge is not merely anecdotal; for instance, Jirgba and Abon (2025) study involving polytechnic graduates across Northern Nigeria revealed that a majority exhibited significant impairments in both written expression and oral fluency. These linguistic shortcomings translate directly into real world consequences, demonstrably negatively affecting their employability and long-term career progression, highlighting a critical gap between educational inputs and market demands. The issue extends across the entire tertiary landscape. The National Universities Commission (NUC, 2022) has underscored this problem, formally noting that a large proportion of university students graduate without achieving functional competence in academic discourse, despite the

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mandatory completion of required English and communication skills courses. This pervasive failure to instill practical linguistic competence, even after formal instruction, underscores a deep-seated systemic crisis in language education. It suggests that current teaching methodologies, curriculum design, and assessment practices are failing to meet essential learning outcomes, thus demanding an urgent and comprehensive pedagogical reevaluation to bridge the gap between policy expectations and student performance. To address this widespread linguistic challenge, all Nigerian universities mandate a foundational course, typically titled Use of English or Communication Skills. This course is explicitly designed as a remedial developmental intervention to equip students with the essential linguistic tools required for effective academic writing, critical reading, effective speaking, and active listening (Dahunsi, 2017). The curricular intent is to bridge the gap between secondary school preparation and the complex demands of university level academic work. In practice, however, this mandatory course often fails to achieve its transformative potential. Research (Salami, 2020) indicates that English and Communication instruction frequently remains entrenched in outdated, teacher-centered methodologies, characterized by abstract grammar drills, rote memorization, and decontextualized exercises. This methodological stagnation contributes significantly to student disengagement and a profound motivational deficit, leading students to perceive the course as a procedural hurdle rather than a valuable skill building opportunity (Nnamdi, Eruchalu & Akaruese, 2017).

Several content domains within the English and communication skills curriculum are consistently identified as "problematic areas" (Ogunmodinu, 2019; Auta & Afolabi, 2023) due to their high cognitive load and low rates of student mastery. Grammar stands out as a persistent challenge, with misconceptions regarding subject-verb agreement (concord), tense consistency, passive constructions, and relative clauses remaining prevalent among learners (Ogunmodimu, 2019). Compounding this issue, some lecturers themselves demonstrate inconsistent application of grammatical rules, inadvertently modeling incorrect usage and contributing to the fossilization of linguistic inaccuracies (Auta & Afolabi, 2023). Equally problematic are academic writing mechanics, including punctuation, paragraph structuring, and textual coherence. Studies (Adewale, 2018; Okoro & Abiola, 2021) have shown that a substantial percentage of students struggle with comma splices, run on sentences, and inadequate topic sentence development (Adewale, 2018). Furthermore, many students fail to maintain thematic unity across paragraphs, resulting in fragmented and illogical arguments (Okoro & Abiola, 2021). This deficiency is exacerbated by pedagogical approaches that assess writing summatively rather than developing it iteratively through revision and feedback cycles (Epepe, 2022).

In response to these pervasive challenges, Information and Communication Technologies (ICTs) have emerged as a promising avenue for pedagogical innovation. E-learning platforms, mobile applications, and digital multimedia offer scalable solutions for delivering personalized and engaging instruction that can overcome the constraints of overcrowded traditional classrooms (Chiedu & Ohwonohwo, 2021). ICTmediated learning is argued to "democratize access to knowledge" by allowing learners to revisit complex concepts at their own pace, supporting differentiated instruction in heterogeneous learning environments (Akande, 2020). Instructional video, in particular, holds significant potential for addressing the identified problematic content areas. This approach is grounded in Mayer's (2021) Cognitive Theory of Multimedia Learning (CTML), which posits that video-based instruction leverages dual channel processing (visual and auditory) to reduce cognitive load and enhance schema formation. By enabling segmentation and self-pacing—allowing students to pause, rewind, and replay difficult segments—videos facilitate deeper information integration until mastery is achieved. Empirical evidence (Akande & Adebanjo, 2023) from Nigerian educational contexts supports these theoretical advantages. Research on undergraduates suggests that those who regularly utilize platforms like YouTube for supplementary study score significantly higher in final examinations. Furthermore, quasi-experimental studies have shown that students exposed to professionally produced instructional videos on grammar and essay writing outperform control groups in postintervention assessments, confirming that well designed video content serves as an effective cognitive scaffold for complex topics (Akande & Adebanjo, 2023). Despite its potential, the successful deployment of video-based pedagogy is dependent upon infrastructural readiness and institutional support. Nigeria faces persistent challenges in consistent electricity supply, reliable internet connectivity, and device accessibility, barriers that disproportionately impact northern regions. These realities necessitate the development of context-sensitive models that prioritize offline usability, mobile compatibility, and low data formats to ensure equitable access (Ifeakor, 2021).

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The regional dimension in Northwest Nigeria is particularly salient, where sociocultural and educational dynamics present unique challenges. Studies (Ibrahim, 2018; Yahaya, 2022) in the region have found that negative attitudes toward English such as the perception of it being foreign or unnecessarily difficult are strongly correlated with lower achievement. Furthermore, linguistic interference from dominant mother tongues, coupled with under resourced campuses and limited faculty training in digital pedagogy, further complicates effective instructional innovation (Yahaya, 2022).

Objectives of the study

The major objective of this study is to examine the effect of Instructional Video Model Package in Teaching & Learning of English-and-Communication Skills among Public University students in Northwest, Nigeria The specific objectives are to:

1. Assess whether students taught the grammatical concord using the instructional video model perform better than those taught using conventional Face-to-Face method.
2. Investigate whether students taught the English tenses using the instructional video model perform better than those taught using conventional Face-to-Face method;
3. Find out if students taught the sounds of English using the instructional video model perform better than those taught using conventional Face-to-Face method;
4. Determine if students taught the written composition using the instructional video model perform better than those taught using conventional Face-to-Face method

Research Questions

In line with the objectives, this study is guided by the following research questions:

1. Is there any difference in the academic performance of students taught the grammatical concord using the instructional video model compared to those taught using the conventional Face-to-Face method?
2. Is there any difference in the academic performance of students taught the English tenses problematic content areas using the instructional video model compared to those taught using the conventional Face-to-Face method?
3. Is there any difference in the academic performance of students taught the sounds of English using the instructional video model compared to those taught using the conventional Face-to-Face method?
4. Is there any difference in the academic performance of students taught written composition using the instructional video model compared to those taught using the conventional Face-to-Face method?

Research Methodology

This research follows a systematic process in conducting the study so as to effectively collect, analyse, and report research data, either quantitatively or qualitatively. It adopt a design-based quasi experimental design which aims at developing an instructional video model as an intervention to ease the teaching and learning of difficult content areas of English and Communication Skills in public universities in Northwest Nigeria. Design-based Research (DBR) is a suitable design for the study because it is a core design of the Learning Sciences used to develop "humble" theory by iteratively refining both designs for learning and theory, considering numerous contextual effects (Svihla, 2014). This iterative refinement process, typically conducted in complex contexts like classrooms, is for developing and testing an instructional video model for English and Communication skills while simultaneously developing a localized understanding of its effectiveness within public universities in Northwest, Nigeria. In the study, Quasi experimental procedure will be employed in order to determine the effects of the developed package on the English and Communication skills academic performance of the students under study. This design is often necessary when randomization is not possible which is likely the case when assigning intact groups of students or faculty in public universities to treatment and comparison conditions. By identifying a comparison group that is as similar as possible to the treatment group on baseline, any difference in English and communication skills outcomes can be attributed to the instructional video model, thereby capturing the counterfactual.

In this design, the Experimental Group (EG) students will be taught the difficult content areas of English and Communication Skills using Instructional Video Model while the Control Group (CG) will be taught using conventional lecture method for a period of 4 weeks. The design can be schematically represented as follows;

EG_1	O_1	X	O_2
EG_2	O_3	CG	O_4

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Where: O_1 and O_3 are the Pretest observations (measurement of academic performance before the intervention).; X is the Treatment (Instructional Video Model).; CG is the Control Condition (Conventional Face-to-Face Method).; O_2 and O_4 are the Posttest observations (measurement of academic performance after the intervention).

Presentation of Results

Research Question 1: Is there any difference in the academic performance of students taught the grammatical concord using the instructional video model compared to those taught using the conventional Face-to-Face method?

Table 1: Mean Score difference in the academic performance of students taught the grammatical concord using the instructional video model compared to those taught using the conventional Face-to-Face method

Group	N	Mean Performance	Standard Deviation
Experimental (FUG)	183	6.56	1.98
Control (FUDMA)	114	5.76	2.88

Table 1 presents the mean score difference in academic performance between students taught grammatical concord using an instructional video model (Experimental Group - FUG) and those taught through the conventional face-to-face method (Control Group - FUDMA). The experimental group (N=183) achieved a mean performance score of 6.56 with a standard deviation of 1.98, while the control group (N=114) had a lower mean score of 5.76 with a higher standard deviation of 2.88. This indicates that students who utilized the instructional video model performed better than those in the traditional classroom setting, suggesting that the digital model is a more effective tool for teaching grammatical concord.

Research Question 2: Is there any difference in the academic performance of students taught the English tenses problematic content areas using the instructional video model compared to those taught using the conventional Face-to-Face method?

Table 2 Mean Score difference in the academic performance of students taught the English tenses using the instructional video model compared to those taught using the conventional Face-to-Face method

Group	N	Mean Performance	Standard Deviation
Experimental (FUG)	183	15.08	1.81
Control (FUDMA)	114	7.32	7.50

Table 2 details the performance difference for the problematic content area of English tenses. There is a substantial disparity in scores: the experimental group (FUG) recorded a mean performance of 15.08 (SD = 1.81), whereas the control group (FUDMA) recorded a lower mean of 7.32 (SD = 7.50). The data implies that the instructional video model is remarkably superior to conventional methods for teaching tenses, as the students using the video model achieved more than double the average score of their counterparts in the control group.

Research Question 3: Is there any difference in the academic performance of students taught the sounds of English using the instructional video model compared to those taught using the conventional Face-to-Face method?

Table 3 Mean Score difference in the academic performance of students taught the sounds of English using the instructional video model compared to those taught using the conventional Face-to-Face method

Group	N	Mean Performance	Standard Deviation
Experimental (FUG)	183	13.98	1.85
Control (FUDMA)	114	6.23	7.74

Table 3 illustrates the differences in academic performance regarding the sounds of English. The experimental group (FUG) achieved a mean score of 13.98 (SD = 1.85), while the control group (FUDMA) had a mean performance of 6.23 (SD = 7.74). This wide margin suggests that the auditory and visual nature of the instructional video model is highly effective for teaching phonetics and the sounds of language, providing a clear performance advantage over traditional face-to-face instruction.

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Research Question 4: Is there any difference in the academic performance of students taught the written composition using the instructional video model compared to those taught using the conventional Face-to-Face method?

Table 4 Mean Score difference in the academic performance of students taught the written composition using the instructional video model compared to those taught using the conventional Face-to-Face method

Group	N	Mean Performance	Standard Deviation
Experimental (FUG)	183	13.64	1.72
Control (FUDMA)	114	3.21	7.32

Table 4 examines the performance of students in written composition. The results show a very stark contrast; the experimental group (FUG) reached a mean score of 13.64 (SD = 1.72), while the control group (FUDMA) scored a mean of only 3.21 (SD = 7.32). The interpretation of this data is that the conventional method was largely ineffective for this group compared to the video model, which facilitated much higher achievement levels in written composition skills

Discussions of Findings

The finding that instructional video models significantly improve performance in grammatical concord among students in Northwest Nigeria aligns closely with the foundational research of Abdo and Awabdeh (2017). Their work demonstrated that animated videos are more than just a "fun strategy"; they serve as a potent neurological tool that enhances the memorization and retention of English grammar rules compared to traditional drills. By applying this logic to the Nigerian context, the current finding suggests that the visual and auditory stimuli provided by instructional videos likely helped students internalize the complex rules of concord—such as subject-verb agreement—more effectively than conventional, lecture-heavy methods. The success of this model at the university level further reinforces the results observed by Ghafoor and Challob (2021). While their study focused on online discussion, it highlighted a statistically significant improvement in grammar knowledge among university-aged EFL learners when traditional methods were supplemented with digital engagement. The current finding validates that university students in Northwest Nigeria respond similarly to technology-enhanced pedagogy. This suggests that the "Instructional Video Model" bridges the gap between theoretical grammar and practical understanding, providing a cognitive framework that university-level learners can utilize to master linguistic nuances that often feel abstract in a standard classroom setting. Furthermore, the effectiveness of the video model supports Khalaf's (2018) assertion that the internet and digital tools, specifically YouTube, are the most impactful resources in TEFL (Teaching English as a Foreign Language) environments. Khalaf noted that a major disadvantage of some digital tools was a "lack of communication," but the current finding's inclusion of "Communication Skills" alongside grammatical concord suggests a more holistic improvement. By using video models, educators in Nigeria are likely providing students with visual context and real-world examples of concord in use, thereby addressing the communicative gap and ensuring that students do not just learn the rules, but also how to apply them in professional and social interactions.

This finding contributes a vital geographical and institutional dimension to the existing body of literature. While previous studies by Abdo and Awabdeh, Ghafoor and Challob, and Khalaf established the efficacy of digital tools in Jordan, Iraq, and Kuwait, the current results localize these benefits to the specific educational landscape of Public Universities in Northwest Nigeria. This confirms that the instructional video model is a cross-culturally robust pedagogical tool. It proves that despite different regional challenges, the transition from traditional rote learning to video-based instruction is a statistically significant driver for improving English proficiency and communication skills in the Nigerian higher education system. The finding that instructional video models significantly outperform traditional face-to-face instruction for teaching English tenses in Northwest Nigerian public universities—aligns closely with global pedagogical shifts toward technology-enhanced grammar instruction. The superiority of the video model is corroborated by Farhane (2025) and Shaari, Shaari, and Abdullah (2021), both of whom demonstrated that integrating video-rich media through platforms like WhatsApp or flipped classroom structures leads to a measurable mastery of verb tenses. These studies suggest that while traditional face-to-face instruction often relies on rote memorization, video models provide a dynamic, repeatable, and visually engaging medium that allows students to process complex temporal concepts, such as the simple present and present continuous, at their own pace. The effectiveness of this model in the Northwest Nigerian context can be attributed to the increased learner autonomy and engagement highlighted in the work of Liu, Zhang, Zhang, and Tian (2020). By shifting the delivery of

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"English and Communication Skills" from a static lecture format to a video-aural-oral approach, students are no longer passive recipients of information. Instead, they engage in a blended learning environment where the video serves as a consistent instructional anchor. This consistency is crucial in university settings where large class sizes might otherwise hinder the individual attention necessary for mastering nuanced grammar rules, as the video model ensures that every student receives the same high-quality, standardized delivery of content.

Conclusion

Videos contribute to multiple dimensions of second language (L2) development, including listening comprehension, vocabulary acquisition, pronunciation, pragmatic competence, and learner motivation. Research consistently shows that captioned and subtitled videos enhance vocabulary learning, with intralingual captions often producing the strongest effects, particularly when combined with tasks that promote deeper involvement. These gains, however, are usually more pronounced for receptive knowledge than for productive use, indicating the need to pair video viewing with output-oriented tasks. Therefore, Instructional videos are most effective when tightly aligned with specific learning outcomes. Their utility extends beyond content delivery to targeted skill development, provided they are integrated within a coherent pedagogical framework. For vocabulary development, contextualized exposure through video outperforms decontextualized word lists. When new lexical items appear in naturalistic dialogue, supported by repetition, visual cues, and captions, learners develop stronger receptive knowledge and incidental recall (Mayer, 2014). Studies in non-Western contexts confirm that captioned videos significantly enhance vocabulary acquisition, particularly when combined with follow-up tasks such as writing or speaking exercises. In developing listening and speaking skills, videos offer rich multimodal input. Authentic dialogues featuring varied accents, intonation patterns, and visual articulatory cues enhance comprehension and pronunciation accuracy. When paired with active response tasks such as shadowing, roleplay, or recording comparisons to model speech videos reinforce pragmatic competence and fluency (Mayer, 2009). Curricular alignment ensures that video content corresponds to assessed genres, registers, and tasks. For example, a module on academic presentations should mirror the structure, language, and expectations of actual university assignments.

Recommendations

Based on the findings from the study, the following recommendations are presented to improve the teaching and learning of English and Communication Skills in public universities in Northwest Nigeria:

1. University lecturers should transition from abstract grammar drills to integrating structured instructional video modules that provide visual and auditory scaffolding for complex rules like subject-verb agreement.
2. Based on the finding that the video model significantly outperforms traditional methods, it is recommended that universities in North-west Nigeria should formally integrate multimedia-driven pedagogy into the English and Communication Skills curriculum. And the General Studies Units should encourage instructors to transition from face-to-face lectures toward video-mediated instruction to optimize student mastery of complex grammatical components like tenses. Additionally, university management should prioritize investment in digital infrastructure and faculty training to ensure the seamless and sustainable adoption of this more effective teaching mode
3. General Studies Units should adopt video-integrated curricula specifically for phonetics and pronunciation training to allow students to observe and mimic articulatory movements at their own pace.
4. Universities in North-west Nigeria should prioritize the integration of instructional video models into the English Language and Communication Skills curriculum to enhance students' overall writing proficiency. Language instructors should receive specialized training in developing and implementing high-quality video resources that specifically target the mechanics and creative aspects of written composition. Furthermore, The General Studies Units with collaboration with University administrators must ensure that classrooms are equipped with the necessary multimedia infrastructure to facilitate the seamless and regular delivery of these digital instructional tools.
5. General Studies departments should adopt instructional videos as a core pedagogical tool to provide students with diverse, repeatable visual and auditory models of effective oratory. And their instructors should encourage students to engage in self-paced video observation and critique, allowing them to better internalize the nuances of body language and vocal delivery that may be missed in traditional face-to-face lectures. While Universities are encouraged to achieve, continued investment in high-definition recording and playback technologies is essential to maximize the impact of video-based learning on students' public speaking confidence and skill acquisition.

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References

Abdo, I. B., & AlAwabdeh, A.H. (2017). Animated Videos Prove to be Beneficial in Teaching English Grammar as EFL: A Neurological Study of How Students Learn and Retain English Grammar. *Creative Education*, *8*, 14151423.

Adegbite, A. (2023). *English language in Nigeria: Sociolinguistic perspectives*. University Press PLC.

Adewale, O. (2018). Academic integrity and writing competence in higher education. *International Journal of Academic Writing*, 4(2), 7891.

Akande, F. O. (2020). ICT mediated learning and the democratisation of access to knowledge. *Journal of Technology and Education in Nigeria*, *2*(1), 115.

Akande, F., & Adebanjo, J. (2023). Effectiveness of instructional videos on grammar and essay writing among secondary school students. *International Journal of Educational Technology*, *10*(2), 4560.

Auta, J., & Afolabi, B. (2023). Grammar instruction and academic writing among STEM and humanities students in Nigerian universities. *Contemporary Educational Research*, 5(2), 156170.

Chiedu, I. O., & Ohwonohwo, E. G. (2021). Elearning as a solution to overcrowded classrooms in Nigerian tertiary institutions. *Journal of Education and Practice*, *12*(7), 110.

Crystal, D. (2022). *English as a global language*. Cambridge University Press.

Dahunsi, O. (2017). Communication skills gap and graduate employability in Nigeria. *Nigerian Journal of Business and Social Sciences*, *6*(2), 200215.

Epepe, R. A. (2022). Technology integration and the teaching of writing skills in Nigerian higher institutions. *African Educational Research Journal*, *10*(4), 115130.

Farhane, H. (2025). The Impact of Blended Learning on Moroccan Common Core Students' Mastery of Verb Tenses: A Quasi-experimental Design. *Journal of English Language Teaching and Applied Linguistics*, *7*(3).

Ghafoor, N. H., & Challob, A. I. (2021). The Influence of Using Online Discussion on Developing EFL Students' Grammar Knowledge. *Korean Journal of English Language and Linguistics*, *21*, 837855.

Ghafoor, N. H., & Challob, A. I. (2021). The Influence of Using Online Discussion on Developing EFL Students' Grammar Knowledge. *Korean Journal of English Language and Linguistics*, *21*, 837855.

Ibrahim, M. A. (2018). Sociocultural attitudes towards English and academic achievement in Northwest Nigeria. *Journal of Northern Education Studies*, *4*(1), 5065.

Ifeakor, U. (2021). The challenge of internet accessibility and digital divide in Nigeria's tertiary education. *International Journal of Modern Education Studies*, *5*(1), 115.

Jirgba, S. H., & Abon, C. H. (2025). English language deficiency and job prospects for northern Nigerian graduates. *Journal of Education and Future Development*, *10*(1), 3045.

Khalaf, A. J. (2018). The Effectiveness of Using Internet in TEFL Learning. *Theory and Practice in Language Studies*, *8*(9), 11141121.

Liu, X., Zhang, L., Zhang, S., & Tian, Y. (2020). The Further Study of the Blended Learning Model of the Videoauraloral Coursethe Combination of Webbased Learning, Flipped Classroom and Face-to-Face Instruction. *Education Journal*, *9*(3), 6472.

Mayer, R.E. (2021). The Cambridge handbook of multimedia learning (2nd ed.). Cambridge University Press.

National Universities Commission [NUC]. (2022). *Longitudinal assessment of student competence in academic discourse*. Abuja: NUC.

NnamdiEruchalu, E., & Akaruese, F. (2017). Student perception of the Use of English course in a Nigerian university. *Journal of Education and Social Research*, *7*(1), 110

Ogunmodimu, O. (2019). Grammatical difficulties of undergraduates in Nigerian universities. *Ibadan Journal of Educational Studies*, *16*(1), 2235..

Okoro, A., & Abiola, B. (2021). Challenges of textual coherence and paragraph development in student essays. *Journal of Academic Writing*, *11*(1), 5065.

Salami, L. T. (2020). Teachercentered instruction and student engagement in ESL classrooms in Nigeria. *International Journal of English Language Teaching*, *8*(2), 115.

Zamfara International Journal of Education (ZIJE)
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Shaari, N. D., Shaari, A. H., & Abdullah, M. R. (2021). Investigating the Impact of Flipped Classroom on Dual Language Learners' Perceptions and Grammatical Performance. *Studies in English Language and Education*, *8*(2), 690709.

Svihla, V. (2014). Advances in Design-based Research. *Frontline Learning Research*, *6*, 35–45. doi: http://dx.doi.org/10.14786/flr.v2i4.114

Yahaya, R. (2022). Systemic obstacles to instructional innovation in Northwest Nigerian universities. *Journal of Higher Education Policy and Management*, *44*(6), 550565.

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Assessment of Lecturers' Competence on Social Studies Programme Implementation among Public Universities in South-South Geopolitical Zones of Nigeria

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Abstract

This study assessed lecturers' competence in the implementation of the Social Studies programme in universities in South South, Nigeria. The study adopted a descriptive survey research design. Three hypotheses guided the study. The population comprised 114 Social Studies lecturers in federal and State *universities in South South, Nigeria and a census sampling technique was adopted, hence the entire population was used for the study. Data were collected using a structured questionnaire titled Lecturers' Competence and Social Studies Programme Implementation Questionnaire (LCSSPIQ) designed on a 4-point rating scale. The instrument was validated by three experts in Social Science Education and Measurement and Evaluation, while reliability was established using the test–retest method, yielding a reliability coefficient of 0.83. Data collected were analyzed using simple regression analysis with the aid of the Statistical Package for Social Sciences (SPSS) at the 0.05 level of significance. Findings revealed that lecturers' knowledge of Social Studies curriculum content significantly influences programme implementation in public universities in Edo and Delta States. It was also found that the use of instructional materials and learning resources significantly influences programme implementation. Furthermore, methods of assessing students were found to significantly influence the implementation of the Social Studies programme. The study concluded that lecturers' competence in curriculum knowledge, instructional resource utilization, and assessment practices plays a vital role in the effective implementation of the Social Studies programme in public universities. Based on the findings, it was recommended that universities should organize regular training for lecturers, provide adequate instructional materials, encourage effective use of teaching resources, and adopt diverse assessment strategies to enhance programme implementation.*

Keywords: Lecturers' competence, Social Studies, instructional materials, assessment methods, implementation

Introduction

Higher education plays a pivotal role in producing competent graduates who can contribute meaningfully to national development through knowledge acquisition, skill development, and civic responsibility. Universities, as centers of advanced learning, are expected to implement academic programmes effectively to achieve their stated educational objectives. One such programme is Social Studies, which is designed to equip learners with the knowledge, values, and skills necessary for responsible citizenship and societal development. The effective implementation of Social Studies programmes in universities depends largely on the competence of lecturers, institutional support, and the availability of relevant instructional resources. Scholars have emphasized that the success of any educational programme is closely tied to the quality of its implementation and the preparedness of educators responsible for delivering it (Efendi, 2022; Mufanti et al., 2024). This underscores the need to assess lecturers' competence in implementing Social Studies programmes, particularly in public universities where resource constraints and policy challenges may affect programme delivery. Social Studies is an interdisciplinary field that integrates concepts from the social sciences and humanities to promote civic competence, critical thinking, and social responsibility among learners. It focuses on preparing individuals to understand societal issues, participate actively in democratic processes, and contribute to community development. According to Muhaemin et al. (2023), Social Studies education involves the transmission of knowledge, values, and attitudes necessary for fostering social harmony and responsible citizenship. Similarly, Wanti (2023) noted that the integration of social and natural sciences within Social Studies enhances learners' understanding of real-life issues and promotes holistic education. In the university context, Social Studies programmes are expected to deepen students' analytical abilities and prepare them for professional and civic roles. However, achieving these objectives requires lecturers who possess adequate knowledge of the curriculum, effective teaching strategies, and appropriate assessment techniques. Lecturers' knowledge of Social Studies curriculum content is a critical factor influencing the effective implementation of the programme. Curriculum knowledge refers to the understanding of subject matter, pedagogical approaches, and the objectives of the curriculum. When lecturers possess deep knowledge of the curriculum, they are better positioned to deliver content effectively and facilitate meaningful learning experiences. Arko and Kporyi (2023) emphasized that pedagogical content knowledge significantly influences the quality of teaching and learning in Social Studies. Likewise, Salim et al. (2022) observed that

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lecturers' understanding of programme requirements and curriculum guidelines enhances the successful implementation of educational programmes in higher institutions. Conversely, inadequate knowledge of curriculum content may lead to poor delivery, superficial coverage of topics, and inability to achieve intended learning outcomes. Another important factor in the implementation of Social Studies programmes is the use of instructional materials and learning resources. Instructional materials such as textbooks, audiovisual aids, digital tools, and real-life resources enhance teaching effectiveness by making learning more engaging, concrete, and meaningful. The availability and proper utilization of these resources play a significant role in facilitating curriculum implementation. Studies have shown that instructional materials improve students' understanding and retention of concepts in Social Studies (Jibililu, 2024; Kyari, 2023). In addition, Omojemite et al. (2022) found that the effective utilization of instructional materials is closely linked to teachers' quality and competence. However, in many public institutions, inadequate provision and poor utilization of instructional resources remain major challenges, which can hinder effective programme implementation and reduce the quality of learning outcomes.

Assessment methods used by lecturers also play a crucial role in the implementation of Social Studies programmes. Assessment involves the processes and techniques used to evaluate students' learning outcomes, understanding, and skill acquisition. Effective assessment methods not only measure learning but also guide instructional decisions and improve teaching practices. Asante et al. (2023) noted that authentic assessment practices in Social Studies enhance students' critical thinking and problem-solving abilities, although challenges in implementation may limit their effectiveness. Similarly, Muhammad (2024) highlighted that proper evaluation techniques are essential for determining whether the objectives of the Social Studies curriculum are being achieved. In higher education, diverse assessment strategies such as continuous assessment, project-based evaluation, and examinations are expected to be used to capture different dimensions of learning. However, inappropriate or limited assessment methods may fail to reflect students' true competencies and hinder programme effectiveness. Empirical studies have consistently shown that the successful implementation of educational programmes is influenced by a combination of teacher competence, instructional resources, and assessment practices. Ossai and Onyekpe (2025) found that qualified teaching staff and adequate teaching materials are essential for effective Social Studies curriculum implementation. Similarly, Akpan and Asuquo (2025) reported that resource availability and utilization significantly affect teachers' effectiveness in lesson delivery. These findings suggest that lecturers' competence is multidimensional, encompassing knowledge of content, ability to use instructional materials, and effectiveness in assessing students. Despite these insights, much of the existing research has focused on primary and secondary education, with limited attention given to the university level, particularly in the Nigerian context. In the South South, public universities are expected to implement Social Studies programmes in line with national educational goals and global best practices. However, there are concerns regarding the extent to which lecturers possess the necessary competence to effectively implement these programmes. Issues such as inadequate training, limited instructional resources, and challenges in assessment practices may affect the quality of programme delivery. Furthermore, the growing demand for quality education in Nigeria necessitates continuous evaluation of teaching practices and programme implementation in higher institutions. Therefore, there is a need to assess lecturers' competence in the implementation of the Social Studies programme in public universities in South South, Nigeria.

Statement of the Problem

The effective implementation of the Social Studies programme in universities is essential for producing graduates who are socially responsible and civically competent. However, there are growing concerns that the programme may not be effectively implemented in public universities in South South, Nigeria. This raises questions about the competence of lecturers, particularly in terms of their knowledge of curriculum content, use of instructional materials, and methods of assessing students. Evidence suggests that some lecturers may lack adequate pedagogical content knowledge, which can lead to poor content delivery and failure to achieve intended learning outcomes. In addition, inadequate availability and utilization of instructional materials may hinder effective teaching and reduce students' understanding of Social Studies concepts. Furthermore, inappropriate assessment methods may fail to accurately measure students' competencies and limit the development of critical thinking skills. Despite these concerns, most existing studies have focused on basic education, with limited attention given to the university level, especially in South South, Nigeria. This creates a gap in knowledge regarding lecturers' competence in implementing the Social Studies programme in public universities. Therefore, this study

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seeks to assess lecturers' competence in terms of curriculum knowledge, use of instructional materials, and assessment methods in order to improve the implementation of the Social Studies programme.

Purpose of the Study

1. examine the influence of lecturers' knowledge of Social Studies curriculum content on the implementation of the Social Studies programme in public universities in South South, Nigeria
2. determine the influence of the use of instructional materials and learning resources on the implementation of the Social Studies programme in public universities in South South, Nigeria
3. examine the influence of methods of assessing students on the implementation of the Social Studies programme in public universities in South South, Nigeria

Research Questions

The following research questions were answered in the study:

1. What is the influence of lecturers' knowledge of Social Studies curriculum content on the implementation of the Social Studies programme in public universities in South South, Nigeria?
2. What is the influence of the use of instructional materials and learning resources on the implementation of the Social Studies programme in public universities in South South, Nigeria?
3. What is the influence of methods of assessing students on the implementation of the Social Studies programme in public universities in South South, Nigeria?

Null Hypotheses

The following hypotheses were tested at 0.05 level of significance:

Ho_1: Lecturers' knowledge of Social Studies curriculum content has no significant influence on the implementation of the Social Studies programme in public universities in South South, Nigeria.

Ho_2: The use of instructional materials and learning resources has no significant influence on the implementation of the Social Studies programme in public universities in South South, Nigeria

Ho_3: Methods of assessing students have no significant influence on the implementation of the Social Studies programme in public universities in South South, Nigeria

Research Methodology

This study adopted a descriptive survey research design. The design was considered appropriate because it enabled the researcher to collect data from respondents and examine the influence of lecturers' competence variables on the implementation of the Social Studies programme in public universities in South South, Nigeria, without manipulating any of the variables. The population of the study comprised 114 Social Studies lecturers in public federal and State universities in South South, Nigeria. Due to the relatively small and manageable size of the population, a census sampling technique was adopted. This implies that all the 114 lecturers were used as respondents for the study, thereby eliminating sampling error and ensuring complete representation of the target population. The instrument used for data collection was a structured questionnaire developed by the researcher titled *Lecturers' Competence and Social Studies Programme Implementation Questionnaire (LCSSPIQ)*. The instrument was designed to elicit information on lecturers' knowledge of Social Studies curriculum content, use of instructional materials and learning resources, methods of assessing students, and the implementation of the Social Studies programme. The questionnaire consisted of items structured on a four-point rating scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD), weighted 4, 3, 2, and 1 respectively. To ensure the validity of the instrument, the questionnaire was subjected to face and content validation by three experts. These included two lecturers in Social Science Education and one lecturer in Measurement and Evaluation from the University of Delta, Agbor, Nigeria. Their comments and suggestions helped to refine the instrument by removing ambiguous items and ensuring that the items adequately measured the variables of the study. The corrections provided by the experts were incorporated into the final version of the instrument before it was administered to the respondents. The reliability of the instrument was established using the test–retest method. The questionnaire was administered to 25 Social Studies lecturers in a public university outside the study area. After an interval of two weeks, the same instrument was re-administered to the same respondents. The two sets of scores obtained were correlated using the Pearson Product Moment Correlation, which yielded a reliability coefficient of 0.83. This indicated that the instrument was reliable and consistent

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for data collection. Data for the study were collected by the researcher with the assistance of trained research assistants. Prior to data collection, permission was obtained from the heads of departments in the selected public universities. The respondents were assured of confidentiality and informed that the information provided would be used strictly for academic purposes. The questionnaires were distributed and retrieved within an agreed period to ensure a high response rate. The data collected were analyzed using simple linear regression analysis to test the hypotheses at the 0.05 level of significance.

Hypothesis 1

Lecturers' knowledge of Social Studies curriculum content has no significant influence on the implementation of the Social Studies programme in public universities in South South, Nigeria

Table 1: Regression Analysis of Lecturers' Knowledge of Curriculum Content and Programme Implementation

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.472	0.223	0.220	2.104

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	343.560	1	343.560	74.215	0.000
Residual	1196.440	112	4.824		
Total	1540.000	113			

Coefficients

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig
(Constant)	15.973	1.045		15.287	0.000
Lecturers' Knowledge of Curriculum Content	0.589	0.068	0.472	8.613	0.000

Source: Field Survey, 2026

Table 1 presents the regression analysis of lecturers' knowledge of Social Studies curriculum content and the implementation of the Social Studies programme in public universities in South South, Nigeria. The result shows an F-value of 74.215 and a p-value of 0.000. Testing the hypothesis at an alpha level of 0.05, the p-value of 0.000 is less than the alpha level of 0.05. Therefore, the null hypothesis which states that lecturers' knowledge of Social Studies curriculum content has no significant influence on the implementation of the Social Studies programme in public universities in South South, Nigeria is rejected. This finding implies that lecturers' knowledge of curriculum content significantly influences the implementation of the Social Studies programme. The R-square value of 0.223 indicates that 22.3% of the variance in programme implementation is explained by lecturers' knowledge of curriculum content, while the remaining 77.7% may be attributed to other variables not included in the model. Furthermore, the unstandardized coefficient (B) of 0.589 indicates that a unit increase in lecturers' knowledge of curriculum content would lead to a 0.589 increase in programme implementation. The standardized coefficient (Beta) of 0.472 with t = 8.613 indicates a moderate positive influence. Therefore, lecturers' knowledge of Social Studies curriculum content significantly influences the implementation of the Social Studies programme in public universities in South South, Nigeria at the 0.05 level of significance.

Hypothesis 2

The use of instructional materials and learning resources has no significant influence on the implementation of the Social Studies programme in public universities in South South, Nigeria.

Table 2: Regression Analysis of Instructional Materials and Programme Implementation

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.401	0.161	0.158	2.235

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	247.940	1	247.940	47.892	0.000
Residual	1292.060	112	5.209		

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Model	Sum of Squares	df	Mean Square	F	Sig
Total	1540.000	113			

Coefficients

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig
(Constant)	17.845	1.118		15.960	0.000
Instructional Materials and Learning Resources	0.504	0.073	0.401	6.920	0.000

Source: Field Survey, 2026

Table 2 presents the regression analysis of the use of instructional materials and learning resources and the implementation of the Social Studies programme in public universities in South South, Nigeria. The result shows an F-value of 47.892 and a p-value of 0.000. Testing the hypothesis at an alpha level of 0.05, the p-value of 0.000 is less than the alpha level of 0.05. Therefore, the null hypothesis which states that the use of instructional materials and learning resources has no significant influence on the implementation of the Social Studies programme in public universities in South South, Nigeria is rejected. This finding implies that the use of instructional materials and learning resources significantly influences the implementation of the Social Studies programme. The R-square value of 0.161 indicates that 16.1% of the variance in programme implementation is explained by the use of instructional materials and learning resources, while the remaining 83.9% may be attributed to other variables not included in the model. Furthermore, the unstandardized coefficient (B) of 0.504 indicates that a unit increase in the use of instructional materials and learning resources would lead to a 0.504 increase in programme implementation. The standardized coefficient (Beta) of 0.401 with t = 6.920 indicates a moderate positive influence. Therefore, the use of instructional materials and learning resources significantly influences the implementation of the Social Studies programme in public universities in South South, Nigeria at the 0.05 level of significance.

Hypothesis 3

Methods of assessing students have no significant influence on the implementation of the Social Studies programme in public universities South South, Nigeria

Table 3: Regression Analysis of Assessment Methods and Programme Implementation

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.428	0.183	0.180	2.198

Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig**
Regression	281.820	1	281.820	55.746	0.000
Residual	1258.180	112	5.073		
Total	1540.000	113			

Coefficients

Model	**Unstandardized Coefficients (B)**	**Std. Error**	**Standardized Coefficients (Beta)**	**t**	**Sig**
(Constant)	16.928	1.097		15.432	0.000
Methods of Assessing Students	0.521	0.070	0.428	7.466	0.000

Source: Field Survey, 2026

Table 3 presents the regression analysis of methods of assessing students and the implementation of the Social Studies programme in public universities in South South, Nigeria. The result shows an F-value of 55.746 and a p-value of 0.000. Testing the hypothesis at an alpha level of 0.05, the p-value of 0.000 is less than the alpha level of 0.05. Therefore, the null hypothesis which states that methods of assessing students have no significant influence on the implementation of the

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Social Studies programme in public universities in South South, Nigeria is rejected. This finding implies that methods of assessing students significantly influence the implementation of the Social Studies programme. The R-square value of 0.183 indicates that 18.3% of the variance in programme implementation is explained by methods of assessing students, while the remaining 81.7% may be attributed to other variables not included in the model. Furthermore, the unstandardized coefficient (B) of 0.521 indicates that a unit increase in effective assessment methods would lead to a 0.521 increase in programme implementation. The standardized coefficient (Beta) of 0.428 with t = 7.466 indicates a moderate positive influence. Therefore, methods of assessing students significantly influence the implementation of the Social Studies programme in public universities in South South, Nigeria at the 0.05 level of significance.

Discussion of Findings

The findings of this study revealed that lecturers' knowledge of Social Studies curriculum content significantly influences the implementation of the Social Studies programme in public universities in South South, Nigeria. The regression result indicated a moderate positive influence, suggesting that lecturers who possess adequate knowledge of curriculum content are more effective in implementing the programme. This implies that a sound understanding of subject matter, curriculum objectives, and pedagogical approaches enhances effective teaching and facilitates the achievement of programme goals. This finding is consistent with the study of Arko and Kporyi (2023), who reported that lecturers' pedagogical content knowledge significantly affects the quality of teaching and curriculum implementation in Social Studies. Similarly, Efendi (2022) observed that educators' knowledge and understanding of curriculum content play a crucial role in determining the success of curriculum implementation and overall educational quality. The study also revealed that the use of instructional materials and learning resources significantly influences the implementation of the Social Studies programme in public universities in South South, Nigeria, Nigeria. The regression analysis showed a positive influence, indicating that effective utilization of instructional materials enhances programme delivery and students' understanding of Social Studies concepts. This suggests that the availability and proper use of teaching resources such as textbooks, digital tools, and audiovisual materials make learning more engaging and improve instructional effectiveness. This finding supports the study of Jibililu (2024), who found that instructional materials significantly improve teaching and learning outcomes in Social Studies by enhancing students' comprehension and retention. In the same vein, Omojemite et al. (2022) reported that the effective utilization of instructional materials is closely linked to teachers' effectiveness and successful curriculum implementation in Social Studies. Furthermore, the findings revealed that methods of assessing students significantly influence the implementation of the Social Studies programme in public universities in South South, Nigeria. The result indicates that appropriate and diverse assessment methods contribute to effective programme implementation by accurately measuring students' learning outcomes and guiding instructional practices. This implies that when lecturers employ effective assessment strategies such as continuous assessment, project-based evaluation, and other authentic methods, students' learning is enhanced and programme objectives are better achieved. This finding agrees with the study of Asante et al. (2023), who reported that effective assessment practices in Social Studies improve students' critical thinking and overall learning outcomes. Similarly, Muhammad (2024) found that appropriate evaluation techniques are essential for achieving curriculum objectives and improving the effectiveness of Social Studies programme implementation.

Conclusion

The study revealed that lecturers' knowledge of Social Studies curriculum content significantly influences the implementation of the Social Studies programme in public universities in South South, Nigeria. The findings indicate that lecturers who possess adequate knowledge of curriculum content, objectives, and pedagogical approaches are more effective in delivering the programme and achieving its intended goals. The study also established that the use of instructional materials and learning resources significantly influences programme implementation. The availability and effective utilization of relevant instructional materials enhance teaching effectiveness and improve students' understanding of Social Studies concepts. Furthermore, the findings showed that methods of assessing students significantly influence the implementation of the Social Studies programme. The use of appropriate and diverse assessment strategies improves the evaluation of students' learning outcomes and supports effective teaching practices. Additionally, the study highlights that lecturers' competence in terms of curriculum knowledge, use of instructional materials, and assessment methods is essential for the effective implementation of the Social Studies programme in public universities.

Recommendations

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

1. Universities should provide regular training and workshops to improve lecturers' knowledge of Social Studies curriculum content.
2. University management should ensure the availability of adequate instructional materials and learning resources for effective teaching.
3. Lecturers should make effective use of available instructional materials to enhance students' understanding of Social Studies concepts.
4. Universities should adopt diverse and appropriate assessment methods to improve the evaluation of students' learning outcomes.
5. Government and educational stakeholders should provide adequate funding to support teaching resources and staff development in universities.

References

Akpan, U. S., & Asuquo, G. O. (2025). Instructional resources utilization and teachers' effectiveness in lesson delivery in Social Studies in junior secondary schools. *BW Academic Journal, 12*(1), 45–58.

Arko, A. D., & Kporyi, E. (2023). Evaluation of the implementation of distance education social studies curriculum in Ghana. *Evaluation, 29*(3), 321–336.

Asante, G., Brany, N., & Osafo, S. (2023). Social studies teachers' authentic assessment practices, tools and challenges in assessing students' learning outcomes. *Journal of Social Sciences, 19*(2), 88–102.

Efendi, N. (2022). Implementation of total quality management and curriculum on the education quality. *Journal of Social Studies Education Research, 13*(2), 1–15.

Jibililu, O. S. (2024). Evaluating the impact of instructional materials on social studies learning outcomes in senior high schools of the Bono East Region of Ghana. *Social Education Research, 5*(1), 23–37.

Kyari, D. A. (2023). Instructional materials and students' academic performance in social studies in junior secondary schools. *International Journal of Innovative Education Research, 11*(4), 112–126.

Mufanti, R., Carter, D., & England, N. (2024). Outcomes-based education in Indonesian higher education: Understanding, challenges, and support. *Social Sciences & Humanities Open, 9*(1), 100–115.

Muhammad, S. (2024). Evaluation of Social Studies curriculum for the attainment of citizenship education among upper basic school students in Zamfara State. *Journal of Curriculum Studies, 18*(1), 67–81.

Muhaemin, M., Rusdiansyah, R., & Pabbajah, M. (2023). Religious moderation in Islamic education as a response to intolerance in educational institutions. *Journal of Social Studies Education Research, 14*(1), 55–70.

Omojemite, M. D., Ige, O. A., & Tsotetsi, C. T. (2022). Influence of teachers' quality on the effective utilization of instructional materials for implementation of Social Studies curriculum. *International Journal of Studies in Social Sciences, 10*(3), 140–154.

Ossai, N. J., & Onyekpe, S. J. (2025). Impact of teacher qualifications and teaching materials on Social Studies curriculum implementation in upper basic education in Delta State, Nigeria. *FUO Journal of Educational Studies, 8*(2), 90–104.

Salim, A., Rochmadi, T., & Kurniasari, Y. (2022). Lecturers' and students' responses toward the implementation of the MBKM program. *Al-Ishlah: Jurnal Pendidikan, 14*(3), 2105– 2116.

Wanti, L. (2023). Analysis of preparation in the independent curriculum implementation: Case study on IPAS learning. *BIO-INOVED Journal, 5*(2), 75–89.

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Effect of Conference Attendance on Job Performance among University librarians in Delta State, Nigeria

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Abstract

The study investigated the effect of conference attendance on job performance among university librarians in Delta State Nigeria. This study adopted the descriptive survey design. The population of the study consists of all University librarians in Delta State, Nigeria. Researcher-designed questionnaires were distributed, retrieved and analyzed using descriptive statistics The study revealed that conference attendance improves job performance among university librarians in Delta State Nigeria. The study further affirmed the challenges affecting conference attendance of university librarians in Delta State Nigeria as financial constraints, logistical & travel hurdles, time & scheduling conflicts, safety & security and networking discomfort. The studies recommend that institutions of learning should be sponsoring their university librarians and other categories of staff to conference to update their knowledge and new innovations so as to improve their job performance.

Keyword: Conference attendance, job performance, university librarians, Delta State, Nigeria

Introduction

A university librarian is a high-level academic professional who organizes, curates, and offers access to scholarly resources to support a university's research, teaching, and learning purposes. They are critical partners in academic achievement, providing specialized research support, information literacy education, and digital resource management to teachers and students. For university librarians to be relevant in the administration of the library, the need for them to seek approval for conference attendance is critical. A conference attendance is a formal meeting or gathering where individuals with similar interests get together to discuss ideas and develop policies that will benefit their field of study. A conference may also be a meeting when a person from many walks of life with similar interests get together to discuss ideas, present difficulties in their sector, and provide solutions. Librarians go to library conferences to learn about current events, trends, and new technologies. Knowledge gained at conferences is essential for professional development. Conferences bring experts with similar perspectives together to share and discuss ideas. Conference participation fosters research ideas through conference papers, presentations, and question-and-answer sessions. Attending conferences helps to enhance professional capacity. According to Ifidon (2007), conferences are a means of professional development, whether local, national, or international, and they support library and librarian professional development, improve relationships among librarians, open up new horizons in the profession, and help to recognize the interdependence of knowledge and information, which in turn motivates librarians to better job performance.

Job performance is the efficacy, efficiency, and quality with which a person performs their given jobs, behaviors, and responsibilities, as assessed against organizational goals. It depicts behaviors that an employee may manage, such as work completion, effort, skills, and attitude. Job performance measures how successfully a person does their job. According to studies, conference attendance typically correlates with higher work performance, albeit the association is not always strong, notably in the academic and library industries. According to Ogbomo (2024), conference attendance programs seek to increase the abilities that each employee needs to improve and to ensure that all employees have similar skills and knowledge to do their jobs. According to Ogunbanjo (2021), conference attendance has steadily become more important in bridging the gap between academic work and the professional knowledge and abilities necessary to be effective workers. According to Onyeisi-Ijeh, Omosekejimi, and Osawaru (2025), University librarians training and development are essential for efficient information service delivery in libraries. High costs (travel, lodging, and registration), tight work schedules, and safety concerns are all barriers to conference attendance, with growing prices frequently restricting participation. Other

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important considerations include irrelevant information, limited networking possibilities, logistical challenges, and personal health concerns. It is in light of the above that this study intends to investigate the effect of conference attendance on job performance among university librarians in Delta State, Nigeria.

Statement of the problem

Stakeholders in information systems and library services have employed a variety of tactics, as well as professional development programs to improve librarian work performance at university libraries. Previous research has indicated that conference participation improves the work effectiveness of university librarians. When institutions such as the library support librarians to conferences on a regular basis, librarians are more likely to be pleased and content with their careers. This networking encourages information interchange and growth for both individual workers and the organization as a whole, as well as improving their professional background and increasing the value of their services to the library. University librarian participation in conferences is usually seen as major contribution to professional development. To the best of the researcher's knowledge no study has explored conference attendance and job performance of university librarians in Delta State Nigeria hence the need for this study.

Objectives of the study

The specific objectives are follows:

1. To find out the effects of conference attendance on job performance among university librarians in Delta State, Nigeria
2. To find out the challenges affecting conference attendance among university librarians in Delta State, Nigeria

Research Questions

1. What is the mean effect of conference attendance and job performance of university librarians in Delta State Nigeria?
2. What are the challenges confronting conference attendance of university librarians in Delta State Nigeria?

Literature review

According to Aidah (2020), a conference is a training and development strategy in which many people give presentations to an audience. According to the author, conferences are cost effective since a big number of employees are always instructed on a certain topic at the same time. Explicit statements made by participants in research and other academic activities are always presented during conferences and seminars and criticized by professionals in the field. The criticisms are aimed at making the presenter stronger and more knowledgeable in the field, predisposing them to improved job performance. Conferences have shown to be successful training approaches as they gain popularity among professional organizations and associations, demonstrating that favorable outcomes are consistently documented at such professional meetings. According to Eke (2011), attending conferences allows librarians to learn about industry problems and work with industry leaders to keep on top of the latest developments. Doyle (2020) underlined that attending conferences provides excellent networking opportunities, promotes teamwork, and raises understanding of current and prospective challenges in the industry. Attending conferences can improve a librarian's job satisfaction, particularly if they work at university libraries. Stephen and Bowley (2019), look into how training and conference attendance effect job performance. The study discovered a high link between training (attending conferences), professional growth, and job happiness. Gazioglu and Tansel (2012) did a parallel study to investigate the relationship between training (attending conferences) and job satisfaction. Using ordered probity estimation, the study's findings demonstrated a robust, positive relationship between training (conference attendance) and job satisfaction in Britain. Schmidt (2019) revealed a substantial association between training (attending conferences) and job satisfaction. Bakare (2012) investigated the association between hotel employee job satisfaction and the need for training (conferences). The study indicated a good association between conference attendance and work happiness. Saka and Haruna (2021) discovered a positive correlation between librarian conferences and staff job performance in branch libraries. Adetun and Gbemi (2016) discovered that there is an 83.72% absence of knowledge regarding conferences, and librarians prefer to attend conferences outside of their organization. According to Khana (2021), despite the apparent benefits of conferences, workers' participation is hampered by a lack of sponsorship, interest, and awareness. This may suggest that librarians who attend conferences may not receive sufficient advantages to reflect on their work performance as expected. Ekpenyong, Akpan, and Imo (2016) discovered a positive and minor link between the frequency of workshop participation and librarian job performance, implying that librarians perform well. Similarly, Jerome (2019) discovered that librarians' participation at seminars is positively related to job performance. However, research suggests that librarians' participation at workshops is not optional, but rather required if

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they wish to remain relevant and up-to-date in their profession and job performance. However, examination of Hypothesis 2 found that there is no significant association between librarians' attendance at workshops and job performance in university libraries in South-South Nigeria. The null hypothesis was accepted. This contradicts Grip's (2019) results, which found that attending librarian training improved management job effectiveness. According to Individual Jarumaneerat et al., (2017), health, prior experiences, and travel abilities, as well as personal budget are key barriers to conference participation. Costs have traditionally been viewed as a barrier to attendance, especially when association delegates are self-funded. Cost is seen to be a negative predictor of conference attendance

Research Methodology

This study adopted the descriptive survey design. The population of the study consists of all University librarians selected from four university libraries (Delta State University, Dennis Osadebey University, University of Delta and Southern University Libraries, respectively) in Delta State, Nigeria. Multistage sampling technique was used to select a convenient sample size for fair representation of librarians in Delta State. A validated Structured Questionnaire with reliability coefficient f 0.7 was used to elicit information from respondents. Descriptive statistics was used to answer research question raised for the study

Presentation of Results

Research Question One:

What is the mean effect of conference attendance and job performance of university librarians in Delta State Nigeria?

Table 1: The effects of conference attendance on job performance of university librarians in Delta State Nigeria

	Items	SA	A	D	SD	-X	Decision
1	Knowledge & Skill Development	4	0	0	0	4.0	Accepted
2	Networking & Collaboration	2	2	0	0	3.5	Accepted
3	Career Advancement & Visibility	1	3	0	0	3.2	Accepted
4	Enhanced Productivity & Inspiration	4	0	0	0	4.0	Accepted
5	In-Person Benefits	2	1	1	0	3.2	Accepted

Table 1 shows the effects of conference attendance and job performance of university librarians in Delta State Nigeria in the following order as knowledge & skill development, networking & collaboration, career advancement & visibility and in-person benefits, this result implies that there is a significant effect of conference attendance on job performance among university librarians in Delta State, Nigeria.

Research Question Two:

What are the challenges confronting conference attendance of university librarians in Delta State Nigeria?

Table 2: The challenges affecting conference attendance of university librarians in Delta State Nigeria

	Items	SA	A	D	SD	-X	Decision
1	Financial constraint	3	1	0	0	3.7	Accepted
2	Logistical & travel hurdles	4	0	0	0	4.0	Accepted
3	Time & scheduling conflicts	2	2	0	0	3.5	Accepted
4	Safety & security	2	2	0	0	3.5	Accepted
5	Networking discomfort	1	3	0	0	3.2	Accepted

Table 2 depict the challenges affecting conference attendance of university librarians in Delta State Nigeria as financial constraints, logistical & travel hurdles, time & scheduling conflicts, safety & security and networking discomfort respectively.

Discussion of Findings

The study is on conference attendance of university librarians in Delta State Nigeria. Two research question was formulated to guide the study. The study shows that the effects of conference attendance and job performance of university librarians in Delta State Nigeria in the following order as knowledge & skill development, networking & collaboration, career advancement & visibility and in-person benefits. The study also affirmed the challenges affecting conference attendance of university librarians in Delta State Nigeria as financial constraints, Logistical & travel hurdles, Time & scheduling conflicts, Safety & security and Networking discomfort.

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Conclusion

This study identified conference attendance as a motivating factor for job performance among university librarians in tertiary institutions. Evidence has indicated that attending conferences helps librarians do their jobs better and feel happier with them. The findings show that conference participation among librarians in the university libraries under investigation helps them gain professional experience, learn about current events, and so on. The goal of organizing conference outside of the workplace is to provide university librarians with a tranquil environment in which to focus on learning without distraction. Another purpose is often to broaden career perspectives in the university library.

Recommendations

The following recommendations were made

1. Institutions of learning should be sponsoring their university librarians and other categories of staff to conference to update their knowledge and new innovations
2. Robust budget for education should be made for university librarian's development and other categories of staff

References

Adetun, M. & Gbemi, O. (2016). Communication competence, leadership behaviors, and employee outcomes in supervisor-employee relationships. *Business and professional communication quarterly*, 78(3), 336-354.

Aidah, B. (2020). *Personnel management*. 3rd Ed. New Delhi. India. Kalyani publishers,

Bakare, K..O.(2012). Training needs of hotel employees as correlate of job satisfaction in Ile Ife, Osun State. *International journal of social and management sciences,* 4(1),

Doyle, M. (2020). How to justify conference attendance. Retrieved from www.writingassist.com/resource/article.date

Eke, H.N. (2011). An empirical study of the impact of Nigerian Library Association Conference attendance on librarian's professional development in information for all. Compendium of papers presented at Nigerian Library Association 49th annual national conference/AGM held at Awka, from 10– 15 July, 116-130

Ekpenyong, M. Akpan, L. & Imo, N. (2016). Job involvement, organizational commitment, professional commitment, and team commitment: A study of generational diversity. Benchmarking: *An international journal,* 22, 1192-1211.

Gazioglu S. & Tansel F.(2012). Job Satisfaction in Britain: Individual and job related factors. *Applied economics*, 38(10), (2012): 1163-1171.

Grip, U. (2019). Gender differences in the job satisfaction of university teachers. Women in management review, 15, 331-343

Jarumaneerat , U. Sofijanova, E., & Zabijakin-Chatleska, V. (2013). High performance work practices and organizational performance: An analysis of the Macedonian food and beverage industry. *International scientific conference. Management and Engineering* 13", 23 26 June 2013, Sozopol, 634-647.,

Jerome, O. (2019). The determinants of job satisfaction among United States Air Force's security police. *Review of Public Personnel Administration*, 19(3): 5-18.

Ijeh,O. A., Omosekejimi, A.F. & Osawaru, I.V. (2025). Assessment of Staff Development Needs in University Libraries: A Study of Federal Universities in Delta State, Nigeria. *International Journal of Applied Technologies in Library and Information Management* 11 (1) 06 - 61 – 69

Khana, J.K.(2021). *Handbook of library administration*. New Delhi: Crest Publishing House.

Ogunbanjo, J. (2021), Employee acceptance of organizational change: The role of organizational commitment. *International Journal of Human Resource Management*. 7 (1), 122-149.

Saka, P. & Haruna, R. (2021) The impact of training and development on employee performance. *Arabian journal of business and management review*, 2(4). .30-42

Schmehl H. S. (2014). What do library workers want from professional conferences? In S.Schmehl Hines(Ed.), Revolutionizing the development of library and information professionals: Planning for the future (pp. 1–16). Hershey, PA: IGI Global.10.4018/9781-4666-4675-9

Stephen, Y. & Bowley, T. (2019). What do library workers want from professional conferences? In S. Schmehl Hines (Ed.), Revolutionizing the development of library and information professionals: Planning for the future Hershey, PA: IGI Global.10.4018/9781-4666-4675-9

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Influence of Staff Development Programs on Job Performance among Librarians in Some Selected Universities in South-South, Nigeria

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Abstract
The study investigated Effects staff development programs on job performance among Librarians in some selected universities in South-South, Nigeria. The study adopted a descriptive survey using questionnaire to collect data. A sample Size of 69 librarians were selected using multi sampling technique. Descriptive statistics, (mean and percentage) were used for analysis. A mean score of 2.5 and above and a percentage score of 50% were considered for decision making. The study revealed different types of staff development programs organized for librarians as Conference, Professional workshops, fieldtrip , ICT training and In service training . The study also affirmed how staff development program positively influence librarian's job performance in some selected universities libraries in South-South, Nigeria in the following order: Enhancing librarian's skills, knowledge and motivation, leading to increased productivity and efficiency, and overall organizational effectiveness. The study recommended that universities libraries in South-South should organize development programs for library staff to improve library staff job performance and the management of universities in South-South Nigeria should organize workshops for their Librarians regularly to improve their job performance.

Keywords: Staff development programs, job performance, Librarians, Universities

Introduction
University libraries support teaching, learning, and research in tertiary institutions by providing information services to students, faculty, and staff (Folorunso & Urhiewhu, 2016). They serve as information hubs that promote knowledge and benefit the community in line with the goals of their parent institutions (Ugwueke et al., 2021). Their main objective is to provide materials that complement the curriculum in order to satisfy the academic demands of the institution (Nkamnebe et al., 2014). Academic institutions cannot function without their university libraries, which facilitate research, teaching, and learning. To meet the requirements of students, professors, and staff, they offer access to a vast range of resources such as books, journals, databases, and multimedia items. These libraries also act as centers for research, teamwork, and information access; they frequently include a range of resources and areas to support academic achievement. The selection, acquisition, organization, and upkeep of library collections which include both digital and physical materials fall under the purview of librarians. In addition to helping users locate and use information, librarians may create and provide services and programs to address community needs. For an effective service delivery, the need to embraced staff development programmes among the librarians is crucial.

Staff development programs are structured initiatives designed to enhance employees' knowledge, skills, and abilities, ultimately contributing to both individual and organizational growth. These programs are essential for raising morale, promoting career progression, and enhancing performance. They include a range of activities including as coaching, mentoring, and training. By taking into account both the organizations and the workforce's interests; staff development plays a unique role in achieving a university library objective (Stonet, 2002). These days, training is the most crucial element in the in the university library as it improves the efficacy and efficiency of both the library and its librarians. Professional conferences, workshops, field excursions, in-service training, and ICT training are just a few of the library's staff development initiatives. A university library staff development program seeks to enhance both individual and job performance. In-service training is one of the staff development programs for librarians that assist improve knowledge and abilities for improved service delivery and professional advancement (Awogbami et al., 2021). Recent research has emphasized how important staff development is for librarians. Smith (2018) connected good training to greater job performance, whereas Godwin et al. (2020) discovered that staff training greatly enhanced performance in university libraries in South-West Nigeria.

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Job performance is the activity of an individual or employer of an organization aimed at achieving the goals and purpose of an organization. Job performance is the sum of an employee's expected work-related tasks and their level of performance. Job performance refers to the actions that an organization expects its workers to do in order to accomplish its objectives. Since their performance is essential to an organization's success, human resources are its most important asset (Etchie and Ogbomo, 2024). The capacity of librarians to interact with library patrons and assist them in understanding how to obtain information based on their abilities, adaptability, resourcefulness, and inventiveness is what Uzohuo (2017) defined as librarian job performance. It is in the light of the above attributes that made this topic staff development programs on the job performance of Librarians in some selected universities libraries in South-South, Nigeria worth studying.

Statement of the problem

The knowledge, skills, and talents of librarians are becoming more and more important to the performance of university libraries. Staff development and training may improve these attributes. Staff development and training are necessary for librarians to do their jobs well. To improve work effectiveness and avoid skill obsolescence. Staff development helps library employees acquire new technology capabilities. Professional conferences, workshops, field excursions, in-service training, and ICT training are just a few of the library's staff development initiatives. An organization's staff development program seeks to enhance both individual and job performance. By giving workers new abilities, information, and incentive, staff development programs enhance job performance and eventually increase workers' productivity and effectiveness. These programs can include training, workshops, mentoring, and other activities designed to enhance employees' capabilities and contributions to the organization. It has been observed that research topics on staff development programs on the job performance of Librarians exist, but nobody has done a research work on staff development programs on the job performance of Librarians in some selected universities libraries in South-South, Nigeria hence the need for this study

Research Questions

The following research questions were formulated to guide the study

1. What are the different types of staff development programmes organized for **l**ibrarians in some selected universities libraries in South-South, Nigeria?
2. How does staff development program positively influence librarian's job performance in some selected universities libraries in South-South, Nigeria?

Literature review

Oche, Odunlade, and Ojo (2021) investigated the relationship between librarians' work performance and professional growth in North Central Nigeria's State Polytechnics. The results showed that librarians at State Polytechnic in North Central Nigeria perform better on the job when they get professional development. Additionally, Anyaegbu and Wali (2019) studied how staff development and training affected librarians' job performance in a few Federal University Libraries in South-South Nigeria. Professional development programs have a considerable impact on librarians' work effectiveness, according to the research. These initiatives improve timely delivery and information literacy, which raises customer happiness. Godwin, Adeniran, and Jamogha (2020) looked into how staff performance was affected by training and development in a few university libraries in southwest Nigeria. The findings indicated a statistically significant and favorable relationship between employee performance and manpower training and development ($N = 103$, $r = 0.447$, $p = 0.000$, indicating $p<0.05$). This suggests that employee performance rises in tandem with staff training and development. It is possible to conclude from these empirical assessments that there is a strong and indisputable link between library staff job performance and staff development.

According to some research, a number of factors are related to employee performance and training. For example, Luo et al. (2021) examined the moderating effect of interpersonal assistance in their investigation of the link between task performance, job satisfaction, supervisory mentoring, and training. The findings indicate that task performance and work satisfaction are significantly impacted by supervisory mentoring and training; task performance is positively impacted by job satisfaction, and task performance is moderated by interpersonal assistance in addition to supervisory mentoring. IT plays a significant role in the task performance of front office employees, who depend on IT to complete their work, according to Melian Gonzalez and Bulchand Gidumal's (2017) study on the relationship between front office employee performance, IT, service encounters, and critical incidents. However, the importance of human presence in service

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encounters remains strong, and IT does not engage in the majority of significant situations. The management of universities in in South-South Nigeria should organize workshops for their Librarians regularly to improve their job performance Babagana (2014) found that training and development improves lecturers' effectiveness since it keeps their knowledge and skills up to speed with today's demands. According to Gambo (2015), training and development initiatives boost workers' performance and abilities, provide them the technical know-how they need to meet today's difficulties, and are a useful instrument for raising academic production. According to Ampomah (2016), training motivates workers, and training and development lead to improved worker performance. Despite complaints of insufficient personnel, which increased employees' workload, Ankrah (2017) argues that training programs have a favorable effect on job skills and employee performance Innocent et al. (2017) found that training and development had positive impact on employees' performance of the Polytechnic in Nigeria despite organizational issues which constrained such as lack of management support for training and development programmes. Lola et al. (2017) revealed that training has significant positive relationship with job performance at Redeemers University Ede, Osun State.

According to Abdullahi et al. (2018), academic staff at Kano State Polytechnic in Nigeria is significantly and favorably affected in terms of their productivity by the training technique, training design, and training delivery style. Training and development improve staff performance and productivity at Abubakar Tatari Ali Polytechnic (ATAP) in Bauchi, according to Aliyu et al. (2018). According to Ajayi and Okhankhuele (2019), training both on and off the job had a major impact on the performance of employees at the Federal University of Technology Akure (FUTA), located in Ondo State, Nigeria. Nevertheless, management did not allocate enough money for the administrative staff's proper training. Employee performance at Hyderabad, Pakistani institutions was shown to be significantly and favorably impacted by trainings and improvements, according to Shah et al. (2019). Training and employee performance at Nasarawa State Polytechnic Lafia, College of Education Akwanga, and Nasarawa State University Keffi were shown to be significantly correlated by Elijah (2020). According to Sanusi et al. (2021), Kwara State Polytechnic employees' performance in terms of productivity and work quality is positively impacted by successful training programs, both on and off the job. Ilorin. Among other things, Abdulrahman and Mshelia (2022) found that training and development improves teachers' performance at Nigerian polytechnics.

Research Methodology

The study adopted a descriptive survey using questionnaire to collect data. A sample size of 69 Librarians were selected using multistage sampling technique from the target populatin. Descriptive statistics, (mean and percentage) were used for analysis. A mean score of 2.5 and above and a percentage score of 50% were considered for decision making.

Population of the study

Table 1:Demographic information of population

S/N	Selected University Libraries in South South Nigeria	Population of Librarians
1	University of Portharcout Library	21
2	University of Delta Agbor	13
3	Federal University of Petroleum Resources Effurn	24
4	University of Benin, Edo State	**11**
	Total	**69**

Table 1 depicts the population of librarians which were randomly picked in some selected universities in Nigeria**.** They are: University of Portharcout Library has (21) librarians, University of Delta Agbor (13) librarians, Federal University of Petroleum Resources Effurn Kano has (24) librarians and University of Benin, Edo State has (11) librarians respectively.

Presentation of Results

Research Question One: What are the different types of staff development programmes organized for **l**ibrarians in some selected universities libraries in South-South, Nigeria?

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Table 2: Type of staff development programmes organized for librarians in some selected universities libraries in South-South, Nigeria

S/N	Items Statement	SA	A	D	SD	-X	Remarks
1	Conferences	25	33	11	0	3.2	Accepted
2	Professional Workshops	29	37	1	2	3.3	Accepted
3	Field Trips	33	23	5	8	3.1	Accepted
4	ICT Training	34	21	7	7	3.1	Accepted
5	In Service,Training	21	22	12	14	2.7	Accepted

Table 2 shows the staff development programmes organized for librarians in some selected universities libraries in South-South, Nigeria in the following order: Conference (3.2), Professional workshops (3.3), fieldtrip (3.1), ICT training (3.1) and in service training (2.7) respectively. This is in line with Babagana (2014) who found that training and development improves job effectiveness since it keeps their knowledge and skills up to speed with today's demands.

Research Question Two:

How does staff development program positively influence librarian's job performance in some selected universities libraries in South-South, Nigeria?

Table 3: How staff development program positively influences librarian's job performance in some selected universities libraries in South-South, Nigeria

S/N	Items Statement	SA	A	D	SD	-X	**Remarks**
1	Enhancing librarians skills	25	23	11	10	2.9	Accepted
2	Knowledge and motivation	34	23	2	10	3.1	Accepted
3	Leading to increased productivity	41	16	10	2	3.3	Accepted
4	Efficiency, and overall organizational effectiveness	27	25	6	11	2.9	Accepted

Table 3 depicts how staff development program positively influence librarian's job performance in some selected universities libraries in South-South, Nigeria in the following order: Enhancing librarians' skills (2.9), Knowledge and motivation (3.1), Leading to increased productivity (3.3) and Efficiency, and overall organizational effectiveness (2.9) respectively. This finding is supported with Gambo (2015), when he opined that training and development initiatives boost workers' performance and abilities, provide them the technical know-how they need to meet today's difficulties, and are a useful instrument for raising academic production.

Discussion of findings

The study is on staff development programs on the job performance of Librarians in some selected universities libraries in South-South, Nigeria. Two research questions were formulated to guide the study. A descriptive survey was used. The study revealed the different types of staff development programs organized for librarians as Conference, Professional workshops, fieldtrip, ICT training and in service training. The study also affirmed how staff development program positively influence librarian's job performance in some selected universities libraries in South-South, Nigeria in the following order: Enhancing librarian's skills, knowledge and motivation, leading to increased productivity and efficiency, and overall organizational effectiveness.

Recommendations

The study recommends thus

1. Universities libraries in South-South should organize development programs for library staff to improve library staff job performance

2. The management of universities in South-South Nigeria should organize workshops for their Librarians regularly to improve their job performance.

Conclusion

The study came to the conclusion that staff development programs can improve the quality of services provided for higher productivity in South South Nigerian and other universities' libraries. Additionally, if university libraries assist library personnel in attending conferences, fund training for them annually, and conduct regular seminars and coaching programs, librarians in South South Nigerian university libraries will function at a high level on the job. The statistical study leads to the conclusion that librarian's performance is significantly impacted by training and development. As a result, every university library must address the problem of staff training and development. The quantity and caliber of training provided the availability of appropriate skills within the workforce, the flexibility of the current workforce, the degree to which the library supports the concept of career development, and other factors vary greatly from one department or organization to another are elements that affect growth and training.

References

Abdullahi, M.S., Gwadabe, Z.L., & Ibrahim, M.B. (2018). Effect of training and development on employee's productivity among academic staff of Kano State Polytechnic, Nigeria. *Asian People Journal,* 1(2), 264-286.

Abdulrahman, A., & Mshelia, A.G. (2022). Impact of training and development on employee performance: A Case Study of Ramat Polytechnic, Maiduguri and Federal Polytechnic, Damaturu. *International journal of advanced academic and educational research*, 13(6), pages 66 – 82

Ajayi, M. O., & Okhankhuele, O.T. (2019). Effect of training on the performance of university administrative staff in Nigeria. *International journal of technology and management research*, 4, 1-10.

Ampomah, A. (2016). Action research paradigm in the field of training and development. *Journal of European Industrial Training*, 27 (8), 413–422.

Ankrah, K. (2017). *Human Capital Management: Achieving Added Value through People*. USA: Kogan Page Limited.

Anyaegbu, M.I., & Wali, N.B. (2019). Influence of staff training and development on librarians job performance in federal university libraries in South-South Nigeria. *Library research journal, 3*8-6

Awogbami, P.A., Opele, J.K., & Adeoye, R.A. (2021). Staff development program and service delivery in academic library: Implication for knowledge management in the University of Lagos, Nigeria. *Global Journal of Applied, Management and Social Sciences* (GOJAMSS), 21, 273– 279

Babagana, O. (2014). Impact of motivation on employee performance with effect of training: Specific to education sector of Pakistan', *International journal of scientific and research publications,* 3 (9), 1-9.

Elijah, O.Z. (2020). Effect of employees' training on performance of academic staff of some selected tertiary institutions in Nasarawa State (2011-2017). *African journal of social sciences and humanities research,* 3(6), 65-77

Etchie , J. & Ogbomo, OM.(2024). In-service training for teachers in New Zealand schools. What's new publications. *North American Association of Educational Negotiators* (NAEN), 15 (1), 5

Folorunso, F J & Urhiewhu, L. (2016). Roles of academic libraries in university accreditation in Nigerian: challenges and way forward. *Journal of Applied Information Science and Technology*, 9 (2),17-22

Gambo, M. (2015). Effect of online social networking on employee productivity. South African *Journal of information management*, .11(1), 1-11.

Godwin, L. S., Adeniran, P. O., & Jamogha, O. (2020). Influence of staff training and development on employee performance in selected university libraries in South-West, Nigeria. *International Journal of Library and Information Science Studies*, 6(3), 25-38

Innocent, A. Almajali, D. A., Masa'deh, R., & Tarhini, A. (2016). Antecedents of ERP Systems Implementation Success: A Study on Jordanian healthcare sector. *Journal of Enterprise Information Management*, 29(4), 549-565.

Lola, H. Baron, A. & Armsthong, M. (2017). *Human Capital Management*: Achieving Added Value through People. USA: Kogan Page Limited.

Lou, C., Li, L., Li, H., Bruk-Lee, V., Ma, J., & Liu, Y. (2021). Supervisor–employee task conflict, and supervisor ostracism: the moderating effect of supervisors' and employees' interpersonal harmony values. *International Association of Applied Psychology*, 1-27.

Melián-González, S. & Bulchand-Gidumal, J. (2017). Information technology and front office employees' performance. International Journal of Contemporary Hospitality Management, 29(8), 2159 – 2177

Oche, N. A. A., Odunlade, R. O. & Ojo, J. O. (2021). Professional development as a correlate of job performance of librarians in the State Polytechnics in North Central, Nigeria. *Information Impact | Journal of Information and Knowledge Management,* 7 (1): 129-137.

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Sanusi, S. I., Adedoyin, I. S., and Ishola, J. A. (2021). Effects of training on academic staff performance in Kwara State Polytechnic, Ilorin. *Journal of management thought and practice,* 13(1), 11-22.

Shah, S.N.J., Shah, R.H., & Soomro, M. (2019).Training and development impact on employees performance: A Study of Government Colleges of Hyderabad-Pakistan. Pakistan journal of humanities & social science research, 02(1), 129-136.

Smith, K. (2018). Barriers to continuous professional development in libraries. *Library trends*, 66(4), 564-582.

Stonent, .E. (2002). *Libraries and information management in Nigeria.* Maiduguri: EdLinform Services.

Ugwueke , A., Agboola, I., Bamigboye, O., & Owolabi, R. (2021). Postgraduate Students' Satisfaction with Library Services at the Federal University of Agriculture, Abeokuta, Nigeria. *Library Philosophy and Practice*, 2508. https://digitalcommons.unl.edu/libphilprac/2508

Uzohuo, P. (2007). Use of information resources and services among undergraduates in the Ibadan library school, University of Ibadan. *Library Philosophy and Practice* (ejournal). 6987. https://digitalcommons.unl.edu/libphilprac/6987

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Impact of Information Literacy on Job Satisfaction among Librarians in Some Selected Universities in Nigeria

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Abstract
The study investigated impact of Information literacy on job satisfaction among librarians in some selected universities in Nigeria. This study adopted the descriptive survey design. A sample Size was selected from the target population using multistage. A validated researcher-Developed Questionnaire with reliability coefficient of 0.7 was used to elicit information from respondents. Descriptive statistics was used to answer research questions raised for the study. The study revealed that impact of information literacy on the job satisfaction of university librarians in some university libraries in Nigeria improves performance and confidence, career development, reduced work-related stress, technological adaptability and enhanced creativity and innovation. The study further affirmed the extent of information literacy influences job satisfaction of university librarians i in the following order: Positive correlation with performance, Mediating role in job satisfaction, Career advancement and motivation, Confidence and self-efficacy and Innovation and efficiency. The study recommends that Universities should institutionalize programs for ongoing professional development, such as seminars, workshops, and refresher courses, to guarantee that library employees are always improving and expanding their Information Literacy abilities.

Keywords: Information literacy, job satisfaction, librarians, university

Introduction
In order to facilitate teaching, learning, and research, university librarians oversee academic library resources, both print and digital. They serve as information specialists, managing budgets, curating collections, teaching students' digital literacy, and communicating with teachers. Their positions are comparable to that of academic staff with similar rights and obligations. University librarians must embrace information literacy if they are to see good change in university libraries. In order to solve problems and make wise decisions in a world full of information, information literacy is the capacity to identify when you need information, then locate, assess, use, and communicate it effectively and morally. It involves abilities like critical thinking, source evaluation, research, and comprehension of digital tools. In the digital era, it is essential for professional success and academic achievement. All university librarians must possess information literacy proficiency in order to provide their services successfully and efficiently. The American Library Association (ALA) (2000) emphasized that university librarians must be information literate in order to have simple access to information. The adoption of information literacy in the university libraries has enhanced the job satisfaction of university librarians.

Job satisfaction is the level of contentment, fulfillment, and positive emotional state an employee has towards their work. Job satisfaction is impacted by a number of factors, including the nature of the task, supervision, compensation, and work environment. It represents a person's attitudes and sentiments regarding their work in general as well as particular facets of it, whether favorable or unfavorable. According to Ezeji (2020), job satisfaction may be characterized as the extent to which employees desire both material and psychological fulfillment while carrying out given activities. George (2025), who defined job satisfaction as an employee's emotive reaction to his work environment, appears to concur with this description. University librarians' work effectiveness, research productivity, and user service quality are all greatly

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enhanced by information literacy (IL) abilities, which also contribute to increased professional contentment. According to Adeogun (2018), librarians must have the necessary ICT skills for the collection, organization, storage, distribution, and retrieval of information items due to the paradigm change from conventional library services to electronic services. According to (Baro & Eze, 2015), library employees lack the expertise needed to meet the demands of ICT-driven library services. At a time when ICTs have become actual instruments for improving university librarians' work satisfaction, there aren't many studies documenting the ICT training needs of library personnel in Nigerian institutions. It is in light of the above that prompted the researcher to investigate impact of information literacy on job satisfaction among librarians in some selected universities in Nigeria.

Statement of the problem

By boosting employee confidence, increasing performance, and facilitating efficient decision-making, information literacy (IL) in the workplace dramatically increases job satisfaction. It serves as a conduit for information exchange and innovation, resulting in increased and longer lasting involvement. Increased professional satisfaction is correlated with higher IL and, hence, information communication technology proficiency. The performance of librarians in academic contexts is strongly influenced by the association between media and information literacy and work happiness. Proficient media and information literate librarians who enjoy their work are better able to serve the objectives of the university library, successfully handle user requirements, and adjust to the ever-changing digital landscape. These librarians play a critical role in making the best possible use of information resources by offering instructors, researchers, and students' useful resources and platforms. As a result, work satisfaction becomes crucial as it directly affects their capacity to provide high quality services and make significant contributions to the academic community. It has been observed that literature on information literacy and job satisfaction exist, but not study has been carried on information literacy and job satisfaction of university librarians in some university libraries in Nigeria, hence the need for this study.

Research questions

The following research questions were formulated to guide the study

1. What is the impact of information literacy on the job satisfaction of university librarians in some university libraries in Nigeria?
2. To what extent has information literacy influence the job satisfaction of university librarians in some university libraries in Nigeria?

Literature Review

Information literacy

According to Singh and Srivastava (2014), media literacy training improves librarians' capacity to assess online resources, raise work satisfaction, and successfully instruct clients in information literacy. However, the use of technical literacy in libraries has greatly improved librarians' capacity to carry out their responsibilities. Technical literacy is defined by Cassner and Johnson (2014) as the capacity to utilize and comprehend a variety of technology tools, systems, and resources. For librarians, who are in charge of overseeing and granting access to a variety of technical resources, such as databases, software, digital archives, and library management systems, this ability is essential. Technical literacy skills enable librarians to help users with technology-related queries and problems, which boosts academic achievement and improves library services. Additionally, the National Cybersecurity Alliance (2021) emphasizes the need of digital security and privacy awareness for librarians. Making educated judgments concerning online privacy and comprehending and utilizing procedures and technologies to safeguard digital data, gadgets, and networks are all part of this component of digital literacy. As library services progressively shift online, a solid understanding of digital security and privacy is crucial, according to the National Institute of Standards and Technology (2017). Strong abilities in this area allow librarians to better protect the information of their patrons, which improves their work happiness and performance.

Digital literacy, according to Weller (2019), entails not just obtaining and assessing digital information but also utilizing it morally and comprehending its effects on society and the economy. Effective communication with digital technologies, such as social media, email, and online collaboration tools, is also included in this definition of digital literacy. Information literacy, media literacy, technical literacy, and digital security and privacy are the categories into which Uzohuo (2022) divides digital literacy abilities. The capacity to efficiently and morally locate, assess, and utilize information using digital tools and technology is known as information literacy, and it is a critical component of digital literacy (Association of

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College and Research Libraries, 2015). Strong information literacy abilities are crucial for librarians because they improve their capacity to handle electronic resources effectively, give effective training, and offer reference and research services. Enhancing information literacy abilities has a direct influence on librarians' work performance and the caliber of services they provide. However, the use of technical literacy in libraries has greatly improved librarians' capacity to carry out their responsibilities. Technical literacy is defined by Cassner and Johnson (2014) as the capacity to utilize and comprehend a variety of technology tools, systems, and resources. For librarians, who are in charge of overseeing and granting access to a variety of technical resources, such as databases, software, digital archives, and library management systems, this ability is essential. Technical literacy skills enable librarians to help users with technology-related queries and problems, which boosts academic achievement and improves library services. Additionally, the National Cybersecurity Alliance (2021) emphasizes the need of digital security and privacy awareness for librarians.

Job satisfaction

Both the general quality of library services and the personal and professional wellbeing of LIS staff depend on job satisfaction. A contented professional is better able to provide creative, effective, and user-focused services. Job satisfaction has been extensively studied over the past three decades (Landy, 2017). Gamlath and Kaluarachchi (2014) define job satisfaction as the degree to which "employees like or dislike their work and the extent to which their expectations concerning work have been fulfilled. "This indicates how much a person enjoys their work (Aamodi, 2017). It is widely accepted that fulfillment in one's work is a prerequisite for personal fulfillment. In a similar vein, job satisfaction may be defined as an emotional reaction to a scenario at work that is only implied rather than shown.

Job satisfaction is defined by Maheshkumar and Jayaraman (2013) as "an employee's attitude towards his or her work, organizational rewards, and the social, organizational, and physical environment in which work is performed." Numerous researches on the impact of work satisfaction and motivation on library staff performance have been conducted. For instance, Babalola and Nwalo (2013) investigated how employment motivation affected each librarian's productivity at Nigerian educational institutions. The research design used in the study was correlation. The study's population consists of 356 librarians working in Nigerian educational institutions. Questionnaires and a structured interview guide designed exclusively for college librarians were utilized as data gathering tools. The majority of the sampled librarians are not productive, according to the study's findings, indicating a poor level of performance and production. Additionally, employment motivation had a substantial impact on librarians' productivity ($r=0.275$; $p < 0.05$). Similarly, Bamgbose and Ladipo (2017) looked at how motivation affected workers' output and performance in a few academic libraries in Lagos State, Nigeria. Using a sample of 322 library employees from four chosen university libraries, the study used a survey research approach. A total of 322 copies of the questionnaire were distributed to library employees from certain libraries, and 266 of them—or 80%—returned with insightful answers.

Research Methodology

This study adopted the descriptive survey design. A sample Size was selected from the target population using multistage sampling technique. A validated researcher-Developed Questionnaire with reliability coefficient of 0.7 was used to elicit information from respondents. Descriptive statistics was used to answer research questions raised for the study.

Presentation of Results

What is the impact of information literacy on the job satisfaction of university librarians in some university libraries in Nigeria?

Table 1: Impact of information literacy on the job satisfaction of university librarians in some university libraries in Nigeria

	Items	SA	A	D	SD	-X	Decision
1	Improved Performance and Confidence	3	1	0	0	3.7	Accepted
2	Career Development	4	0	0	0	4.0	Accepted
3	Reduced Work-Related Stress	2	2	0	0	3.5	Accepted
4	Technological Adaptability	2	2	0	0	3.5	Accepted
5	Enhanced Creativity and Innovation	1	3	0	0	3.2	Accepted

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Table 1 shows the Impact of information literacy on the job satisfaction of university librarians in some university libraries in Nigeria as improved performance and confidence (3.7), career development (4.0), reduced work-related stress (3.5), technological adaptability (3.5) and enhanced creativity and innovation (3.2) respectively.

To what extent has information literacy influence the job satisfaction of university librarians in some university libraries in Nigeria?

Table 2: The extent to which information literacy influence the job satisfaction of university librarians in some university libraries in Nigeria

Items		VHE	HE	LE	NA	-X	Decision
1	Positive correlation with performance	4	0	0	0	4.0	Accepted
2	Mediating role in job satisfaction	2	2	0	0	3.5	Accepted
3	Career advancement and motivation	1	3	0	0	3.2	Accepted
4	Confidence and self-efficacy	4	0	0	0	4.0	Accepted
5	Innovation and efficiency	2	1	1	0	3.2	Accepted

Table 2 depicts the extent to which information literacy influence the job satisfaction of university librarians in some university libraries in Nigeria in the following order: Positive correlation with performance (4.0), mediating role in job satisfaction (3.5), career advancement and motivation (3.2), confidence and self-efficacy (4.0) and innovation and efficiency (3.2) respectively.

Discussion of Findings

The study is on Information literacy and job satisfaction of university librarians in some university libraries in Nigeria. Two research questions were formulated to guide the study. The shows that impact of information literacy on the job satisfaction of university librarians in some university libraries in Nigeria as improved performance and confidence, career development, reduced work-related stress, technological adaptability and enhanced creativity and innovation. The study further affirmed the extent to which information literacy influence the job satisfaction of university librarians in some university libraries in Nigeria in the following order: Positive correlation with performance, mediating role in job satisfaction, career advancement and motivation, confidence and self-efficacy and innovation and efficiency.

Conclusion

The study comes to the conclusion that librarians in some university libraries in Nigeria cannot function effectively without information literacy abilities. This implies that information literacy should be approached holistically, taking into account both the enabling environment in which librarians work and individual competency.

Recommendations

The study recommended that:

1. Universities should institutionalize programs for ongoing professional development, like as seminars, workshops, and refresher courses, to guarantee that library employees are always improving and expanding their IL abilities.
2. Universities should encourage employees to use internet resources and self-study in addition to seminars and on-the-job training. Self-directed learning might be strengthened by providing professional online training materials at a reduced cost.

References

Aamodi, A. (2017).). Rewards and job satisfaction: Imperatives for high performance in manufacturing firms – A study of Rivers State, Nigeria. *International journal of labour & organizational psychology*, 8 (1&2), 25 – 36

Adeogun, M. (2018). The Human Side of Organizations. New York: Addison Wesley Longman Inc

ALA – Allied Professional Association (2020). Library support staff certification programme: Competency Sets. Web. 12 August 2013.

Association of College and Research Libraries (2016). *Media Literacy as a major part of communication in Nigeria*. In: Kamalu, I and Tamunobelema, I (Eds). Issues in the study of language and literature: Theory and practice. Kraft Books Ltd

Babalola, G.A. & Nwalo, K.I.N. (2013). Influence of motivation on productivity of librarians in Colleges of Education in Nigeria. *Journal of information and knowledge management*. 3(5),70-75.

Bamgbose, A. A. & Ladipo, S. O. (2017). *Influence of motivation on academic library employees' performance and productivity* Labofin and Company, Lagos.

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Baro M.& Eze, O.(2015). Effect of perceived work environment on employees' job behaviour and organizational effectiveness. Journal of the indian academy of applied psychology 34 (1): 47-55.

Cassner, L. & Johnson, O. (2014). Foundations of library and information science. Neal Schuman Publishers, Inc

Gamlath, O. & Kaluarachchi, P. (2014).Top problems that affect employee productivity. Retrieved on 19/09/14 from http://everydaylife.globalpost.com/top-problems-affect employeeproductivity-13627.html

George, P.D. (2025). The determinant of job satisfaction among Beginning Librarians. *Library Quaterly* 49: 283-302.

Landy, M.(2017). Job satisfaction and motivation: What are the differences among these two? *European journal of business and social sciences*,3 (2), 94-102

Maheshkumar, O. & Jayaraman, J. (2013). Performance development: Employee recognition. Retrieved from http://hrweb.mit.edu/performance- development/employeerecognition on 18/09/14.

National Cybersecurity Alliance. (2021). https://www.staysafeonline.org National Institute of Standards and Technology (2017). https://www.nist.go

Singh, R. L. & Srivastava, N. (2014). Knowledge Sharing: A review and directions for future research. Human resource management review, 20(2), 115-131.

Uzohuo, A. (2022) Technical and vocational education for national transformation. Proceeding of 1st ASUP Zone D National Conference, 21-37.

Weller, K.U. (2019). Evaluating the Content validity of digital literacy instrument for school teachers in Malaysia through expert judgment. *International journal of emerging technology and advanced engineering,* 11(07), 71–78.

Zeeshan, M., Idrees, H., & Siddique, N. (2020). Measuring information literacy skills of graduate students of lahore university of management sciences (LUMS). Library Philosophy and Practice (e-Journal). https://digitalcommons.unl.edu/libphilprac/3866

Zeji, S. C. (2020). The relationship between professional training level of education experience and job satisfaction. *Nigeria journal of education and technology* (1): 32-37

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Correlational Assessment of Phonological awareness and Academic Achievement in English, Social Studies and Basic Science among Basic Eight Students in Kaduna State, Nigeria

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Abstract

Grounded in the Phonological Processing Theory (Torgesen & Wagner, 1987), which posits that efficient cognitive processing of sound structures is foundational for literacy, this study investigates the correlation between phonological awareness (PA) and academic achievement across three core subjects. The research was conducted among 255 Basic Eight students in Kaduna State, Nigeria, a multilingual context where English is the primary medium of instruction. Employing a descriptive correlational design, data were collected using a standardized Phonological Awareness Test and validated end-of-term examinations in English Language, Social Studies, and Basic Science. Pearson Product-Moment Correlation analysis revealed a statistically significant, very strong positive relationship between students' PA scores and their achievement in English Language ($r = .82$, $p < .001$). Further, strong and moderate positive correlations were found with achievement in Social Studies ($r = .75$, $p < .001$) and Basic Science ($r = .68$, $p < .001$), respectively. These findings affirm the central tenet of the theoretical framework, demonstrating that phonological awareness is not merely a skill for learning to read but a fundamental cognitive processor that underpins academic success across the curriculum. The study concludes that deficits in PA can create a significant bottleneck to knowledge acquisition in content-area subjects. Consequently, it is recommended that educational interventions designed to improve overall academic outcomes in junior secondary schools must integrate systematic, targeted support for this foundational skill.

Keywords: Phonological Processing Theory, Phonological Awareness, Academic Achievement, Cross-Curricular Literacy, Cognitive Load, Kaduna State, English as a Second Language (ESL).

Introduction

The junior secondary school phase in Nigeria presents a significant linguistic challenge for students, who must navigate complex academic content delivered primarily in English. Success in subjects like English, Social Studies, and Basic Science is heavily contingent on a student's ability to efficiently process written and spoken language. While the importance of reading skills is acknowledged, the specific role of underlying phonological processing capacities in content-area learning remains underexplored in the Nigerian context, particularly in linguistically diverse regions like Kaduna State (Adeniji, 2023). This study is grounded in the Phonological Processing Theory proposed by Torgesen and Wagner (1987). This theory posits that efficient reading and learning depend on three core, interrelated components: phonological awareness (the ability to manipulate sounds in words), phonological memory (the temporary storage of sound-based information), and rapid automatized naming (the quick retrieval of phonological codes from long-term memory). Deficits in any of these areas can create a bottleneck, constraining the cognitive resources available for higher-order tasks like comprehension and knowledge integration across the curriculum. In the context of Basic 8 education, this theory suggests that a student's performance in a subject like Basic Science is not solely a reflection of their scientific reasoning but also of their ability to phonologically decode terms like "photosynthesis," hold multi-step instructions in working memory, and rapidly retrieve related vocabulary. Similarly, in Social Studies, understanding concepts like "democracy" requires efficient phonological processing to access and manipulate the associated information. For many students in Kaduna State, who are often learning in English as a second or third language, these phonological demands present a significant hidden barrier to academic achievement (Bala, 2023). This study, therefore, has investigated the relationship between one key component of this theory; phonological awareness, and academic achievement in three core subjects. The objective was to determine the strength of the correlation between PA and performance in English, Social Studies, and Basic Science. By doing so, it

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has provided an empirical basis for integrating phonological processing support into broader educational strategies, thereby enhancing overall academic outcomes.

Literature Review

The theoretical foundation for this research is firmly anchored in the Phonological Processing Theory (Torgesen & Wagner, 1987). This framework moved beyond viewing phonological skills as a unitary construct and instead delineated specific cognitive mechanisms essential for literacy acquisition. According to this theory, phonological awareness allows for the segmentation and blending of words, which is critical for decoding. Phonological memory enables the temporary retention of verbal information (e.g., following a teacher's multi-step instruction), while rapid automatized naming (RAN) reflects the efficiency of retrieving phonological codes, which is crucial for reading fluency. The theory argues that weaknesses in these processing domains are a primary cause of reading difficulties and, by extension, challenges in learning from text. Empirical support for this theory is robust. Wagner and Torgesen (1987), in their seminal longitudinal studies, demonstrated that these three phonological processing abilities are significant and distinct predictors of reading skill development. Subsequent research has consistently shown that children with deficits in PA, phonological memory, or RAN are at a high risk for reading failure. In Nigeria, studies by Jimoh (2023) have applied aspects of this model, finding that deficits in phonological awareness were a primary distinguishing factor between skilled and less-skilled readers in junior secondary schools. The critical link to content-area learning lies in the cognitive load imposed by inefficient phonological processing. When a student must laboriously decode every word in a Science or Social Studies textbook, their working memory, the mental "workspace" for comprehension and problem-solving, becomes overwhelmed (Sweller, 1988). Research by Abubakar (2023) in Northern Nigeria found that students who struggled with reading fluency also showed poor comprehension of Social Studies passages, not because they lacked historical understanding, but because their cognitive resources were consumed by the act of decoding. Similarly, Eze (2024) noted that mispronunciation and confusion over scientific terminology often stemmed from weak phonological representations of those words, leading to fundamental conceptual errors. However, a clear gap persists. Most Nigerian studies have focused on the relationship between phonological skills and English literacy in isolation. There is a scarcity of research that systematically applies the multi-component Phonological Processing Theory to investigate how its core dimensions, starting with phonological awareness, correlate with discrete achievement in content-area subjects within the unique multilingual environment of Kaduna state. This study aims to begin addressing this gap by focusing on the phonological awareness component and its cross-curricular implications.

Research Methodology

This study employed a descriptive correlational research design to measure the relationship between phonological awareness (the independent variable) and academic achievement in English, Social Studies, and Basic Science (the dependent variables). A multi-stage sampling technique was used to select 250 Basic 8 students (125 males, 130 females) from three public secondary schools across the three senatorial districts of Kaduna State, ensuring representation of urban and rural settings. Phonological Awareness Test (PAT): A standardized instrument was used, comprising subtests aligned with the theory's definition of PA: syllable segmentation, phoneme isolation, phoneme blending, and phoneme deletion. The test demonstrated high reliability (Cronbach's alpha = 0.87). Academic Achievement Record (AAR): The official, cumulative end-of-term examination scores for third term in the three subjects: English Language, Social Studies, and Basic Science, were obtained from the school records for each participating student. These records, which are standardized across the state's public schools, were used as the measure of academic achievement. Data were collected over two weeks. The PAT was administered individually, while the Academic Achievement Records were collected from school administrative offices with permission from the Education Secretaries. The total scores of each student for each subject was used for analysis. Data were analyzed using Pearson Product-Moment Correlation (PPMC) to determine the relationship between PA scores achievement and scores in each subject (alpha = 0.05).

Research Question 1: What are the performance outcomes of Basic 8 students in Kaduna State across the five components of the Phonological Awareness Test?

Table 1 Descriptive Analysis

Variable	N	Mean	SD	Median	Min	Max	Skew
WA	255	2.18	1.10	2.00	0.0	4.5	-0.09
SA	255	2.44	1.19	2.50	0.0	5.0	-0.24

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RA	255	2.66	1.22	3.00	0.0	5.0	-0.06
ORA	255	2.97	1.40	3.00	0.0	5.0	-0.42
PA10	255	4.99	1.97	4.50	2.0	23.0	3.13

The results indicate that students performed moderately in all components of phonological awareness, with the highest performance recorded in Phoneme Awareness (Mean = 4.99) and the lowest in Word Awareness (Mean = 2.18). The skewness values suggest slightly negative distributions for WA, SA, RA, ORA, while PA10 shows positive skewness with high kurtosis. Word Awareness (WA) – Mean = 2.18/5. Students demonstrated *low-level awareness* of words as distinct units in spoken sentences. This indicates limited ability to segment sentences into individual words, a foundational skill for developing higher phonological awareness. Syllable Awareness (SA) – Mean = 2.44/5. Performance improved slightly, suggesting moderate ability to recognize and manipulate syllables. Students may identify syllable boundaries but inconsistently apply this knowledge in reading or spelling tasks. Rhyme Awareness (RA) – Mean = 2.66/5. This moderate score shows some sensitivity to rhyme patterns, reflecting developing auditory discrimination. However, variability (SD = 1.22) suggests uneven exposure to rhyming activities or oral language experiences. Onset–Rime Awareness (ORA) – Mean = 2.97/5. This relatively higher mean indicates stronger skill in detecting onset (initial sound) and rime (ending sound) patterns, often linked to early reading decoding abilities. Phoneme Awareness (PA) – Mean = 4.99/10. When scaled equally (4.99/10 ≈ 2.50/5), students' phoneme-level awareness remains *moderate but underdeveloped.* Phoneme manipulation (such as blending, segmenting, and substitution) requires more advanced auditory analysis, explaining the lower relative performance. Distribution and Trends: The slightly negative skew in WA, SA, RA, and ORA suggests clustering of students around average-to-high scores with fewer very low performers.; The high positive skew in PA (3.13) implies many students scored low, with few high achievers, confirming that phoneme-level tasks were the most challenging.; Overall, students showed *progressive improvement* from broad word recognition to finer phonological tasks, consistent with the hierarchical development of phonological awareness.

Research Question 2: How is performance in the Phonological Awareness Test connected to performance in English, Social Studies, and Basic Science among Basic 8 students in Kaduna State?

Table 2: Correlational Analysis

Variables	English	Social Studies	Basic Science
Phonological Awareness	0.82**	0.75**	0.68**

The Pearson correlation results show a significant positive relationship between phonological awareness and academic achievement in all three subjects. The strongest relationship was observed between phonological awareness and English (r = 0.82), indicating that students with better phonological skills tend to perform better in English. All relationships are positive and significant ($p < .01$), indicating that students with stronger phonological skills tend to perform better academically. The strongest correlation is with English (r = 0.82), reflecting the direct linguistic link between sound awareness and reading comprehension, spelling, and vocabulary acquisition. Social Studies has a high positive correlation with phonological awareness at (r=0.75), reflecting the fact that phonological awareness and Social Studies are strongly related. Moderate correlation with Basic Science (r = 0.68) shows that phonological awareness extends beyond literacy to affect broader academic learning, likely because comprehension, terminology decoding, and verbal reasoning depend on phonological proficiency.

Research Question 3: How well does phonological awareness predict overall performance of Basic 8 students in English, Social Studies, and Basic Science?

Table 3 Regression Analysis

Model Predictor	B	SE	Beta	T	p-value
Constant	22.45	3.12	—	7.20	0.000001
Phonological Awareness Score	3.15	0.42	0.61	7.50	0.000001

Phonological awareness is a significant predictor of overall academic achievement. Specifically, a unit increase in phonological awareness is associated with a 3.15-point increase in composite academic scores. The positive unstandardized

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coefficient (B = 3.15) indicates that for each one-unit increase in total phonological awareness score, a student's overall academic performance rises by about 3.15 points. The standardized Beta (β = 0.61) shows a *strong predictive effect,* explaining a substantial portion of variance in academic achievement. With t = 7.50 and p < .001, the result is statistically significant, confirming that phonological awareness is a robust predictor of learning outcomes across subjects. This underscores the importance of integrating phonological training into early education to boost general academic performance.

Research Question 4: In what ways does phonological awareness influence how differently Basic 8 students perform in English, Social Studies, and Basic Science?

Table 4 Differential Analysis

Subject	R	R^2	t-value	p-value
English	0.82	0.67	22.79	0.000001
Social Studies	0.75	0.56	18.03	0.000001
Basic Science	0.68	0.46	14.75	0.000001

The results reveal that the relationship between phonological awareness and academic performance differs across subjects. English recorded the highest correlation (r = 0.82), followed by Social Studies (r = 0.75), and Basic Science (r = 0.68). This indicates that phonological awareness has the greatest influence on language-related subjects. English (R2 = 0.67): 67% of variance in English performance is explained by phonological awareness, the highest among the three. This is expected since phonological decoding directly influences reading fluency and comprehension. Social Studies (R2 = 0.56): Indicates that content, comprehension and vocabulary recall in Social Studies has a 56% dependence on literacy-related skills. Basic Science (R2=0.46): Slightly lower but still substantial, as students with better phonological awareness can more effectively decode scientific terms, understand textual information, and follow oral explanations. Collectively, these results confirm that phonological awareness contributes variably but significantly to academic success, exerting the strongest influence in language-rich subjects.

Hypotheses Testing

The study was guided by four null hypotheses designed to determine the nature and extent of the relationship between phonological awareness and academic achievement among Basic 8 students in Kaduna State. Each hypothesis was tested using appropriate statistical methods, and all four were rejected based on the empirical results. The expanded explanations below present the decisions and the reasoning drawn directly from the analyzed data.

Ho_1: There is no significant variation in the performance outcomes of Basic 8 students in Kaduna State across the five components of the Phonological Awareness Test.

Decision: Rejected.; Justification: The findings revealed clear and significant variations in students' performance across the five measured components of phonological awareness: word awareness, syllable awareness, rhyme awareness, onset-rime awareness, and phoneme awareness. Phoneme awareness has the highest mean of 4.99, followed by onset-rime awareness with a mean score of 2.97, rhyme awareness with a mean score of 2.66, syllable awareness with a mean score of 2.44, and lastly, wsord awareness with a mean score of 2.18. The data showed that students performed highest in phoneme awareness and lowest in word awareness, while the other components fell in between. This pattern suggests that the different dimensions of phonological awareness are not developed at the same rate among students. It became evident that as learners progress in their understanding of the sound structure of language, they tend to gain greater control over smaller sound units such as phonemes. This improvement at the phoneme level may reflect a more refined auditory and cognitive ability to distinguish and manipulate individual sounds in spoken words. The significant variation across components indicates that phonological awareness is a layered and developmental skill set, with each component representing a different stage of linguistic sensitivity. The rejection of this hypothesis confirms that Basic 8 students in Kaduna State exhibit diverse strengths and weaknesses across the spectrum of phonological awareness kills.

Ho_2: There is no significant relationship between performance in the Phonological Awareness Test and performance in English, Social Studies, and Basic Science among Basic 8 students in Kaduna State.

Decision: Rejected.; Justification: The correlation analysis demonstrated strong and positive relationships between phonological awareness and students' academic performance in all three subjects. The strength of the correlation was highest in English (r = 0.82), followed by Social Studies (r = 0.75), and then Basic Science (r = 0.68). These results clearly

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indicate that students who achieved higher scores in phonological awareness also performed better academically across the subjects measured. The close relationship between phonological awareness and English performance is particularly notable, given that English relies heavily on sound-symbol recognition, decoding, and comprehension. However, the meaningful correlations with Social Studies and Basic Science show that the influence of phonological awareness extends beyond language subjects. Students with stronger phonological processing skills seem to read, understand, and retain content more effectively in other disciplines as well. Thus, the rejection of this hypothesis confirms that phonological awareness plays an essential role in general academic performance, not only in English but also in subjects that require reading and comprehension of textual materials.

H_{O3}: Phonological awareness does not significantly predict the overall performance of Basic 8 students in English, Social Studies, and Basic Science.

Decision: Rejected. Justification: The regression analysis revealed that phonological awareness significantly predicts overall academic achievement. The statistical model indicated that for every one-unit increase in phonological awareness, there was a corresponding 3.15-point increase in composite academic scores. This means that phonological awareness contributes meaningfully and directly to students' academic performance across the three subjects examined. This result highlights phonological awareness as a strong and reliable predictor of learning outcomes. The finding implies that students with higher levels of phonological sensitivity tend to process information more efficiently, read with greater understanding, and express ideas more clearly. These abilities, in turn, enhance performance not only in English but in other content-based subjects that require comprehension, interpretation, and application of knowledge. The consistent predictive strength of phonological awareness therefore demonstrates that it serves as a foundational skill influencing broader academic success among Basic 8 students in Kaduna State.

H_{O4}: There is no significant difference in the relationship between phonological awareness and the performance of Basic 8 students across English, Social Studies, and Basic Science.

Decision: Rejected. Justification: The analysis revealed significant differences in the strength of the relationship between phonological awareness and performance across the three subjects. English showed the highest level of dependency on phonological awareness, followed by Social Studies and Basic Science. This variation indicates that although phonological awareness supports learning in all subjects, its degree of influence is not uniform. The stronger relationship observed In English suggests that the subject relies more directly on students' ability to recognize and manipulate the sounds of language for reading, spelling, and comprehension. In contrast, the relatively lower correlations in Social Studies and Basic Science suggest that phonological awareness supports learning in these subjects more indirectly, by improving reading fluency, vocabulary development, and the ability to interpret written material. The rejection of this hypothesis therefore confirms that while phonological awareness has a broad and positive effect on academic achievement, the magnitude of its impact varies depending on the linguistic and conceptual nature of each subject. The rejection of all four null hypotheses demonstrates that phonological awareness is both a significant and multidimensional factor influencing students' academic outcomes. The findings of this study show that phonological awareness does not function as a single, uniform ability but rather as a complex set of interrelated skills that develop progressively and contribute differently to learning across subjects. The overall results affirm that enhancing students' phonological awareness has the potential to strengthen their academic performance, not only in language-based subjects like English but also in concept-oriented subjects such as Social Studies and Basic Science.

Summary of Findings:

The analysis revealed the following correlational relationships:

1. Phonological Awareness and English Language Achievement: A very strong, positive, and statistically significant correlation was found ($r = .82$, $p < .001$).
2. Phonological Awareness and Social Studies Achievement: A strong, positive, and statistically significant correlation was found ($r = .75$, $p < .001$).
3. Phonological Awareness and Basic Science Achievement: A moderate, positive, and statistically significant correlation was found ($r = .68$, $p < .001$).

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Discussion of Findings

The findings of this study provide robust empirical support for the tenets of the Phonological Processing Theory (Torgesen & Wagner, 1987) within the Nigerian junior secondary school context. The significant correlations observed between phonological awareness (PA) and achievement across three distinct subjects underscore the theory's assertion that efficient phonological processing is a foundational pillar of academic learning, not merely a skill for reading English.

The Centrality of PA in English Language Achievement

The very strong positive correlation ($r = .82$, $p < .001$) between PA and English Language achievement is a direct and expected validation of the theory. Torgesen and Wagner (1987) positioned phonological awareness as the cornerstone of decoding—the ability to map graphemes to phonemes. In the context of learning English as a second language in Nigeria, this decoding skill is paramount. Students with strong PA can efficiently break down unfamiliar words, which is a critical skill for vocabulary acquisition, reading fluency, and ultimately, comprehension (Jimoh, 2023). The high correlation suggests that a significant portion of the variance in English performance among Basic 8 students in Kaduna State can be attributed to their fundamental ability to manipulate and process the sound structure of the English language. This finding reinforces that struggles in English language classes are often, at their core, struggles with phonological processing.

Freeing Cognitive Resources for Learning in Social Studies

The strong positive correlation ($r = .75$, $p < .001$) with Social Studies achievement illuminates a more nuanced application of the theory. Social Studies, while content-heavy, is fundamentally a subject reliant on text comprehension, narrative understanding, and the processing of expository language. According to the Cognitive Load Theory (Sweller, 1988), working memory has a limited capacity. When a student's working memory is consumed by the effortful task of decoding words like "constitution," "globalization," or "infrastructure," few cognitive resources remain for the higher-order tasks of comprehension, analysis, and critical thinking. Efficient phonological processing, as facilitated by strong PA, automates the decoding process. This automation "frees up" working memory resources, allowing students to focus on understanding the historical significance of events, the interconnectedness of social systems, and the meaning behind the text, rather than struggling with the text itself (Abubakar, 2023). Therefore, PA indirectly supports Social Studies learning by enabling the cognitive conditions necessary for deep comprehension.

The Interplay of Skills in Basic Science

The moderate, yet statistically significant, correlation ($r = .68$, $p < .001$) with Basic Science achievement offers a compelling insight into the multi-faceted nature of science learning. This finding aligns with the Phonological Processing Theory but also highlights its boundaries. Basic Science undoubtedly presents a high linguistic demand; complex, multi-syllabic terminology like "photosynthesis," "electromagnetism," and "precipitation" requires sophisticated phonological skills to decode and process (Eze, 2024). A student with poor PA will likely stumble over these terms, hindering their access to the underlying concepts. However, the moderate strength of the correlation indicates that other cognitive domains account for a larger proportion of the variance in science performance. Success in Basic Science also heavily depends on logical reasoning, mathematical ability, visual-spatial skills for interpreting diagrams, and hands-on practical reasoning (Adeniji, 2023). A student might have strong phonological awareness but struggle with the abstract logic of the scientific method. Conversely, a student with moderate PA might excel in science due to strengths in these other non-linguistic domains. Thus, while PA is a crucial enabling skill for handling the language of science, it is one of several core competencies required for high achievement. This finding cautions against a reductionist view and emphasizes the need for a holistic approach to student support.

Implications for Educational Practice

The convergence of these findings through the lens of Phonological Processing Theory has critical and multi-layered implications for the Nigerian educational system.

Implications for Diagnostic Assessment and Student Support

The results argue compellingly for a systemic shift from reactive to proactive student support. Relying on examination failure to identify learning difficulties is too late. There is an urgent need for the implementation of early and routine screening for phonological processing deficits at the entry point into junior secondary school (Basic 7). As Oyetunji (2022) notes, "the window for effective intervention narrows with each academic year, making early diagnosis critical" (p. 154). Such screening should be comprehensive, assessing not only PA but also phonological memory and rapid automatized naming (RAN), as a weakness in any of these areas can manifest as an academic struggle. A student with poor phonological

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memory may fail to follow multi-step science instructions, while a student with a RAN deficit may read so slowly that they cannot complete their Social Studies textbook assignments (Bala, 2023). A detailed diagnostic profile allows for support that is precisely targeted to the root cause of the difficulty.

Implications for Instructional Practice and Pedagogy

The theory-driven nature of these findings demands a move beyond generic instructional strategies towards highly differentiated pedagogy. The "one-size-fits-all" remedial reading class is an inefficient solution. Interventions must be as specific as the processing deficits they aim to address.

i. For students with phonological memory deficits, teachers across all subjects can implement "cognitive load lightening" strategies. This includes providing written instructions to supplement verbal ones, "chunking" information into smaller units, and using graphic organizers to offload information from the auditory channel (Mohammed & Ibro, 2024).

ii. For students struggling with RAN and reading fluency, repeated reading exercises using subject-specific texts, timed practice with high-frequency academic vocabulary, and partner reading can help build automaticity (Adekanye, 2022). This approach transforms instructional practice from a blanket coverage model to a diagnostic and prescriptive one.

Implications for Teacher Training and Professional Development

The current model of teacher training, which often siloes subject knowledge, is rendered inadequate by this study's conclusions. The pervasive assumption that literacy is the sole responsibility of the English teacher must be dismantled. Pre-service training for all secondary school teachers must incorporate foundational modules on language acquisition and the Phonological Processing Theory. Social Studies and Science teachers need to understand that a student's difficulty may stem from a phonological barrier to the language of the discipline, not a conceptual deficit (Bello, 2022). For in-service teachers, professional development must provide concrete, subject-specific strategies. Science teachers can learn to break down complex terms morphologically, while Social Studies teachers can be trained in pre-teaching key vocabulary. This represents a paradigm shift, equipping every teacher with the tools to be a teacher of literacy within their specific content area.

Conclusion

This study, rigorously guided by the Phonological Processing Theory (Torgesen & Wagner, 1987), has unequivocally demonstrated that phonological awareness is a powerful, cross-curricular factor correlating significantly with academic achievement. The gradient of the correlations provides a nuanced map of the linguistic demands of English, Social Studies, and Basic Science, yet the consistent significance across all three confirms a universal truth: a deficit in this foundational cognitive skill can create a significant bottleneck to learning. By pinpointing this specific cognitive barrier, our educational response can evolve from generic support to precisely targeted, theory-driven interventions. The findings advocate for a paradigm shift in interpreting academic underperformance. For many students in multilingual contexts like Kaduna State, the challenge is not a lack of intelligence or effort, but a weakness in the cognitive tools required to process the academic language through which knowledge is delivered. The student who fails a Basic Science test may understand the concept of plant growth but be defeated by the phonological complexity of "photosynthesis." Recognizing this distinction is a crucial step toward educational equity. Addressing these core phonological processing skills is, therefore, an essential strategy for unlocking the inherent potential of every learner.

Recommendations

Based on the implications drawn, the following concrete recommendations are proposed for educators, administrators, and policymakers.

1. Implement School-Wide, Integrated Literacy Support: It is recommended that the Kaduna State Universal Basic Education Board (SUBEB) mandate and resource integrated literacy support programs. A daily "Literacy Across the Curriculum" period should be instituted, where all teachers use materials from their subjects to explicitly teach phonological and vocabulary skills. For example, a Basic Science teacher could use a text on ecosystems to practice syllable segmentation with words like "bi-o-di-ver-si-ty," thereby reinforcing both literacy and content knowledge simultaneously (Eze, 2024).
2. Mandate Differentiated Instruction Training: The State Ministry of Education should partner with teacher training institutions to develop and deliver compulsory professional development on differentiated instruction, grounded in the

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Phonological Processing Theory. This training would provide teachers with a toolkit of strategies to identify and support the varied phonological processing profiles in their classrooms, from memory aids to fluency-building exercises.

3. Enact Supportive Policy Development: For sustainable change, policy must be aligned with evidence. It is recommended that the Ministry of Education revises the official curriculum to mandate the integration of foundational literacy skill development into the scheme of work for all junior secondary subjects. This policy shift would formalize the cross-curricular responsibility for literacy and guide resource allocation (Okoro, 2023).
4. Foster a Culture of Evidence-Based Research: To build a more robust, local knowledge base, government agencies should partner with universities to fund further research. Priority should be given to longitudinal studies tracking student progress and intervention studies testing the efficacy of theory-driven literacy programs in STEM and social science subjects within Nigeria (Bala, 2023).

Tribute

This research resonates deeply with the symposium's theme, "Celebrating a Legacy of Scholarship, Mentorship, and Academic Leadership." It stands as a direct tribute to the pioneering spirit of scholars like Professor Sadiq Mohammed, whose career has brilliantly bridged the gap between linguistic theory and classroom practice in Nigeria. In the spirit of Professor Mohammed's mentorship, this study has applied a robust theoretical framework to illuminate a critical pathway and a significant obstacle to learning. We honour the legacy of such academic leaders not only by remembering their contributions but by building upon them, using the tools of scholarship to forge tangible, empowering strategies for the next generation. It is through this continuous cycle of theoretical application and practical problem-solving that their legacy truly endures.

References

Abubakar, S. (2023). Reading fluency as a predictor of academic performance in Social Studies among JSS II students in Kano State. *Nigerian Journal of Social Studies*, *26*(1), 45–60.

Adekanye, R. (2022). Phonological processing skills and English literacy achievement: A study of Nigerian primary school pupils. *Ife Journal of Educational Studies*, *18*(2), 112–128.

Adeniji, M. (2023). The language barrier in STEM education in Nigeria: A review. *African Journal of Educational Research and Development*, *15*(3), 88–102.

Bala, H. (2023). Linguistic diversity and educational equity in Northern Nigeria: Challenges and prospects. *Zaria Journal of Educational Studies*, *12*(1), 33–49.

Bello, T. (2022). The washback effect of high-stakes testing on English language teaching in Nigeria. *Language Testing in Africa*, *4*(1), 88–105.

Eze, N. (2024). Scientific literacy and conceptual understanding in Nigerian junior secondary schools. *Journal of Science Education and Practice*, *9*(1), 77–95.

Jimoh, L. (2023). Metalinguistic awareness and its impact on second language writing skills in a multilingual context. *Journal of Language and Linguistics*, *17*(2), 55–72.

Mohammed, A., & Ibro, G. (2024). In-service training and teacher efficacy in implementing the communicative English curriculum in North-Eastern Nigeria. *Journal of Teacher Development*, *28*(3), 145–162.

Okoro, C. (2023). Resource availability and the implementation of English language curriculum in public secondary schools in Southern Nigeria. *Nigerian Journal of Educational Research and Evaluation*, *22*(1), 33–49.

Oyetunji, C. (2022). Vocabulary knowledge and academic achievement in content-area subjects: The Nigerian junior secondary school experience. *International Journal of Education and Literacy Studies*, *10*(4), 145–158.

Sweller, J. (1988). Cognitive load during problem solving: Effects on learning. *Cognitive Science*, *12*(2), 257–285.

Torgesen, J. K., & Wagner, R. K. (1987). The phonological processing theory of reading disabilities. In J. B. McCawley & J. Torgesen (Eds.), *Central issues in learning disabilities* (pp. 135–158). Academic Press.

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Comparative Assessment Between Perceived Social Support and Academic Self-Efficacy on Emotional Adjustment among State-Owned University Undergraduate Students in Kano State, Nigeria

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Abstract
This study was conducted to examine relationships between perceived social support and academic self-efficacy on emotional adjustment of undergraduate university students enrolled in public universities in Kano Nigeria. This study employed a quantitative approach with planned data collection and analysis using a cross-sectional survey design to address the research objectives. The developed and validated questionnaire was used to assess students' perceived social support, academic self-efficacy and emotional adjustment respectively. A total of 265 undergraduate students were selected using simple random sampling technique. Findings revealed a significant and positive relationship between students' perceived social support and their overall university adjustment as well as all the four adjustment dimensions namely academic adjustment, social adjustment, personal-emotional adjustment, attachment to university, and academic achievement (Beta=0.529, R^2= 0.280, p< 0.05). Similarly, the finding indicated that, Academic Self-efficacy is a significant variable for Emotional Adjustment among undergraduate students in Kano (Beta=0.453, R^2 =0.205, p< 0.05). This study provides important evidence for undergraduates, lecturers, university administrators, and the community at large regarding the important role of social support and academic self-efficacy in university adjustment. It is recommended among others that, universities should provide support services to assist new undergraduates to overcome their adjustment problems. Similarly, lecturers should be encouraged to establish informal interface with students outside the classroom, as rewarding interactions between students and the lecturers outside the classroom may enhance intellectual development and therefore create greater intellectual integration among undergraduate students within the university system.

Keywords: *social support services, emotional adjustment, academic self-efficacy, psychological factors*

Introduction
Education plays a vital role in development of human capital and is linked to an individua's well-being and opportunities for better living. It ensures the acquisition of knowledge and skills that enable individuals to increase their productivity and improve their quality of life (Battle and Lewis, 2002). Education is also viewed as an important investment in human capital for improving the quality of life and poverty reduction (URT, 2010). With university education, the benefits are far reaching. University is an open system where all members including students, teachers and administrators interact with one another. There is the need, therefore, to establish a conducive social environment, a healthy school environment where there is collective responsibility and effective interpersonal relationship among the different groups of members of the university community (teachers, students, and administrator). Several factors have been identified as contributory to students' academic achievement these include home background, personality and intelligence, parent socio-economic standing, social environment and societal norms. Poor physical, psychological and social aspect of the school environment have effect on academic achievement of students, as a consequence, the goals of university may be jeopardized. The transition from secondary school to university and other tertiary institutions can be considered as a major life changing experience for many students (Abdullah, Kong & Talib, 2014; Salami, 2011). This transition is supposed to be a very interesting and valuable experience for all the students as attending university offers them a great opportunity for psychosocial development (Friedlander, Reid, Shupak, & Cribbie, 2007; Tao, Dong, Pratt, Hunsberger, & Pancer, 2000).

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In the transition to university, students' academic, social, and emotional adjustment are perhaps the three most important domains to consider. Academic adjustment, or how well students deal with educational demands, includes motivation to complete academic work, success in meeting academic requirements, academic effort, and satisfaction with the academic environment. Similarly, previous studies have recounted that the transition to university can be a source of strain and an acute stressor (Friedlander et al., 2007; Perry, Hladkyj, Pekrun, & Pelletier, 2001). New undergraduates are confronted with numerous new personal and interpersonal challenges. For example, they need to build new connections, to modify existing relationship with parents and family members, and to develop new learning habits in a new academic environment (Parker, Summerfeldt, Hogan & Majeski, 2004). These new undergraduates are more likely to drop out from university if they fail to meet these challenges (Abdullah, Kong & Talib, 2014). One reason new undergraduates dropped out of university was due to adjustment difficulties. Studies have also demonstrated that adjustment among first year undergraduates has a strong influence on their academic self-efficacy and achievement (Martin et al., 1999; Sennett, Finchilescu, Gibson, & Strauss, 2003). According to a study conducted by Ahmad, Noran Fauziah, Azemi and Mohd. Zailani (2002) in public universities, the emotional adjustment problems faced by new undergraduates include academic problems, health problems, financial crises as well as social and personal problems. For example, some of the academic problems faced by students were: unable to register for courses, difficult to understand textbooks written in English, and unable to attend lecture as early as eight in the morning. Financial problems included receiving funds late from the provider or the received amount of fund was not enough to cover the expenses during the course of study. On top of that, students also found difficulty in taking care of their health. Based on the scenario mentioned above, the adjustment process undergone by new undergraduates should be given appropriate attention as serious adjustment problems experienced by these students could lead to the failure in completing their studies. The importance of adjustment among new undergraduates has encouraged a great deal of studies to explore the factors that are related to it. Social support is among the psychological factors that has been identified as an important predictor of college adjustment (DeBerard, Spielmans, & Julka, 2004; Spitzer, 2000) among new university students. In a study conducted by Mattanah, Brooks, Brand, Quimby, and Ayers (2012), it was reported that students who seek support from faculty and peers were more likely to succeed academically.

Emotional adjustment is the preservation of emotional equilibrium in the face of internal and external stressor, this is facilitated by cognitive process of acceptance and adaption such as maintaining emotional control and coping behavior in the face of an identity crisis (Mallinckrodt 1992) frequently intense and apparently unjustified emotional outburst lead others to judge the individual as immature; suppression of emotional expression result in moodiness, which tends to make the individual rude uncooperative and preoccupied with self a satisfactory state of personal and emotional adjustment may say to be exist when and individual physical and psychological needs can be satisfied by socially acceptable patterns of behavior. According to Shaffer (1999), Emotional adjustment as a means or reaction to the demands and pressures of environment imposed upon an individual coping with maintenance of both internal and external equilibrium of individual personality. The ultimate aim of psychologies is to train the youth to make proper adjustment to the different types of environment in which they have to live. Psychologist have brought to light on the basis of their research that making proper adjustment to the changing nature of the environment is the most important perquisite condition for a happy and successful life. An individual is not born adjusted or maladjusted. It is his physical, mental and emotional potentialities that are influenced and directed by the factor and environment in which he finds himself adjusted. Mathur and Pareekl (2003) state that emotional adjustment is a process in which the personality is continuously striving for greater sense of emotional health, both intra-physical and intrapersonal. An emotionally mature person has the capacity to withstand delay in satisfaction of need. He has the ability to tolerate a reasonable amount of frustration, he believes in long-term planning and is capable of delaying or revising his expectation in term of demand of the situation. Determinants of students' emotional adjustment in universities have preoccupied psychological as well as educational research for several decades. Emotional adjustment is a complex problem of human behavior; no single factor can be pin-pointedly as its cause. It is the outcome of multifactor interacting with the developing personality of the student. There are numerous factors in home, society and school which lead to emotional adjustment. Several problems have been identifying to be affecting social and emotional adjustment of student such as physique, long sickness, poverty, broken home, personal inadequacies, parental attitude adoption and emotional shock. Social support is very much important for individuals in their life. Deficits in social support have been shown to be related to many psychological problems such as depression, loneliness, and anxiety (Eskin, 2003).

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Elliot and Gramling (1990) found that social support helps the college students to lessen depression, anxiety, and stress. They also found that social support could help the students manage and lessen their psychological problems. Social support has also been recognized to have significant impact on the achievement of the students. The support received by the students could help to decrease their psychological problems since they feel that someone is there to help them, thus helping them to perform well in academic life. Social support and academic self-efficacy are two important structures to be taken into account while studying the causes of emotional adjustment and academic success. These structures are flexible and improvable through necessary interventions. On the other hand, research has indicated that Social support and academic self-efficacy are positively related to emotional adjustment and both of these variables can predict each other. Self-efficacy refers to the beliefs about one's capabilities to learn or perform behaviors at designated levels (Bandura, 1997). In as a study trying to investigate the achievement motivation and self-efficacy in relation to adjustment among university students Habibah, Nooreen and Rahil (2010) found that achievement motivation and self-efficacy range from moderate to high levels indicating that they have the potentials to succeed. The three variables namely adjustment, achievement motivation and self-efficacy were found to be correlated positively with one another. A meta-analysis by Crede and Niehorster (2012) further supported the influence self-efficacy had on adjustment, as they found that self-efficacy had the strongest positive relationship with adjustment to university.

Social support among adults has been studied extensively over the past few decades. These studies indicated that social support contributes to the physical and psychological well-being of adults, thus reducing the negative effects of life stress experienced by them. A study conducted by Sharifah, Azizah and Rosna (2011) reported that teacher and parental support were significantly related to adolescents' cognitive engagement through their academic efficacy. Other studies showed that support from parents, friends, teachers, and significant others contributed to academic, social and emotional development of first year undergraduates (Friedlander et al., 2007; Tao et al., 2000). Previous studies by Crockett at al. (2007), Yusliza (2011), and Salami (2011) have revealed a positive relationship between social support and adjustment among university students. For example, Lidy and Kahn (2006) in a study involving 111 new students at a public university in the Midwest reported that social support had a direct effect on the dimensions of academic adjustment (= .28, p = .01), social adjustment (= .39, p = .01), and institutions linkage (= .31, p = .01). The relationship between social support and adjustment were also reported in the study by Salami (2011) involving 250 first year college students. Findings in Salami's (2011) study showed that students who have sources of social support from friends and family members, such as guidance feedback, intimacy, positive social interactions and tangible assistance are likely to be able to handle effectively academic, social, and personal-emotional problems in their new college environment. Similar results were also reported by Yusliza (2011) in a study involving 185 international students enrolled in one of the Malaysian public universities. Using the Multidimensional Scale of Perceived Social Support (MSPSS) developed by Zimet, F. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988), Yusliza's study revealed that only one dimension of the MSPSS which is the support from friends and significant others was found to show significant relationship with psychological adjustment among the students. Overall, the aforementioned studies had shown that social support contribute to the adjustment of students in university. Social support and academic self-efficacy are an aspects that should be reviewed since it is described as both a buffer against life stressors as well as an agent promoting health and wellness (Dollete, Steese, Phillips, & Matthews, 2004). Researches has shown that social support and academic self-efficacy play an important role in managing psychological problems. Lack of social support has been found to be one of the factors that lead to many psychological problems among students. A growing number of literature and empirical research have indicated the relationship between social support and psychological problems among students. Therefore, this study attempts to understand the role of social support and academic self-efficacy in managing the emotional adjustment problems faced by the undergraduate students of Nigerian universities specifically public universities in Kano.

Objectives of the study

The objectives of the study are to:

1. Investigate the effect of Social Support on the Emotional Adjustment among Undergraduate Students in Kano.
2. Examine the effect of Academic Self-Efficacy on the Emotional Adjustment among Undergraduate Students in Kano

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Research Questions

The following research questions would guide the study:

1. What is the effect of Social Support on the Emotional Adjustment among Undergraduate Students in Kano?
2. What is the effect of Academic Self-Efficacy on the Emotional Adjustment among Undergraduate Students in Kano?

Research Methodology

This is quantitative research. A cross-sectional survey design was adopted to collect the relevant data for the evaluation of the effect of perceived social support and academic self-efficacy on emotional adjustment among undergraduate students in Kano. In a cross-sectional survey design, the researcher measures the outcome and the exposures in a survey participant at the same time (Levin, 2006; Setia, 2016). The instrument of data collection is a developed and validated questionnaire tagged '*Social Support, Academic Self-Efficacy and Emotional Adjustment Assessment Scale (SOEAC)'*. The respondents were asked to state their level of agreement based on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly disagree). The instrument was validated by experts after which a pilot test was conducted to assess the construct validity and reliability of the instrument (Cronbach's $\alpha = 0.89$). This is deemed to be adequate to be utilize in collecting data in a cross-sectional study of this nature (Setia, 2016; Taber, 2018). The participants in this study were the 265 undergraduate students from two state universities in Kano, Nigeria, which include male and female. The respondents were selected using simple random sampling procedure. This technique was selected because the population is large and that problem at hand affect each and every member of the city (Creswell & Creswell, 2017). The questionnaire was distributed directly to the respondents in a face-to-face encounter during some selected open days. It is, therefore, the best selection strategy for study involving large group in a cross-sectional approach (Levin, 2006). The demographic characteristics of the respondents is presented in Table 1 below:

Table 1: Characteristic of Respondents

SN		Characteristic	Frequency	%
1	**Gender**	Male	150	56.6
		Female	115	43.4
2	**Age Group (Years)**	<20	75	28.3
		20-29	135	50.9
		30-39	55	20.7

Descriptive statistical analysis (frequency, percentages, mean and standard deviation) were carried out to summarize data. Similarly, descriptive statistics inferential statistical analysis (Regression Analysis) was used to address research objectives and test the study's hypotheses. The statistical program SPSS 25 was utilized to conduct the analyses. 5% level of significance will set for all statistical tests.

Presentation of Results

The results of this study was presented as described in the preceding section of Methodology. The results obtained using descriptive statistics inferential statistical analysis are presented in the following order to address the research objectives. Thus; Tests of Normality, in order to conduct the parametric inferential statistical analyses as well as regression analysis to determine the influence or effect among the study variables, it is recommended that the initial data be tested for normality. To apply the parametric inferential statistical, data should be normally distributed and where the data violate the normality assumption a non-parametric inferential statistical should be applied. Similarly, an essential means of determining the normality of data is to conduct a nonparametric test (Shapiro-Wilk test). Thus, the test of normality conducted in this study is presented in Table 2.

Table 2: Tests of Normality (Shapiro-Wilk)

Statistic	Variable	df	Sig.	
	Academic Self-Efficacy	0.783	265	0.321
	Perceived Social Support	0.783	265	0.321
	Emotional Adjustment	0.884	265	0.125

a. Li

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As presented in the above table, two normality tests were run. However, in this study, Shapiro-Wilk test statistics was considered. Shapiro-Wilk test is used because the requirement for a data set smaller than 2000 elements for normality can use it and for dataset of 2000 elements and above can use Kolmogorov-Smirnov test. In the case of this study, there are only 265 elements. Thus Shapiro-Wilk test is used (George & Mallery, 2010). The test results showed that the p-value for the entire study variables are generally greater than 0.05. This means that the data comes from the normal distribution. Therefore, parametric inferential statistics is more appropriate to be used in addressing the hypothesis.

Research question 1: *What is the effect of Social Support on the Emotional Adjustment among Undergraduate Students in Kano?*

The *F*-ratio in the ANOVA test presented in Table 3 shows whether the overall regression model is a good fit for the data in this study. The result table reveals that the independent variable statistically significantly predict the dependent variable, $F(1, 263) = 132.215$, $p < .05$. This means that the regression model has good fit for the data.

Table 3: ANOVA Test

ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	12.034	1	12.034	132.215	.000[b]
Residual	30.947	263	.091		
Total	42.981	264			

a. Dependent Variable: Emotional Adjustment

b. Predictors: (Constant), Social Support

The result presented in Table 3 revealed that, the correlation between Perceived Stress and the predictor (Emotional Adjustment) is .529. The R Square value of .280 means that, 28% changes in Emotional Adjustment is explained by Social Support among Undergraduate Students in Kano.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.529[a]	.280	.278	.30170

a. Predictors: (Constant), Social Support

b. Dependent Variable: Emotional Adjustment

This finding means that, the Social Support significantly influence Emotional Adjustment of Undergraduate Students in Kano. Further information revealed in Table 5 using the sample size of (n=342), revealed that the Social Support is the main variables for Emotional Adjustment among Undergraduate Students in Kano.

Table 5: Coefficient and Significance of the Regression

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.817	.103		17.682	.000
	Flexibility	.361	.031	.529	11.498	.000

a. Dependent Variable: Emotional Adjustment

The above result showed that, significantly, on the overall Social Support contributes 28% variance (R Square= .280) in the Emotional Adjustment in this study. The information in this Table means that Social Support (Beta=.529, p< .05) provide 28% variance (R Square=.280) in the dependent variable in this study (Emotional Adjustment). The finding of this research question on the overall revealed that, Social Support is a significant variable for Emotional Adjustment among Undergraduate Students in Kano. The significant relationship found between social support and university adjustment have provided significant information pertaining to the importance of the availability of social support perceived by students in relation to their adjustment to the university. Findings also revealed that social support among the undergraduates contributed not only to their overall university adjustment, but also to all the four adjustment dimensions (academic adjustment, social adjustment, emotional-personal adjustment, and university attachment). This finding concurred with the

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findings of previous researches which reported similar results (Abdullah, Kong & Talib, 2014; Salami, 2011; Friedlander et al., 2007; Tao et al., 2000). This finding provides evidence that students who perceived that social support was available in campus were likely to be able to cope effectively with their academic, social, and personal-emotional problems. They were also predicted to show a higher degree of commitment to educational-institutional goals and higher degree of attachment to the institutions they were attached to.

Research question 2: *What is the effect of Academic Self-Efficacy on the Emotional Adjustment among Undergraduate Students in Kano?*

The *F*-ratio in the ANOVA test presented in Table 6 shows whether the overall regression model is a good fit for the data in this study. The result table reveals that the independent variable statistically significantly predict the dependent variable, $F(1, 263) = 87.752$, $p < .05$. This means that the regression model has good fit for the data.

The result presented in Table 7 revealed that, the correlation between shows that the correlation between Emotional Adjustment and the predictor (Academic Self-Efficacy) is .453. The R Square value of .205 means that, 20% changes in Emotional Adjustment is explained by Academic Self-Efficacy among Undergraduate Students in Kano

Table 6: ANOVA Test

ANOVA[a]

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	8.817	1	8.817	87.752	.000[b]
Residual	34.164	263	.100		
Total	42.981	264			

a. Dependent Variable: Emotional Adjustment
b. Predictors: (Constant), Academic Self-Efficacy

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.453[a]	.205	.203	.31699

a. Predictors: (Constant), Academic Self-Efficacy
b. Dependent Variable: Emotional Adjustment

This finding means that, the Academic Self-Efficacy significantly influence Emotional Adjustment of undergraduate students in Kano. Further information revealed in Table 8 using the sample size of (n=342), revealed that the Academic Self-Efficacy is the main variables for Emotional Adjustment among Undergraduate Students in Kano.

Table 8: Coefficient and Significance of the Regression

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients B	t	Sig.
1	(Constant)	2.126	.093	22.846		.000
	Suitability	.247	.026	.453	9.368	.000

a. Dependent Variable: Emotional Adjustment

The above result showed that, significantly, on the overall Academic Self-Efficacy contributes 20% variance (R Square= .205) in the Emotional Adjustment in this study. The information in this Table means that Academic Self-Efficacy (Beta=.453, R Square= .205, p< .05) provide 20% variance (R Square=.205) in the dependent variable in this study (Emotional Adjustment). The finding of this research question on the overall revealed that, Academic Self-Efficacy is a significant variable for Emotional Adjustment among Undergraduate Students in Kano.

In addition, the present study indicated a significant relationship between academic self-efficacy and undergraduate student adjustment and this finding has further supported the importance of social support in undergraduate student adjustment. Overall, the findings from this study implies that the more social support perceived by new undergraduates in the university

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environment, the better they are in adjusting themselves to campus life (in terms of physical and psychological well-being). These findings concurred with the findings of previous studies which demonstrated the positive impact of social support on university adjustment (Abdullah, Kong & Talib, 2014; Crockett at al., 2007; Friedlander et al., 2007; Salami, 2011; Smith & Renk, 2007; Yusliza, 2011; Mattanah et al., 2012; Md Aris Safree & Mariam Adawiah, 2011).

Conclusions

This present research has provided evidence that social support and academic self-efficacy is an important predictor in determining emotional adjustment among new undergraduates in Kano. Hence, it is important for those who are involved in tertiary education such as lecturers, academic advisors, and university administrators to provide support services to assist new undergraduates who experience emotional adjustment problems and to prepare them to proceed on their studies with less problems.

Recommendations

On the basis of these findings, discussions and conclusion it is recommended among others that;

1. Lecturers need to have frequent contact with students to stimulate their learning. Besides the lecturers, the involvement of senior students as mentors or tutors to new undergraduates should be encouraged as senior students are found to significantly influence junior students' social and emotional adjustment.
2. Lecturers should be encouraged to establish informal interface with students outside the classroom, as rewarding interactions between students and the lecturers outside the classroom may enhance intellectual development and therefore create greater intellectual integration among undergraduate students within the university system.
3. Needs analysis' of new undergraduates relating to emotional adjustment should be carried out before planning any intervention programs or support services in relation to social support. This is to confirm that the programs and support services proposed are in line with the resources required by the undergraduate students.
4. In view of the limitation of this study, future study should be conducted to examine the influence of other factors on undergraduate emotional adjustment such as demographic factors and other psychological factors which may include students' emotional regulation ability, coping ability, self-esteem and self-regulation.

References

Ahmad Khamis, Noran Fauziah Yaakub, Azemi Shaari, Mohd. Zailani Mohd. Yusoff. (2002). *Adjustment to college life and academic performance among Universiti Utara Malaysia students*. (Unpublished manuscript). Universiti Utara Malaysia, Kedah, Malaysia.

Bandura, A. (1997). *Self-Efficacy: The Exercise of Control (1st Ed).* Worth Publishers, New York,

Battle, J., & Lewis, M. (2002). The Increasing Significance of Class. The Relative Effects of Race and Socioeconomic Status on Academic Achievement. *Journal of Poverty*, 6(2), 21-35

Crede, M., & Niehorster, S. (2012). Adjustment to College as Measured by the Student Adaption to College Questionnaire: A Quantitative Review of its Structure and Relationships with Correlates and Consequences. *Educational Psychology Review*, 24(1), 133-165.

Crockett, L. J., McGinley, M., Iturbide, M. I., Raffaelli, M., Torres Stone, R. A., & Carlo, G. (2007). Acculturative stress, social support and coping: Relations to psychological adjustment among Mexican American college students. *Cultural Diversity and Ethnic Minority Psychology, 13*(4), 347–355.

DeBerard, M. C., Spielmans, G. I., & Julka, D. C. (2004). Predictors of academic achievement and retention among college freshmen: a longitudinal study. *College Student Journal, 38*(1), 66–80.

Dollete, Steese, Phillips, & Matthews, (2004). Understanding girls' circle as an intervention on perceived social support, body image, self-efficacy, locus of control and self-esteem. *The Journal of Psychology*, 90 (2), 204 – 215.

Elliot, T.R., & Gramling, S.E. (1990). Personal assertiveness and the effects of social support among college students. *Journal of Counseling Psychology*, 37,427-436.

Eskin, M. (2003). Self-reported assertiveness in Swedish and Turkish adolescents: A cross-cultural comparison. *Scandinavian Journal of Psychology*, 44, 7–12.

Friedlander, L. J., Reid, G. J., Shupak, N., & Cribbie, R. (2007). Social support, self-esteem and stress as predictors of adjustment to university among fi rst - year undergraduates. *Journal of College Student Development, 46*(3), 223–236.

Habibah Elias, Nooreen Noordin and Rahil Hj. Mahyuddin (2010). Achievement Motivation and SelfEfficacy in Relation to Adjustment among University Students. *Journal of Social Sciences,* 6 (3): 333-339.

Lidy, K. M., & Kahn, J. H. (2006). Personality as predictor of first-semester adjustment to college: The mediational role of perceived social support. *Journal of College Counselling, 9*(2), 123–134.

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Mallinckrodt, B. (1992). Childhood emotional bonds with parents, development of adult social competencies, and the availability of social support. *Journal of Counseling Psychology*, 39, 453461.

Mathur M. Pareek M (2003) Adolescent problems behavior: A study of family risk factor. *Indian Journal of educational psychology*, 34: 59-66

Mattanah, J., Brooks, L. J., Brand, B. L., Quimby, J. L., & Ayers, J. (2012). A social support intervention and academic achievement in college: Does perceived loneliness mediate the relationship? *Journal of College Counseling, 15*(1), 22–35.

Md Aris Safree Md Yasin, & Mariam Adawiah Dzulkifl i (2011). The relationship between social support and academic achievement. *International Journal of Humanities and Social Science, 1*(5), 277–281.

Perry, R. P., Hladkyj, S., Pekrun, R. H., & Pelletier, S. T. (2001). Academic control in the achievement of college students: A longitudinal fi eld study. *Journal of Educational Psychology,* 93(4), 776– 789.

Salami, S.O. (2011). Psychosocial predictors of adjustment among first year college of education students. *US-China Education Review*, 8(2), 239–248.

Sennett, J., Finchilescu, G., Gibson, K., & Strauss, R. (2003). Adjustment of black students at a historically white south African university. *Educational Psychology*, *23*(1), 107–116.

Shaffer L.F. (1999). *Foundation of psychology.* New York: p511

Sharifah Azizah Syed Sahil, & Rosna Awang Hashim (2011). The roles of social support in promoting adolescent's classroom cognitive engagement through academic self-efficacy. *Malaysian Journal of Learning and Instruction*, *8*, 49–69.

Smith, T., & Renk, K. (2007). Predictors of academic-related stress in college students: An examination of coping, social support, parenting, and anxiety. *NASPA Journal, 44*(3), 405–431.

Tao, S., Dong, Q., Pratt, M. W., Hunsberger, B., & Pancer, S. M. (2000). Social support: Relations to coping and adjustment during the transition to university in the Peoples Republic of China. *Journal of Adolescent Research, 15*(1), 123–144.

United Republic of Tanzania (URT). (2010). *Higher Education Development Programme 2010-2015*. Dares Salaam. February, 2010.

Yusliza Mohd. Yusoff. (2011). Self-efficacy, perceived social support, and psychological adjustment in international undergraduate students in a public higher education institution in Malaysia. *Journal of Studies in International Education* [Online journal]. Retrieved from http://jsi.sagepub.com

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Comparative Assessment of Achievement Motivation, Emotional Intelligence and Academic Performance on Gender among Secondary School Students in Gusau Local Government Area, Zamfara State, Nigeria

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Abstract
This study investigated gender differences in achievement motivation, emotional intelligence and academic performance among Senior Secondary School (SSS II) students in Gusau Local Government Area, Zamfara State, Nigeria. Anchored in McClelland's (1953) Achievement Motivation Theory and Goleman's (1995) Performance-Based Model of Emotional Intelligence, a descriptive survey design was employed with a proportionate stratified random sample of 378 students (217 male, 161 female). The Achievement Motivation Scale (AMS) and Emotional Intelligence Scale (EIS), both validated on a four-point Likert format, were used alongside the Students' Academic Performance Proforma (SAPP). Independent-samples t-tests were conducted at α = 0.05 using SPSS version 23. Results revealed statistically significant gender differences in achievement motivation (t(376) = 1.266, p = .010), emotional intelligence (t(376) = −7.645, p = .001) and academic performance (t(376) = −9.272, p = .009), with male students recording higher mean scores on achievement motivation (M = 51.10 vs. 46.31), emotional intelligence (M = 68.84 vs. 60.73) and academic performance (M = 62.73 vs. 58.84). Regression analysis yielded R^2 = .791, RMSE = 3.025, MAE = 2.341 and F = 14.489 (p < .05). The paper discusses implications for gender-responsive educational policy and school counselling practice in conflict-affected contexts.
Keywords: *gender differences, achievement motivation, emotional intelligence, academic performance, Students*

Introduction
Gender equity in education remains a persistent concern in sub-Saharan Africa, where socio-cultural norms, economic constraints and security challenges shape differential educational trajectories for male and female students (UNESCO, 2014; Bichi, Ibrahim & Hassan, 2019). In Zamfara State, Nigeria — characterised by persistent banditry, insurgency and socio-economic deprivation — understanding how gender intersects with psychological variables is critical for designing effective educational interventions (WAEC, 2022; Bizimana, Mutangana & Mwesigye, 2022). Achievement motivation and emotional intelligence are well-established psychological constructs associated with academic success, yet the evidence on whether and how these constructs differ by gender remains inconsistent across educational contexts (Gaurav, 2020; Firouzeh, 2013; Ahmad, Bangash & Khan, 2019; Halimi, Al Shahrani & Madhavan, 2021).

Statement of the Problem
Despite growing recognition of the importance of psychological variables in shaping academic outcomes, gender-differentiated analyses of achievement motivation and emotional intelligence in North-Western Nigeria remain remarkably scarce. The persistent academic underperformance of Zamfara State students (WAEC, 2022) may partly reflect unmeasured gender differences in the psychological resources' students bring to their studies. Without systematic, locally grounded evidence, educational interventions risk being poorly targeted.

Aim and Objectives
The aim of this study was to ascertain gender differences in achievement motivation, emotional intelligence and academic performance among Senior Secondary School students in Gusau LGA, Zamfara State. Specifically, the study sought to:

(1) Find out the difference in achievement motivation of male and female senior secondary students in Gusau LGA, Zamfara State.
(2) Ascertain the difference in emotional intelligence of male and female senior secondary students in Gusau LGA, Zamfara State.
(3) Ascertain the difference in academic performance of male and female senior secondary students in Gusau LGA, Zamfara State.

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Research Questions

1. Is there a significant gender difference on achievement motivation among Secondary School Students in Gusau LGA?
2. Is there a significant gender difference on emotional intelligence among Secondary School Students in Gusau LGA?
3. Is there a significant gender difference on academic performance among Secondary School Students in Gusau LGA?

Null Hypotheses

H_{o1}: There is no significant gender difference on achievement motivation among Secondary School Students in Gusau LGA.

H_{o2}: There is no significant gender difference on emotional intelligence among Secondary School Students in Gusau LGA.

H_{o3}: There is no significant gender difference on academic performance among Secondary School Students in Gusau LGA.

Literature Review

Gender and Achievement Motivation

Research on gender differences in achievement motivation has produced mixed findings. Adewusi (2023) found that female students in Oyo State demonstrated higher career aspirations and achievement motivation than male peers. Aijaz, Zahoor and Hitesh (2023) noted that environmental stressors differentially suppress achievement motivation across gender groups. Acquah (2017) highlighted that institutional recognition of achievement-oriented behaviour is critical for sustaining motivational engagement. Conversely, Firouzeh (2013) and Gaurav (2020) found no statistically significant gender difference, suggesting that the gender–motivation relationship is context-dependent.

Gender and Emotional Intelligence

Gender differences in emotional intelligence have been more consistently documented, with females typically outperforming males on empathy and interpersonal sensitivity dimensions (Ahmad et al., 2019; Halimi et al., 2021). Owan (2022) found a significant gender-based difference in EI among Nigerian SSS II students. Manimozhi and Srinivasan (2018) demonstrated that both positive and negative emotional states are differentially expressed by male and female students. However, Maizatul, Zubaidah and Nordin (2013) and Meher, Sabat and Das (2021) found no significant gender difference, confirming the context-dependence of these effects.

Gender and Academic Performance

Bada, Jimoh and Ibrahim (2022) established that gender significantly influences academic performance in Nigerian secondary schools. Abdullahi, Sabo and Yakubu (2022) found that male students tended to outperform female counterparts in mathematics in Katsina State. Bizimana et al. (2022) highlighted that gender-based barriers constrain the academic performance of female students in conflict-affected environments. Bichi et al. (2019) similarly identified gender as a significant determinant of academic outcomes at the secondary level.

Research Gap

Whilst gender differences in achievement motivation, emotional intelligence and academic performance have been examined in various contexts, no study has simultaneously investigated all three constructs with gender as the primary differentiating variable in Gusau LGA, Zamfara State. This integrated, gender-focused analysis in a conflict-affected North-Western Nigerian setting constitutes the specific contribution of the present study.

Research Methodology

A descriptive survey design was employed (Creswell & Creswell, 2018), appropriate for studies that seek to describe and compare characteristics of groups without experimental manipulation. A proportionate stratified random sample of 378 students (217 male, 161 female) was drawn from six schools in Gusau LGA using Yamane's (1967) formula and stratified by gender composition (Fraenkel, Wallen & Hyun, 2012). The Achievement Motivation Scale (AMS) — 20 items, four-point Likert format ($\alpha = .83$) — and the Emotional Intelligence Scale (EIS) — 20 items across four constructs ($\alpha = .78$) — were used alongside the SAPP (Nunnally & Bernstein, 1994; WAEC, 2022). Independent-samples t-tests were used to test the three null hypotheses at $\alpha = 0.05$ using SPSS version 23 (Field, 2018). Descriptive statistics were computed for all variables by gender.

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Presentation of Results

Descriptive Statistics by Gender

Table 1 presents descriptive statistics for achievement motivation and emotional intelligence by gender. Figure 1 provides a visual comparison of mean scores across all three study variables by gender.

Table 1 *Descriptive Statistics of Achievement Motivation and Emotional Intelligence by Gender*

Variable	Gender	N	Mean	SD	Decision
Achievement Motivation	Male	217	51.10	10.03	High
	Female	161	46.31	9.19	High
Emotional Intelligence	Male	217	68.84	8.73	High
	Female	161	60.73	7.53	Moderate

Note. Source: Researcher's fieldwork (2025).

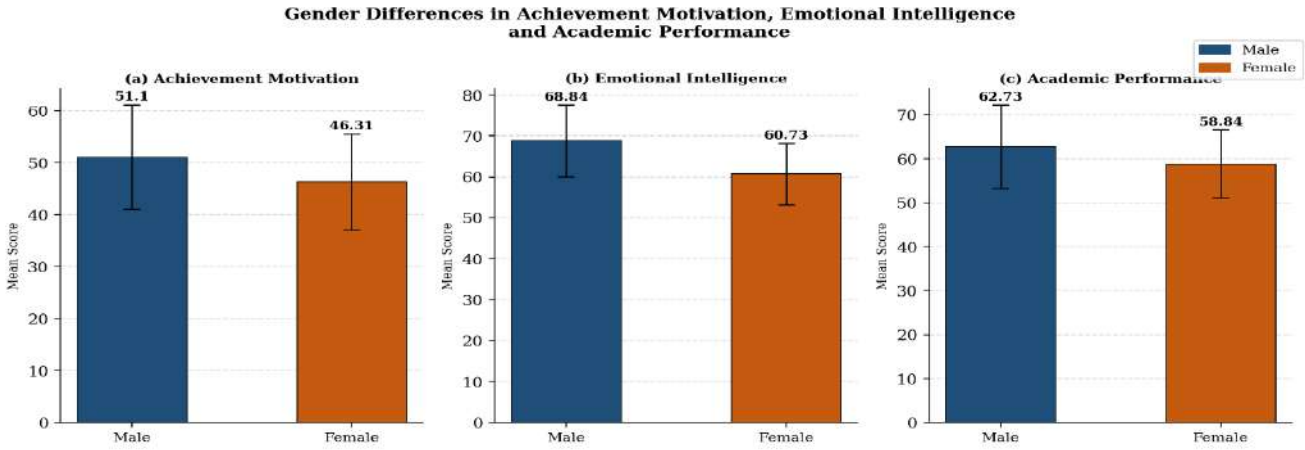

Figure 1. *Grouped bar charts comparing mean scores of male and female students on (a) achievement motivation (male M = 51.10 vs. female M = 46.31), (b) emotional intelligence (male M = 68.84 vs. female M = 60.73) and (c) academic performance (male M = 62.73 vs. female M = 58.84). All gender differences were statistically significant (p < .05).*

Figure 1 presents a clear visual summary of the gender differences across all three key variables. As shown in panel (a), male students consistently scored higher on achievement motivation; panel (b) shows an even more pronounced gap in emotional intelligence; and panel (c) shows that male students also outperformed females on academic performance. In all three panels, the differences are visually substantial and, as confirmed by the t-tests presented below, statistically significant.

Gender Difference in Achievement Motivation (H01)

Table 2 presents the t-test results for gender differences in achievement motivation.

Table 2 *t-Test Analysis of Gender Difference in Achievement Motivation*

Variable	Gender	N	Mean	SD	df	t-Cal.	p-value	Decision
Achievement Motivation	Male	217	51.10	10.03	376	1.266	.010	Significant
	Female	161	46.31	9.19				

Note. Significant at α = 0.05. Source: Researcher's fieldwork (2025).

Table 2 shows that t(376) = 1.266, p = .010 < α = 0.05. H01 is rejected. There is a statistically significant gender difference in achievement motivation, with male students (M = 51.10) recording higher mean scores than female students (M = 46.31).

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Gender Difference in Emotional Intelligence (H02)

Table 3 presents the t-test results for gender differences in emotional intelligence.

Table 3 *t-Test Analysis of Gender Difference in Emotional Intelligence*

Variable	Gender	N	Mean	SD	df	t-Cal.	p-value	Decision
Emotional Intelligence	Male	217	68.84	8.73	376	-7.645	.001	Significant
	Female	161	60.73	7.53				

Note. Significant at α = 0.05. Source: Researcher's fieldwork (2025).

Table 3 reveals that t(376) = −7.645, p = .001 < α = 0.05. H02 is rejected. There is a statistically significant gender difference in emotional intelligence, with male students (M = 68.84, SD = 8.73) recording higher mean EI scores than female students (M = 60.73, SD = 7.53).

Gender Difference in Academic Performance (H03)

Table 4 presents the t-test results for gender differences in academic performance. Figure 2 provides a graphical summary of all three t-test results.

Table 4 *t-Test Analysis of Gender Difference in Academic Performance*

Variable	Gender	N	Mean	SD	df	t-Cal.	p-value	Decision
Academic Performance	Male	217	62.73	9.53	376	-9.272	.009	Significant
	Female	161	58.84	7.73				

Note. Significant at α = 0.05. Source: Researcher's fieldwork (2025).

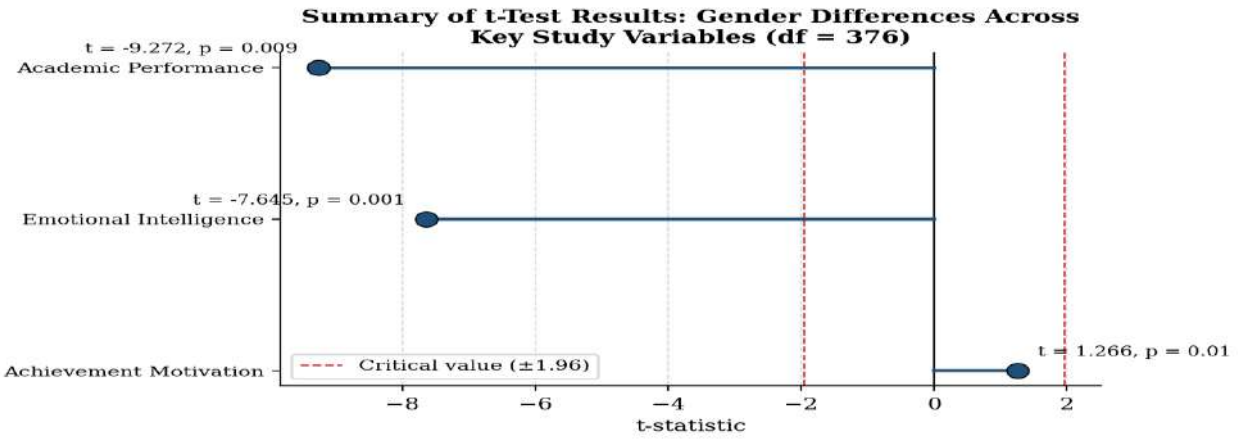

Figure 2. *Lollipop chart summarising t-test statistics for gender differences across achievement motivation (t = 1.266, p = .010), emotional intelligence (t = −7.645, p = .001) and academic performance (t = −9.272, p = .009). The red dashed lines indicate the critical t-value (±1.96) at α = 0.05. All three t-statistics exceed the critical value in absolute terms.*

Table 4 shows that t(376) = −9.272, p = .009 < α = 0.05. H03 is rejected. Male students (M = 62.73, SD = 9.53) significantly outperformed female students (M = 58.84, SD = 7.73). As shown in Figure 2, all three t-statistics exceed the critical value of ±1.96, confirming that the observed gender differences across achievement motivation, emotional intelligence and academic performance are all statistically robust.

Discussion of Findings

The significant gender difference in achievement motivation — with male students outperforming female peers — contrasts with Adewusi (2023), who found higher motivation among female students in Oyo State, but may reflect gendered socialisation processes specific to North-Western Nigeria. The significant gender difference in EI, with male students recording higher scores, contradicts the dominant international finding (Ahmad et al., 2019; Halimi et al., 2021) but is consistent with Owan (2022) for Nigerian secondary students. The significant gender difference in academic performance,

with male students outperforming females despite females' comparatively lower motivation and EI, may reflect structural advantages — greater family investment in boys' education, reduced domestic burdens — that translate psychological advantages into superior outcomes (Bizimana et al., 2022; Bichi et al., 2019).

Conclusion

Statistically significant gender differences exist in achievement motivation, emotional intelligence and academic performance among Senior Secondary School students in Gusau LGA, Zamfara State, with male students recording higher mean scores on all three variables. Educational planners should develop gender-responsive motivational and EI programmes targeting female students. School counsellors should implement differentiated interventions for female students. Government and NGOs should address structural barriers — insecurity, early marriage, domestic responsibilities — that prevent female students from realising their academic potential.

References

Abdul Rashid, A. A., Amin, A. S., Ishaq, I., Siti, N. M. Y., Nur, K. A. K., & Husin, S. (2023). A survey on achievement motivation among university students. International Journal of Academic Research in Progressive Education and Development, 12(3), 13–22.

Abdullahi, U., Sabo, A., & Yakubu, S. I. (2022). Effect of emotional intelligence on performance and retention in trigonometry. Journal of Education, 4(2), 65–79.

Acquah, A. (2017). Implications of the achievement motivation theory for school management in Ghana. Research Journal of Humanities and Social Sciences, 7(5). https://doi.org/10.22601/ijhss/122331

Adewusi, A. A. (2023). Relationship among achievement motivation, career aspirations and academic performance. FUDMA Journal of Research, Educational Psychology and Counselling, 1(2), 270–277.

Ahmad, S., Bangash, H., & Khan, S. A. (2019). Emotional intelligence and gender differences. Sarhad Journal of Agriculture, 25(1), 127–130.

Aijaz, B., Zahoor, A. L., & Hitesh, M. (2023). Achievement motivation, adjustment levels and well-being of the students exposed to violence. European Chemistry Bulletin, 12(S3), 3185–3195.

Bada, J. O., Jimoh, B., & Ibrahim, A. (2022). Emotional intelligence and academic performance. Journal of Education Research, 4(2), 65–79.

Bichi, A., Ibrahim, B., & Hassan, M. (2019). Academic performance and the quality of education in Nigeria. Nigerian Journal of Educational Research, 6(1), 10–22.

Bizimana, B., Mutangana, D., & Mwesigye, A. (2022). Academic failure and its socio-political implications. Journal of Educational Research in Africa, 6(1), 22–34.

Creswell, J. W., & Creswell, J. D. (2018). Research design (5th ed.). SAGE.

Field, A. (2018). Discovering statistics using IBM SPSS statistics (5th ed.). SAGE.

Firouzeh, G. (2013). Gender differences in achievement motivation. International Journal of Educational Psychology, 2(1), 45–58.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). How to design and evaluate research in education (8th ed.). McGraw-Hill.

Gaurav, S. (2020). Achievement motivation and academic performance. Journal of Educational Research and Studies, 8(1), 22–29.

Goleman, D. (1995). Emotional intelligence: Why it can matter more than IQ. Bantam Books.

Halimi, F., Al Shahrani, B., & Madhavan, P. (2021). Gender differences in emotional intelligence. Journal of Applied Research in Higher Education, 13(5), 1250–1263.

Maizatul, H., Zubaidah, A., & Nordin, M. (2013). Gender differences in emotional intelligence. Asia-Pacific Journal of Education, 33(1), 44–57.

Manimozhi, S., & Srinivasan, P. (2018). Influence of student emotions on academic achievement. Journal of Positive Psychology and Emotional Wellbeing, 2(1), 33–48.

McClelland, D. C. (1953). The achievement motive. Appleton-Century-Crofts.

Meher, D., Sabat, M., & Das, G. (2021). Emotional intelligence and academic performance of B.Ed. trainees. International Journal of Educational Research, 10(1), 88–97.

Nunnally, J. C., & Bernstein, I. H. (1994). Psychometric theory (3rd ed.). McGraw-Hill.

Owan, V. J. (2022). Influence of emotional intelligence on academic achievement. International Journal of Science Education, 44(3), 401–418.

UNESCO. (2014). Education for all global monitoring report. UNESCO Publishing.

WAEC. (2022). West African Examinations Council chief examiners' report. WAEC Press.

Yamane, T. (1967). Statistics: An introductory analysis (2nd ed.). Harper & Row.

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Effect of Non-Oil Exports on Unemployment Rate in Nigeria

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Abstract
Nigeria is experiencing persistent increase in unemployment accompanied by slow economic growth despite abundant non-oil export goods in Nigeria. This study investigated the effect of non-oil export goods on unemployment through economic growth in Nigeria from 1986-2025. Unemployment rate was used as the dependent variable while the components of non-oil-exports (agricultural, manufacturing, solid mineral, and services exports) were employed as independent variables. Data were obtained from the Central Bank of Nigeria (CBN), National Bureau of Statistics (NBS), and World Development Indicators (WDI). The study utilized ex post facto quantitative research design. Augmented Dickey-Fuller (ADF) and Phillip Pearons (PP) unit root tests were conducted and the results showed that the data were stationary at first difference. Johansen Cointegration test was carried out and the result revealed the existence of long-run relationship between the variables. The estimated Vector Error Correction Model (VECM) results showed that RGDP had a positive (0.004688) and statistically significant impact on unemployment in the short-run and likewise a positive (0.002701) and statistically significant impact on unemployment in the long-run. Agricultural exports (AGEX) impacted positively (0.000646) on unemployment in the short-run although statistically insignificant but in the long-run it had a positive (0.003502) and statistically significant impact on unemployment. Manufacturing exports (MAEX) both in the short-run and long-run had positive (0.008147) and (0.005935) statistically significant impact on unemployment respectively. Also, solid mineral exports (SMEX) had a negative (-0.144854) and statistically significant impact on unemployment in the long-run. It did not meet the a priori expectation of positive sign. More so, services exports (SREX) in the short-run impacted negatively (-0.019047) on unemployment and statistically significant. The error correction term was negative (-0.626510) and correctly signed. It suggested that the speed of adjustment from short-run to long-run equilibrium will be corrected by 63%. The study concluded that non-oil exports (agricultural exports, manufacturing exports, and solid mineral exports) except services exports had significant transmission effect on unemployment through economic growth in Nigeria during the period under review. The study recommended that the positive and significant transmission effect of the non-oil exports on unemployment through economic growth in Nigeria should be maintained and sustained by the Nigerian government. This can be achieved through investing in agricultural technology, improving market access, and providing subsidies, credit facilities, and insurance to farmers. Also, encouraging production of value-added goods to increase exports and revenue, and by sanctioning illegal mining activities in Nigeria.
Keywords: Transmission Effect, Non-oil exports, Economic Growth, Unemployment

Introduction
Non-oil exports have played critical role in developed nations such as; China, Germany, South Korea, Netherlands, United States, and United Kingdom among others. Economic growth which measures the performance of an economy depends on non-oil exports and its exploitation helps in creating jobs and reducing unemployment. Countries of the world are endowed with natural resources of different varieties and magnitude and one of the numerous natural resources that countries could be endowed with is the crude oil which was discovered in Nigeria in 1956. Crude oil accounts for 90% of the Nigeria's foreign exchange earnings (Central Bank of Nigeria [CBN], 2023). The near neglect of the non-oil exports to foster economic growth and reduce unemployment in Nigeria is attributed to the overdependence on crude oil. The other resources that countries are endowed with are the non-oil exports which include agricultural products, manufacturing products, solid minerals, and services exports. The exploitation of these non-oil exports in Nigeria has enhanced trade by 6.26% between Nigeria and other countries of the world (National Bureau of Statistics, 2024). In a world characterized by increasing

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demand for exports especially non-oil exports and the interconnectivity among the nations of the world, the dynamics of non-oil exports have emerged as critical determinants of economic growth, and likewise employment for exporting nations across the world. Increase in demand for non-oil exports depends largely on the dynamics of the population of the importing country. In pursuit of the associated benefits of non-oil exports, developing nations including Nigeria have consistently pursued exports and development strategies with the goal of invigorating economic growth. In this view, Nigeria implemented the Structural Adjustment Programme (SAP) in 1986, characterized by liberalization of trade alongside certain initiatives to boost the growth of non-oil exports particularly agricultural exports in order to achieve sustainable economic growth in the country. The Nigerian government in an attempt to promote exports introduced various policies, schemes and programmes which include among others Export Expansion Grant (EEG) in 1986 and Nigerian Export and Import Bank (NEXIM) in 1991. Also, Nigeria became a member of the World Trade Organization (WTO) in 1995 and its main goal was to ensure trade flows and improves people's standard of living. The Nigerian government in 2018 consolidated on the promotion of exports, signed the African Continental Free Trade Area Agreement (AFCFTA) and its aim was to create a single African market for goods and services (Okoli, Ezenekwe, Geraldine & Collins, 2023).

The Nigerian government has the potential to create employment opportunities for the teaming unemployed Nigerians through exploring the opportunities in the non-oil exports to enhance economic growth. This has not been fully actualized by the government neither by the private sector due to overdependence on crude oil. Besides this, the rise in unemployment rate in Nigeria is associated with the effects of global economic recession and Covid-19 pandemic, high exchange rate, increased interest rate, high inflation rate, and restriction on trade openness among others. The value-added of non-oil exports can be transmitted through economic growth as a mediator in reducing unemployment in Nigeria. The Nigerian government in an attempt to reduce unemployment, introduced schemes and programmes. The National Directorate of Employment (NDE) was established in 1986 to create mass employment opportunities for Nigeria's unemployed population. National Economic Empowerment Development Strategy (NEEDS) was launced in 2004 to empower the people, and foster economic growth (Solomon, Tukur & Zakere, 2018). The Youth with Innovation in Nigeria (YOUWIN) was established in 2011 with the goal of empowering the Nigerian youths by providing grants to small business owners. Agricultural Transformation Agenda (ATA) was established in 2013 with the aim of growing the agricultural sector through the various commodities and generates employment opportunities. The N-power programme was established in 2016 to create more employment opportunities for the unemployed graduates and non-graduates in Nigeria (Ideh, Okolo & Emengini, 2020). More so, Nigeria Youth Investment Fund (NYIF) was launched in 2024 to make funds available for investment in the economy. Despite these efforts, the Nigerian government had realized the harm done to the economic growth and unemployment and attention is being focused on the non-oil exports. Among the non-oil exports in Nigeria, agricultural, manufacturing, solid mineral, and services exports hold utmost significance. Therefore, enhancing these subsectors will invigorate activities by promoting investment, efficient resource utilization, increased output, and aggregate demand (Akeem, 2011, Ajakaije, & Ojowu, 2014). The aggregate value of non-oil exports increased from ₦552.10 billion in 1986 to ₦1,130, 170.52 billion in 2013, dipped to ₦656,793.95 billion in 2016, and then surged to ₦2, 466, 831.25 billion in 2021, ₦2.03 trillion in 2022, ₦2.31 trillion in 2023, ₦2.73 trillion in 2024 and ₦2.94 trillion in 2025 (CBN, 2025). Nevertheless, the average contributions of agricultural, manufacturing, solid mineral, and services exports to total exports from 2018 to 2021 were 0.90%, 2.63%, 1.9% and 0.27% respectively (CBN, 2023). Considering unemployment, the rates in Nigeria in 1986, 1999, 2000 and 2005 were 3.90%, 4.00%, 3.87%, and 3.69% respectively. In 2010, it was 3.74% but in 2014 it was 3.88%. The unemployment rates for the years 2015 and 2016 were 4.11% and 4.52% respectively and for the years 2018 and 2019, unemployment rates in Nigeria were 5.12% and 5.21% respectively. It then rose to 5.63% in 2020 and it dipped to 5.26% in 2021 and it rose to 5.76% in 2022 and plunged to 3.07% in 2023 but it rose to 4. 62% in 2025 (NBS, 2025). The Nigerian economy recovered from a recession in the early 1980s to attain a growth rate of approximately 6.4% in 1989. Subsequently, the growth rate slowed to an average of 2.6% between 1990 and 1999. Also, from 2000 to 2014, the Real GDP grew at an average rate of 7.9%, followed by a decline to 2.65% in 2015 and during the global financial recession in 2016 it recorded a negative rate of -1.62%. It rose to 2.21% in 2019 and nosedived to -1.79% in 2020 and rose to 3.65% in 2021 and declined to 3.25% in 2022, and it further declined to 2.74% in 2023 but it increased to 3.57% in 2025 (CBN, 2025). Therefore, given the trends and patterns of increase in non-oil exports, low economic growth and high rate of unemployment in Nigeria despite the implementation of policies, initiatives and programmes,

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unemployment rate has not reduced. It becomes pertinent to investigate the rise in unemployment accompanied with slow economic growth in Nigeria. It is on this premise that this paper seeks to ascertain the transmission effect of non-oil exports on unemployment through economic growth in Nigeria. To achieve the objective of this paper, the paper has been organized into six sections with the introduction as section one, section two is the literature review and section three is the methodology of the study. Section four is the results and discussion; section five is the discussion of findings and section six is the conclusion and policy recommendations.

Literature Review

Conceptual Review

Non-oil exports can be broadly classified into four major groups. These include the agriculture, solid mineral, services and manufacturing exports. The agricultural exports include cocoa, groundnut, palm produce, rubber (natural), cotton, fish and shrimps, while the manufactured exports and solid minerals include processed agricultural products, textiles, tin metal, beer, cocoa butter, plastic products, processed timber, tires, natural spring water, soap, detergent and fabricated iron rods (CBN, 2020). Nigeria's non-oil export consists of agricultural goods, raw material goods, solid minerals, energy and manufactured goods (NBS, 2018). Akeem (2011) posited that non-oil exports are those commodities excluding crude oil (petroleum products) which are sold in the international market for the purpose of revenue generation. Abogan, Akinola and Baruwa (2014) defined the non-oil exports of the Nigerian economy as the whole of the economy less the oil and gas sub-sector. It covers agriculture, industry, solid minerals and the services sub-sector, including transport, communication, distributive trade, financial services, and insurance. Nigeria's non-oil exports sector is structured into four namely; agricultural exports, manufactured exports, solid mineral exports and services exports. Ajakaiye and Ojowu (2014) categorized Nigeria's non-oil export into four namely; the agricultural exports, manufacturing exports; solid mineral exports and services exports. The non-oil export comprises of agricultural crops and products such as cotton, cassava, cocoa, cashew nuts; solid minerals and chemicals; manufacturing goods such as textile, tyres, machines; manpower, entertainment, and tourism to mention but a few. Exports are movable goods produced within the boundaries of one country, which are traded with another country. Ajakaiye and Ojowu (2014) definition was adopted for it is detailed, holistic, and comprehensive.

Economic growth means sustained increase in Gross Domestic Product (GDP) of a country derived from productive inputs, volume of trade (export, import and domestic trade), size of terms of trade, and aggregate economic stability. In order to increase a nation's GDP, its volume of trade (export, import and domestic trade), export revenue, size of terms of trade have to increase and trade stability have to be assured, which in turn result to increased international trade gain and aggregate economic growth (Okoli, Ezenekwe, Geraldine, & Collins 2023). Jhingan (2003) defined economic growth as the process whereby the real per capital income of a country increases over a long period of time, and it is measured by the increase in the amount of goods and services produced in a country. According to Asogwa, Okechukwu, and Onyekwelu (2018), economic growth refers to the increase in the inflation-adjusted market value of the goods and services produced overtime by an economy. John (2022) conceptualized economic growth as a process by which a nation's wealth increases over time. While the term is frequently used in discussions of short-term economic performance, in terms of the context of economic theory, it refers to an increase in wealth over a long period of time. Ukpabi (2019) defined economic growth as a shift in the inflation-adjusted market value within economy's goods and services over time. Haller (2012) also posited that economic growth is obtained by an efficient use of the available resources by increasing the capacity of production of a country. When production of goods and services increases, the rate of economic growth will increase and consequently, unemployment rate reduces, and the number of jobs opportunities rises, as well as the population's standard of life. The definition of Haller (2012) was adopted because it is broad-based and comprehensive in explaining economic growth as compared to other definitions. Unemployment refers to a situation in which job opportunities are not made available despite sustained investment in the productive sectors of the economy. Most often a reasonable number of the unemployed do not have any gainful and payable work and the trend is sustained overtime. It is witnessed whenever there is a substantial increase in employment of the active labour force in an economy (Conteh, 2021). Unemployment to some extent is synonymous with increase in employment rate or decrease in unemployment rate. Therefore, unemployment can be defined as a situation in which there is decrease in employment rate as a result of decreased economic activities or increase in unemployment rate due to poor introduction and implementation of employment schemes, programmes and policies by the

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government. Conteh (2021) definition was adopted as a working definition due to its comprehensive explanation of the meaning of unemployment.

Theoretical Review

Keynesian theory of unemployment was propounded by Keynes in 1936 and according to the theory, unemployment occurs in an economy when inadequate aggregate demand is witnessed. The theory posits that unemployment is experienced when those that are willing and able to work at a prevailing wage rate are unable to find payable jobs at a given time. It postulates that employment depends on effective demand which brings about increased output and output generates income which in turn creates employment. Effective demand is determined by aggregate demand and supply functions. The theory also explains that since the unemployed workforce in an economy will always exceed job vacancies, so that even if full employment is attained, some labour force will still remain unemployed (Keynes, 1936). The Keynesian theory advocates for higher employment levels and government intervention during period of economic recession and restraint in a period of rapid economic growth.

The Keynesian model is built on the premise of real output (Y), real investment demand (I), and real consumption demand (C). Therefore:

$$Y = C + I \quad (1)$$

The equilibrium level of output is expressed as:

$$\Delta Y = \frac{I}{1-C} \quad (2)$$

The aggregate demand for labour is thus, L_d and the aggregate supply of labour is denoted by S_L**.** From this, if the value of investment (I) is quite small, the aggregate demand for labour (L_d) can easily be less than aggregate supply of labour (S_L) and the result is unemployment. Given that the labour market is competitive**,** and let N_d (w) be a firm's profit maximizing demand for labour as a function of the real wage where:

$$w = \frac{w}{p} \quad (3)$$

Note that 'w' must satisfy the condition that:

$$N_d(w) = \Delta Y = \frac{I}{1-C} \quad (4)$$

Equation (4) expressed the equilibrium value of output (GDP), unemployment and real wage in terms of the exogenous investment demand. It is clear that the cause of unemployment is insufficient effective demand and when workers' real income declines, consumption demand also declines, the nominal price level falls, and equilibrium would be re-established at the same levels of output and unemployment as before. One of the pitfalls of the Keynesian theory is that borrowing causes higher interest rates and crowding out effects. Despite the limitations of the Keynesian theory of unemployment it explains the relationship between growth rate and unemployment and emphasizes on the role of change in nominal price level which is required to stimulate investment in an economy. The export-led growth hypothesis was propounded by Kindelberger (1962). It supports long-run growth in developing economies derived from exportation of natural resource outputs. Although one of the most significant problems of developing countries comes from reliance on exporting raw materials which usually leaves negative impact on their economies. The export-led growth hypothesis explains the relevance of depending less on one source of export for other exports. The economic growth function of Export-led growth hypothesis is expressed as:

$$Y = f(L, C, EXP) \quad (5)$$

Where: Y = Economic growth; L = Labour; C = Capital; EXP = Export

The argument is that non-oil exports especially; agricultural, manufacturing, solid mineral, and services exports contribute to economic growth. The export-led growth hypothesis suggests that trade openness, particularly through exports, can promote economic growth, increase employment and lower unemployment rates. The theory failed to explain clearly the mechanisms through which exports can bring about economic growth, increase employment and reduce unemployment rate in the long-run. Despite this weakness the export-led growth hypothesis it is relevant in explaining theoretically the linkage between increase in exports, economic growth and unemployment reduction in the long-run. This study adopted both the Keynesian theory of unemployment and export-led growth hypothesis due to explicit explanation of the relationship between non-oil exports, economic growth and unemployment.

Empirical Review

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Uzma and Aarif (2023) analyzed the effects of oil and non-oil export shocks on the Saudi Arabian's economy using annual time series data from 1970-2021 and the data were collated from Saudi Arabian Monetary Agency (SAMA). The study employed Dynamic Autoregressive Distributive Lag (DARDL) simulation technique. The estimated Dynamic ARDL simulation results revealed that non-oil exports in the short-run and long-run had a statistically significant positive impact on economic growth in Saudi Arabia. Shiro, Abjia and Fadu (2023) investigated the impact of non-oil exports on economic growth in Nigeria and the data covered the period 1981-2020. The data were gathered from the Central Bank of Nigeria (CBN) Statistical Bulletin. The study employed Autoregressive Distributed Lag (ARDL) technique of analysis. The results of the ARDL revealed that non-oil exports had a positive and significant impact on economic growth in Nigeria. Exchange rate and inflation rate separately had a statistically and insignificant positive impact on economic growth in Nigeria during the study period. Ahmed (2022) examined Nigeria's solid mineral potentials, challenges and prospects using both qualitative and survey research design methods. Findings from the study revealed that Nigeria is rich in abundant solid mineral resources such as gold, iron, lead, zinc, coal, and gemstones which hold great potential for the country's development. It was revealed that despite this mineral endowment, the solid mineral exports had contributed 3% to Gross Domestic Product (GDP) and less than 5% to employment generation in Nigeria because only small-scale miners are employed in the subsector.

Alrakhman, Susetyo, and Azwardi (2022) investigated the effect of economic growth on unemployment in Indonesia using panel data which combined cross-section of 33 provinces with a time series that spanned from (2010-2016) collated from the Central Statistics Agency (CSA). The data were analyzed using econometric technique of multiple regression. The results showed that Gross Regional Domestic Product (GRDP) had a negative and statistically significant impact on unemployment in Indonesia. Also, Provincial Minimum Wage (PMW) impacted positively on unemployment rate in Indonesia. Olaniyi, Ali and Moses (2021) analyzed the nexus between GDP growth and unemployment in Nigeria by disaggregating total output into its sectorial components using data from 1980-2015. The data were gathered from CBN Statistical Bulletin. The first bound test revealed that co-integration existed between unemployment and GDP growth. GDP growth rate in the long-rung related negatively to unemployment but it impacted positively on unemployment in the long-run. The results of the disaggregated model (second ARDL model) showed that long-run link did not exist among unemployment, agriculture, industry, construction, trade, and services. Ebere, Ajibola and Onakoya (2022) examined the nexus between agriculture and employment creation in Nigeria from 1990-2019. Dynamic Ordinary Least Squares was employed as a method of data analysis. The results revealed that agricultural exports. government expenditure on agriculture, inflation rate, and exchange rate separately had a positive and significant impact on unemployment rate in Nigeria except foreign direct investment which impacted negatively on unemployment rate. Briggs, Nteegah and Ohale (2022) investigated effect of international trade on unemployment in Nigeria and data were sourced from the World Development Indicators (WDI). Autoregressive Distributive Lag (ARDL) bounds technique was utilized. ARDL results showed that non-oil export and trade openness impacted negatively on unemployment rate separately and the impact is statistically insignificant. Foreign Direct Investment (FDI) and real exchange rate impacted positively on unemployment rate. Yilmaz (2021) investigated the effects of manufacturing exports on employment in 28 OECD Countries from 2001-2019. The results of Panel data analysis technique employed indicated that the manufacturing exports of the 28 OECD countries were significant and all had negative effect on employment. Specifically, economic growth, trade openness, and previous employment levels had a positive effect on employment in the current period while manufacturing exports had negative and statistically significant effect on employment during the period of study. The result also revealed that manufacturing exports and financial openness impacted positively on unemployment payment rates in the 28 OECD countries. Adeniyi (2021) analyzed the impact of manufacturing exports and employment in Nigeria and the scope of the study covered the period from 1981-2014. Central Bank of Nigeria (CBN) Statistical Bulletin and World Development Indicators (WDI) were used to collate data for analysis. Vector Error Correction Model (VECM) technique was employed and results established that the estimated elasticity of manufacturing exports had a statistically insignificant positive impact on employment within the period in Nigeria. Aniobi and Adedokun (2021) conducted a study on economy beyond oil; harnessing Nigerian solid minerals and sustainable development. The study adopted an electic approach and historical research design. The findings of the study showed that crude oil sector generated about 90% export earnings in Nigeria and this has not created jobs neither has poverty reduced. It indicated that oil wealth concentrated in just less than 1% of the Nigerians. The results revealed that solid minerals had potential of reducing unemployment and poverty by 3.2% and

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5.3% respectively and that the productive capacity of the country (Nigeria) is low. Orji, Ogbuabor, Alisigwe and Anthony-Orji (2021) investigated the impact of agricultural financing and agricultural exports on employment generation in Nigeria from 1981-2017. The study adopted Autoregressive Distributive Lag (ARDL) bounds test in analyzing the data. The results showed that while agricultural financing increased employment generation in both short-run and long-run, agricultural exports increased employment generation only in the short-run. Labour force product, inflation rate, and wages all had insignificant impact on employment generation separately. Gyimah-Brempong and Baah-Boateng (2021) examined the relationship between services export and youth unemployment in African countries from 1990-2014. The study adopted correlation and Panel Granger causality for data analysis. Growth rate of aggregate services export was used as a proxy for services exports. The Correlation matrix showed that services export correlated negatively to aggregate youth unemployment in African countries. Granger causality test results indicated that services exports Granger caused youth unemployment. Isaiah, Henneberry and Radmehr (2020) examined the effects of agricultural, manufacturing, and mineral exports on Angola's economic growth and employment using time series data that covered the period 1970 -2020. The data were sourced from World Bank's world Development Indicators (WDI) database. The study employed Vector Error Correction Mechanism (VECM) and the results revealed that exports from the agricultural, manufacturing and mineral have driven Angola's economic growth in the long-run. Agricultural and mineral exports contributed significantly to economic growth in the short-run.

Methodology

The study adopted expost-facto research design using econometric model to determine the transmission effect of non-oil exports on unemployment through economic growth in Nigeria covering the period 1986-2025. The justification for the choice of expost-facto research design is not only based on the availability of time series data on non-oil exports, economic growth and unemployment rate in Nigeria but on reliable facts on the variables of interest. The ex-post facto research design relies on historical facts that already exist (Akpan & Obayori, 2022). Data were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletins, National Bureau of Statistics (NBS) publications and World Development Indicators (WDI) publications. Dickey-Fuller (1981) and Phillips-Peron (1978) unit root tests were used to check whether the time series variables have unit root or not. The Vector Error Correction Model (VECM) was used to estimate the model. The variables of interest are presented in table 1.

Table 1

Types and Sources of Data

SN	Variables Acronym	Meaning as used in this Study	Types of variable	Unit of Measurement	Expected Sign	Data Source
1	UNER	Unemployment Rate	Dependent	Percent	(+)	NBS
2	RGDP	Real GDP	Mediator	Percent	(+)	NBS
3	AGEX	Agricultural Exports	Independent	₦ Billion	(+)	WDI
4	MAEX	Manufacturing Exports	Independent	₦ Billion	(+)	WDI
5	SMEX	Solid Mineral Exports	Independent	₦ Billion	(+)	WDI
6	SREX	Services Exports	Independent	₦ Billion	(+)	WDI
7	INFL	Inflation Rate	Independent	Percent	(-)	CBN
8	EXCR	Inflation Rate	Independent	Percent	(-)	CBN

Source: Author's Compilation (2026)

Model Specification

The study adopted the Keynesian theory of unemployment and Export-led growth hypothesis. This is justified on the basis that the theories explained the theoretical framework that supported the relationship between long-run growth in developing economies derived from non-oil exports, economic growth and unemployment. The model for the study is specified as:

$$UNER = f\ (NOEX) \quad (6)$$

$$UNER = f\ (RGDP, AGEX, MAEX, SMEX, SREX, TROP, EXCR) \quad (7)$$

$$UNER = RGDP + AGEX + MAEX + SMEX + SREX + TROP - EXCR \quad (8)$$

$$UNER = \delta_0 + \delta_1 lRGDP + \delta_2 lAGEX + \delta_3 lMAEX + \delta_4 lSMEX + \delta_5 lSREX + \delta_6 TROP - \delta_7 EXCR + \varepsilon_t \quad (9)$$

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UNER = Unemployment Rate; RGDP = Real Gross Domestic Product; AGEX = Agricultural export; MAEX = Manufacturing export; SMEX = Solid Mineral export; SREX = Services Export; TROP = Trade Openness (used as a control variable).;EXCR = Exchange Rate (used as a control variable). The *a priori* expectation is that increase in Agricultural Exports (AGEX), Manufacturing Exports (MAEX), Solid Mineral Exports (SMEX), Services Exports (SREX), and Economic Growth (RGDP) will lead to decrease in unemployment rate (UNER) while increase in inflation rate (INFL) and exchange rate (EXCR) will lead to decrease in unemployment rate (UNER). This is mathematically expressed as follows; UNER = RGDP + AGEX + MAEX + SMEX + SREX +TROP - EXCR. The *a priori* expectations are; δ_0, δ_1, δ_2, δ_3, δ_4, δ_5 and $\delta_6 > 0$ while $\delta_7 < 0$.

Model Estimation

The mathematical function of the Vector Error Correction Model (VECM) is expressed as:

$$\Delta UNER_t = \alpha_0 + \sum_{i=1}^{\rho} \alpha_1 \Delta UNER_{t-1} + \sum_{i=1}^{\rho} \alpha_2 \Delta \text{Ln}RGDP_{t-1} + \sum_{i=1}^{\rho} \alpha_3 \Delta AGEX_{t-1} + \sum_{i=1}^{\rho} \alpha_4 \Delta MAEX_{t-1} + \sum_{i=1}^{\rho} \alpha_5 \Delta \text{Ln}SMEX_{t-1} + \sum_{i=1}^{\rho} \alpha_6 \Delta SREX_{t-1} + \sum_{i=1}^{\rho} \alpha_7 \Delta TROP_{-1} + \sum_{i=1}^{\rho} \alpha_8 \Delta EXCR_{t-1} + \mu_t \quad (10)$$

$$\Delta \text{Ln}RGDP_t = \lambda_0 + \sum_{i=1}^{\rho} \lambda_1 \Delta \text{Ln}RGDP_{t-1} + \sum_{i=1}^{\rho} \lambda_2 \Delta UNER_{t-1} + \sum_{i=1}^{\rho} \lambda_3 \Delta AGEX_{t-1} + \sum_{i=1}^{\rho} \lambda_4 \Delta MAEX_{t-1} + \sum_{i=1}^{\rho} \lambda_5 \Delta SMEX_{t-1} + \sum_{i=1}^{\rho} \lambda_6 \Delta SREX_{t-1} + \sum_{i=1}^{\rho} \lambda_7 \Delta TROP_{t-1} + \sum_{i=1}^{\rho} \lambda_8 \Delta EXCR_{t-1} + \mu_t \quad (11)$$

$$\Delta AGEX_t = \delta_0 + \sum_{i=1}^{\rho} \delta_1 \Delta AGEX_{t-1} + \sum_{i=1}^{\rho} \delta_2 \Delta UNER_{t-1} + \sum_{i=1}^{\rho} \delta_3 \Delta \text{Ln}RGDP_{t-1} + \sum_{i=1}^{\rho} \delta_4 \Delta MAEX_{t-1} + \sum_{i=1}^{\rho} \delta_5 \Delta SMEX_{t-1} + \sum_{i=1}^{\rho} \delta_6 \Delta \text{Ln}SREX_{t-1} + \sum_{i=1}^{\rho} \delta_7 \Delta TROP_{t-1} + \sum_{i=1}^{\rho} \delta_8 \Delta \text{Ln}EXCR_{t-1} + \mu_t \quad (12)$$

$$\Delta MAEX_t = \gamma_0 + \sum_{i=1}^{\rho} \gamma_1 \Delta MAEX_{t-1} + \sum_{i=1}^{\rho} \gamma_2 \Delta UNER_{t-1} + \sum_{i=1}^{\rho} \gamma_3 \Delta \text{Ln}RGDP_{t-1} + \sum_{i=1}^{\rho} \gamma_4 \Delta AGEX_{t-1} + \sum_{i=1}^{\rho} \gamma_5 \Delta SMEX_{t-1} + \sum_{i=1}^{\rho} \gamma_6 \Delta \text{Ln}SREX_{t-1} + \sum_{i=1}^{\rho} \gamma_7 \Delta TROP_{t-1} + \sum_{i=1}^{\rho} \gamma_8 \Delta EXCR_{t-1} + \mu_t \quad (13)$$

$$\Delta \text{Ln}SMEX_t = \pi_0 + \sum_{i=1}^{\rho} \pi_1 \Delta \text{Ln}SMEX_{t-1} + \sum_{i=1}^{\rho} \pi_2 \Delta UNER_{t-1} + \sum_{i=1}^{\rho} \pi_3 \Delta \text{Ln}RGDP_{t-1} + \sum_{i=1}^{\rho} \pi_4 \Delta AGEX_{t-1} + \sum_{i=1}^{\rho} \pi_5 \Delta MAEX_{t-1} + \sum_{i=1}^{\rho} \pi_6 \Delta SREX_{t-1} + \sum_{i=1}^{\rho} \pi_7 \Delta TROP_{t-1} + \sum_{i=1}^{\rho} \pi_8 \Delta EXCR_{t-1} + \mu_t \quad (14)$$

$$\Delta SREX_t = \rho_0 + \sum_{i=1}^{\rho} \rho_1 \Delta SREX_{t-1} + \sum_{i=1}^{\rho} \rho_2 \Delta UNER_{t-1} + \sum_{i=1}^{\rho} \rho_3 \Delta \text{Ln}RGDP_{t-1} + \sum_{i=1}^{\rho} \rho_4 \Delta AGEX_{t-1} + \sum_{i=1}^{\rho} \rho_5 \Delta MAEX_{t-1} + \sum_{i=1}^{\rho} \rho_6 \Delta \text{Ln}SMEX_{t-1} + \sum_{i=1}^{\rho} \rho_7 \Delta TROP_{t-1} + \sum_{i=1}^{\rho} \rho_8 \Delta EXCR_{t-1} + \mu_t \quad (15)$$

$$\Delta TROP_t = \beta_0 + \sum_{i=1}^{\rho} \beta_1 \Delta TROP_{t-1} + \sum_{i=1}^{\rho} \beta_2 \Delta UNER_{t-1} + \sum_{i=1}^{\rho} \beta_3 \Delta \text{Ln}RGDP_{t-1} + \sum_{i=1}^{\rho} \beta_4 \Delta AGEX_{t-1} + \sum_{i=1}^{\rho} \beta_5 \Delta MAEX_{t-1} + \sum_{i=1}^{\rho} \beta_6 \Delta \text{Ln}SMEX_{t-1} + \sum_{i=1}^{\rho} \beta_7 \Delta SREX_{t-1} + \sum_{i=1}^{\rho} \beta_8 \Delta EXCR_{t-1} + \mu_t \quad (16)$$

$$\Delta EXCR_t = \theta_0 + \sum_{i=1}^{\rho} \theta_1 \Delta EXCR_{t-1} + \sum_{i=1}^{\rho} \theta_2 \Delta UNER_{t-1} + \sum_{i=1}^{\rho} \theta_3 \Delta \text{Ln}RGDP_{t-1} + \sum_{i=1}^{\rho} \theta_4 \Delta AGEX_{t-1} + \sum_{i=1}^{\rho} \theta_5 \Delta MAEX_{t-1} + \sum_{i=1}^{\rho} \theta_6 \Delta \text{Ln}SMEX_{t-1} + \sum_{i=1}^{\rho} \theta_7 \Delta SREX_{t-1} + \sum_{i=1}^{\rho} \theta_8 \Delta TROP_{t-1} + \mu_t \quad (17)$$

Where:

α_0, λ_0, δ_0, γ_0, π_0, ρ_0, β_0 and θ_0 are intercepts parameters.

α_1-α_8, λ_1-λ_8, δ_1-δ_8, γ_1-γ_8, π_1-π_8, ρ_1-ρ_8, β_1-β_8 and θ_1- θ_8 are coefficients of parameter estimates.

Presentation of Results

Pre-Estimation Test

Unit Root Results

The stationarity properties of the variables included in the model were tested using Augmented Dickey-Fuller (ADF) and Philips-Perron unit root tests as presented in Table 2.

Table 2

Augmented Dickey-Fuller (ADF) and Philips-Perron Unit Root Tests Results

	ADF		PP		
Variables	At Level P-value	1st Difference P-value	At Level P-value	1st Difference P-value	Order of Integration

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LRGDP	0.4902	0.0007**	0.4902	0.0007**	I(1)
UNER	0.2379	0.0000**	0.2597	0.0000**	I(1)
LAGEX	0.1589	0.0000**	0.2225	0.0000**	I(1)
LMAEX	0.5587	0.0000**	0.4735	0.0000**	I(1)
LSMEX	0.9143	0.0003**	0.9860	0.0003**	I(1)
LSREX	0.7434	0.0006**	0.7113	0.0005**	I(1)
TROP	0.1952	0.0000**	0.1592	0.0000**	I(1)
EXCR	0.9994	0.0001**	0.9999	0.0001**	I(1)

**Denotes significant at 5% level

Source: Authors' Computation (2026) using E-views12

Table 2 presented Augmented Dickey-Fuller (ADF) and Philips-Perron (PP) unit root tests results of the variables used in this study. The null hypothesis for ADF time series data is that it has no unit root or it is not stationary. On the other hand, the null hypothesis for PP is that the time series is trend stationary. The tests were conducted at level, order I(0) and at first difference, order I(1) and the asterisk symbol (**) indicated level of significance at 5%.

Johansen Co-integration Test

The results of Johansen co-integration test is presented in Table 3.

Table 3

Johansen Co-integration Test using Trace and Max-Eigen Value

Hypothesized No. of CE(S)	Trace Statistic	@5% Critical Value	Prob.	Max-Eigen Statistic	@5% Critical Value	Prob.
None*	246.5293	159.5297	0.0000	82.37062	52.36361	0.0000
At most 1*	164.1586	125.6154	0.0000	57.75653	46.2314	0.0020
At most 2*	106.4021	95.75366	0.0076	40.85123	40.07757	0.0408
At most 3	65.55087	69.81889	0.1044	27.56659	33.87687	0.2342
At most 4	37.98428	47.85613	0.3027	15.54243	27.58434	0.7042
At most 5	22.44185	29.79707	0.2746	11.47119	21.13162	0.6003
At most 6	10.97066	15.49471	0.2133	9.392808	14.26460	0.2549
At most 7	1.577853	3.841465	0.2091	1.577853	3.841465	0.2091

Trace test indicates 3 cointegration eqn(3) at the 0.05 level

*Denotes rejection of the hypothesis at the 0.05 level

Source: Authors' Computation (2026) using E-views12

Johansen co-integration test results presented in Table 3 revealed 3 cointegration equations and this showed that the variables were cointegrated. Trace statistic values were greater than the 5% critical values. Also, the Max-Eigen values were greater than the critical values and the P-values were less than 0.05 level of significance. The study therefore, rejected null hypothesis and concluded that there existed long-run relationship among non-oil exports (agricultural, manufacturing, solid mineral, and services exports), economic growth and unemployment rate in Nigeria during the period of study. The implication is that the variables all moved in the same direction in the long-run.

Vector Error Correction Model (VECM) Results

The results of the estimated short-run and long-run Vector Error Correction Model are presented in Table 4.

Table 4

Dependent Variable: Unemployment Rate (UNER)

Estimated Short-run and Long-run VECM Results

Short-run Results			
Variable	Coefficient	Standard Error	t-statistic
Constant	2.005202	0.92713	-2.16281
DUNER(-1)	1.066778	0.35926	2.96934**
DUNER(-2)	0.019498	0.22288	0.08748
DRGDP(-1)	0.004688	0.00165	2.83481**
DRGDP(-2)	-0.002503	0.00109	-2.29329
DAGEX(-1)	-0.001290	0.00068	-1.89687
DAGEX(-2)	0.000646	0.00060	1.08387

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DMAEX(-1)	0.008147	0.00317	2.56622**
DMAEX(-2)	-0.003224	0.00382	-0.84491
DSMEX(-1)	-0.060125	0.06825	-0.88096
DSMEX(-2)	-0.276196	0.07598	-3.63525
DSREX(-1)	-0.019047	0.00488	3.90060**
DSREX(-2)	-0.008136	0.00445	-1.82879
DEXCR(-1)	0.077653	0.02436	3.18766**
DEXCR(-2)	-0.043607	0.02607	-1.67297
DTROP(-1)	0.000941	0.00061	1.54507
DTROP(-2)	0.001897	0.00062	3.04595**
$ECt-_1$	-0.626510	0.20642	-3.03511
R-squared (R^2)	0.670830	F-statistic	2.157823
	Long-run Results		
UNER(-1)	1.000000		
LRGDP(-1)	0.002701	0.00087	3.10444**
LAGEX(-1)	0.003502	0.00060	5.83730**
LMAEX(-1)	0.005935	0.00209	2.84606**
LSMEX(-1)	-0.144854	0.02217	3.63521**
LSREX(-1)	0.003456	0.00297	1.16479
EXCR(-1)	-0.007165	0.01096	-0.65360
LTROP(-2)	0.002547	0.00024	10.6048
Constant	-9.450260		

** Significant level at 5% (t-cal > t-tab (2.015)

Source: Authors' Computation (2026) using E-views13

The value of the intercept (2.005202) in Table 4 signified that if all the explanatory variables were equal to zero, unemployment rate in Nigeria would be 2.01% in the short-run base on the period under review. The coefficient of UNER (-1) was positive (1.066778) and correctly signed and statistically significant. This indicated that the value of UNER in the past year led to increase in UNER in the current year by 1.07%. The coefficients of RGDP(-1) met the *a priori* expectations of positive sign both in the short-run (0.004688) and long-run (0.00271) and statistically significant. The *a priori* expectations were met. It implies that 1 unit increase in RGDP will reduce unemployment by 5% in the short-run and by 3% in the long-run. The coefficients of AGEX(-1) were positive both in the short-run (0.004688) and long-run (0.003502) and statistically significant. The *a priori* expectations based on economic theory were met. It implies that 1 unit increase in AGEX will reduce unemployment by 0.5% and 0.3% in the short-run and long-run respectively. The coefficients of MAEX(-1) met the *a priori* expectations of positive sign both in the short-run (0.008147) and long-run (0.005935) and were statistically significant. It implies that 1 unit increase in MAEX will reduce unemployment by 0.8% in the short-run and by 0.6% in the long-run.

The coefficients of SMEX(-1) were both negative in the short-run (-0.060125) and long-run (-0.144854) and statistically in significant and statistically significant. The negative signs did not meet the *a priori* expectations. The implication is that 1 unit increase in SMEX will increase unemployment by 0.6% in the short-run and by 0.14% in the long-run. The coefficient of SREX(-1) in the short-run was negative (-0.019047) and statistically insignificant but in the long-run it met the *a priori* expectation of a positive sign (0.003456) and statistically significant. It implies that 1 unit increase in SREX will increase unemployment by 1.9% in the short-run and by 0.3% in the long-run. The coefficient of the past value of EXCR(-1) in the short-run was positive (0.001897) and wrongly signed and statistically significant. It implies that 1 unit increase in EXCR will increase unemployment by 0.2% in the short-run. The coefficient of the past value of TROP(-2) in the short-run was positive (0.001897) and correctly signed and statistically significant. It implies that 1 unit increase in TROP will reduce unemployment by 0.2% in the short-run. The coefficient of the ECt-1 was negative (-0.626510) and correctly signed. This indicated a responsive economic system where short-run dynamics or variations were corrected, leading to a stable long-run equilibrium relationship among the variables in the model. It suggested that the system can quickly absorb shocks and return to its long-run equilibrium state. The speed of adjustment from short-run to long-run equilibrium would be corrected by 63%. The implication is that short-run policy effects fade fast. The error correction term

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showed a strong equilibrating force and therefore, policy should target fundamentals that define the long-run relation and not short-run deviations.

Diagnostic Test Results

The results of the diagnostic tests are presented in Table 5.

Table 5

Diagnostic Tests' Results

Test	F(stat)	Prob.
Serial Correlation Test /Breush-Godfrey LM Test	0.808871	0.4552
Heteroskedasticity Test /Breush-Pagan Godfrey Test	1.393898	0.2430
Specification Error Test /Ramsey Reset Test	1.771660	0.1880

Source: Authors' Computation (2026) using E-views12

The p-value (0.4552) of the serial correlation test was greater than the typical significance level of 0.05, thus, the null hypothesis that there was no serial correlation in the residuals was accepted. The p-value (0.2430) of heteroskedasticity test was greater than 0.05 and the null hypothesis that the variance of the residuals was constant was accepted. The Ramsey Reset test was used to detect non-linear relationships between the dependent variable and the independent variables. The p-value (0.1880) was greater than the significance level of 0.05, and therefore, the null hypothesis of misspecification was rejected. This showed that the model was not mis-specified and the relationships between the variables were adequately captured by the linear specification.

Stability Test Result

The result of the CUSUM stability test is presented in figure 1.

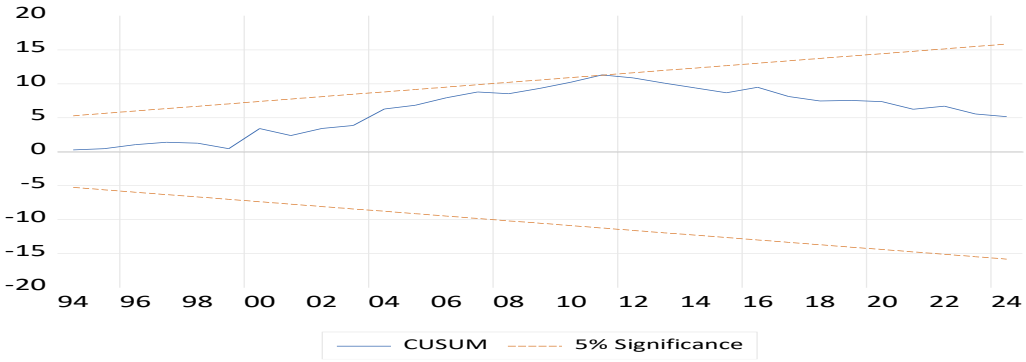

Figure 1: CUSUM Stability Test

Figure 1 presented the CUSUM stability test of the transmission effect of non-oil exports on unemployment through economic growth in Nigeria. The CUSUM was within the required region of 5% and this showed that the transmission effect of non-oil exports on unemployment through economic growth in Nigeria was stable under the period of review.

Sobel Test

Table 6 presented Sobel test of the transmission effect of non-oil exports on unemployment through economic growth in Nigeria.

Table 6: Sobel Test Results

Variable	t-statistic	Std. Error	P-value	Z-score
LAGEX	4.5138659	0.0006069	0.0000063	4.5100
LMAEX	1.9037917	0.0016543	0.0019373	4.2610
LSMEX	1.7603074	2.6763795	0.0783557	1.7800
LSREX	2.8600985	0.0003423	0.0042350	2.8700

Source: Author's Computation (2026) using Sobel Test Calculator

The results of the Sobel test in Table 6 revealed that agricultural exports (LAGEX), manufacturing exports (LMAEX), and services exports (SREX) separately had a high and statistically significant transmission effect on unemployment through economic growth in Nigeria. The p-values were less than 0.05 level of significance. Solid mineral exports (LSMEX) showed marginal evidence of transmission effect on unemployment through economic growth in Nigeria because the p-value (0.0783557) was greater than the 0.05 level of significance. Based on the Sobel test, it was evident that non-oil exports' effect on economic growth contributed to unemployment reduction in Nigeria during the study period.

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Discussion of Findings

Based on the VECM results it was discovered that in the short-run, Real Gross Domestic Product (RGDP) had a positive and statistically significant impact on unemployment rate (UNER) in Nigeria. This finding corroborated with the study of Olaniyi, Ali and Moses (2021) but it did not agree with the finding of Alrakhman, Susetyo and Azwardi (2022) which established a negative impact of economic growth on unemployment. The long-run VECM finding revealed that RGDP had a statistically significant and positive impact on UNER. In other words, the combined impact of the non-oil components on RGDP subsequently led to reduction in unemployment in Nigeria. Agricultural exports (AGEX) in the short-run was found to have a positive and statistically insignificant impact on unemployment rate (UNER) in Nigeria. This is attributed to low level of agricultural productivity due to the activities of kidnappers, bandits, and farmers-herders clash in Nigeria. On the other hand, the long-run result indicated that AGEX had a positive and significant impact on UNER and this agreed with the finding of the study conducted by Yilmaz (2021). The multiplier effect of agricultural activities was responsible for positive and significant impact of AGEX on UNER in Nigeria.

Manufacturing exports (MAEX) both in the short-run and long-run had a positive and statistically significant impact on unemployment rate (UNER) in Nigeria. This agreed with the finding of Adeniyi (2021) but it failed to support Yilmaz (2021) who found out that MAEX impacted negatively on UNER. The finding was due to; improvement in technological innovations, investment in infrastructure, and government policies especially tax incentives, subsidies, and trade agreements. Solid mineral exports (SMEX) in the short-run had a negative and statistically insignificant impact on unemployment rate (UNER) in Nigeria. This was due to government inability to implement solid mineral exports policies in Nigeria within the study period. However, in the long-run SMEX had a negative but statistically significant impact on unemployment rate (UNER) in Nigeria and this agreed with the studies conducted by Aniobi and Adedokun (2021) and Ahmed (2022) whose study found out that SMEX impacted positively on UNER. The significant impact of SMEX on UNER in the long-run was due to regulatory framework and implementation of mining policy which encouraged investment in the solid minerals sector of the Nigerian economy.

Also, in the short-run that services exports (SREX had a positive and statistically significant impact on unemployment rate (UNER) in Nigeria but in the long-run, SREX had a positive and statistically insignificant impact on UNER. This contradicted Gyimah-Brenpeng and Baah-Boateng (2021) whose study established that SREX impacted negatively on UNER. The insignificant impact of SREX on UNER was because of mismatched skills, overdependence on labour-intensive instead of knowledge-intensive, unique country characteristics such as; economic structure, demographic factors, and economic structure among others. More so, exchange rate (EXCR) in the short-run impacted positively and statistically significant on unemployment rate (UNER) in Nigeria and this agreed with the findings established by Ebere, Ajibola and Onakoye (2022). Depreciation in the Naira made Nigerian exports more competitive in the global market and this led to increased demand and job creation in export-oriented industries. However, the findings of the long-run revealed that exchange rate (EXCR) had a negative but statistically insignificant impact on unemployment rate (UNER) in Nigeria. This finding is due the effect of increased import costs on the economy, complex global supply chains, and low-price elasticity of demand for non-oil exports. Furthermore, it was discovered that both in the short-run and long-run, trade openness (TROP) had a positive and statistically significant impact on unemployment rate (UNER) in Nigeria. This agreed with the findings of Asogwa and Onyegbulam (2021). The comparative advantage of increased productivity, increased foreign investment, and reallocation of resources from less productive to more productive sectors (non-oil subsectors) among others was responsible for the significant impact of trade openness on unemployment in Nigeria.

Conclusion

The paper empirically investigated the transmission effect of non-oil exports (agricultural exports, manufacturing exports, and solid mineral exports) on unemployment in Nigeria through economic growth in Nigeria. Time series data that spanned from 1986-2025 were used and Vector Error Correction Model (VECM) technique of data analysis was utilized in the estimation of the specified model. The results of the study indicated that Real Gross Domestic Product (RGDP) had a positive and significant impact on unemployment and it served as a mediator through which non-oil exports impacted on unemployment in Nigeria within the study period. The study concluded that non-oil exports (agricultural exports,

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manufacturing exports, and solid mineral exports) except services exports had significant transmission effect on unemployment through economic growth in Nigeria during the period under review.

Policy Recommendations

The study recommended that

1. The positive and significant transmission effects of the non-oil exports (agricultural exports, manufacturing exports, and solid mineral exports) on unemployment through economic growth in Nigeria be maintained and sustained by the Nigerian government. This can be achieved through investing in agricultural technology, improving market access, and providing subsidies, credit facilities, and insurance to farmers.
2. Encouraging production of value-added goods to increase exports and revenue
3. By sanctioning illegal mining activities in Nigeria.

References

Abogan, O. P., Akinola, E. P., & Baruwa, O. I. (2014). Non-oil export and economic growth in Nigeria (1980-2011). *Journal of Research in Economics and International Finance, 3*(1), 1-11.

Adeniyi, A. (2021). Manufacturing exports and employment in Nigeria. *International Journal of Finance and Banking Studies, 10*(2), 111-119.

Ahmed, H. A. (2022). Overview of Nigeria's solid mineral potentials, challenges and prospects. *Journal of the Environment*, *16*(1), 76-91.

Ajakaiye, O., & Ojowu, O. (2014). Exchange rate depreciation and the structure of sectorial prices in Nigeria under an alternative pricing regime (1986-1989). *AERC Research Paper*, No. 25, Nairobi: African Economic Consortium.

Akeem, U. O. (2011). Non-oil export determinants and economic growth in Nigeria. *European Journal of Business and Management*, *3*(3), 236-257.

Akpan, J. I., & Obayori, J. B. (2022). Non-oil exports financing: An implication for economic growth. *European Journal of Accounting and Investment*, *8*(9), 1-12.

Alrakhman, D., Susetyo, D., & Azwardi, T. (2022). Effect of economic growth on unemployment rate in Indonesia. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal, 5*(2), 1014-1032.

Aniobi, S. C., & Adedokun, J. O. (2021). Economy beyond oil: Harnessing Nigerian solid-mineral deposits for sustainable development. *International Journal of Academic Accounting, Finance and Management, 5*(8), 24-31.

Asogwa, J. O., Okechukwu, E. U., & Oyekwelu, U. L. (2018). Evaluation of the effect of federal government external debts and reserves on economic growth in Nigeria. *Journal of Economics and Sustainable Development, 9*(6), 1-16.

Briggs, D. T., Nteegah, A., & Ohale, L. (2022). Does international trade reduce unemployment? Empirical evidence from Nigeria. *Asian Journal of Economics, Finance and Management 4*(1), 462-481.

Central Bank of Nigeria (2020). *Annual Statistical Bulletin*. CBN Publications, Abuja, Nigeria.

Central Bank of Nigeria (2023). Annual Statistical Bulletin. CBN Publications, Abuja, Nigeria.

Central Bank of Nigeria (2025). *Central Bank of Nigeria Annual Report*, Abuja, Nigeria.

Conteh, K. (2021). Economic growth and unemployment: An empirical assessment of Okun's law in the case of Liberia. (6), 1-13.

Dickey, D. A., & Fuller, W. A. (1981). Likelihood ratio statistics for autoregressive time Series with a unit root. *Econometrica, 4*(2), 1057-1072.

Ebere, C. E., Ajibola, J. O., & Onakoya (2022). Agriculture and employment creation: Evidence from Nigeria. *Euro Economica, 2*(42), 58-66.

Gyimah-Brempong, K., & Baah-Boateng, W. (2021). Service exports and youth unemployment in Africa. *Journal of African development*, *22*(1), 166-196.

Haller, S. A. (2012). Intra-firm trade, exporting and firm performance. *Canadian Journal of Economics*, *45*(4), 1397-1430.

Ideh, A. O., Okolo, N. M.., & Emengini, E. S. (2020). Non-oil sector and economic growth in Nigeria: The national accounts perspective. *European Journal of Sustainable Development, 10*(1) 185-202.

Isaiah, Z. T., Henneberry, S. R., & Radmehr, R. (2020). Effects of agricultural, manufacturing, and mineral exports on Angola's economic growth. *Energies, 13*(6), 1494.

Jhingan, M. L. (2003). *Macroeconomic theory*, New Delhi: Vrinda publishers' Ltd.

John, C. (2022). *Economic Growth*. Encyclopaedia Britannica, 4 Oct. 2018.

Keynes, J. M. (1936). *The General Theory of Employment, Interest and Money*. Paperbound ed. London and Basingstoke: Macmillan.

Kindelberger, C. P. (1962). *Foreign Trade and the National Economy*: Yale University Press.

National Bureau of Statistics (2018). *Unemployment/underemployment watch Q3.* NBS, Abuja.

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National Bureau of Statistics (NBS, 2025). *Annual Abstract of Statistics*, *6*(2). 47-62.

Okoli, C. L; Ezenekwe, R., Geraldine., N., & Collins, U. (2023). Impact of non-oil export on economic growth in Nigeria. *Journal of International Economic Relations and Development Economics*, *2*(1). 44-63.

Olaniyi, O., Ali, M., & Moses, A. B. (2021). A review of the unemployment-economic growth nexus in Nigeria from 1980-2015: A disaggregated approach. *Asian Growth journal, 8(1), 48-56.*

Orji, A., Ogbuabor, J. E., Alisigwe, J. N., & Anthony-Orji, O. I. (2021). Agricultural financing, agricultural exports, and employment generation in Nigeria. *European Journal of Business Science and Technology*, *7*(1), 74-90.

Phillips, P. C. B., & Perron, P. (1988). Testing for unit root in time series. Biometrika, *75*(2), 335-345.

Shiro, A. A., Abjia, R. O., & Fadun, O. S. (2023). Non-oil export and its effects on economic growth in Nigeria (1981-2020). *Nigerian Journal of Risk and Insurance, 13*(2), 1-18.

Sobel, M. E. (1982). Asymptotic intervals for indirect effects in structural equations models. In Leinhart (Ed.), *Sociological methodology.* San Francisco: Jossey-Bass, pp 290-312.

Solomon O. I., Tukur, M. U., & Zakere, S. (2018). A disaggregated impact of non-oil export on economic growth in Nigeria: 1981-2016. *International Journal of Management Sciences and Business Research, 7*(12), 67-77.

Uzma, K., & Aarif, M. K. (2023). An analysis of the effects of oil and non-oil export shocks on the Saudi economy. *Investment Management and Financial Innovations, 20*(1), 127-137.

Yilmaz, A. H. (2021). Effects of manufacturing export on employment in OECD Countries. *Journal of Economic Policy Researches*, *8*(2), 1-26.

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Validation of Cognitive Engagement Questionnaire among University Pre-Service Biology Teachers in Northwest, Nigeria

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Abstract

The study aims at validating Cognitive Engagement Questionnaire among Pre-service Biology Teachers of Universities in North-west zone, Nigeria. A descriptive survey research design was adopted on the population comprising of level 300 biology education students of the university program in the state universities in north-west zone, Nigeria. A Sample of thirty (30) pre-service biology teachers were selected using multistage sampling technique from two (2) universities in the zone. Face, content, construct validity and reliability were carried out and the result produced a significant values of logical face validity index (82.5%), overall content validity or Scale Validity Index (0.88), Convergent validity index (r = 0.83), Divergent validity index (r = 0.23), Reliability coefficient (r = 0.88). The reliability indices of the subscales recorded as; Cognitive Strategy (0.98), Deep Processing (0.92), Shallow Processing (0.88), and Persistence (0.80).The study concluded that the instrument is clear, relevant, suitable instrument is fit for measuring the intended psychological constructs of pre-service biology teachers' cognitive engagement, and further suggested that, Ministry of Education and the National Universities Commission (NUC) to adopt the PREBITCEQ as a standardized measuring instrument for monitoring the cognitive engagement of pre-service biology teachers across the universities in North-west zone Nigeria.

Keywords: Pre-service Teachers, Cognitive Engagement, Questionnaire, Validity and Reliability

Introduction

Validation of research instruments is a fundamental procedure in educational research that ensures the accuracy and dependability of the collected data. Validation serves as the essential prerequisite for ensuring that research findings are not merely "mathematical artifacts" but credible, reliable, and applicable facts in professional contexts (Karnia, 2024; Yong et al., 2026). In high-stakes environments such as teacher education, the use of psychometrically robust measurement is the only reliable way to identify internal psychological states. The validation process is multidimensional, traditionally encompassing the assessment of face validity, content validity, and construct validity to ensure that the instrument is fit for its intended purpose (Anggraini et al., 2023; Wang et al., 2023). This process begins with face validity, which serves as a preliminary assessment or "consistency check," determining the extent to which a tool appears, at first glance, to measure the intended variables. Although it is often considered the least rigorous form of validation due to its superficial nature, it remains essential for ensuring participant buy-in and establishing the perceived legitimacy of the study (Merkus, 2025). Recent researchers argue that face validity acts as a bridge between the researcher's intent and the respondent's cooperation; its success ensures that the questionnaire is perceived as a legitimate professional tool rather than an intrusive or irrelevant survey (Researcher.Life, 2025). For a specialized field like biology education, this means that the tool's language must reflect the specific pedagogical challenges of that discipline.

Next comes content validity, which typically involves a panel of experts using the Content Validity Index (CVI) to verify that the instrument aligns with the specific programs and professional standards of the discipline (Bhattacharyya et al., 2024). Content validity corresponds to the extent to which the items of the questionnaire adequately represent all dimensions of the measured concept. For the PREBITCEQ questionnaire, this means ensuring that every aspect of cognitive engagement such as persistence, deep processing, and shallow processing is proportionally represented in the questions (Zhang & Garcia, 2023); it acts as a safeguard against "construct under-representation" that could lead to the omission of critical aspects of the student's mental effort. Furthermore, construct validity constitutes the empirical bridge between the research tool and the theoretical attribute it aims to measure. Construct validity is the degree to which a test measures what it claims or aims to measure. In educational psychometrics, it provides irrefutable proof that the instrument's scores can be interpreted as a meaningful reflection of a specific psychological trait (Karnia, 2024). By presenting evidence of "convergence" and "divergence" validity of cognitive engagement, researchers ensure that the instrument captures a

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specific internal mental state rather than unrelated psychological factors (Lim, 2024). The validation process is completed by the assessment of reliability, which ensures that the instrument provides stable and consistent results across different populations. "Internal consistency" often estimated by Cronbach's alpha, remains the gold standard for determining whether the items of a subscale systematically measure the same psychological attribute (Creswell & Guetterman, 2019). In professional teacher training contexts, recent psychometric evaluations suggest that reliability coefficients greater than 0.70 are indispensable for limiting measurement errors and ensuring data reliability (Frontiers in Education, 2025). The necessity of rigorous validation is particularly evident when measuring a complex concept such as cognitive engagement which represents the student's psychological commitment to the learning process, characterized by the use of advanced learning strategies, continuous persistence, and self-regulation (OECD, 2025; Spitzer et al., 2006). This concept requires intense mental effort to move from simple superficial memorization to deep processing and conceptual mastery. For future biology teachers, this process involves managing the high cognitive load associated with understanding complex vital processes and scientific theories. Given that these mental activities are internal and non-observable, they require a precisely calibrated measurement tool to be detected correctly. Despite the increase in research on students' cognitive engagement, a critical gap remains in the availability of specialized instrument in this discipline; many current questionnaires were developed for general populations or non-scientific disciplines, leading to a manifest scarcity of validated scales designed specifically for the unique academic requirements of biology students (MDPI, 2025). In the Nigerian context, and particularly within universities in the Northwest zone, there is an urgent need for specialized validation processes. The technical nature of biological sciences, coupled with the shift toward digital laboratory platforms, necessitates a tool sensitive to these specific requirements. This study fills this gap by evaluating the psychometric properties of the "Pre-service Biology Teachers' Cognitive Engagement Questionnaire" (PREBITCEQ), thereby offering educators a robust measuring tool to improve the quality of science teacher preparation.

Statement of the Problem

A lot of research in the Northwest region still uses instruments that lack solid proof of their validity and dependability. Significant measurement error can occur when an instrument does not have a confirmed Content Validity Index (CVI) or does not satisfy the internal consistency criteria (e.g., Cronbach's Alpha of 0.70) (Anggraini et al., 2023; Shockden & Onyejekwe, 2025). This results in perhaps faulty educational policies and incorrect assessments of students' learning demands (Bhattacharyya et al., 2024). It is still challenging for teacher-educators to empirically ascertain why some pre-service biology instructors succeed while others struggle, whilst having comparable access to resources, in the absence of a specialized and validated Cognitive Engagement Questionnaire (CEQ) (Asanre et al., 2024). Therefore, these pressing challenges necessitate the need to assess the psychometric qualities of a CEQ in order to make sure it is a "fit-for-purpose" instrument that can precisely measure pre-service biology students' mental investment, thereby offering a solid basis for enhancing science teacher preparation in Nigeria.

Objectives of the Study

The following research objectives guides the study

1. To determine the face validity index of Cognitive Engagement Questionnaire among Pre-service Biology Teachers of universities in North-west zone, Nigeria.
2. To assess the content validity index of Cognitive Engagement Questionnaire among Pre-service Biology Teachers of universities in North-west zone, Nigeria.
3. To find out the construct validity index of Cognitive Engagement Questionnaire among Pre-service Biology Teachers of universities in North-west zone, Nigeria.
4. To measure the reliability coefficient of Cognitive Engagement Questionnaire among Pre-service Biology Teachers of universities in North-west zone, Nigeria.

Research questions

The following research questions were answered in the study

1. What is the face validity index of Cognitive Engagement Questionnaire among Pre-service Biology Teachers of universities in North-west zone, Nigeria?
2. What is the content validity index of Cognitive Engagement Questionnaire among Pre-service Biology Teachers of universities in North-west zone, Nigeria?

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3. What are the construct validity indices of Cognitive Engagement Questionnaire among Pre-service Biology Teachers of universities in North-west zone, Nigeria?
4. What is the reliability coefficient of Cognitive Engagement Questionnaire among Pre-service Biology Teachers of universities in North-west zone, Nigeria?

Research Methodology

The study adopted a descriptive survey research design. A descriptive survey study design is a quantitative method intended to give a methodical and precise description of the traits, attitudes, or behaviors of a target group. This approach places more emphasis on determining and recording the "what," "where," and "how" of the current circumstance than on investigating causal linkages or "why" a phenomenon happens (Karnia, 2024). It utilizes structured instruments (example Cognitive Engagement Questionnaire) to transform qualitative human experiences into quantifiable data for rigorous analysis. The population of this study comprises of level 300 biology education students enrolled in university program in the state universities in north-west zone, Nigeria. A Sample of thirty (30) pre-service biology teachers were selected randomly from two (2) universities in the north-west zone of Nigeria.

Presentation of Results

Research Question 1: What is the face validity index of Cognitive Engagement Questionnaire among Pre-service Biology Teachers of universities in North-west zone, Nigeria?

The Pre-service Biology Teachers' Cognitive Engagement Questionnaire was subjected to ten (10) experts chosen from universities in the North-west zone, Nigeria. The average percentage agreement scores of the ten (10) experts was calculated, and the Logical Face Validity index of 82.5% was established, which is an acceptable value as recommended by Anikwueze, (2010) and Poopola, (2016).

Table 1: Face Validity Index for Pre-service Biology Teachers' Cognitive Engagement

Validators	CI (30%)	TCT (30%)	L (40%)	FVI
1st Validators	26	30	31	87
2nd Validators	25	28	30	83
3rd Validators	27	25	30	82
4th Validators	25	25	27	77
5th Validators	25	29	31	85
6th Validators	24	20	32	76
7th Validators	21	26	36	83
8th Validators	22	25	30	77
9th Validators	24	28	36	88
10th Validators	28	29	30	87
FVIA	24.7	26.5	31.3	82.5

Key: CI: Clarity of Instructions, TCT: Time to Complete the Test, L: Language Usage; FVI: Face Validity Index, FVIA: Overall Face Validity Index

Research Question 2: What is the content validity index of Cognitive Engagement Questionnaire among Pre-service Biology Teachers of universities in North-west zone, Nigeria?

A panel of six (6) content experts evaluated the initial 20-items. According to Yusoff (2019) six steps are involved in content validation: creating a content validation form, choosing an expert review panel, performing content validation, evaluating the domain and items, assigning a score to each item, and determining the Content Validity Index (CVI). The experts thoroughly and critically examined the areas and the items of the questionnaire after which they assign a score to each item as they were requested. Then, the Content Validity Index (CVI) was calculated as: $\mathrm{I-CVI} = \frac{\text{Agreed Item}}{\text{Number of Expert}}$ $\mathrm{S-CVI/Ave} = \frac{\text{Sum of I–CVI Scores}}{\text{Number of items}}$

Relevance rating was classified as either 1 (relevance scale of 3 and 4) or 0 (relevance scale of 1 and 2). The acceptable cut-off score of CVI is 1 for three to five experts, 0.83 for six to eight experts, and 0.78 for at least nine experts. (Davis, 1992; Polit, Beck & Owen, 2007; Yusoff 2019). This study adopted a cut-off score for the content validity index of 0.83 and above, in accordance with the suggested range of acceptable cut-off scores provided by certain researchers.

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Table 2: Relevance Rating On Pre-Service Biology Techers' Cognitive Engagements Questionnaire

Item	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert in Agreement	I-CVI	Remark
1	1	1	1	1	1	1	5	0.83	Retained
2	1	0	1	1	1	1	5	0.83	Retained
3	1	0	0	1	1	1	4	0.66	Discarded
4	1	0	1	1	1	1	5	0.83	Retained
5	1	1	1	1	1	1	6	1	Retained
6	0	1	1	1	0	1	5	0.66	Discarded
7	1	1	1	0	1	1	5	0.83	Retained
8	1	1	1	1	0	1	5	0.83	Retained
9	1	1	1	1	1	0	5	0.83	Retained
10	1	1	1	1	1	1	6	1	Retained
11	1	1	1	0	0	1	4	0.66	Discarded
12	1	1	1	1	1	1	6	1	Retained
13	1	1	1	0	1	1	5	0.83	Retained
14	0	1	1	1	0	1	5	0.66	Discarded
15	1	1	1	1	1	1	6	1	Retained
16	1	1	1	0	1	1	5	0.83	Retained
17	1	0	1	1	1	1	5	0.83	Retained
18	1	0	1	1	1	1	5	0.83	Retained
19	1	0	1	1	1	1	5	0.83	Retained
20	1	1	1	1	1	1	6	1	Retained
							S-CVI/Ave	0.88	

Based on the experts' judgment on the inter-rater review of the questionnaire's items, it indicates that; Out of the 20 items evaluated, 11 items (1,2,4,7,8,9,13,16,17,18 and 19) achieved a I-CVI of 0.83 and are considered relevant in the final draft of the questionnaire. Five (5) items (5, 10, 12, 15, and 20) achieved a perfect I-CVI of 1 and are purely considered relevant. Four (4) items (3, 6, 11 and 14) recorded an I-CVI of 0.66. Because these values fell below the accepted 0.83, they were deemed insufficiently relevant and were excluded from the final instrument. The Scale-level Content Validity Index (S-CVI/Ave) or overall Scale Validity calculated was 0.88.This indicates a high degree of content representation and demonstrates strong evidence of content validity, ensuring that the instrument is fit for measuring the intended psychological constructs.

Research Question 3: What are the construct validity indices of Cognitive Engagement Questionnaire among Pre-service Biology Teachers of universities in North-west zone, Nigeria?

The researcher employed a pairing technique which specifically involves comparing the scores of the current instruments against already established instruments. Pairing technique is a simultaneous assessment of convergent and divergent (discriminant) validity by correlating the research instruments with external measures (Flake & Fried, 2020).

Convergent Validity of Pre-service Biology Teachers Cognitive Engagement Questionnaire

Convergent validity of the Pre-service Biology Teachers' Cognitive Engagement Questionnaire (PREBITCE) was established by examining its relationship with relevant subscales of the Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich and De Geroot (1990). The Pearson Correlation analysis revealed a significant positive correlation of r = 0.83 between the PREBITCE and the MSLQ cognitive subscales. The result indicates that the PREBITCE demonstrates a high degree of linear relationship with an existing, validated measure of the same construct and successfully captures the cognitive dimensions of student cognitive engagement and hence is good for the study (Boateng et al., 2018; Hair et al. 2019).

Divergent Validity of Pre-service Biology Teachers Cognitive Engagement Questionnaire

To determine the divergent validity of Pre-service Biology Teachers Cognitive Engagement Questionnaire, self-rated anxiety questionnaire (SRQ) developed by Spitzer et al (2006) was used which is empirically distinct. Theoretically, cognitive engagement reflects students' psychological investment in learning, deep processing strategies, and sustained effort in academic tasks. In contrast, self-rated anxiety reflects emotional tension, worry, and physiological arousal associated with evaluative academic situations. The scores of both the constructs, validity Pre-service Biology Teachers Cognitive Engagement Questionnaire and self-rated anxiety questionnaire was analyzed using Pearson Monument

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Correlation Coefficient and the r- value = 0.23 was found indicating a weak positive relationship (see appendix I). This low correlation coefficient proves that cognitive engagement, as measured by the PREBITCE, is a distinct construct from the students' anxiety levels and is pure measure of engagement rather than a proxy for emotional or affective states (Bobbio & Manganelli, 2023).

Research Question 4: What is the reliability coefficient of Cognitive Engagement Questionnaire among Pre-service Biology Teachers of universities in North-west zone, Nigeria?

Pilot test was conducted among a group of 30 level 300 Biology students of the two selected universities in the North who shared similar characteristics with the target population but were not included in the main sample. The Pre-service Biology Teachers' Cognitive Engagement Questionnaire was administered, retrieved, and subjected to reliability analysis using Cronbach's Alpha in SPSS Version 26. The result shown an overall reliability coefficient of 0.88, indicating strong internal consistency. The subscales recorded the following indices: Cognitive Strategy (0.98), Deep Processing (0.92), Shallow Processing (0.88), and Persistence (0.80). The overall reliability coefficients of Cognitive Engagement and sub-scales ranged between 0.703 and 0.865, surpassing the minimum recommended value of 0.70 (Kerlinger, 2000; Cohen, Manion & Morrison, 2007; Amirrudin, Nasution & Supahar, 2021). This confirms that the instruments employed in the study possess adequate internal consistency and are suitable for measuring the constructs under study.

Conclusion

Based on the findings of this research study, the following conclusions were made:

1. The Logical Face Validity index of 82.5% was established, confirming that the Pre-service Biology Teachers Cognitive Engagement Questionnaire is relevant, clear, and logically related to cognitive engagement of Pre-service biology teachers.
2. 16 items achieved the I-CVI of 0.83 and above with overall or Scale validity index (S-CVI/Ave) of 0.88 showing strong evidence of content validity and ensuring that the instrument is fit for measuring the intended psychological constructs.
3. A convergent validity index revealed significant positive correlation of (r = 0.83) indicating a high degree of linear relationship with an existing, validated measure of the same construct and successfully captures the cognitive dimensions of student cognitive engagement and hence is good for the study.
4. Divergent validity coefficient (r- value = 0.23) was found indicating a weak positive relationship proving that PREBITCEQ, is a pure measure of cognitive engagement rather than a proxy for emotional or affective states.
5. The overall reliability coefficients of (r = 0.88) was established, indicating strong internal consistency, that of subscales are Cognitive Strategy (0.98), Deep Processing (0.92), Shallow Processing (0.88), and Persistence (0.80). These prove the suitability of the instrument in measuring the constructs of cognitive engagement.
6. The final draft of the questionnaire is as follows:

	Sub-Scale: Cognitive Strategy					
S/N	**Items**	**5**	**4**	**3**	**2**	**1**
1	As I study for Biology test, I try to put together the information I learned from lectures and from the book.					
2	When doing homework, I try to remember what the lecturer said in class so I can answer the questions correctly.					
3	When studying Biology I put important ideas into my own words.					
4	When I study for Biology test I try to remember as many facts as I can.					
	Sub-Scale: Deep Processing					
S/N	**Items**	**1**	**2**	**3**	**4**	**5**

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5	I use what I have learned from old homework/assignments and the textbook to do new assignments.					
6	When studying Biology, I try to combine different pieces of information from course materials and text books.					
7	I like to draw pictures or diagrams to answer some Biology questions.					
8	I classify questions/problems into categories before I begin to answer them.					

Sub-Scale: Shallow Processing

S/N	**Items**	**1**	**2**	**3**	**4**	**5**
9	When I study for a Biology tests, I used past answers in my notes or in the textbook to help me memorize the procedures involved.					
10	To me, reviewing past questions and answers is a good way to study for Biology exams.					
11	I try to complete Biology homework or assignments as fast as possible without checking my accuracy.					
12	When I read something in Biology books that doesn't interest me, I skip it and hope that the Biology teacher explains it in class.					

Sub-Scale: Persistence

S/N	**Items**	**1**	**2**	**3**	**4**	**5**
13	If I have difficulty in answering Biology assignment, I try to think deeply what I was taught in the class					
14	If I have difficulty in understanding a concept in Biology, I go over it again and again until I understand it.					
15	When I have problem in answering Biology questions, I'm more likely to check examples in the text book to try to figure answer.					
16	When I run into a difficult task in Biology I usually don't give up.					

Rating Scales: Strongly Agree=5, Agree=4, Undecided=3, Disagree=2, Strongly Disagree=1

Recommendations

Based on the conclusions drawn from the psychometric evaluation of the PREBITCEQ, the following recommendations are made:

1. The Ministry of Higher Education and the National Universities Commission (NUC) are advised to adopt the PREBITCEQ as a standardized measuring instrument for monitoring the psychological investment of pre-service teachers across the universities in North-west zone Nigeria.
2. Biology lecturers in universities are advised to utilize the subscale results specifically those related to Deep Processing, Cognitive Strategy and Persistence to tailor their instructional methods.
3. Quality assurance units within tertiary institutions are also advised to integrate the PREBITCEQ into their student support frameworks.

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References

Amirrudin, M., Nasution, K., & Supahar, S. (2021). Effect of variability on Cronbach Alpha reliability in research practice. *Jurnal Matematika, Statistika & Komputasi, 17*(2), 223-230. doi:10.20956/jmsk.v17i2.11655

Anggraini, W., et al. (2023). Validity and reliability in educational measurement: A fundamental review of instrument quality. *Journal of Science Education Research, 12*(2), 45-58.

Anikwueze, C. M. (2010). *Measurement and evaluation for teacher education* (2nd ed.). Enugu, Nigeria: Snaap Press.

Asanre, A., Ifamuyiwa, A. S., & Abiodun, A. S. (2024). Academic engagement as a predictor of academic achievement among public senior secondary school students. *International Journal of Social Sciences and Management Research, 10*(1), 12-25.

Bhattacharyya, S., et al. (2024). Expert panel validation and CVI application in science teacher training instruments. *International Journal of Educational Research Open, 5*, 100-112.

Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quiñonez, H. R., & Young, S. L. (2018). Best practices for developing and validating scales for health, social, and behavioral research: A primer. *Frontiers in Public Health, 6*, 149.

Bobbio, A., & Manganelli, A. M. (2023). Measuring social desirability and discriminant validity: A modern psychometric perspective. *Journal of Personality Assessment, 105*(2).

Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (6th ed.). London, England: Routledge.

Creswell, J. W., & Guetterman, T. C. (2019). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (6th ed.). Upper Saddle River, NJ: Pearson Education.

Davis, T. M. (1992). *Student engagement and the social world of the classroom.* Chicago, IL: University of Chicago Press.

Frontiers in Education (2025). Cross-cultural adaptation and psychometric evaluation of engagement scales among pre-service teachers. *Frontiers in Education, 10*, 163-175.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate Data Analysis* (8th ed.). Cengage Learning.

Ibrahim, S., & Mohd Matore, M. E. (2024). Face validity assessment of teachers' global competency instrument using Face Validity Index analysis. *International Journal of Learning, Teaching and Educational Research*, 23(1).

Idris, A., & Shuaibu, G. (2024). Investigating the relationship between cognitive engagement and academic achievement among pre-service biology teachers in North-west zone, Nigeria. *Journal of Joyful Educational Research, 9*(1), 97-110.

Kanyonga, L., et al. (2025). Cognitive and emotional engagement in experiments as predictors of scientific inquiry competencies. *AfriTVET Journal, 10*(1), 1-12.

Karnia, R. (2024). Importance of reliability and validity in research. *Psychology and Behavioral Sciences*, 13(6), 137–141. https://doi.org/10.11648/j.pbs.20241306.11

Kerlinger, F. N. (2000). *Foundations of behavioral research*. Holt, Rinehart and Winston.

Lim, W. M. (2024). A typology of validity: Content, face, convergent, discriminant, nomological and predictive validity. *Journal of Trade Science*, 12(3), 155–179.

MDPI (2025). Learning engagement and professional identity among pre-service teachers: A sequential mediating model. *Behavioral Sciences, 15*(7), 881-895.

Merkus, J. (2025). *What is face validity? Definition & examples*. QuillBot Research Blog.

OECD. (2025). *Unlocking high-quality teaching: Ensuring cognitive engagement in teacher education*. Paris, France: OECD Publishing.

Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82*(1), 33–40.

Polit, D. F., Beck, C. T., & Owen, S. V. (2007). Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Research in Nursing & Health, 30*(4), 459–467. https://doi.org/10.1002/nur.20199

Popoola, A. A. (2016). Study habits and academic performance of senior secondary school students in biology in Ekiti State, Nigeria. *Journal of Education and Practice, 7*(21), 106–112.

Researcher.Life. (2025). *What is face validity? Definition and examples*. Cactus Communications.

Shockden, E. I., & Onyejekwe, G. (2025). Cognitive engagement and mastery goal orientation: The efficacy of multidimensional intervention among students in communities plagued by violence in Nigeria. *Forum for Education Studies, 3*(3), 2914.

Spitzer, B. A. (2006). *Predictors of cognitive engagement of high school students.* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3241511).

Trolian, T. L. (2024). Institutional policies and practices for enhancing student engagement in higher education. *Journal of Higher Education Policy and Management, 46*(3), 210-225.

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Wang, J., et al. (2023). Psychometric properties of cognitive engagement scales in digital learning environments. *Educational Technology & Society, 26*(1), 12-25.

Xu, H., et al. (2025). Regulating engagement in distance learning: Theoretical frameworks and AI implementation. *Frontiers in Psychology, 16*, 161-174.

Yong, P. T., Mohammed, Z., & Fadzil, N. (2026). ABC of face validity for questionnaire: A methodological guide. *International Journal of Pharmaceutical Sciences Review and Research*, 65(1), 164–168.

Yusoff, M. S. B. (2019). ABC of content validation and content validity index calculation. *Education in Medicine Journal*, *11*(2), 49-54.

Zhang, L., & Garcia, M. (2023). Four types of validity in contemporary educational research: A guide for practitioners. *Journal of Pedagogical Research, 7*(4), 89-104.

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Contextualizing Women Empowerment: A Capability-Based Analysis of Challenges and Training Needs in Skills Acquisition Programmes in Gusau Local Government Area, Zamfara State, Nigeria

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Abstract
Skills acquisition programmes represent a critical pathway for women's economic empowerment and poverty reduction. However, despite government and stakeholders' investments in Technical and Vocational Education and Training (TVET), women continue to face substantial barriers that limit their participation and success in these programmes. This study explored the challenges women encountered during their skills acquisition programmes and training needs. The phenomenological qualitative approach was employed as a research design. The sample size consisted of 40 purposively sampled women participants from eight (8) skills acquisition centers across Zamfara State. Data were collected through focus group discussions and analysed using thematic analysis. The findings from the study revealed that challenges encountered by women participants include inadequate training and preparation, inadequate training facilities, more emphasis on theory than practical, time constraint, among others. The study found out that women needed practical experiences and exposure; specialized skills, provision of resources and support, mentorship and startup kits or funds. This finding implied that to achieve sustainable women empowerment, policymakers and practitioners must consider the importance of combining skills acquisition with infrastructural support, financial access, and mentorship. This study concluded that women are keen on gaining more experience, financial support and continuous guidance if their training needs were met. The study recommended, among others, that much emphasis should be placed on practical (hands-on) learning in all skills acquisition centers through internships, apprenticeship programmes and simulation-based learning.
Keywords: Challenges, Women Empowerment, Skills Acquisition, Training Needs

Introduction
Education and vocational training are widely recognised as foundational levers for economic mobility and social inclusion. Human capital on the other hand expands women's access to income, assets, decision-making, and public life, ultimately improving household welfare and community resilience. Women are the adult girls or females who occupy the positions of mothers, sisters, aunts, or female cousins (Emenalo, 2017). The concept of women empowerment has become a crucial tool for promoting inclusive development, reducing poverty, and advancing gender equality worldwide in recent decades. Mazumber and Ahmed (2015) affirmed that adequate women's skills acquisition provides them with a change in attitude, increased mobility, training, professionalism, self-recognition, various amenities, general growth among others. The interdependence of women empowerment, skills acquisition, and training needs is both intricate and significant. According to Mazumber and Ahmed (2015), adequate women's acquisition of entrepreneurial skills provides them with a change in attitude, increased mobility, training, professionalism, self-recognition, various amenities, general growth among others. Although, the use of skills acquisition programmes has become widespread in addressing socio-economic issues, as the programmes equip women with practical abilities that contribute to their job prospects, entrepreneurial spirit, and independence but the transformative potential of these programmes' is often compromised by various challenges and unsatisfactory training requirements as women in Nigeria continue to experience significant barriers to their economic and social progress due to structural inequalities, limited access to education, and socio-cultural challenges. World Education (2016) corroborated that world-wide, majority of women lack the empowerment tools of education and skills that can empower them to improve their lives and that of others in communities. Women in Northern Nigeria, for instance, face

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interlocking constraints: high poverty, limited access to post-basic education and finance, mobility restrictions, exposure to gender-based violence, and - critically - insecurity that disrupts schooling, markets, and public services (Yusuf, 2018). In Zamfara and neighbouring states, school closures and fear of travel have amplified existing barriers; families often withdraw girls from school or delay transitions to training and work. These dynamics depress women's human capital accumulation and erode confidence to start or grow enterprises. Skills acquisition programmes - from traditional trades (tailoring, catering, hairdressing, leather work) to digital skills and enterprise development - serve as pragmatic pathways to earnings, savings, and voice. Vocational skill acquisition programmes provide a viable answer to these issues by providing women with practical skills in various vocations such as tailoring, catering, cosmetology, and agriculture (Ogunlade & Afolayan, 2020).

Effective skills acquisition programmes do more than teach a trade: they embed business skills, market linkages, mentoring, access to tools/inputs, and, where possible, child-care or transport support. Zamfara State and partners have launched a stream of initiatives - ranging from sizeable state investments in vocational and micro-enterprise support to targeted digital-skills schemes (for example, Oracle-ZITDA) aimed at youth and women - signalling policy recognition that employability and entrepreneurship are central to recovery and inclusion. Despite the implementation of various skills acquisition initiatives in Gusau, there is limited evidence of significant improvement in the economic empowerment and social status of women in the area. Many women still struggle to access and sustain the benefits of these programmes due to factors such as cultural barriers, inadequate program design, poor funding, and lack of follow-up support systems. Women tends to perform jobs that have minimal skills requirements, and they encounter few opportunities for learning and advancement due to institutional, societal and structural barriers, all of which generates a gender gap in skills development and worsen gender inequalities (Chinen et al., 2018). Numerous studies identify key barriers that hinder women from accessing vocational training. Suleiman et al. (2023) reported that 68% of women consider cultural norms as significant obstacles, while Kadir et al. (2023) found that 72% cited financial limitations as prohibitive. Further, Abdullahi and Ahmed (2022) noted the societal stigma associated with traditionally male dominated trades, limiting women's participation. Inadequate infrastructure, as evidenced by Musa et al. (2022), affects 61% of vocational institutes, while health concerns, including safety in training venues, were reported by 47% of women (Aliyu and Jibril, 2022). However, empowerment is not solely about acquiring skills, but also about using them in meaningful ways within supportive environments. Mela and Yakubu (2023) argues that empowerment must be understood in terms of the transformation of power relations, rather than simply the acquisition of new skills or resources. Mediating factors for determining whether skill acquisition becomes actual empowerment include access to startup capital, mentorship, flexible learning schedules, and adequate facilities. If these needs are not met, the programmes could become more symbolic than practical and strengthen existing inequalities rather than dismantle them. Research has been carried out in Nigeria on various topics related to women's empowerment and vocational education. Afolabi (2019) analyzed the impact of entrepreneurship training on rural women's economic involvement, while Okonkwo and Ibrahim (2021) focused on the shortcomings of government-funded empowerment initiatives in addressing real-world skill gaps. Although these studies are valuable, they often consider empowerment and training as isolated issues, without considering the challenges faced by programme implementation, such as overcrowding, theoretical bias, and infrastructural deficits. Also, there is limited empirical evidence on how these obstacles intersect with the aspirations and lives of women in Nigeria. In order to address these deficiencies, this study aims to analyze the training requirements and obstacles encountered in developing skills acquisition programmes for women's empowerment in Nigeria. While existing research highlights the potential of skills acquisition programmes for women empowerment, there is a dearth of localized studies that specifically examine the context of Gusau Local Government Area. Therefore, this study is to assess the challenges and training needs of women empowerment through skills acquisition programmes in Gusau Local Government Area, Zamfara State, Nigeria.

Purpose of the Study

The Purpose of this study are to:

1. Examine the challenges faced by women beneficiaries during skills acquisition training programme in Gusau Local Government Area, Zamfara State Nigeria; and
2. Examine the training needs of women beneficiaries during the skills acquisition training programme in Gusau Local Government Area, Zamfara State Nigeria

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Research Questions

The following research questions are raised to guide the study:

1. What are the challenges faced by women beneficiaries during the skills acquisition programme in Gusau Local Government Area, Zamfara State Nigeria?
2. What are the training needs for women beneficiaries during the skills acquisition training programme in Gusau Local Government Area, Zamfara State Nigeria?

Research Methodology

The phenomenological qualitative research design was employed in our study. We investigated the lived experiences and perceptions of women participants in skills acquisition programmes regarding their challenges and training needs during the skills acquisition programmes. Beck (2021) sees phenomenological research approach as having the capacity to offer to readers and researchers a privileged view of the meaning of the experience of a particular phenomenon from their different perspectives. The participants for this study were 40 female beneficiaries from eight (8) skills acquisition centers in Gusau Local Government Area, Zamfara State, Zamfara State, Nigeria who were purposively sampled. This sample size is considered adequate, given that sample sizes ranging from 15 – 20 participants have been adopted by researchers in qualitative studies, and they have hit data saturation points within this range (Hossain et al., 2024). The participants were those women who have participated and completed in different skills acquisition programmes, as well gave their consent for participation in the study. Within each skills acquisition center, the participants were randomly selected into four (4) Focused Group Discussions (FGDs). Each group consisted of 4 participants. The study sites were in Zamfara State which is a Northwest Nigerian state with its capital city located in Gusau. A FGD was used in collecting the qualitative data which bothered on exploring the perception on the challenges faced by women beneficiaries during the skills acquisition programme and the training needs for women during the skills acquisition training programme in Gusau Local Government Area, Zamfara State Nigeria. The FGDs guide was validated by two experts in Educational Measurement and Evaluation. The question items included: what are the challenges faced by women beneficiaries during the skills acquisition programme in Gusau Local Government Area, Zamfara State Nigeria? and what are the training needs for women beneficiaries during the skills acquisition training? The processes in data collection, included seeking the consent of the respondents, and explaining the purpose of the study to the respondents. Only skills acquisition beneficiaries who gave their consent were included in the study. Thereafter, the FGD sessions started with conversations that aimed at relaxing the respondents and create opportunity for discussion. The conversations were used to inform the participants about the aim of the discussion. The discussions took place at the participants' skills acquisition centers and lasted for about 50 minutes. The discussions were digitally recorded. The data was analyzed using thematic content analysis. The recorded interview was transcribed verbatim. The inductive analysis was employed in our study. Inductive analysis focuses on deriving concepts, themes, or a model through interpretations made from the raw data by a researcher (Thomas, 2006). Manuscripts were read many times and coded to identify emerging concepts that addressed the research questions. There was no restriction on the number of emerging themes and sub-themes until they are exhausted. Before the coding of the data, the researchers immersed themselves in the data to get familiar with the data, understand the data, pre-code the data by underlining a participant's significant quotes that strikes their attention. After identifying major emerging concepts, specifics were grouped into sub-themes, and these were drawn together to form themes. From the manuscripts, verbatim expressions such as ""*No, we were not taught practically, only theory*" was coded "no practical exposure"; and "*"We didn't learn anything about skills acquisition…"* was coded "no relevant course". These were later classified under the theme of "Inadequate Skills Acquisition Training and Preparation". Codes and themes were reflected upon by the researchers for depth and appropriateness. Where there was no disagreement the codes and themes were adopted whereas changes were made where the researchers agreed that there was a need for adjustment in the codes and themes.

Findings

Challenges faced by women beneficiaries during the skills acquisition programme

Regarding the challenges faced by women beneficiaries during the skills acquisition programme, five (5) broad themes emerged from the discussions. These include inadequate training and preparation, instructional challenges and time constraints, inadequate infrastructures and facilities. These themes are presented thus:

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Inadequate Inclusive Training and Preparation

These consists of challenges related to their skills acquisition training that prepares them to be skillful in one area or more. Through the discussion, a good number of participants reported that their training was insufficient to enable them to become self-empowered and reliant. One of the challenges was related to over-reliance on theoretical exposition of some of the skills without practical exposure. One of the participants noted: "*No, we were not taught practically, only theory*" (A1, Group 1). Another respondent from group 4 stated that: "*Because we are only taught the theory, no enough practical*" (C1, Group 4). These shows that most of their training focused on just theories without practical skills that could help them implement these strategies during their training as a result of inadequate training materials and facilities. One of the participants explained that: **"***the tools were not enough for all participants, sometimes we have to wait for hours to get a chance to practice"* **(P4).** In confirmation to this, a respondent noted that they were not trained in fishing and carpentry: *"We didn't learn anything about fishing and carpentry. So I'm not prepared in my area of choice" (*R2, Group 3). More so, some respondents noted that contributing to their unpreparedness is that their curriculum was inadequate indicating that they may need more skill-based courses: "*The curriculum is not enough"*. (C4, G5). Flowing from this, many of the participants were unfamiliar with the skills of their choice like fishing and carpentry "*We didn't have any course that teaches us how to fish or do capentary work*" (R1, G3).

Instructional Challenges and Time Constraints

Further challenges reported by participants included time constraints. They noted that they experienced limited space of time to acquire skills of their choice. A participant narrated that "*The programmes are too short to master the skills properly. We need longer courses to truly benefit"* **(P3).** Also, one of the participants remarked that *"Sometimes, there is no enough time to practice what we learn"* **(P4).** Other participants reported that *"Some of them do not understand fast, so I have to keep repeating and the time is not enough."* (C3, Group 4). *"I also had problem with time because they need more time to understand what I'm teaching."* (C6, Group 4). *"You will be trying to carry everybody along; it will consume your time."* (C1, Group 2).

Inadequate Infrastructures and Facilities

Respondents also reported that inadequate infrastructure and facilities impeded their learning during the skill acquisition training. This consisted of the unavailability of materials, limited access to tools like sewing machine. One of the participants reported that *"The tailoring machines are outdated, and sometimes there are not enough materials for all participants"* (P1). Also, this was worsened by the lack of skills for improvisation. A participant noted that: *"Most of the programmes focus on traditional skills like sewing, and there is little for women interested in technology or digital marketing skills"* **(P2).** However, the responses from the participants showed that they face enormous challenges because they lack the requisite materials that can facilitate effective skills acquistion. For example, a respondent noted: *"The center does not provide materials for us, and I don't know how to improvise."* (C1, Group 4), and another stated: *"We don't have enough instructional materials."* (C3, Group 3).

Training needs for women beneficiaries during the skills acquisition training programme

The respondents, in this study, reported a number of skills acquisition training needs that will empower women during skills acquisition programme. During the focus group discussion, the themes that emerged were on the need for practical experiences and exposure; need for specialized skills, and provision of resources and support. Proper examination of the reported needs revealed that our participants needed improved training and the provision of facilities to empower women effectively for self-reliance. The extracts below present the common opinions of many of the respondents on this theme: one of the respondents reported that; "*there is the need to introduce modern skills the computer literacy, graphic design, or coding to keep up with global trends"* **(P1)**. Another respondent noted on the need to; *"Provide mentoring programmes to guide women on how to apply their skills effectively"* **(P2).** A participant explained that "*There should be awareness campaigns to educate men on the importance of allowing women to participate in these programmes* **(P3)**. Another participant remarked on the need to "*Expand the centers to more remote areas so women in rural communities can benefit too"* **(P4).**

Provision of startup kits or funds

The respondents called o*n the government, well-to-do individuals in the society to provide startup kits or funds as the case may be.* A respondents expressed on the need that *"The government and Non-governmental organisations should offer startup kits or funds to help us establish businesses after training"* **(P5)**

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Discussion of Findings

Challenges faced by women beneficiaries during the skills acquisition programme

The findings from this study revealed that some of the challenges by women beneficiaries during the skills acquisition programme include; inadequate training and preparation, instructional challenges and time constraints, instructional challenges and time constraints among others. A finding from this study indicated that most of the skills acquisition centers experienced inadequate training and preparation and limited capacity. This finding supported Emah, Doneys, Kusakabe, and Pathak (2025) that the quality deficit in the training and preparation in skills acquisition programmes affect women, who may have fewer alternative pathways to skill development. Also, one of the findings of this study indicated that skills acquisition centers for women empowerment had shortage of inadequate and limited facilities. This finding supported Akor, Agashi, Ekuje, and Odufu (2017) that inadequate facilities have grave consequences on women's participation in technical and vocational education. Furthermore, Bradford and Adewale (2024) noted that the existing facilities cannot accommodate the growing population seeking skills training. Adelakun, Oviawe and Barfa (2015) observed that high demand for skills programmes exceeds available spaces, creating competitive admission processes. Also, Williams, Becky and Theophilus (2018) noted that limited time and resources are allocated to practical training components. This made Akor et.al. (2017) reiterated that the desire to produce competent and highly skilled women can only be achieved when workshop facilities are relevant and adequate for the programmes as demanded by the curriculum. This study found out that Domestic responsibilities represent the most significant barrier to women's participation in skills acquisition programmes. This finding supported the findings of Emah, Doneys, Kusakabe, and Pathak (2025) that that 78.1% of women cite household burden as a top inhibitor to skill acquisition and utilization. Fatimayan (2013) cited that women are primarily responsible for childcare, limiting their availability for training programmes. Also, Emah et.al. (2025) found out that the influence of husbands (76.4%)" was identified as top inhibitors to skill acquisition among women. One of this study's finding was on too much emphasis on theory than practical. This study found out that there was imbalance between theoretical and practical training which significantly impacts women's skills acquisition. This finding agreed with the finding of Alumona, Oyewumi and Awogoke (2022) that many programmes emphasized theoretical knowledge over hands-on practical skills development. This current study notes that "most women in skills acquisition centers lack the requisite skills for gainful employment," partly due to the theoretical focus of training programmes. This inadequacy affects both the quality of training received and women's confidence in their acquired skills.

Training needs for women beneficiaries during the skills acquisition training programme

The finding of this study revealed the training needs of women during the skills acquisition training programme in Gusau Local Government Area, Zamfara State Nigeria. The findings revealed that women need practical experiences and exposure; specialized skills, provision of resources and support and provision of startup kits or funds. These findings agreed with the findings of (Olagbaju, 2020; Ahamad et al., 2016) that training needs for women's empowerment in skills acquisition programmes encompass various aspects, including time management, access to startup capital, and mentoring. Olagbaju (2020) and Dadi (2021) further affirmed that these programmes aim to equip women with the necessary skills to become self-reliant and contribute to their communities

Implications of Findings

This study demonstrates that these challenges have real consequences for women's economic empowerment. For instance, women who cannot access quality skills training remain vulnerable to "unemployment and poverty". Conversely, addressing these challenges can lead to improved "employability skills to secure jobs, generate income, and address socio-economic concerns". Also, digital skills are becoming more important for women's empowerment, enabling them to achieve financial independence and strengthen their social connections. Women's social and economic independence has been positively impacted by vocational training programmes in certain regions (Shah et al, 2024). Practically speaking, training programmes must be tailored to the specific needs and contexts of women serving them, equipping them with the necessary skills and resources to excel in their chosen fields (Castro et al, 2023). These findings have significant implications for policy makers and program designers that skills acquisition programmes need flexible scheduling options to accommodate women's domestic responsibilities. Moreso, substantial investment in training facilities and equipment is necessary to address overcrowding and inadequate materials. Greater emphasis on practical training and soft skills development is needed to improve employment outcomes. In practice, the results require a real overhaul of design and

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operation of the programme. To achieve sustainable empowerment, policymakers and practitioners must consider the importance of combining skills acquisition with infrastructural support, financial access, and mentorship. Practically, the findings suggest that addressing infrastructure shortfalls and curriculum imbalances is crucial to achieving the intended training effectiveness (Gupta et al., 2024). The theory of human capital is backed by this study, which asserts that investing in education and training results in economic and social benefits. The theoretical implication is that empowerment models should integrate practical skills development with theoretical knowledge to create a more holistic and effective approach (Ahamad et al., 2016).

Limitations of the Study

This study focuses on specific region and a few skills acquisition centers and programmes, potentially limiting generalizability. Additionally, some challenges may be interconnected, making it difficult to isolate individual factors. The absence of longitudinal data also is a hindrance to evaluating the long-term effects of skills acquisition on women's economic and social trajectory.

Suggestions for Further Research

This study can be replicated in other regions to promote comparative analyses across diverse cultural and economic environments that can aid in comprehending the impact of contextual factors on programme outcomes. Also, the evaluation of the long-term effects of empowerment programmes should be based on longitudinal designs in future studies. Moreover, research into how digital technologies can increase access to training and mentoring could provide new opportunities for expanding empowerment programmes.

Conclusion

The data presented highlights the diverse obstacles that women encounter when participating in skills acquisition programmes. The emphasis on theoretical instruction is offset by reduced practical use, insufficient training facilities, overcrowding and limited post-training support. All of these are major challenges facing the field. The limitations not only impede the effectiveness of empowerment programmes but also perpetuate systemic inequalities.' However, the study shows that women are keen on gaining more experience, financial support and ongoing guidance. These need to be met in order for skills acquisition programmes can become strong platforms for real empowerment. It is concluded that a holistic approach must be taken, which involves the integration of pedagogical reform, infrastructural investment, and socio-economic support.

Recommendations

These recommendations aim to address the identified challenges and enhance the effectiveness of women empowerment programmes:

1. Much emphasis should be placed on practical, hands-on learning and training curricula of all skills acquisition centers should be through internships, apprenticeship programmes and simulation-based learning.
2. The investment in modern training facilities should be made available by governments and development partners (well-to-do individuals) to ensure equal access to tools, materials, and conducive learning environments during the training.
3. Mentorship programmes should be integrated into training structures, incorporating the skills of successful entrepreneurs.
4. To ensure access to financial literacy education, startup capital, and savings schemes, adequate arrangements should be made for trainees to form partnerships with financial institutions.
5. Continuous evaluation systems should be introduced to monitor programme performance and inform iterative improvements.

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References

Abdullahi, M., and Ahmed, I. (2022). Societal perceptions of women's vocational training in North West Nigeria. *African Journal of Gender Studies*, 11(3), 34 45.

Ahamad, T., Sinha, A., & Shastri, R. K. (2016). Women Empowerment through Skills Development & Vocational Education. *SMS Journal of Enterpreneurship & Innovation*, 2(2). https://doi.org/10.21844/smsjei.v2i2.11149

Akor, R. T., Agashi, P. P., Ekuje, F. T., & Odufu, U. (2017). Dearth of facilities: A hindrance to women participation in technical and vocational education and poverty alleviation in Nigeria. *European Journal of Education Studies,* 3(8).

Alumona, M. N., Oyewumi, C. F., & Awogoke, F. O. (2022). Quality vocational education for Nigerian women through instructors' motivation. *International Journal of Humanities & Social Studies,* 10(4).

Beck, C. T. (2021). *Introduction to phenomenology: Focus on methodology*. SAGE Publications. https://methods.sagepub.com/book/mono/preview/introduction-to-phenomenology.pdf

Bradford, O. A., & Adewale, G. A. (2024). Technical vocational education training and entrepreneurship redesigning a pathway for female students in technological institutions in Southwest Nigeria. *International Journal of Research and Innovation in Social Science*, 8(8).

Chinen, M., De Hoop T., Balarin, M., Alcazar, L., Senneth, J & Mezarina, J. (2018). Vocational and business training to improve women's labour-market outcomes in low- and middle-income countries, *Systematic review* 40.

Dadi, D. (2021). Women Empowerment in Indonesia: Community Learning Activity Center Programmes. AL-ISHLAH: *Jurnal Pendidikan*, 13(3), 1823–1834. https://doi.org/10.35445/alishlah.v13i3.1152

Emah, I. E., Doneys, P., Kusakabe, K., & Pathak, S. (2025). Skill acquisition in TVET and access to employment in Nigeria: A gender perspective. *Frontiers in Sociology,* 10, 1577765.

Emenalo, F. C. (2017). Transforming cultural status of women for gender equity and development. In: U. M. Nzewi, T. N. Kanno, V.A. Obasi and S. O. A. Obih (eds.). New Perspectives in gender studies in Nigeria. Owerri: Mercy Devine Publishers.

Fatimayin, F. (2013). Effectiveness of vocational skills acquisition programme on women empowerment: National Open University of Nigeria as case study. 7th Pan-Commonwealth Forum on Open Learning.

Gupta, S., Wei, M., Tzempelikos, N., & Shin, M. M. (2024). Women empowerment: challenges and opportunities for sustainable development goals. *Qualitative Market Research: An International Journal,* 27(4), 608–630. https://doi.org/10.1108/qmr-11-2023-0160

Kadir, N., & Usman, A. (2022). Aligning vocational training with labor market needs in Nigeria's North West. *Journal of Education and Work,* 35(4), 417-431

Mazumber, M. & Ahmed, M. (2015). Empowerment of rural women through entrepreneur ship: An overview. *International Research Journal of Interdisciplinary and Multidisciplinary Studies (IRJIMS)*, 1(1), 165-172.

Mela, K. & Yakubu, L. (2023). Corruption and youth empowerment programmes in Nigeria: Challenges and cures. *A peer review journal published by association administrators* (ANPA), of 1(2), Nigeria public 70-77. https://independent.academia.edu/ASSOCIATIONOFNIGERIANPUBLICAD

Musa, T., Adebayo, O., and Abdulkadir, A. (2022). Infrastructure challenges in vocational training centers: Perspectives from women in North West Nigeria. *Journal of Educational Infrastructure Development,* 5(3), 50 62.

Ogunlade, O. S., & Afolayan, A. A. (2020). Empowering women through vocational skill acquisition in Northern Nigeria: Challenges and prospects. *International Journal of Gender Studies in Developing Societies,* 4(2), 143-159.

Olagbaju, O. O. (2020). Adult Literacy and Skill Acquisition Programmes as Correlates of Women Empowerment and Self-Reliance in The Gambia. *Education Research International*, 2020, 1–8. https://doi.org/10.1155/2020/7264171.

Suleiman, R., Fatima, B., and Ibrahim, Y. (2023). Cultural impediments to women's vocational training in Northern Nigeria: A survey. *Journal of Gender and Society*, 15(2), 89-102.

Thomas, D. R. (2006). A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation*, 27(2), 237-246 doi: 10.1177/1098214005283748

Williams, A., Becky, C. M., & Theophilus, A. T. (2018). Challenges of women in technical and vocational education: A case study of federal college of education (technical), *Gusau. International Journal of Vocational and Technical Education,* 10(1), 1-8.

World Education (2016). Girls and women's education. Retrieved February 28, 2022 from www.worlded.org/wellnternet> display.cfm?.

Yusuf, F. A. (2018). Socio-cultural determinants of women's participation in vocational skill acquisition programmes in North West Nigeria. *Journal of Gender Studies*, 27(4), 421-438.

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Influence of Career Counselling Technique on Employability Skills Acquisition among University Graduates in Nigeria

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Abstract

This study examined the effectiveness of career counselling in enhancing employability skills among Nigerian graduates in response to the persistent challenge of graduate unemployment in the country. In recent years, concerns have intensified over the growing mismatch between academic training and the practical demands of the labour market. Many graduates leave tertiary institutions without the requisite soft and technical skills needed to compete effectively in today's dynamic job environment. Career counselling has therefore been identified as a vital intervention for equipping students with essential competencies such as communication, critical thinking, problem-solving, adaptability, and strategic career planning. The study adopted a descriptive survey research design to assess the impact of career counselling services on graduates' employability outcomes. A sample of 250 graduates drawn from selected tertiary institutions, including University of Abuja, participated in the study. Data were collected using a structured instrument titled "Career Counselling and Employability Skills Questionnaire (CCESQ)," designed to measure exposure to counselling services and acquisition of employability skills. Findings from the study revealed that career counselling plays a significant role in improving graduates' awareness of job opportunities, enhancing career readiness, and fostering the development of critical employability skills. The study concludes that effective counselling services can bridge the gap between education and employment. It therefore recommends the strengthening of counselling units in Nigerian universities and the integration of structured employability skills training into academic curricula to better prepare graduates for the workforce.

Keywords: Career Counselling, Employability Skills, Nigerian Graduates, Unemployment, Higher Education

Introduction

Career counselling plays a vital role in bridging this gap by guiding students in career decision-making, skill development, and job readiness. Institutions such as Federal University Gusau and other Nigerian universities are increasingly recognizing the importance of counselling services in preparing students for the labour market. Employability skills refer to a set of achievements, understandings, and personal attributes that make individuals more likely to gain employment and succeed in their chosen careers. These include communication skills, teamwork, problem-solving ability, and adaptability. This study, therefore, investigates the effectiveness of career counselling in enhancing these employability skills among Nigerian graduates. Career counselling plays a vital role in bridging the gap between academic training and labour market expectations by guiding students in career decision-making, skill development, and job readiness. It provides structured support that enables students to understand their strengths, explore career options, and align their competencies with industry demands. According to the National Universities Commission (2022), Nigerian universities are increasingly encouraged to strengthen career services units to improve graduate employability outcomes. Similarly, International Labour Organization (2023) emphasized that effective career guidance systems enhance young people's transition from school to work by equipping them with relevant employability skills. Institutions such as Federal University Gusau and other Nigerian universities are therefore recognizing the importance of counselling services as a strategic tool for preparing students for the labour market. Employability skills refer to a set of achievements, understandings, and personal attributes that make individuals more likely to gain employment and succeed in their chosen careers. These skills go beyond academic knowledge to include competencies such as communication, teamwork, problem-solving ability, adaptability, and digital literacy. The World Economic Forum (2023) identified critical thinking, collaboration, and flexibility as some of the most in-demand skills in the evolving global labour market. In addition, Yorke (2006) noted that employability is not just about

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securing a job but also about sustaining employment and progressing within a career through continuous skill development. Despite growing awareness of the importance of these skills, many Nigerian graduates still lack adequate exposure to structured career counselling programs that can enhance their employability (Okolie, Igwe, & Elom, 2020). This study, therefore, investigates the effectiveness of career counselling in enhancing these employability skills among Nigerian graduates, with a view to providing empirical evidence for improving counselling practices in Nigerian tertiary institutions.

Objectives of the Study

The main objective of this study is to examine the influence of career counselling on employability skills acquisition among graduates in Nigeria. Specifically, the study seeks to:

i. Examine the role of career counselling in the development of employability skills among graduates;
ii. Identify the key employability skills acquired through career counselling programmes
iii. determine the relationship between career counselling services and graduate employability; and
iv. propose strategies for improving the effectiveness of career counselling services in Nigerian tertiary institutions.

Research Questions

The study is guided by the following research questions:

i. How effective is career counselling in enhancing employability skills among Nigerian graduates?
ii. What specific employability skills are developed through career counselling programmes?
iii. What factors or challenges influence the effectiveness of career counselling in Nigeria?

Literature Review

Concept of Career Counselling

Career counselling encompasses a structured set of services and interventions designed to help individuals gain a deeper understanding of their personal strengths, interests, values, and aptitudes, as well as the demands and opportunities present in the labour market (Super, 1990). It provides guidance that enables students and graduates to make informed decisions about their career paths, educational pursuits, and professional development. According to the International Labour Organization (ILO, 2023), effective career counselling not only assists individuals in selecting suitable career options but also equips them with the skills necessary to adapt to evolving workplace environments and economic trends. Beyond immediate job placement, career counselling promotes lifelong career development by fostering self-awareness, goal-setting, and continuous skill acquisition (Savickas, 2012). Through counselling sessions, workshops, mentorship programmes, and skills assessments, individuals are encouraged to identify personal and professional goals, develop action plans, and navigate transitions between education, training, and employment (Chen, 2021). In the Nigerian context, institutions such as the Federal University Gusau have increasingly recognized the importance of career counselling in bridging the gap between academic preparation and labour market requirements, particularly in enhancing employability and career readiness (Okolie, Igwe, & Elom, 2020). Integrating career counselling into higher education curricula, students are better positioned to develop critical employability competencies, including communication, teamwork, problem-solving, and adaptability, all of which are essential for success in today's competitive job market (World Economic Forum, 2023).

Employability Skills

Employability skills refer to the combination of knowledge, personal attributes, and practical abilities that enhance an individual's capacity to secure employment, perform effectively, and progress in their chosen career (Yorke, 2006). These skills go beyond academic qualifications and are increasingly recognized as critical for success in today's dynamic and competitive labour market (World Economic Forum, 2023). Key employability skills include:

Communication skills: The ability to convey ideas clearly and effectively, both verbally and in writing, is essential in almost every workplace. Effective communication facilitates collaboration, prevents misunderstandings, and contributes to professional credibility (Robles, 2012).

Critical thinking: This involves analysing information, evaluating evidence, and making reasoned decisions. Graduates who can critically assess problems and propose informed solutions are highly valued by employers (Facione, 2015).

Problem-solving ability: The capacity to identify issues, generate solutions, and implement them efficiently is a key determinant of workplace effectiveness. Problem-solving is particularly important in environments that require innovation and adaptability (OECD, 2022).

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Teamwork: The ability to work cooperatively with others, share responsibilities, and contribute to collective goals is fundamental in modern organizations, where collaborative projects are common (Robles, 2012).

ICT competence: Proficiency in information and communication technology is increasingly vital, as digital tools and platforms are integrated into nearly all aspects of work. Graduates must be capable of using software applications, online collaboration tools, and data management systems (World Economic Forum, 2023).

Adaptability and flexibility: The ability to adjust to changing work conditions, new technologies, and evolving job roles is critical in a labour market characterized by rapid technological and economic shifts (ILO, 2023).

Possession of these employability skills not only improves a graduate's prospects of obtaining employment but also enhances long-term career sustainability and professional growth. Developing these competencies is a central goal of career counselling, as it bridges the gap between academic preparation and workplace expectations (Okolie, Igwe, & Elom, 2020).

Career Counselling and Employability Skills Acquisition

Studies have consistently shown that effective career counselling plays a significant role in enhancing students' self-awareness, career planning abilities, and overall readiness for employment (Savickas, 2012; Chen, 2021). Through structured guidance, students gain a deeper understanding of their interests, strengths, values, and potential career paths, which enables them to make informed decisions about their professional futures (Super, 1990). Increased self-awareness also helps students identify skill gaps and areas requiring development, which is crucial for aligning their academic experiences with labour market demands (Okolie, Igwe, & Elom, 2020). Career counselling programs typically incorporate a variety of practical interventions aimed at improving employability. Workshops are often conducted to provide students with knowledge about different industries, job search strategies, and workplace expectations (ILO, 2023). Internship opportunities and experiential learning activities allow students to gain hands-on experience, apply theoretical knowledge in real-world settings, and develop professional networks that are vital for career progression (World Economic Forum, 2023). Additionally, career counselling services frequently include training in curriculum vitae (CV) writing, cover letters, and job application strategies, equipping students with the tools needed to present themselves effectively to potential employers (Robles, 2012). Interview preparation sessions further enhance graduates' confidence and communication skills, enabling them to perform well in selection processes and adapt to diverse workplace environments (Chen, 2021). Overall, these interventions not only improve employability outcomes but also foster a proactive attitude towards career development, helping graduates' transition smoothly from academic life to the professional world (Savickas, 2012).

Research Methodology

Research Design

The study adopted a descriptive survey research design, which is widely recognized and extensively utilized in social science and educational research for the purpose of collecting systematic data on the characteristics, attitudes, perceptions, and behaviours of a defined population (Creswell & Creswell, 2018). This research design is particularly suitable for studies that seek to obtain factual information about existing conditions and to describe "what is" with respect to variables or conditions in a given situation. A descriptive survey design enables researchers to gather information directly from respondents through the use of well-structured and standardized instruments such as questionnaires, interviews, and observation checklists. These instruments are carefully designed to ensure consistency, reliability, and validity in the data collection process. By engaging a representative sample of the target population, the researcher is able to generalize findings to the broader population with a reasonable degree of accuracy. Furthermore, this design allows for the collection of both quantitative and qualitative data, providing a comprehensive understanding of the research problem. Quantitative data can be statistically analysed to identify patterns, trends, and relationships, while qualitative data offer deeper insights into participants' opinions and experiences. Importantly, the descriptive survey design does not involve manipulation or control of variables; rather, it focuses on observing and documenting phenomena as they naturally occur in their real-life context (Babbie, 2021). This design is particularly appropriate for investigating the effectiveness of career counselling on employability skills because it enables the systematic collection and analysis of data relating to graduates' experiences, perceptions, and self-reported outcomes across multiple tertiary institutions. Given the diversity of higher education institutions in Nigeria, a descriptive survey approach provides an efficient means of capturing variations in exposure to career counselling services and the extent to which such services influence graduates' preparedness for the labour market. By employing a survey method, the study is able to reach a relatively large and heterogeneous sample, thereby enhancing the representativeness and generalizability of the findings. This, in turn, allows for the identification of patterns and trends

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in participation in career counselling programmes and their perceived impact on the development of employability skills such as communication, problem-solving, teamwork, and adaptability (Fraenkel, Wallen, & Hyun, 2019). Moreover, the descriptive survey design facilitates the examination of relationships among key variables without the need for experimental manipulation or control. For instance, the study can explore the extent to which exposure to career counselling programmes is associated with the acquisition of employability skills, using appropriate statistical techniques such as correlation and regression analysis. This approach is particularly valuable in educational and social research where manipulation of variables may be impractical or unethical. By focusing on naturally occurring conditions, the design ensures that the data collected reflect authentic experiences of graduates within their real-life educational and socio-economic contexts (Cohen, Manion, & Morrison, 2018). In addition, the use of a descriptive survey design provides a solid empirical basis for drawing conclusions that are relevant to policy and practice. The findings generated from this approach can inform educational stakeholders, including policymakers, university administrators, and career development practitioners, on the effectiveness of existing career counselling services. It also offers evidence-based insights for the development and improvement of structured career guidance programmes aimed at enhancing graduates' employability. Ultimately, this design supports the generation of reliable and context-specific data that can contribute to strengthening institutional strategies and national efforts toward improving youth employment outcomes in Nigeria.

Population of the Study

The population of this study comprises Nigerian graduates from selected universities, who constitute the primary beneficiaries of career counselling services aimed at enhancing employability skills. These graduates represent individuals who have recently completed their academic programmes and are either transitioning into the labour market or are actively seeking employment opportunities. As such, they provide relevant and reliable information regarding the extent to which career counselling interventions have influenced their acquisition of critical employability competencies. The population includes graduates from both federal and state-owned tertiary institutions across Nigeria in order to capture a broad and representative perspective of career counselling practices within the higher education system. This inclusion ensures diversity in institutional structures, resources, and programme implementation strategies, which may influence the availability and effectiveness of career guidance services. Particular emphasis is placed on institutions such as Federal University Gusau in Zamfara State and University of Abuja, both of which are known to offer structured career counselling and student support programmes. Furthermore, the population encompasses graduates from different fields of study, including sciences, social sciences, engineering, and humanities, to ensure that variations in academic background are adequately represented. This diversity is important because employability skills and exposure to career counselling may differ across disciplines. By focusing on this population, the study is able to generate comprehensive and generalizable findings regarding the effectiveness of career counselling services in improving employability outcomes among Nigerian graduates. Nigerian graduates constitute a highly diverse population in terms of academic disciplines, socio-economic backgrounds, cultural orientations, and varying levels of exposure to career counselling programmes. This diversity is significant, as it reflects the broad spectrum of experiences and opportunities available within the Nigerian higher education system. According to the National Universities Commission (NUC, 2022), Nigeria produces over 500,000 graduates annually. Despite this large output, a considerable proportion of these graduates encounter difficulties in securing gainful employment, often due to limited practical skills, inadequate career guidance, and insufficient exposure to employability-focused training during their academic programmes. By targeting graduates as the study population, this research seeks to systematically capture their perceptions, lived experiences, and self-reported outcomes regarding career counselling interventions received during their time in tertiary institutions. It also aims to examine how these interventions influence the development of essential employability competencies such as communication skills, critical thinking, teamwork, adaptability, and problem-solving abilities. Furthermore, the study explores the relationship between participation in career counselling programmes and graduates' preparedness for the labour market, thereby providing a clearer understanding of the role such services play in enhancing employability. Focusing on this population enables the study to generate findings that are both contextually relevant and broadly applicable to similar tertiary institutions across Nigeria. Given the shared structural and institutional characteristics of many Nigerian universities, the insights derived from this study can be reasonably generalized to inform practices in comparable settings. Ultimately, the findings are expected to provide valuable evidence for policymakers, educational administrators, and career development practitioners, contributing to the design, strengthening, and effective implementation of career counselling programmes. Such improvements are essential for

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bridging the gap between academic training and labour market requirements, thereby enhancing graduates' transition from education to employment and supporting national development goals.

Sample Size

The study employed a sample size of 250 respondents drawn from the population of Nigerian graduates in selected universities. This sample size was considered appropriate and sufficient to provide a representative and statistically reliable understanding of graduates' experiences with career counselling programmes and their acquisition of employability skills. The determination of this number was guided by established sampling frameworks, particularly the widely used Krejcie and Morgan (1970) sample size table, which provides a scientific basis for selecting adequate sample sizes from large populations. A sample of this magnitude strikes a balance between statistical precision and practical feasibility, allowing for in-depth data analysis while ensuring that data collection and management remain efficient and manageable. Furthermore, a sample size of 250 enhances the credibility of the study by reducing sampling error and increasing the likelihood that the findings accurately reflect the characteristics of the broader population. It also allows for the application of various statistical techniques, including descriptive and inferential analyses, which are essential for identifying patterns, relationships, and trends within the data. This makes the study robust enough to generate meaningful insights into the effectiveness of career counselling programmes in improving employability skills among Nigerian graduates. The respondents were purposively selected to ensure adequate representation of key demographic and academic variables such as discipline of study, gender, and level of exposure to career counselling services. This sampling technique was particularly suitable for the study because it enabled the researcher to deliberately include individuals who possess relevant experiences and knowledge about the phenomenon under investigation. Specifically, graduates who had participated in career counselling programmes during their university education were prioritized, as they are better positioned to provide informed responses on the impact of such programmes on their skill development and career readiness. This approach is consistent with the recommendations of Babbie (2021), who emphasized that selecting an appropriately sized and relevant sample from a clearly defined population significantly enhances the validity, reliability, and generalizability of survey research findings. By focusing on respondents with direct exposure to career counselling interventions, the study ensures that the data collected are both relevant and rich in content, thereby improving the overall quality of the research outcomes. By involving 250 respondents, the study achieved sufficient coverage to identify significant trends, patterns, and correlations between participation in career counselling programmes and the development of employability skills. The sample size also provided adequate statistical power, enabling the researcher to test hypotheses, draw reliable conclusions, and make evidence-based recommendations. Ultimately, this contributes to the development of practical strategies for strengthening career counselling services in Nigerian universities and enhancing graduates' employability in an increasingly competitive labour market.

Sampling Technique: Random Sampling

The study adopted a random sampling technique in selecting respondents from the target population of Nigerian graduates. Random sampling is a probability sampling method in which every member of the population has an equal and independent chance of being selected for participation in the study. This technique is widely regarded as one of the most reliable methods of sampling in quantitative research because it minimizes selection bias and enhances the representativeness of the sample. In applying this technique, a sampling frame comprising a list of eligible graduates from the selected universities was first established. From this list, respondents were selected using a simple random procedure, such as random number generation or balloting, to ensure that each individual had an equal opportunity of inclusion. This process helped to eliminate researcher bias and ensured fairness in the selection process. The use of random sampling was particularly appropriate for this study because it allowed for the generation of data that can be generalized to the wider population of Nigerian graduates. By ensuring that the sample reflects the diversity within the population—across academic disciplines, gender, and levels of exposure to career counselling programmes—the technique enhances the external validity of the study. Furthermore, random sampling supports the application of inferential statistical analysis, as it satisfies the assumption of independence required for many statistical tests. This enables the researcher to make valid inferences, draw conclusions, and identify relationships between career counselling exposure and employability skills with a higher degree of confidence. Overall, the adoption of random sampling strengthens the scientific rigor of the study by promoting objectivity, reducing sampling errors, and ensuring that the findings are both reliable and generalizable to similar populations within the Nigerian higher education context.

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Instrument: Structured Questionnaire (CCESQ)

The primary instrument used for data collection in this study was a structured questionnaire titled Career Counselling and Employability Skills Questionnaire (CCESQ). The use of a structured questionnaire was considered appropriate because it allows for the systematic collection of standardized data from a large number of respondents, thereby ensuring consistency, comparability, and ease of analysis. The CCESQ was carefully designed by the researcher to elicit relevant information on graduates' exposure to career counselling programmes and the extent to which such programmes have contributed to the development of their employability skills. The questionnaire consisted mainly of close-ended items, which enabled respondents to provide specific and measurable responses. These items were structured using a Likert-scale format, typically ranging from options such as "Strongly Agree" to "Strongly Disagree," to capture the intensity of respondents' opinions and perceptions. The instrument was divided into distinct sections to address different aspects of the study. Section A focused on respondents' demographic information, including variables such as gender, field of study, and institution attended. Section B examined the level of exposure to career counselling services, including participation in workshops, seminars, career talks, and internship guidance programmes. Section C assessed the development of key employability skills such as communication, problem-solving, teamwork, leadership, and adaptability. Additional sections were included to evaluate respondents' perceptions of the effectiveness of career counselling programmes and their overall preparedness for the labour market. Furthermore, the CCESQ was designed to be clear, concise, and easy to understand in order to minimize ambiguity and ensure accurate responses. The structured nature of the questionnaire also facilitated efficient data coding, entry, and statistical analysis. By using this instrument, the researcher was able to obtain reliable and quantifiable data necessary for examining the relationship between career counselling interventions and employability skills development among Nigerian graduates.

Data Analysis: Mean and Standard Deviation

The data collected for this study were analysed using the statistical tools of mean and standard deviation. These descriptive statistics were considered appropriate because they provide a clear and concise summary of respondents' responses, particularly for items measured on a Likert scale. The use of mean enables the researcher to determine the average response for each item, thereby indicating the general opinion or trend among the respondents regarding career counselling programmes and the development of employability skills. Specifically, the mean score was used to answer the research questions by identifying whether respondents generally agreed or disagreed with each statement in the questionnaire. A decision rule was established based on the midpoint of the Likert scale (e.g., 2.50 for a 4-point scale), such that any item with a mean score equal to or above the benchmark was interpreted as "Agreed," while those below were interpreted as "Disagreed." This approach provided a straightforward basis for interpreting the data and drawing meaningful conclusions. In addition, the standard deviation was used to measure the degree of variability or dispersion in respondents' answers. A low standard deviation indicates that responses are closely clustered around the mean, suggesting a high level of agreement among respondents, while a high standard deviation reflects greater variability, indicating differences in opinions or experiences. This measure is important in understanding the consistency of responses and the extent to which respondents share similar views on the effectiveness of career counselling programmes. The combined use of mean and standard deviation enhances the reliability of the analysis by not only identifying central tendencies but also revealing the distribution pattern of the data. This provides a more comprehensive understanding of graduates' perceptions and experiences, thereby enabling the researcher to make informed conclusions and recommendations regarding the role of career counselling in improving employability skills among Nigerian graduates.

Presentation of Results

The results of the study revealed several important findings regarding the effectiveness of career counselling programmes in enhancing the employability skills of Nigerian graduates. The analysis of data collected from respondents indicated that career counselling plays a significant role in preparing graduates for the demands of the labour market.

Table 1: Influence of Career Counselling on Employability Skills (n = 250)

S/N	Item Statement	Mean ($\bar{X}$)	Std. Dev (σ)	Decision
1	Career counselling improved my communication skills	3.32	0.71	Agreed
2	Career counselling enhanced my problem-solving ability	3.28	0.68	Agreed
3	Career counselling improved my critical thinking skills	3.21	0.74	Agreed
4	Career counselling strengthened my teamwork ability	3.30	0.70	Agreed

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5	Career counselling improved my adaptability in work environments	3.18	0.76	Agreed
6	Career counselling increased my confidence in job interviews	3.35	0.65	Agreed
7	Career counselling enhanced my CV writing skills	3.40	0.60	Agreed
8	Career counselling improved my job readiness	3.33	0.69	Agreed
9	Exposure to counselling influenced my employment opportunities	3.26	0.73	Agreed
10	Career counselling programmes are effective in universities	3.22	0.75	Agreed

Grand Mean = 3.29

The grand mean of 3.29 is above the benchmark of 2.50, this indicates that respondents generally agreed that career counselling significantly improves employability skills. The standard deviation values (0.60 – 0.76) are relatively low, this shows consistency in responses, meaning most graduates share similar views. Firstly, the findings showed that career counselling significantly improves graduates' employability skills. Respondents generally agreed that participation in career counselling programmes contributed to the development of essential competencies such as communication, critical thinking, problem-solving, teamwork, and adaptability. These skills are widely regarded as crucial for workplace success, suggesting that career counselling serves as a valuable bridge between academic learning and practical job requirements.

Secondly, the study revealed that graduates who participated in career counselling programmes demonstrated better communication skills and higher levels of job readiness compared to those who had little or no exposure. This implies that structured career guidance activities—such as career talks, CV writing workshops, interview preparation sessions, and internship placements—equip students with practical knowledge and confidence needed to navigate the job market effectively. Consequently, such graduates are more competitive and better positioned to secure employment opportunities. Furthermore, the findings established a positive relationship between exposure to career counselling and employment success. Graduates with greater involvement in counselling programmes were more likely to report favourable employment outcomes, including quicker job placement, improved job performance, and greater career satisfaction. This highlights the importance of sustained and well-implemented career counselling services within tertiary institutions. Despite these positive outcomes, the study also identified several challenges limiting the effectiveness of career counselling programmes in Nigerian universities. One major issue is the inadequacy of counselling facilities, including insufficient office spaces, limited access to career resource materials, and lack of technological tools required for effective service delivery. Additionally, there is a shortage of trained and qualified career counsellors, which affects the quality and reach of counselling services available to students.

Another significant challenge identified is the low level of awareness among students regarding the availability and benefits of career counselling programmes. Many students either do not know about these services or do not fully understand their importance, leading to low participation rates. This limits the potential impact of career counselling on employability outcomes.

Discussion of Findings

In discussion, these findings align with existing literature which emphasizes the critical role of career counselling in enhancing employability skills and improving graduate outcomes. However, the identified challenges suggest that while the potential of career counselling is evident, its effectiveness is constrained by systemic and institutional limitations. Therefore, there is a need for universities and relevant stakeholders to invest in better infrastructure, recruit and train qualified counsellors, and implement awareness campaigns to encourage student participation. Overall, the results underscore the importance of strengthening career counselling programmes as a strategic approach to addressing graduate unemployment and improving workforce readiness in Nigeria.

Conclusion

Career counselling has emerged from this study as a vital and strategic tool for addressing the persistent challenge of graduate unemployment in Nigeria. The findings clearly demonstrate that effective career counselling programmes contribute significantly to the development of essential employability skills required in today's competitive labour market. By equipping graduates with competencies such as communication, problem-solving, critical thinking, and job readiness, career counselling bridges the gap between academic training and workplace expectations. Furthermore, the study highlights that graduates who actively participate in career counselling initiatives are better prepared to navigate employment opportunities and are more likely to achieve positive career outcomes. This underscores the importance of

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integrating structured and functional career guidance services into the educational framework of Nigerian universities. However, the effectiveness of career counselling is dependent on the availability of adequate resources, trained personnel, and increased awareness among students. Addressing existing challenges such as inadequate facilities, shortage of qualified counsellors, and low student engagement is essential for maximizing the impact of these programmes. In conclusion, strengthening career counselling services in tertiary institutions will not only enhance graduates' employability but also contribute to national development by reducing unemployment and improving workforce productivity. Therefore, there is a pressing need for policymakers, educational administrators, and other stakeholders to prioritize and invest in comprehensive career counselling programmes that will better prepare Nigerian graduates for the realities of the labour market.

Recommendations

Based on the findings of this study, the following recommendations are proposed to enhance the effectiveness of career counselling in improving employability skills among Nigerian graduates:

1. **Strengthening University Career Counselling Units -** Universities should prioritize the development and reinforcement of career counselling departments. This includes providing adequate office facilities, modern career resources, and access to technology that can support career guidance activities. Well-resourced counselling units can effectively deliver services such as career workshops, mentorship programmes, internship placements, and job readiness training.
2. **Integration of Employability Skills Training into Curricula -** Employability skills such as communication, teamwork, problem-solving, leadership, and adaptability should be formally integrated into university curricula. By embedding these competencies into academic programmes, students can develop practical skills alongside theoretical knowledge, ensuring they are better prepared for the labour market upon graduation.
3. **Government Investment in Career Development Programmes -** The government should allocate resources to support career development initiatives within tertiary institutions. This could include funding for counsellor training, national career fairs, internship facilitation, and the development of online career guidance platforms. Strategic government support can help standardize career counselling services across universities and expand their reach to more students.
4. **Active Student Participation in Counselling Sessions -** Students should be encouraged to actively engage in career counselling programmes, including attending workshops, seeking mentorship, and participating in skills development sessions. Awareness campaigns, orientation programmes, and peer advocacy can motivate students to take advantage of these services, thereby maximizing the benefits of career counselling for employability enhancement.

By implementing these recommendations, universities and stakeholders can significantly improve graduates' readiness for employment, reduce the skills gap in the labour market, and contribute to the overall development of the Nigerian workforce.

References

Adebayo, A. (2020). Career Development in Nigeria. Lagos: Academic Press.

Babbie, E. R. (2021). The practice of social research (15th ed.). Boston, MA: Cengage Learning.

Chen, H. (2021). Career counselling and student development: Contemporary practices. New York: Routledge.

Cohen, L., Manion, L., & Morrison, K. (2018). Research methods in education (8th ed.). London: Routledge.

Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). Thousand Oaks, CA: Sage.

Edugist. (2023). 10 facts about why unemployment persists even among first-class graduates in Nigeria. Retrieved from https://edugist.org/10-facts-about-why-unemployment-persists even-among-first-class-graduates/

Facione, P. A. (2015). Critical thinking: What it is and why it counts. Insight Assessment.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2019). How to design and evaluate research in education (10th ed.). New York, NY: McGraw-Hill Education.

Great Nigeria. (2023). Skills gap: When education does not match employment in Nigeria. Retrieved from https://greatnigeria.net/story/skills-gap-when-education-does-not-match-employment/ International Labour Organization (ILO). (2023). Global employment trends for youth 2023. Geneva: ILO.

Job Market Monitor. (2016). Skills gap in Nigeria: A skill mismatch of 60.6% among recent graduates. Retrieved from https://jobmarketmonitor.com/2016/03/05/skills-gap-in-nigeria-a skill-mismatch-of-60-6-among-recent-graduates/

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DOI: https://doi.org/10.64348/zije.2026410

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. Educational and Psychological Measurement, 30(3), 607–610.

Monoed Africa. (2023). Why Nigerian graduates are unemployable and possible solutions. Retrieved from https://monoed.africa/blog/why-nigerian-graduates-are-unemployable-and-solutions/

National Bureau of Statistics (2023). Labour Force Report. Abuja: NBS.

National Universities Commission (NUC). (2022). Guidelines for career services in Nigerian universities. Abuja: NUC.

OECD. (2022). Skills for a digital world: Future-ready graduates. Paris: OECD Publishing.

Okolie, U. C., Igwe, P. A., & Elom, E. N. (2020). Enhancing graduate employability: Why do higher education institutions have problems with teaching generic skills? Policy Futures in Education, 18(2), 294–313.

Robles, M. M. (2012). Executive perceptions of the top 10 soft skills needed in today's workplace. Business Communication Quarterly, 75(4), 453–465.

Savickas, M. L. (2012). Career construction theory and practice. In R. W. Lent & S. D. Brown (Eds.), Career development and counselling: Putting theory and research to work (2nd ed., pp. 147 183). Hoboken, NJ: Wiley.

Super, D. E. (1990). A life-span, life-space approach to career development. In D. Brown & L. Brooks (Eds.), Career choice and development (2nd ed., pp. 197–261). San Francisco: Jossey-Bass.

World Economic Forum (WEF). (2023). The future of jobs report 2023. Geneva: WEF.

World Economic Forum. (2023). The future of jobs report 2023. Geneva: WEF.

Yorke, M. (2006). Employability in higher education: What it is – What it is not. York: Higher Education Academy.

Zamfara International Journal of Education (ZIJE)
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Assessment of Local Contents Digitisation among University Libraries in Kwara State, Nigeria

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Abstract

This paper assesses local contents digitisation in the university libraries in Kwara state Nigeria. The population of the study was 67 professional librarians in Kwara State universities, Nigeria, during the 2004/2005 academic session. The manageable size of the population warrants the adoption of total enumeration technique, thus, questionnaire was used as a tool for data collection and distributed to respondents physically at their different libraries by the two research assistants, where at the end, a total of 67 questionnaires were recovered and made usable for analysis (100% response rate). The data were analyzed using descriptive statistics, the result indicate that universities libraries can boast of good collection of certain local content resources such as inaugural newsletter, books by staff, project/thesis/dissertations, institutional hand book, faculty and departmental journals and so on. The work highlighted some advantages of local content and hindrances of effective digitisation.

Keywords: *Local content, Resources, Digitisation, University, libraries*

Introduction

The digitisation of local content refers to the process of digitising knowledge, culture and resources (books, archives, oral histories, artworks, or local information) that have been produced or owned by the local community in order to make it accessible and disseminated into a wider community via a library (preferably university libraries). Digitisation of local content resources in the library ensures preservation, access, and accessibility to resources which could become obsolete and deteriorates over time (Global Knowledge Partnership, 2015). Local content is the generation, adaption and sharing of community resources, using information technology (Abubakar & Zainab, 2019). Resources listed by the researchers that could be used as local content resources include: First, research output as an academic institution, a university library has many of the materials for scholarly research, therefore becoming a key provider of local content, and second, university communities serve as a breeding ground for local content. Overall, there are so many benefits that digitisation could offer which include swift and easy access to current resources at far locations that allows users access local content in any parts of the world, even far away from the institution where the information is residing (Osaheni, Lukman, & Ismali, 2018). Other benefits include good preservation of local content, reduction in usage of analog surrogate materials, greater flexibility of information search and retrieval and absence of problems that normally occur to library materials e.g. Mutilation, facilitation of global library inter-connectivity and an information resource for e-learning. According to Udemba (2021), digitisation promotes an institution's image and profile as it demonstrates their intellectual capacity and eliminates publication delay. Academic libraries were identified to be moving digital in this current era, and thus have identified digitisation of resources in their libraries with different types of services (Rafiq, Ameen, and Jabeen, 2017). The concept of the library being a "knowledge common" has transformed the idea that university libraries are merely repositories of knowledge, to spaces where users can get information through the network servers in digital formats (Duderstadt, 2009). Academic libraries, which is the most mature and progressive segment of the library domain, have become very active in the digitisation process and range from digitisation of books, journals, newspapers, artifacts, works

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of art, music, theses and dissertations to records of historical importance. University libraries in Kwara state thus, contain a wealth of local content from faculty publications, theses/dissertations to rare books, manuscripts and archives. Furthermore, it is essential to note that librarians have knowledge that has been imparted into their role in facilitating the digitization of local content in the university library. In an attempt to address this, this study will highlight the available local content resources within the university library, benefits and constraints of local content digitization and proffer recommendations of local content resources available in Kwara state and beyond.

Statement of the problem

Even with the increasing awareness about digitisation as a tool to preserve and access local content, several challenges have remained a bane to efficient digitisation practices in the university libraries in Kwara State. This, has result to poor utilisation of indigenous information resources like theses, dissertations and rare manuscripts which are prone to degradation, though librarians are in the vanguard of the digitisation initiative, there has been constraints in the way of funding, infrastructure, technical expertise, policy and procedures that need to be addressed. This therefore leads to the purpose of this study as it would examine available local content resources, their benefit as well as hindrance to digitisation of the same resources in the university libraries in Kwara State.

Objectives of the Study

The main objective of the study is to assess local content digitisation among the librarians in the university's libraries in Kwara State, Nigeria. The specific objectives are to:

1. Identify local content resources available in Kwara State university libraries;
2. Determine local benefits of digitization of local content resources and effective service delivery in the library; and
3. identify the hindrances facing in the use of local content resources in the university, libraries, understudy.

Research Questions

1. What are the local content resources available in Kwara State university libraries?
2. What are the local benefits of digitization of local content resources and effective service delivery in the library?
3. What are the hindrances facing in the use of local content resources in the university, libraries, understudy?

Review of Related Literature

It requires suitable hardware such as cameras, computers, scanners, and OCR technology for a successful digitization of local content resources like scholarly journals, thesis, dissertations and conference proceedings and special collection materials (Hanna, 2022). Document and photo digitisation is best achieved using a flatbed scanner; although a book scanner is the most suitable equipment for digitizing books (LibGuides, 2023). Besides, Nneji (2018) and Baro et al, (2013) carried out a survey on the digitisation of information resources in Nigeria and found that a few university libraries have adopted the process. Theses, dissertations, magazines, newspapers, seminar and conference papers, inaugural lectures, official gazettes, annual budgets and reports, circulars, theses, dissertations, manuscripts, textbooks, newsletters, inaugural addresses, handbooks, special issues of Journals, authoritative dictionaries and reference books, directory, journal articles and historical documents have been listed among frequently digitised materials in Baro et al, (2013) and Fatoki (2007) surveys. Furthermore, Obaike, et al, (2025) carried out research on impact of digitisation of local content resources on effective service delivery to post graduate students in public university, Nigeria. It reveals available local content resources like project works, theses/dissertations, institutional newsletters, bulletins, handbooks and textbook authored by the faculty staff available at 100% rate. Nevertheless, other local content resources include inaugural lectures, exam papers, indigenous journal, chapters of book and faculty/department journals available at 50%. Although some crucial local content resources like student's term papers, senate publications and student magazines are available at 100% non-availability.

Pandey and Misra (2014) also summarises the reasons for digitating local content in libraries such as: preservating of age old and valuable materials for long term use for future generations, provision of new ways of access and use, enabling better and enhanced access to a well-defined portion of the stock of research material, establishing a one stop point for accessing material in different institutions on a subject matter, enabling democracy considerations through access to the public records, making access and retrieval of library materials more efficient, and enabling for development of technical infrastructure and human resources of the institution. Academic libraries are providing services in this form because they understand the relevance of library resources in the field of learning, teaching, research, scholarship, documentation and

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accountability. Beyond mere access, there are benefits that accrue to digitisation as asserted by Anderson and Maxwell (2004 p1) and that "digitization can have benefits that far exceed the advantages afforded by digitization". Jones and Tudur (2018) claim that the digitisation of materials held at the NLW (National Library of Wales) increases the access to and the reuse of the NLW collections. Tietie (2021) has revealed that, the digitisation of library resources provides easy access to and retrieval of library documents at the NGF library and also gives the library users access to digitized documents through the library Online Public Access Catalogue (OPAC) and repository. Benefit like preserving materials that are fragile and deteriorating, such as manuscripts, documents, and rare books is one of the most essential benefits that digitisation provides by making them available as digital surrogates to be stored in secure environments and accessed from remote locations as well. It also facilitates the wider access to textual materials, worldwide access and global usage. Nevertheless, providing large digital local content could make library resources and services accessible and increase library usage (Nwabueze and Urhiewhu, 2015). Through digitisation, library information resources as well as various intellectual productions produced by the faculties could be stored in repositories for easy accessibility, and then it could be made accessible on the web based institutional repositories. Rosenberg (2005) asserts that, "digitalized information resources are services often available via the internet that allow users remote access and use of the resource through the electronic media." Academic libraries in Nigeria universities are not left out in this trend of digitisation of local content. Therefore, Iwhiwhu and Eyekpegha (2009) identified the problems influencing the effective library digitization projects in Nigerian university libraries as lack of policy and implementation, funding, epileptic power supply, unskilled staff for ICT applications, high cost of purchasing equipment, network fluctuations, lack of maintenance culture, space inadequacy, environmental disasters and lack of internet connectivity. These peculiar problems have affected the state of digitization and the availability of some library resources in some Nigeria academic libraries. However, the availability of extensive digitalized library resources can facilitate access and increase the usage of the resources by users (Nwabueze & Urhiewhu, 2015). Through digitisation, library information resources and the various intellectual output from emanating from faculties can be archived and made available electronically. While Dhule (2018) outlined seven challenges of digitisation in libraries: funding, changing software and hardware, updating software and hardware, legal aspects, technical expertise, technophobia, and technological obsolescence.

Furthermore, (Okocha, 2022; De La Porte, 2019; Mommoh & Abubakar, 2019; Nneji, 2018; Pandey & Kumar, 2018; Udem et al., 2015; Iwhiwhu & Eyekpegha, 2009; Lopatin, 2006) highlighted the gaps and challenges in various aspects of digitisation processes in libraries, they offer valuable insights into areas that require attention and improvement in the digitisation of text-based materials. Different challenges were observed in these studies such as improper funding, lack of national-level policy for digital preservation and absence of technical infrastructure etc. These challenges were mostly encountered while digitising and preserving cultural heritage resources. This paper recommends that adequate funding be provided to overcome the challenge of digitisation and meet up with recent advancements in technology. In this digitalized local content age Nigerian university academic libraries are not also left behind. Hence, Iwhiwhu and Eyekpegha (2009) cited the factors militating against successful library digitization project in Nigerian university libraries to include; absence of policy and implementation, funding, epileptic power supply, inadequately trained staff for ICT applications, cost of purchase of equipment, fluctuated network, poor maintenance, space constraint, natural disaster, and lack of Internet connectivity. All these challenges have affected the state of digitization and availability of certain library materials in some Nigeria academic libraries. However, a lot of digitized library information can greatly enhance access and promote the use of library resources by users (Nwabueze & Urhiewhu, 2015). Through digitisation, library information resources and all the various intellectual outputs of the faculties can be archived and electronically available. Dhule (2018) listed seven of the challenges faced in library digitization as funding, changing hardware and software, updating hardware and software, legal issues, technical knowledge, technophobia and technological obsolescence. Apart from these researchers, (Okocha, 2022; De La Porte, 2019; Mommoh & Abubakar, 2019; Nneji, 2018; Pandey & Kumar, 2018; Udem et al., 2015; Iwhiwhu & Eyekpegha, 2009; Lopatin, 2006) pointed out the gaps and challenges in various library digitisation processes and have made very insightful contributions on the aspects that require better attention in the process of digitizing text-based resources. Various challenges cited includes; lack of funding, lack of a national digital preservation policy and absence of a strong technical infrastructure. The challenges identified were primarily due to the nature of digitized cultural heritages. Thus, to adequately overcome the challenge of digitisation and achieve contemporary technologies, funding should be readily available.

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Research Methodology

The researcher made use of a survey descriptive research design survey in this study was based on the purpose of the study. The study population consists of the entire 67 professional librarians working in the Kwara State University Libraries 2024/2025 academic year. Total enumeration sampling was used for this study due to the relatively small and a size enough size of the study population to manage. Justification for using this sampling procedure is that all the Librarians at various units engaged in some kind of job function/activities relevant to the digitisation process of the library resources. The Questionnaire and observation checklist was the sole instruments used in the collection of data and were administered to the respondent personally by researchers along with two (2) research assistants in all the universities library under study. 67 questionnaires were distributed and 67 were retrieved as the entire questionnaire distributed were usable, thereby achieving a response rate of 100%. Descriptive statistics using the tabular and frequency count presentation forms were employed in the data analysis.

Data Presentation

Table 1: Respondents' Demographic Information

Variable	Frequency	Percentage (%)
Gender		
Male	39	58.2
Female	28	41.7
Total	67	100
Marital Status		
Single	8	11.9
Married	59	88.0
Total	67	100
Age		
26 – 30	27	40.2
11- 35	8	11.9
Greater than 36	32	47.7
Total	67	100
Year of Experience		
Less than 6 Years	5	7.4
6 – 10 Years	35	52.2
11 – 15 Years	20	29.8
Greater than 20 Years	7	10.4
Total	67	100
Highest Qualification		
Bsc/BLIS	20	29.8
Msc/MLS	41	61.1
Phd	6	8.9
Total	67	100
Designation		
Principal Librarian	10	14.9
Senior Librarian	10	14.9
Librarian I	11	16.4
Librarian II	23	34.3
Assistant Librarian	13	19.4
Total	67	100
University		
University of Ilorin, Ilorin	30	44.7
Kwara State University, Malete	19	28.3
Al-Hikmah University, Ilorin	5	7.4
Landmark University Omu-aran	2	2.9
Summit University, Offa	2	2.9
Ojaja University Eiyenkorin	2	2.9
Thomas Adewumi University, Oko	2	2.9
Ahman Pategi University, Pategi	2	2.9

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University of Offa, Offa	2	2.9
Muhammed Kamaldeen University, Ilorin	1	1.4
Total	67	100

Source: Authors' Fieldwork Survey (2025)

Table.1 shows that majority of the respondents 39 (58.2%) were male and 28 (41.7%) were female while 59(88.0%) married. Also, the table shows that majority of the respondents 37 (47.7%) were within the age range of 36 and above. Indicating that majority are within the age range. More so, the table shows that majority of the respondents 35 (52.2%) has spent between 6 to 10 years in services, meaning that they have understanding on library activities. Furthermore, the Table shows that majority of the respondents 41(61.1%) has Msc/MLIS, 23 (34.3%) were Librarian II.

Research Question 1: **What are the local content resources available in Kwara State University Libraries?**

Table 2: Availability of the Local Content Resources

Local Content Resources	**Available Frequency/ %**	**Not Available Frequency/%**	**Remarks**
Conference proceeding	10(100)	-	Available
Indigenous journals	10(100)	-	Available
Government and civic resources	-	10(100)	Not Available
Community programs	-	10(100)	Not Available
Indigenous literature and cultural archives	2(20)	-	Not Available
Examination question papers	10(100)	-	Available
Project, theses and dissertation	10(100)	-	Available
Institutional handbooks	10(100)	-	Available
Book chapters	10(100)	-	Available
Students magazine	10(100)	-	Available
Textbooks by lecturers and staff	10(100)	-	Available
Institutional bulletin	10(100)	-	Available
Faculty and departmental journals	10(100)	-	Available
Senate paper/publication	2(20)	-	Not Available
Inaugural news letter	10(100)		Available

Source: Authors' Fieldwork Survey (2025)

Table 2: Show an observation checklist of local content resources that are found in the university libraries. As seen, the checklist reports that university libraries have a good prevalence of some local content resources that include, first newsletter, textbooks by university faculty and staff, projects, theses/ dissertations, university handbooks, faculty and departmental journals, students' magazine, university bulletin, book chapters, exam papers, conference proceeding and indigenous journals 10(100), while university libraries contain senate papers/publications, indigenous literature and archives 2(20). Other local content resources which were missing in the university libraries included, government and civic resources, and community programs. It supports that, some essential native content resources are sufficiently available, while some critical local contents including those that indicate community programs, government and civic resources are scarce.

Research Question 2: What are the local benefits of digitisation of local content resources and effective service delivery in the libraries?

Table 3: Benefits of Digitisation of Local Resources

S/N	**Attitudes**	**SA**	**A**	**D**	**SD**	**Weighed Mean**
1	Improved visibility	30	37	0	0	3.44
2	Preserve cultural heritage	57	10	0	0	3.85
3	Increase access	20	16	13	18	2.56
4	Support for research and teaching	29	30	8	0	3.31
5	Reduce pressure on physical storage	24	43	0	0	3.35
6	Collaboration and resources sharing	22	20	16	9	2.82
7	Disaster discovery	19	30	10	8	2.89

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8	Expand access to knowledge	19	30	10	8	2.89

Source: Field Work Survey, (2025)

Aggregate Mean **3.13**

Criterion Mean **250**

Table 4: Show that the overall mean of 3.13 is higher than the criterion means 2.50 which indicated that librarians identified the advantages of local content digitisation in the University Libraries studied. The entire respondents agreed and strongly agree with all the variables such as preserve cultural heritage (X=3.85), enhance visibility (X=3.44), ease pressure on physical storage space (X=3.35), support teaching and research (X=3.31), disaster discovery/expand access to knowledge (X=2.89), co-operation and resources sharing (X=2.82), increase access (X=2.56) respectively.

Research Question 3: What are the hindrances encounter in the use of local content resources in the university, libraries, understudy?

Table 5: Challenges encountered in the Use of Local Content Resources

S/N	**Purposes**	**SA**	**A**	**D**	**SD**	**Weighed Means**
1	Insufficient institutional support	18	29	19	1	2.95
2	High cost of digitization equipment/software	52	15	0	0	3.35
3	Copyright and intellectual property issues	29	26	12	0	3.25
4	Technical expertise gaps	52	10	0	0	3.85
5	Infrastructure limitation	52	15	0	0	3.77
6	Low awareness	40	7	20	0	3.29
7	Deficiency of standard and policy	38	29	0	0	3.56
8	Fragile source materials	20	16	13	18	2.56

Source: Field Work Survey, (2025)

Aggregate Mean **3.32**

Criterion Mean **2.50**

Source: Field Work Survey, (2025)

As seen from the table 5, the grand mean score of 3.32, being greater than the criterion mean score of 2.50, suggests that the university libraries understudy were encountering enormous challenges in the digitization of the local content resources which include lack of expertise (X=3.85), lack of equipment (X=3.77), lack of standardized policies (X=3.56), lack of financial ability for purchasing of equipment/software (X=3.35), poor sensitization level (X=3.29), copyright/intellectual property challenges (X=3.25), weak institutional capacity (X=2.95) and frail nature of source material (X=2.56).

Discussion of the Findings

Results are organized according to the research objectives. Research first finding was that local content resources were available at university libraries for use in the operation of services to be rendered. These resources include; inaugural newsletters, lecturer's and staff's textbooks, projects, theses/dissertations, faculty and departmental journals, student's magazines, institutional handbooks, indigenous journals, institutional bulletin, book chapters, examination questions, conference proceedings and so on. This conforms with Lade and Saka (2019); Baro et al., (2013); and Fatoki, (2007), that theses, dissertations, newsletters, newspapers, magazines, seminars, and conference papers, inaugural addresses, handbooks, institutional documents, circulars, annual budgets and reports, ceremonial addresses, directories, technical reports, historical documents and journal articles, being the type of documents that are widely digitised in the libraries. Obaike, et al, (2025) agreed with that local content resources such as, theses/dissertations, student's projects, institutional newsletters, bulletins, handbook and lecturer's and staff's authored text books all have full availability.

The second finding revealed that libraries agreed that digitisation of local content resources are beneficial in libraries. The respondents strongly agree and agreed with the statement that digitising of local content resources helps to preserve cultural heritage, improve visibility of resources, reducing pressure of storage, support teaching and research, increase discovery/access to knowledge and expand the use, increase access and facilitate collaboration and resources sharing in the libraries. These are in agreement with the statement by Tietie (2021) where he mentioned that digitisation of library resources enable the ease of accessing and retrieval of document at NGF library and access is made possible to digitised documents through the online public access catalogue (OPAC) and the digital repository of the library. Similar point was

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also observed from Udemba (2021) who mentioned that digitisation improve on the reputation of organization and increase visibility thereby projecting the academic status and quality of the institution. He added that it eliminates delay in the publication of research materials.

Third finding in relation to hindrances to the use of local content resources in the university libraries was revealed as gap in the required expertise and infrastructure limitation, lack of policy, high cost of digitisation equipment/software, low level of awareness, copyright and intellectual property, lack of institution support and fragile nature of original source material have been hindrances to the digitisation of local content resources in libraries. This is in line with Dhule (2018) who lists seven challenges associated with digitisation in libraries: funding; shifting of software and hardware; up-gradation of software and hardware; legal issues, technical skills; technophobia and; technological obsolescence.

Conclusion

This study's findings made it known that certain local content materials were not present in the understudied university libraries. In fact, those local content materials were needed to improve delivery of quality service. In addition, the librarians within the understudied university libraries already saw the importance of local content resources, but the institution faced many challenges which called for immediate solutions. Other than the contribution of this study to existing literature, it informs readers about digitisation of local content materials, the advantages and disadvantages. Lastly, it made suggestions as to how library use of local content materials can be optimised.

Recommendations

Arising from the findings of the study and the conclusion drawn, the following recommendations are put forward:

1. University libraries must prioritize providing local content that others do not have available and must digitise all their local materials to promote wider access.
2. Furthermore, managers need to remain continuously updated on the advantages of local content digitizing in the institution in order to promote the perception and awareness in the institution and the rest of the world.
3. Lastly, local content digitising training and retraining must be mandatory and continuous policy, funding and institutional support be given to the libraries to enhance their passivity.

References

Abubakar, A. M, Ali G. & Zainab, M. (2019). Preservation of digital local content among University libraries in North-East Nigeria. *International journal of web application*, *11*(2), 65, available online https//www/research gate. Net

Anderson, C. & Maxwell, D. C. (2004). Starting a digitisation center: preserving the past, present, and future. Oxford: Chandos.

Baro, E.E., Oyeniran, K.G., and Ateboh, (2013). Digitization projects in university libraries in Nigeria: *the journey so far. Library Hi Tech News* 9 21-26, q Emerald Group Publishing Limited, 0741-9058, DOI 10.1108/LHTN-09-2013-0049.

Dhule, S. (2018). Digitisation of libraries: Benefits and challenges. *E-Journal of Library and Information Science.* http://www.klibjlis.com/sp2018jan51.pdf

Duderstadt, J.J. (2009), Possible futures for the research library in the 21st century. *Journal of Library Administration,* 49 (3), 217-225.

Fatoki, Olayinka. (2007). Digitisation of library materials in Nigeria: Issues and considerations for information professionals. *African Journal of Library, Archives, and Information Science*. 17. 15-21. https://www.researchgate.net/publication/298859800_Digitisation_of_library_materials._in_Nigeria_Issues_and_considerations_for_information_professionals

Global Knowledge Partnership (2015). ICT for development (ICT). Available Online at http: www. Global knowledge. Org

Iwhiwhu, B.E. and Eyekpegha, E.O. (2009). Digitization of Nigerian university libraries: from technology challenge to effective information delivery. *The Electronic Library*, 27(3), 529-536.

Jones, E., & Tudur, D. (2018). The rise of literacy: Digital transformation and The National Library of Wales | Europeana Pro: https://pro.europeana.eu/post/the-rise-of-literacy-digital-transformation-and-the-national-library-of-wales

Lopatin, L. (2006). "Library digitisation projects, issues and guidelines: A survey of the literature", *Library Hi Tech*, 24(2), pp. 273-289. https://www.emerald.com/insight/content/doi/10.1108/07378830610669637/full/html

Mommoh, L., & Abubakar, S. (2019). Digitisation of library materials in special libraries in Abuja, Nigeria. Information Impact: *Journal of Information and Knowledge Management*. 10 (14), 92 https://www.researchgate.net/publication/334801618_Digitisation_of_library_materials_in_special_libraries_in_Abuja_Nigeria

pISSN: (Hard Copy): 2814 – 1377; eISSN (Online): 2814 – 1369 www.foefugusau.com.ng
DOI: https://doi.org/10.64348/zije.2026411

Nneji, K.O. (2018). Digitization of academic library resources: A case study of Donal E. U. Ekong Library. *Library Philosophy and Practice*. : http://digitalcommons.unl.edu/libphilprac.

Nwabueze, A.U., and Urhiewhu, O., (2015). Availability and use of digital information resources by undergraduates of universities in Delta and Edo States, Nigeria. *International Journal of Digital Library Services*. www.ijodls.

Obaike, M. O., Hungwa, S., Lubem, G. (2025) Influence of digitization of local content resources and effective service delivery to postgraduate students in public universities in Benue state, Nigeria. *Lafia Journal of Library & Information Science (LJLIS), 7*(1), 119-132

Ogbomo, E.F and Muokebe, B. (2015). Institutional repositories, as Emerging Initiative in Nigerian University Libraries. *Information and Knowledge Management* www.iiste.org.

Okocha, Foluke, (2022). "Digital libraries in Africa: Challenges and opportunities." *Library Philosophy and Practice* (e-journal). 7288. https://www.researchgate.net/publication/363133505_Digital_Libraries_in_Africa_Challenges_and_Opportunities

Osaheni, O., Lukman, A. and Ismall A. E. (2018). Prospect and challenges of digitization of academic libraries resources for effective service delivery in universities in Edo State. *Journal of Library and Information Science*, 8 (2), 187-201.https//www/research gate.net

Pandey, P. and Misra, R. (2014). Digitization of library materials in academic libraries: Issues and Challenges. *Journal of Industrial and Intelligent Information* 2(2), doi: 10.12720/jiii.2.2.136-141.

Rafiq, M., Ameen, K., and Ameen, k. (2017). Barriers to digitization in university libraries of Pakistan: developing country's https://doi.org/10.1108/EL-01-2017-0012 https://doi.org/10.1108/EL-01-2017-0012

Rosenberg, D. (2005). Towards the digital library: Findings of an investigation to establish the current status of university libraries in Africa. UK: INASP. http://www.inasp.info/uploaded/documents/digital-libr-final-format-web.pdf."

Udemba, U. O. (2021). Digitization and organization performance of logistics firms in Ifako-Ijane Local Government of Lagos State. Cross Current Informational *Journal of Management and Media Studies*, 3 (6), 62-70

Udem, Obiora & Okeke, Ifeka & Onwurah, Benjamin. (2015). Digitisation of library resources in university libraries a practical approach, challenges and prospects. 3. 36 – 47. https://www.researchgate.net/publication/334960700

Tietie, Naomi (2021). 'The evolution and transformation of the NGF special library.' The executive summary. 1(3)4, 4-5. https://ngflibrary.org.ng/cgi bin/koha/opac-detail.pl?biblionumber=19915

Weaver, R. (2020). Subject guides: Digitisation services: Digitisation best practices. Libguides.mst.edu. https://libguides.mst.edu/c.php?g=335435&p=2256780

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Influence of Foreign Portfolio Investment in Equities on Inclusive Growth in Nigeria: An Autoregressive Distributed Lag Model Approach

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Abstract
The expansion of the capital market in Nigeria has faced significant challenges that impede its role in fostering inclusive growth. Despite various reforms and initiatives aimed at strengthening the capital market, the value of foreign portfolio investment in equities has not significantly translated into improving inclusive growth in Nigeria. This study examined the effect of foreign portfolio investment in equities on inclusive growth in Nigeria from 1986-2024. The variables employed were inclusive growth (dependent variable), value of foreign portfolio investment in equities (dependent variable), and interest rate and exchange rate (control variables). Data were obtained from the Central Bank of Nigeria (CBN), National Bureau of Statistics (NBS), and World Development Indicators (WDI). The study utilized ex post facto quantitative research design. Augmented Dickey-Fuller (ADF) and Phillip Pearons (PP) unit root tests were conducted and the results established a mixed-order of integration (order (0) and (I) and hence the use of Autoregressive Distributed Lag (ARDL) model. The estimated ARDL results showed that the value of foreign portfolio investment in equities (VFPI) had a negative (-0.001638) and statistically significant impact on inclusive growth in the short-run and likewise a negative (-5.92E-06) and statistically significant impact on inclusive growth in Nigeria. Interest rate (INTR) impacted positively (0.005107) on inclusive growth in the short-run and statistically significant but in the long-run it had a positive (0.008744) but statistically insignificant impact on inclusive growth in Nigeria. Exchange rate (EXCR) in the short-run had a positive (0.001150) and statistically significant impact on inclusive growth in Nigeria but in the long-run, EXCR had a negative (-0.005927) and statistically significant impact on inclusive growth in Nigeria. The study recommended that the Nigerian government in order to ensure that the value of foreign portfolio investment in new equities impact positively and statistically significant on inclusive growth in Nigeria instead of the negative impact revealed in the study, should be a delibrate effort driven by institutional, regulatory, and maret based actors. The federal government should provide the macroeconomic and policy envinronment, while the CBN ensures monetary and exchange rate stability. Regulatory oversights by the SEC and operational efficiency of the NGX enhance market intergrity and liquidity. Additionaly, listed firms, intermediataries, and foreign investors should be able to mobilze and sustain capital inflows.
Keywords: Foreign Portfolio Investment, Equities, Inclusive Growth, Nigeria

Introduction
The strength and stability of the financial sector, which includes the money market and capital market, are key factors in an economy's developmental potential to thrive. While the capital market provides long-term capital requirements that promote growth, the money market provides short-term funding for investments. The money market, particularly commercial banks, is expected to supply necessary cash for private investors; yet, they only offer short-term financing, necessitating the existence of institutions capable of providing long-term funding, which banks are ill-equipped to furnish. This implies that private investment, a crucial element of Gross Domestic Product (GDP), will be hindered, potentially leading to diminished growth and underscoring the necessity for capital market development. A key component of the financial system is essential to the expansion and advancement of the economy. The process by which the capital market improves its ability to distribute financial resources to the most productive users is known as capital market development. It facilitates the channeling of long-term savings into productive investments, which is crucial for sustained economic growth (Charles & Eric, 2014). On the other hand, inclusive growth refers to the pace and fair distribution of economic

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growth, which should engage a sizable percentage of the labour force in the country and span a variety of economic sectors. Inclusive growth has become an important goal for many developing economies because economic growth alone does not translate into improved welfare for the citizens. Inclusive growth is multidimensional which involves economic growth that benefits all segments of the society through employment creation, poverty reduction, income distribution and improved access to economic opportunities, and capital market development plays an important role in achieving these dimensions (United Nations Conference on Trade and Development (UNCTAD, 2022). In many developing countries, economic growth has increased overtime; however, a large proportion of the population still experiences poverty, unemployment, and limited access to economic opportunities. This situation raises concerns about whether growth in key sectors of the economy actually benefits the broader economy (Yaroe, 2011). According to UNCTAD (2022), the inclusive growth index focuses on four major pillars which are; economic performance, living conditions, equality and environmental sustainability. Economic performance evaluates growth metrics and analyses whether the growth is equitable and has the tendency to create decent jobs for the citizens in the economy, while the living condition measures improvement in the daily lives of the citizens, including access to services and infrastructures. For the equality pillar, it focuses on the reducing the income and gender inequality disparities and ensuring balance; while the last pillar which is environmental sustainability assesses the ecological impact on economic development of an economy.

The establishment of capital markets allowed modern economies like China, the United States of America (USA), and the United Kingdom (UK) to grow and expand. Capital markets development of these economies is the envy of the world; fueling the financial needs of business from the small enterprises to public companies (Charles & Eric, 2014). The US capital market's dominance, which includes the deepening of its stock, bond, and derivative markets, has enhanced risk and capital allocation across the US economy as a way to promote inclusive growth. Evidence includes the United States' greater returns on capital than other countries, the consistent significant inflows of foreign money into the country, the improved stability of the country's banking system, and the capacity of new businesses to raise capital. However, by raising the productivity growth rate, the development of the capital markets has enabled the economy to operate at a lower unemployment rate, and raised funds for infrastructure, productivity and social protection of citizens. In addition, higher productivity growth has led to faster gains in real wages and bridge the income inequality gap (Dudley & Hubbard, 2004). Known as the Asian Tigers, Hong Kong, Singapore, South Korea, and Taiwan are among the Asian nations that had fast industrialization and economic expansion starting in the 1960s, moving from low-income to high-income economies. The Hong Kong Stock Exchange (HKEX) dates back to 1891 but was renamed in 1914. The HKEX began with 14 listed companies during its establishment and the specific market capitalization at the inception was less than USD 500 thousand and less than 20 Number of equities. With 2600 listed companies and a market capitalization of around USD 4.5 trillion as of 2024, the market has experienced substantial growth, 13,635 numbers of listed securities with diverse (four) equity markets. The HKEX is characterized by its high liquidity, strong regulatory framework and international participation in the purchase of foreign portfolio. Their international listing and market innovation has embraced financial innovations, including the launch of stock connect programs with mainland China, enabling cross boarder trading. China's growth averaged 10% while the poverty rate declined from 66% to 0.7%. Very important to note therefore is the fact that China's capital market development (HKEX) played a strong role as an agent for mobilizing the country's capital for inclusive growth (International Finance Corporation, 2021).

Capital market development involves increasing efficiency and liquidity. This means ensuring that market transactions are executed smoothly and swiftly with minimal costs and with accurate reflection of all available information on securities and prices, diversification of instruments, regulatory framework, market accessibility, financial education and global integration, using the market instrument and components such value of new equities (measure the growth of the primary market) and Foreign Direct Investment in equities (to measure capital market integration to international financial markets). Government funding for infrastructure and private sector company growth depend on the development of capital markets, which also creates good corporate governance and accountability, transparency, wealth creation and distribution, inclusivity, democratization of access to prosperity, and meritocracy (IFC, 2021). Capital market development has the potential to accelerate inclusive growth because of its potential effects on capital accumulation, technological innovation, resource allocation, and productivity growth. It can also mobilize surplus funds into productive investments, create jobs,

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and provide financial services that benefit everyone, including the poor, with the aim of raising everyone's standard of living. One of the major economic issues facing most developing countries in Africa in recent times is how to make economic growth more inclusive. Several countries across the world (especially Africa countries) are growing faster than most of the high-income economies of Europe and North America, but poverty, unemployment, income inequality rates, government effectiveness, access to education, infrastructures and gender inequality have remained high in these regions in the last decade in spite of the continuous economic growth recorded (Adediran, Oduntan & Matthew, 2020). This might not be unconnected with the poor progressive nature of capital markets in these economies. Domestic capital markets are a vital source of stable, sustainable finance and underpin a private sector associated with employment and economic growth. Yet capital markets are underdeveloped across the emerging market, leading to illiquidity, elevated transaction costs, low level of market capitalization and share index. Conversely, inclusive growth refers to a complete decrease in poverty that is linked to the creation of productive jobs as opposed to direct income distribution programs. Achieving the intersection of economic growth and income distribution is necessary for growth to be inclusive. This suggests that a robust inclusive growth strategy will complement capital market policies to stimulate economic growth with those that foster equality of opportunity, alongside a social security net to protect the most vulnerable, therefore, in order to foster social inclusion and equal access to jobs, economic policies that encourage structural change and the creation of productive employment for people (Duisenberg, 1999).

The development of capital markets can be seen as a component of a national strategy to reform financial sectors in many African nations, including Malawi, Kenya, Botswana, Ghana, and Tunisia. This is a crucial component of broader economic restructuring initiatives aimed at promoting increased economic activity, which in turn generates greater levels of wealth and inclusive growth. Accordingly, it is anticipated that stock exchanges will improve the market system for raising and allocating limited financial resources and promoting inclusive growth. According to Akinkuoto (2005), the purpose of capital markets is to draw in foreign investment, mobilize local capital that has lain dormant, and more effectively distribute funds to initiatives that would strengthen and expand the economy. Due to a number of macroeconomic shocks, African nations' economic statistics throughout the late 1970s and early 1980s revealed significant distortions in their economic performance metrics. Unsuitable policy responses to observed economic trends in terms of timing, direction, and magnitude; disequilibrium between rural and urban sectors, which led to rural-urban drift and changes in economic structure; and foreign debt, which caused financial gaps in the implementation of socioeconomic developmental programs. All of these factors undoubtedly led to the adoption of several policy initiatives by the majority of African nations, most notably the Structural Adjustment Programme (SAP), which sought to restore macroeconomic stability and economic expansion. It's interesting to note that widespread economic reforms, including financial sector reform, which heavily relied on the capital market, were intended to support inclusive growth and the real sector (Oluwatosin & Lamin, 2016). Three stocks, six federal government bonds, and ten industrial loans were among the 19 listed assets when the Lagos Stock Exchange debuted on June 5, 1961 (Security and Exchange Commission, 1999). The Lagos Stock Exchange was renamed the Nigerian Stock Exchange (NSE) in 1977. The degree of development of the Nigerian capital market fluctuated between 1999 and 2018, and all of the major indexes had rapid expansion (from 1961 to 1977). There were 286 listed businesses, up from 196, and the market value grew from 300 billion to 13,181.7 trillion naira.

The All-Share Index also jumped from 63,170.3 billion to 585,288.7 billion naira. CBN (2018). Consequently, it is expected that the growing tendency in all major market indices will be reflected in the expansion and development of the Nigerian economy. As anticipated by the structural adjustment program (SAP) in the 1980s, the Nigerian capital market was deregulated in 1993 with the intention of fostering the economy's sustainable growth. In an effort to create a sophisticated market that can work well for inclusive growth and compete favorably with developed international markets, the market has been opened to both domestic and foreign involvement. Over time, the Nigerian capital market has undergone significant reforms. The regulatory framework, market diversification, technological developments, and financial literacy initiatives are some of these reforms. The most recent reform was developed by the Securities and Exchange Commission (SEC) and is known as the Revised Capital Market Master Plan 2015–2025 (RCMMP). The goal of the reform is to provide a strategy for taking advantage of opportunities in order to better position the capital market as the engine of Nigeria's economic growth and development and to drive and facilitate capital raising for sustainable national development and

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transformation of Nigeria's priority economic sectors, thereby effectively contributing to the national economy. The reforms resulted to increase in Gross Domestic Product (GDP) growth rates over a seven-year period (2007-2020) but without a corresponding reduction in unemployment rate which rose to 23.9% in 2012 relative to 13.9% in 2000, with an addition of 1.8 million to the labour pool (CBN, 2020). The inverse correlation between GDP growth rate and employment is dismal. The anomalous growth pattern is counter inclusive and has exacerbated the tragedies of the common man with a high misery index estimated at 48% (CBN, 2020). This is distressful to the economy, stunts inter-generational mobility and poses a threat to national security. Development of the capital market is crucial for inclusive growth in terms of job generation, wealth distribution and infrastructural development, long term investment opportunities, diversifying investment opportunities and encouraging corporate governance and accountability. The expansion of the capital market in Nigeria has faced significant challenges that impede their role in fostering inclusive growth. Despite various reforms and initiatives aimed at strengthening the capital market, several issues persist that limit their effectiveness in driving inclusive growth. The Nigerian capital market suffers from inadequate infrastructure and regulatory frameworks, which undermine investors' confidence and market efficiency. This inadequacy is compounded by political instability and corruption, which further decline trust in the market (Adeniyi, 2018). Without a robust regulatory framework and environment, market manipulations and frauds are prevalent, discouraging both local and foreign investors.

One significant problem is the limited participation of small and medium-sized businesses (SMEs) in the capital market. Nigeria's economy is based primarily on SMEs, contributing significantly to employment and GDP (Yahaya, 2014). However, these enterprises often face strict listing requirements and high costs of compliance which restrict them from accessing the capital market funding. The exclusion of a small group of significant corporations limits the advantages of the capital market and the overall expansion of the economy. The Nigerian capital market is inherently vulnerable due to its high susceptibility to exogenous shocks, such as fluctuations in the world oil price; investor sentiment and the market's ability to raise long-term capital are both negatively impacted by the market instability. In Nigeria, although GDP has recorded significant growth over the years, indicators of inclusive growth have not improved proportionately. For instance, GDP increased from $270 billion dollars in 2000 to over $477 billion dollars in 2022, yet poverty, unemployment and income inequality remain high (CBN, 2024). This suggests that the benefits of growth are not evenly distributed across the population, leading to decline or stagnation in key inclusive growth indicators. It is on this premise that the study investigated the effect of foreign portfolio investment on inclusive growth in Nigeria from 1986-2024. The paper has been structured into six sections with the introduction as section one. Section two is the literature review and section three covered the methodology of the study. Section four covered the results and discussion; section five dealt with the discussion of findings and section six covered the conclusion and policy recommendations.

Literature Review

Conceptual Review

Foreign Portfolio Investment

Foreign portfolio investment covers transactions and positions involving debt or equity securities, other than those included in direct investment or reserve assets. Central Bank Nigeria (2024) compiles FPI using 5 SEC forms that track foreign holdings, cross-border trades, and ownership of Nigerian bonds/companies. For equity, they use the IMF 10% threshold: "Foreign direct investment are the net inflows of investment to acquire a lasting management interest. Portfolio equity includes net inflows from equity securities other than those recorded as direct investment and including shares, stocks, depository receipts (American or global), and direct purchases of shares in local stock markets by foreign investors. Foreign portfolio investment (FPI) investors take ownership without control of firms in the host country, FDI investors obtain both ownership and control positions FPI implies no "hands-on management." FDI investors get refined info about firm productivity; FPI investors don't. This creates a lemon problem for FDI resale but makes FPI more liquid (Goldstein, Razin, 2006). Foreign portfolio investment contributions to market development, integration, and cost of capital focuses specifically on foreign portfolio equity investments and financial liberalization (Errunza, 2001) Foreign portfolio equity investment (PEI) in total foreign equity investment, which includes both PEI and foreign direct investment (FDI). Higher reserves reduce exchange rate risk raise FPI relative to FDI (Qian & Steiner, 2013).

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Inclusive Growth

Inclusive growth is a relatively recent idea in the literature, as a result of this; it has not been unanimously defined, given the evolutional dimension of growth in the last few years. A commonly used definition, by the WBG (2020) however is that, as opposed to direct money distribution programs, inclusive growth is the complete elimination of poverty linked to the creation of productive jobs. It ought to take into account the growth's pattern and rate. Achieving the intersection of economic development and income distribution is necessary for growth to be inclusive. Inclusive growth is a distinct concept from economic growth. The current emphasis on inclusive growth stems from a recognition that prioritising economic growth alone cannot meet the development needs of poor people, as it fails to address issues such as inequality and unemployment. Rather than a focus on rapid growth alone, the term inclusive growth refers to both the rate and the pattern of growth, which are thought to be related and should be addressed together (World Bank, 2009). When the wealth gap narrows and the "growth dividend" is distributed more fairly, it leads to "improvements in living standards and outcomes that matter for people's quality of life (good health, jobs and skills, clean environment, community support) Organization for Economic Cooperation and Development (OECD, 2012). The World Bank (2009) defines inclusive growth as the absolute poverty reduction linked to the development of productive jobs as opposed to direct income transfer programs. Both the rate and the pattern of growth should be considered in inclusive growth since they are seen to be related and should be handled jointly. This means that, growth pattern and pace are adequate to help many people escape poverty and include the majority of the nation's workforce into the economy. The International Policy Centre for Inclusive Growth (IPC-IG, 2018) emphasizes engagement so that individuals actively participate in the wealth process and have a voice in how that process is directed, in addition to participating in the advantages of growth. A welfarist strategy or a straightforward emphasis on redistribution is opposed with inclusive growth. Growth that is inclusive is achieved by expanding opportunities and enhancing access to them. The Catholic Agency for Overseas Development (CAFOD, 2014) states that inclusive growth guarantees that all people can take part in the growth process, both in terms of making decisions about how to organize the growth progression and in the actual growth. Conversely, it ensures that the advantages of growth are distributed fairly to all. Participation and benefit sharing are prerequisites for inclusive growth. Growth will be unfair if some other segment of the economy is being marginalized.

Theoretical Review

Gurley and Shaw (1960) propounded the Financial Intermediation theory. The theory posited that, financial intermediaries such as banks, capital market, insurance companies and other formal financial institutions, act as conduits between surplus unit (those with excess funds) and deficit unit (those in need of funds for investment). By bridging this gap, intermediaries reduce the costs and risks associated with direct financial transactions thereby channelling savings into productive investments that benefit a broader segment of society. The theory assumes that financial markets are imperfect with high transaction costs, asymmetric information and risk aversion among savers. Secondly, intermediaries exist to improve efficiency, channelling more savings into productive investment than would occur without them. And lastly, effective intermediaries promote economic growth, which can subsequently lead to more equitable and inclusive growth (Romer, 1990). FIT operate through several mechanism, among which are: savings mobilization, transaction cost, risk diversification, credit allocation, interest rate spread, and financial depth. One of the major contributions of financial intermediation theory lies in its explanation of information asymmetry problem is solved. It suggests that, borrower shave better knowledge of their own investment projects and risk profile than lenders, creating uncertainty and increasing the likelihood of adverse selection or moral hazard in financial markets. Financial intermediaries mitigate this challenge by assessing credit worthiness, monitoring borrower's behaviour and providing credible information to savers. This ensures that funds are allocated efficiently to projects with the highest potentials returns, enhancing overall economic productivity. In addition to information asymmetry, financial intermediaries reduce transaction costs inherent in financial market. Financial intermediaries enable resources to flow to both large enterprises and smaller sectors, enhancing equitable access to capital, entrepreneurship and employment opportunities (Nwokwo & Okoye, 2013). Capital markets are critical financial intermediaries, they provide equity and debt financing, enabling innovation and entrepreneurship (Schumpeter, 1911). In Nigeria, well-functioning capital market have been shown to increase access to funds for productive investment, contributing to job creation, poverty reduction, and social inclusion (Ozegbe *et al*, 2023)

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Empirical Review

Dang and Wu (2024) analyzed the distribution of inequality and the stock market, using data from the G7 and BRICS nations. By using the Gini coefficient and wealth inequality (wealth distribution by income groups) to examine how three stock market indicators market accessibility (market capitalization), market efficiency (turnover ratio), and stability (return volatility) affect income in the BRICS and G7 nations. The Autoregressive Distributed Lag-Mixes data sampling model was used in the study, and it was discovered that the only way to minimize income disparity is to improve market stability. Additionally, increasing market accessibility also helps to reduce wealth inequality. Wealth disparity increases with improved market stability, as is commonly seen in the G7 and BRICS nations. Accordingly, the study discovered that top incomes gain more from an improvement in stock market stability than does the lowest income group. Additionally, by enhancing the wealth distribution of the population in lower income groups and decreasing the wealth distribution of top earners, market accessibility increases help to lessen wealth gap in the BRICS nations. Lastly, the study discovered a small impact of stock market indices on the distribution of wealth in the G7 nations, suggesting that the stock market is not a major contributor to the wealth gap in the developed world. Serkan (2023) investigated the role of macroeconomic factors in explaining Turkish stock returns. He employed macroeconomic factor model from the period of July 1997 to June 2022. The macroeconomic variables considered were growth rate of industrial production index, change in consumer price index, growth rate of narrowly defined money supply, change in exchange rate, interest rate, growth rate of international crude oil prices and return on the MSCI World Equity Index. He found that exchange rate, interest rate and world market return seem to affect all of the portfolio returns, while inflation rate is significant for only three of the twelve portfolios. Also, industrial production, money supply and oil prices do not appear to have significant effect on stock returns in Turkey.

Abubakar (2024) examined the impact of FPI on inclusive growth in Nigeria from 1986 to 2023. FPI, exchange rate and inflation were used as the independent variables. OLS and granger causality techniques were used to analyze data that were obtained from CBN statistical bulletin. The result of the granger causality test showed that FPI has positive granger causes GDP but GDP does not granger cause FPI. The regression analysis showed that FPI has positive and significant impact on GDP. These results suggests that policy makers should aim to attract more FPI into the country, while also implementing policies to control inflation and maintain stable exchange rate. Nnajieze (2024) examined the impact of FPI on poverty reduction in Nigeria, with a focus on achieving sustainable development goals one (SDG 1), from 1985 to 2023. The study examined the long-term relationship between FPI and poverty head count ratio, taking into account other external financial inflows like Foreign Direct investment, remittances, and official development assistance. Using ARDL method of analysis, the study found that while FPi showed a non-significant positive impact on poverty headcount ratio, it may contribute to poverty reduction using employment creation. The study also suggested that government regulations have a way of attracting FPI. This can be achieved through creating a stable economic environment, developing infrastructures and building partnership with foreign investors. Ishioro and Taruhor (2023) examined the impact of capital market performance on inclusive growth in Nigeria. Time series data were obtained from CBN bulletin and were analysed using regression estimation technique, and the stock market performance indictors used were market capitalization, value of new issues, and value of shared traded, while poverty reduction was used as proxy for inclusive growth Nigeria. The result showed that both market capitalization and value of new issues have a positive relationship with inclusive growth while value and volume of shares traded has negative relationship with inclusive growth in Nigeria. It was therefore recommended that the stock market should be made more liquid in order for turnover rate to increase. This will boost investors' confidence and awareness and would make funds available for long-term development of the economy thereby reducing poverty and foster inclusive growth in the economy.

Research Methodology

The study adopted expost-facto research design using econometric model to determine the effect of value of foreign portfolio investment in equities on inclusive growth in Nigeria spanning from 1986-2024. The study adopted expost-facto research design where econometric models were employed in analyzing the data sourced. Ex-post facto research design relied on historical facts that already existed. The choice of expost-facto research design for the study was informed by the fact that historically, data on variables of interest for the study existed and the data could be sourced from official institutions or organizations (Sekaran & Bougie, 2013). Expost-facto research design identified the independent and the dependent variables because the presumed cause had already occurred Kothari (2004). This implied that the researcher

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could investigate or predict the impact of the 'presumed cause' of independent variable(s) on dependent variable based on *a priori* expectations. The sign of the *a priori* expectation could be positive or negative and may be statistically significant or insignificant. Thus, this study investigated the impact of market capital development on inclusive growth in Nigeria from 1986-2024. The data were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletins, National Bureau of Statistics (NBS) publications and World Development Indicators (WDI) publications. Augmented Dickey-Fuller (1987) and Phillips-Perron (1988) unit root tests were conducted to avoid spurious results. Phillips-Perron unit root test measures both the mean and variance of time series data. Econometric technique of data analysis used was Autoregressive Distributed Lag (ARDL) model. The techniques chosen agreed with Augmented Dickey-Fuller and Phillips-Perron unit root tests results obtained. The justification for the use of ARDL econometric technique was based on the choice of variables of interest for objectives of the study. The variables of the study are presented in table 1.

Table 1

Types and Sources of Data

	Variables Acronym	Meaning as used in this Study	Types of Variable	Unit of Measurement	Expected Sign	Data Source
1	INCG	Inclusive Growth	Dependent	Percent	(+)	WDI
2	VFPI	Value of FPI in Equities	Independent	₦ Billion	(+)	NBS
3	INTR	Interest Rate	Independent	Percent	(-)	CBN
4	EXCR	Exchange rate	Independent	Percent	(-)	CBN

Source: World Development Indicators, (2025)

Model Specification

The study adopted the Financial Intermediation Theory. This is justified on the basis that the theory explained the theoretical framework that supported the relationship between value of foreign portfolio investment in equities and inclusive growth. The model for the study is specified as:

INCG = f(VFPI, INTR, EXCR) (1)

Equation 2 is the econometric function of the model 1.

$INC = \phi_0 + \phi_1 \lg VFPI - \phi_2 \lg INTR - \phi_3 \lg EXCR + \mu t$ (2)

The *a priori* expectation based on theoretical postulation was that increase in VFPI will lead to increase in inclusive growth (INCG in Nigeria while increase in INTR, and EXCR will lead to decrease in INCG. The a *priori* expectations are; ϕ_0, and $\phi_1 > 0$ while ϕ_2 and $\phi_3 < 0$.

Where:

INCG = Inclusive Growth

VFPI = Value of Foreign Portfolio Investment in Equities

INTR = Interest Rate (control variable)

EXCR = Exchange Rate (control variable)

Model Estimation

The Autoregressive Distributed Lag (ARDL) model is appropriate for the estimation of the model because of the mix order of integration of the variables. The generic ARDL model proposed by Perasan and Shin (1999) is expressed as:

$$\Delta Y_t = \beta_0 + \beta_1 Y_{t-1} + \beta_2 X_t + \beta_3 X_{t-1} + \beta_4 Z_t + \beta_5 Z_{t-1} + \sum_{i=1}^{\rho} \delta \Delta X_{t-1} + \sum_{i=1}^{\rho} \lambda \Delta Y_{t-1} + \sum_{i=1}^{\rho} \psi \Delta Z_{t-1} + \varepsilon_t \quad (1)$$

Where:

Y is the dependent variable (it is a function of its own lag value and other variables),

β_0 is the slope parameter,

X and Y are the dependent variables,

β_1, β_2, and β_3 are the long-run parameter estimates,

δ, λ, and ψ are the short-run parameter estimates and ε_t is the error term.

The mathematical function of the Autoregressive Distributed Lag (ARDL) is expressed as:

$$\Delta \ln INCG_t = \alpha_0 + \alpha_1 \ln INCG_{t-1} + \alpha_2 \ln VFPI_t + \alpha_3 \ln VFPI_{t-1} + \alpha_4 \ln INTR_t + \alpha_5 \ln INTR_{t-1} + \alpha_6 \ln EXCR_t + \alpha_7 \ln EXCR_{t-1} + \sum \phi \Delta INCG_{t-1} + \sum \beta \Delta \ln VFPI_{t-1} + \sum \lambda \Delta \ln INTR_{t-1} + \sum \partial \Delta \ln EXCR_{t-1} + \mu_t \quad (2)$$

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INCG = Inclusive Growth
VFPI = Value of Foreign Portfolio Investment in Equities
INTR = Interest Rate (control variable)
EXCR = Exchange Rate (control variable)
Where:

α_0 is the intercept parameter and α_1, α_2, α_3, α_4, α_5, α_6, and α_7 are the long-run coefficients of parameter estimates. The a *priori* expectations are; α_1, α_2 and $\alpha_3 > 0$ while α_4, α_5, α_6, and $\alpha_7 < 0$. Note that ϕ, β, λ, and ∂ are the coefficients of the short-run parameter estimates of the ARDL model.

Presentation of Results

Pre-Estimation Test

Unit Root Results

The stationarity properties of the variables included in the model were tested using Augmented Dickey-Fuller (ADF) and Philips-Perron unit root tests as presented in Table 2.

Table 2

Augmented Dickey-Fuller (ADF) and Philips-Perron Unit Root Tests Results

	ADF			**PP**	
Variables	At Level P-value	1st Difference P-value	At Level P-value	1st Difference P-value	Order of Integration
INCG	0.3892	0.0000**	0.4201	0.0000**	I(1)
VFPI	0.0371**	0.0000**	0.0291**	0.0000**	I(0)
INTR	0.0025**	0.0000**	0.0023**	0.0000**	I(0)
EXCR	0.9994	0.0004**	0.9999	0.0004**	I(1)

**Denotes significant at 5% level

Source: Authors' Computation (2026) using E-views12

Table 2 presented Augmented Dickey-Fuller (ADF) and Philips-Perron (PP) unit root tests results of the variables used in this study. The null hypothesis for ADF time series data is that it has no unit root or it is not stationary. On the other hand, the null hypothesis for PP is that the time series is trend stationary. The tests were conducted at level, order I(0) and at first difference, order I(1) and the asterisk symbol (**) indicated level of significance at 5%.

Autoregressive Distributed Lag (ARDL) Results

The results of the estimated short-run and long-run Autoregressive Distributed Lag Model are presented in Table 3.

Table 3

Dependent Variable: Inclusive (INCUG)

Autoregressive Distributive Lag (ARDL) Results of Model 3

		SHORT-RUN		
Variable	Coefficient	Std. Error	t-Statistic	P-value
Constant	-0.403183	0.279193	-1.444101	0.1584
D(INCG)(-1))	-0.365910	0.122012	-2.988965	0.0052**
D(VFPI)	-0.001638	0.002436	-0.672242	0.0004**
D(INTR)	0.005107	0.010130	0.5041461	0.7542
D(EXCR)	0.001150	0.000927	1.240448	0.0119**
D(VFPI)	-1.15E-06	6.29E-07	-1.823254	0.0776
ECt-1	-0.365910	Durb-Wat. Stat	2.413523	
R^2	0.954485	Adjusted R^2	0.947373	
		LONG-RUN		
Constant	-1.101866	0.633846	-1.738380	0.0918
VFPI	-5.92E-06	1.91E-06	-3.105829	0.0040**
INTR	0.008744	0.027377	0.319375	0.7515
EXCR	0.005927	0.000872	6.795562	0.0000**

** indicated 5% significance level

Source: E Views 12

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The result of the ARDL short-run was presented in Table 3. The coefficient of the constant was negative (-0.403183), wrongly signed and statistically insignificant at 5% (P = 0.1584). This implied that if all the study's variables were held constant, inclusive growth (INCG) decreased by the same value. The coefficient of inclusive growth (D(INCG (-1) was positive (-0.365910), wrongly signed and statistically significant at 5% significance level (P = 0.0052). The negative and statistically significant coefficient of inclusive growth implied that in the short-run, the value of D(INCG)(-1) in the previous year decreased INCG in the current year by 36.6 %. The coefficient of value of foreign portfolio investment in equities was negative (-0.001638) and wrongly signed but statistically significant at 5% significance level (P = 0.0004). The negative and statistically significant coefficient of value of foreign portfolio investment in equities implied that in the short-run, a unit increase in VFPI led to decrease in INCG by 0.16% during the study period.

The coefficient (0.005107) of interest rate (INTR) related positively to INCG and statistically insignificant at 5% insignificance level (P = 0.7542). This did not meet the *a priori* expectation of a negative sign. It implied that in the short-run when INTR increased by a unit, INCG increased by 0.51% during the period under review. The coefficient of exchange rate (0.001150) was positive, wrongly signed and statistically insignificant at 5% significance level (P = 0.0119). The positive and statistically insignificant coefficient of exchange rate implied that in the short-run, a unit increase in EXCR led to increase in INCG by 0.12% within the period of study. This contradicted the *a priori* economic theory of a negative sign and the activities of the black marketers in the foreign exchange market was responsible for this result.

The coefficient of the ECt-1 was negative **(**-0.365910**)** and correctly signed. This indicated a slow but responsive economic system where short-run dynamics or variations were corrected slowly, leading to a stable long-run equilibrium relationship among the variables in the model. It suggested that the system slowly absorbed shocks and returned to its long-run equilibrium state. The speed of adjustment from short-run to long-run equilibrium would be corrected by 36.6%. The ARDL long-run results in Table 3 showed that the coefficient of the intercept was negative (-1.101866) and statistically insignificant at 5% significance level (P = 0.0918). The negative and statistically insignificant coefficient of the intercept implied that if all the variables were held constant, inclusive growth (INGG) decreased by 1.101866 during the period under review. The estimated ARDL long run results showed the coefficient (-5.92E-06) of value of foreign portfolio investment in equities (VFPI) related negatively to INCG and statistically significant at 5% significance level (P = 0.0040). This implied that in the long-run a unit increase in VFPI led to decrease in INCG by -5.92E-06 % during the study period. The coefficient of INTR (0.008744) related positively to INCG and was wrongly signed but statistically significant at 5% significance level (P = 0.7515). The positive and statistically significant coefficient of interest rate implied that in the long-run a unit increase in INTR increased INCG by 0.87% within the study period. This did not align with the *a priori* expectation of a negative sign. The coefficient of exchange rate (-0.005927) was negative and statistically significant at 5% significance level (P = 0.0000). The negative and statistically significant coefficient of EXCR indicated that in the long-run, a unit increase in EXCR led to decrease in INCG by 0.59% during the study period. This negated the *a priori* expectation of a negative sign. The coefficient of determination (R^2 = 0.954485) implied that 95% variation in the dependent variable (INCG) was accounted for by the independent variables (VFPI, INTR, and EXCR). The adjusted R^2 was 0.947373 and this showed that the model was well fitted and can be relied upon for policy recommendations.

Diagnostic Test Results

The results of the diagnostic tests are presented in Table 5.

Table 5

Diagnostic Test Results for Model 3

Test	F(stat)	Prob.
Serial Correlation Test /Breush-Godfrey LM Test	3.168196	0.0849
Heteroskedasticity Test /Breush-Pagan Godfrey Test	0.795422	0.5610
Specification Error Test /Ramsey Reset Test	0.015058	0.9031

Source: Authors' Computation (2026) using E-views12

The p-value (0.0849) of the serial correlation test presented in Table 20 is greater than the typical significance level of 0.05. The null hypothesis was accepted that there was no serial correlation in the residuals. The p-value (0.5610) of heteroskedasticity test was greater than 0.05 and thus, the null hypothesis was accepted that the variance of the residuals

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was constant. The Ramsey Reset test was used to detect non-linear relationships between the dependent variable and the independent variables. The p-value (0.9031) was found to be greater than the significance level of 0.05, and therefore, the null hypothesis of misspecification was rejected. This showed that the model was not mis specified and the relationships between the variables were adequately captured by the linear specification. The CUSUM stability test is presented in figure 1.

Stability Test Result

The result of the CUSUM stability test is presented in figure 1.

Figure 1: CUSUM Stability Test

Figure 1 presented the CUSUM stability of the impact of the value of foreign portfolio investment in equities on inclusive growth in Nigeria. The CUSUM was within the required region of 5% and this showed that the impact of the value of foreign portfolio investment in equities on inclusive growth in Nigeria was stable under the period of review.

Discussion of Findings

The ARDL short-run results revealed that inclusive growth (INCG) in the past year had a positive and statistically significant impact on INCG in the current year in Nigeria. This implied that the past values of INCG were used to interpret its current values. This was due to the relevance of value of foreign portfolio investment in equities (VFPI) as a component of capital market development. The finding of the study established that in the short-run, value of foreign portfolio investment in equities had a negative and significant impact on INCG in Nigeria. This indicated that increase VFPI led to decrease in INCG in Nigeria during the study period. The finding of a negative impact of VFPI on INCG was in consonance with the study of Dang and Wu (2024) but it contradicted the findings of the study conducted by Abubakar (2024). The finding of the study revealed that in the short-run interest rate (INTR) impacted positively on INCG in Nigeria and it was statistically insignificant. This showed that an increase in INTR led to decrease in INCG during the period of this study. This implied that the effort made by the monetary authority in ensuring that interest rates were regulated and reduced, made funds accessible to investors in the capital market and this had a direct effect of improving inclusive growth in Nigeria during the period of this study. The finding of a positive impact of INTR on INCG agreed with the study carried out by Ishioro and Taruhor (2023) and Dang and Wu (2024). The finding of the study revealed that in the short-run exchange rate (EXCR) impacted positively on INCG in Nigeria but it was statistically significant. This showed that an increase in EXCR led to decrease in INCG during the period of this study. The finding of a negative impact of EXCR on INCG agreed with the study carried out by Nnajieze (2024).

The finding from the estimated ARDL long-run results established that the value of foreign portfolio investment in equities (VFPI) related negatively to INCG and statistically significant. This finding was attributed to the effort made by the monetary authority in collaboration with financial institutions towards developing the capital market and strengthening its capital base. The finding of a positive impact of VFPI on INCG agreed with the study carried out by Abubakar (2024) but it contradicted the finding of the study conducted by Serkan (2023). The finding of the study revealed that in the long-run, interest rate (INTR) had a positive and statistically significant impact on inclusive growth in Nigeria. The policy implication of this finding was that increase in the interest rate charged on loanable funds in the capital market aided decrease in inclusive growth in Nigeria during the study period. Also, the finding of the study showed that in the long-run, exchange rate (EXCR) had a negative and statistically significant impact on inclusive growth in Nigeria. The finding's implication

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was that despite the volatility of the exchange rate in Nigeria, a decrease in exchange rate led to significant increase in inclusive growth. This finding corroborated with the study conducted by Nnajieze (2024).

Conclusion

The paper examined the effect of the value of foreign portfolio investment in equities in Nigeria. Time series data that covered the period from1986-2024 were utilized. Autoregressive Distributed Lag (ARDL) econometric technique of data analysis was employed in the estimation of the specified model. The results of the study indicated that value of foreign portfolio investment in equities had a negative and statistically significant impact on inclusive growth in Nigeria during the period of this study. The study concluded that there was insufficient investment in foreign portfolio equities and hence its negative effect on inclusive growth in Nigeria.

Policy Recommendations

The study recommended that

1. The Nigerian government in order to ensure that the value of foreign portfolio investment in new equities impact positively and statistically significant on inclusive growth in Nigeria instead of the negative impact revealed in the study, Thus, there should be a delibrate effort driven by institutional, regulatory, and market-based actors.
2. The federal government should provide the macroeconomic and policy envinronment, while the CBN ensures monetary and exchange rate stability.
3. Regulatory oversights by the SEC and operational efficiency of the NGX enhance market intergrity and liquidity.
4. Additionaly, listed firms, intermediataries, and foreign investors should be able to mobilze and sustain capital inflows. Therefore, a conducive environment with macroeconomic stability, regulatory clarity, political stability and market liquidity, couple with good governance, open policies and investors' education are essential to roburst business environment that is attrative to foreign portfolio investors.

References

Abubakar, A. K. (2024. Influence of capital market development on economic developing countries. Journal of Accounting and Finance Research, 1, 1-18.

Adediran, O. S., Oduntan, E. A., & Matthew, O. O. (2020). The interaction effect of institutions and trade liberalization on economic growth in Africa. *Journal of Political Economy, 3*(4), 1-11.

Adeniyi, O. (2018). Regulatory and institutional challenges of the Nigerian capital market. *Nigerian Journal of Securities and Financial Law*, *7*(1), 45-46.

Akinkuotu, P. O. (2005). *The role of the capital market in the implementation of the economic reforms.* Paper presented at the National Workshop on "Development of the Nigerian Financial Markets" at Sheraton Hotel and Towers, Abuja, Nigeria.

Ayinde, O. T., & Yinusa, G. O. (2018). Financial development and inclusive growth in Nigeria: A threshold analysis. *ACTA Universittatis Danubius, 12*(4), 327-347.

Catholic Agency for Oversees development (CAFOD, 2014). *What is inclusive growth?* London: CAFOD.

Central Bank of Nigeria (2020). *Statistical Bulletin*. Published by Research Department, Central Bank of Nigeria, Abuja.

Central Bank of Nigeria (2024). *Statistical Bulletin*. Published by Research Department, Central Bank of Nigeria, Abuja.

Charles, M. J., & Eric, R. S. (2014). *Examining the Main Street benefits of modern financial markets.* Paper presented to the US Chamber of Commerce.

Dang, Q. D., Wu, W., & Korkos, I. (2024). Stock market and inequality distribution-evidence from BRICS and G7 countries. *International Review of Economics and Finance, 92*, 1172-1190.

Dickey, A. D., & Fuller, W. A. (1987). Likelihood ratio statistics for Autoregressive time series with unit root. *Econometrica, 49*(4).

Dudley, W. C., & Hubbard, R. G. (2004). *How capital markets enhance economic performance and facilitate job creation* (2-27). Being a paper presentation at Global Market Institute. Goldman Sachs, Columbia.

Duisenberg, W. F. (1999). *The role of capital markets and financing in the euro area.* Being a paper presented at the Waarborgfonds Sociale Woningbouw in Utrecht, the Netherlands, on 14 June 1999.

Errunza, V. (2001). Foreign portfolio equity investments, financial liberalization, and economic Development. *Review of International Economics*, *9*(4), 703-726 6462.

Goldstein, I., & Razin, A. (2006). An information-based trade-off between foreign direct investment and foreign portfolio investment. *Journal of International Economics*, 7(1), 271-295.

Gurley, J. & Shaw, E. (1960). *Money in the theory of finance.* Brookings Institution.

International Finance Corporation (2021). *Annual Report.*

Zamfara International Journal of Education (ZIJE)
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DOI: https://doi.org/10.64348/zije.2026412

Ishioro, B. O. & Taruhor, E. M. (2023). Impact of capital market performance on economic growth. *Finance and Accounting Research Journal*, *4*(3), 324-337.

National Bureau of Statistics (2018). *Unemployment/underemployment watch Q3.* NBS, Abuja.

National Bureau of Statistics (2024). Annual report year book.

Nnajieze, I. E. (2004). Impact of foreign portfolio investment on poverty reduction in Nigeria. *European American Journal, 4*(16), 35-56.

Nwankwo, G. O (1991). *The Nigerian financial system;* London and Basing Stock: Macmillan Publishers Ltd.

Nwokwo, P. I., & Okoye, C. C. (2013). Financial development and economic growth in Nigeria: an empirical analysis. Journal of Economics and Sustainable Development, 4(19), 1-10.

Organisation for Economic Co-operation and Development (OECD) (2012). *Annual report on the OECD guidelines for multinational Enterprises 2012.* OECD publications.

Ozegbe, R. O., Adedokun, F. A., Osinowo, A. D., &Oladele, C. T. (2023). Does stock market growth translate to broader economic development? Annual time series data insights from Nigeria. *Journal of Financial Studies and Research, 74*(6), 200-231.

Pesaran, H., Shin, Y., & Smith, R. (1999). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, *16*(3), 1924-1996.

Phillips, P. C. B., & Perron, P. (1988). Testing for unit root in time series. *Biometrika*, *75*(2), 335-346.

Qian, X. & Steiner, A. (2013). International Reserves and the Composition of Foreign Equity Investment. *Review of International Economics*, *4*(2), 65-79.

Romer, P. M. (1990). Endogenous technological change. *Journal of Political Economy, 98*(5), 71-102.

Schumpeter, J. A. (1911). The Theory of Economic Development: An inquiry into Profits, Capital, Credit, Interest and Business Cycle. Harvard University Press

Security and Exchange Commission (1999). Annual Report.

Sekaran, U., & Bougie, R. (2013). *Research methods for business*. United Kingdom: John Wiley

Serkan, O. U. (2023). *Stock market in development capital accumulation and growth*. Trindad: University of West Indies.

United Nations Conference on Trade and Development (2022). Trade and Development Report 2021: from recovery of resilience: the development dimension United Nations.

Wang, P. (2009). Foreign direct investment and international portfolio investment. *The Economics of Foreign Exchange and Global Finance*. Springer e695 e695.

World Bank Group (2009). *Annual Report: Year review.* Washington DC, USA: The World Bank group.

World Bank Group (2020). *Capital markets development: A primer* for *Policymakers*. Washington D.C. USA.

World Bank Group (2023). World Bank annual report 2023: a new era in development. World Bank Group publications.

Yahaya, O.A. (2014). Enhancing financial legislatives in Nigeria: implication for economic growth. *International Journal of Research in Commerce and Management, 5*(6), 12-19.

Yaroe, B. D. (2011). *Understanding capital market operation and indexes*. Paper presentation at workshop organized by the NSE, Lagos, Nigeria.

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Assessment of Discursive Maxims and Ideological Constructions on Police Assaults of Journalists among Editorials in Nigerian Newspapers

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Abstract

Police assault on journalist has become a regular occurrence in discourse study. Several studies have focused on editorials from numerous topical issues with only few ones having deeper explanation of police recklessness. This paper has therefore, investigated the discursive maxims and ideological constructions of some Nigerian newspaper editorials about police assaults with a view to use discursive maxims and their functions as well as analyzing the ideological constructs behind them. Aspects of Grice's cooperative principle (1975) and Van Dijk (2014) socio-cognitive model of the critical discourse analysis served as framework for this study. Data were obtained from Nigerian newspaper editorials. This paper found out that maxims of Grice's cooperative principles were deployed in editorials to firmly engage the readers. Maxims of Quality displayed truthfulness of the massage, maxims of Quality presented the use of illustration and labelling to foreground implicature. Textual coherence is revealing in maxims of relation while maxims of manner ensure clarity. The use of Gricean maxims underscored enduring resilience of the press in the face of socio-political landscape state violence and media suppression. It requires more attention from medial organizations to invest more in building institutional resilience as a way of ensuring press freedom

Keywords: Discursive Maxims, Ideological Constructions, Journalists, Editorials, Newspapers

Introduction

The media in democracies is regarded as a pillar of government support, or the "Fourth Estate." It is primarily responsible for keeping power in check, defending civil liberties, and holding people accountable. In Nigeria, however, the journalism culture is increasingly under threat by institutionalised violence, especially by state security agents. Of all these, the Nigerian Police Force (NPF) has been consistently accused of physical harassment of journalists, illegal detention, intimidation, and harassment (Media Rights Agenda [MRA], 2023; Premium Times, 2022). Such attacks not only signify violations of human rights but also a violation of the pillars of democracy, more specifically, freedom of the press. The consequences of such crimes extend far past bodily harm; each contributes to the public culture's discursive discussion, affects what society understands by justice and legitimacy, and undermines the ideological identifications of media institutions. Theoretical framing of CDA provides a handy paradigm to dismantle these ideological levels. CDA, as developed by scholars such as Fairclough (1995), Wodak (2001), and van Dijk (2006), emphasises that discourse is a social practice expressing and building power relations. Media texts in CDA are not conceived as simple bearers of information but as instruments of ideology and hegemony. Applying CDA to Nigerian newspaper editorials on police brutality allows the study to unpack the indirect, strategic, and often ambivalent way that newspapers position themselves ideologically on the issue of state violence. Police brutality in Nigeria manifests in a various ways as shocking and also violates their fundamental human rights. Police are seen as the leading individuals who have been responsible for the violence against media personnel. The police, on many occasions, have inflicted injuries on the journalists, destroyed their properties and even killed them.

Police brutality against journalist in Nigeria is a widespread and long-standing issue, rooted in historical patterns of state harassment and systemic police misconduct. This is frequently seen through unlawful detention, physical assault, death threats and extra-judicial killings. Such harassment by the journalists was evident during the colonial era and is still evident in the current democratic dispensation. The police are identified with culture of impunity in their operation especially during protests like ENDSARS and special investigation as journalists and political things dwell heavily on the journalists who often suffer for no just cause. Police assaults on journalists are common occurrences and security personnel are the leading culprits. Police brutality come in forms of beating with gun butts, teargassing, unlawful arrest and detention confiscation of equipment (Phones, cameras, psychological intimidation, and extrajudicial killings.

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The centre for Journalism, Innovation and Development (CJID) strongly condemns the numerous incidents of attacks on journalists by security officials, particularly members of the Nigerian Police Force, during #ENDBADGOVERNANCE protests across the country. These attacks have been substantiated by multiple video and pictorial evidence that our press attack tracker has now documented. In video clip race CJID, police officers were seen physically assaulting, intimidating and violating the rights of journalists in different parts of Nigeria. On Wednesday, July 31, 2024, News Central Television reporter Bernard Akede was interrupted and harassed by police officers while reporting live at the Lekki Toll Gate area of Lagos State, disrupting the television station's live broadcast. In Abuja, Premium Times reporter Yakubu Mohammed was assaulted by police officers despite wearing a press jacket and identifying himself as a journalist. Yakubu was struck with the butt of a gun, resulting in a head injury, and his camera was damaged. A journalist with Daily Independent Newspaper, Jide Oyekunle, (who is also the Chairman of the Nigerian Union of Journalists, (NUJ, FCT chapter), was roughly handled by a policeman in Abuja. According to him, the Commissioner of Police ordered that his phone to be confiscated for covering the protest. Also in Abuja, Kayode Jaiyeola, a photojournalist with Punch Newspaper, was arrested by a police officer attached to the National Security Adviser, Nuhu Ribadu. Jaiyeola was handed over to members of the FCT Police Command who detained him. News Central Television journalist Mary Adeoye was tear-gassed by police officers while covering the protest in Abuja. Jonathan Usbal, the Managing Editor of Cross River Watch Newspaper, was assaulted and arrested at the Mary Slessor roundabout area of Calabar. He was taken to an undisclosed location where he was detained for several hours. The study contributes to media discourse on institutional power and democratic accountability in Nigeria. Methodological novelty will also be provided by integrating pragmatic and critical approaches to discourse in a context that remains under-researched but socially topical.

Statement of the Problem

From the perspectives of several scholars, a number of studies have been carried out on newspaper editorials. Talabi, Nwokolo & Celestine (2021) in "modelling safety challenges journalists faced in reporting anti-police brutality protest (ENDSAR protest) in Nigeria "present a catastrophic encounter of the journalist in the hands of the police. The study extends literature in this direction by providing model that explains the safety challenges that journalists faced in reporting the 2020 ENDSARS protest in Nigeria. The study is a survey of 470 journalists with questionnaire as the instrument of data collection.

Aim and Objectives of the Study

The aim of this study is to critically investigate how discursive maxims and ideological constructions are employed in some Nigerian newspapers' editorials about police violence against journalists. The study seeks to investigate the pragmatic and ideological resources used in editorial discourse for constructing public opinion of press freedom, institutional accountability, and state brutality. Specific objectives are to:

1. Identify and analyse the discursive maxims embedded in Nigerian newspaper editorials about police brutality against journalists.
2. Explain the contextual issues shaping the pragmatics and ideological constructions in the editorial discourse of selected Nigerian newspapers about police brutality against journalists.
3. Examine the relevance of discursive strategies of Van Dijk's socio-cognitive models in selected Nigerian Newspapers editorial.

Research Questions

The research questions raised to pilot the inquiry are:

1. In what ways are discursive maxims embedded in Nigerian newspaper editorials concerning police violence against journalists?
2. What are the contextual issues shaping the pragmatics and ideological constructions in the editorial discourse of selected Nigerian newspapers about police brutality against journalists?
3. What are the relevance of discursive strategies of Van Dijk's socio-cognitive models in selected Nigerian newspapers editorial?

These questions are posed to analyse both the micro-linguistic aspects of editorial discourse (via discursive maxims) and the macro-sociopolitical functions of language (via ideological constructs) in line with contemporary trends in Critical Discourse Analysis and Pragmatics.

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Significance of the Study

The research is significant on various levels - academic, professional, institutional, and societal - since it is exploring a crucial relationship between language, ideology, and freedom of the press in contemporary Nigeria. Firstly, the study has the potential to add to the existing body of research in discourse studies, pragmatics, and media linguistics by showing how Grice's Cooperative Principle may be fruitfully used within the CDA framework to question ideological constructions in editorial discourse. This synthesis bridges the gap between ideological macro-analysis and pragmatic micro-analysis, offering a combined approach to media text analysis in contexts of political conflict and institutional violence. Secondly, such theoretical importance as mentioned above has the capacity to bear a novel methodological paradigm on the research of editorial discourse through incorporating discursive maxims and CDA instrumentation (i.e., transitivity, modality, presupposition, and representation of social actors). This blended analysis model can be applied or imagined in other discourse studies, particularly media discourse studies in postcolonial or authoritarian contexts. Among media practitioners' vocabularies of editors, journalists, and editors, this study offers new evidence regarding how editorial communication can reproduce or challenge ideological positions unknowingly (or knowingly). It raises awareness about the effects of editorial use of language in constructing public attitudes and institutional accountability, and hence helps media practitioners critically reflect on their language ethics, editorial policy, and institutional slant. By revealing how ideological frames are constructed around police assaults on the media, the study contributes to the broader advancement of press freedom, human rights, and democratic accountability in Nigeria. The findings can be beneficial to civil society actors, human rights organizations, and policymakers in drawing attention to subtle types of media complicity or opposition to state repression. Finally, with Nigeria's troubled socio-political climate, characterized by state violence, media repression, and ideological fragmentation, the study comes at a suitable time and is relevant. It addresses immediate concerns about the security of journalists and public debate integrity in a crisis-ridden democratic polity. This explains its timeliness.

Theoretical Background

Grice's Cooperative Principle and its four maxims of quality, quantity, relation, and manner have found widespread application in media text analysis (Thomas, 1995; Mey, 2001). Other research shows how flouting or violating the maxims serve a rhetorical and an ideological function, such as euphemism, concealment, and persuasion (Kumar, 2016; Adebayo, 2018). For example, Akinyemi (2019) analyzes how Nigerian dailies strategically breach the maxim of quality in political news reporting to subtly endorse or discredit political leaders. Similarly, Eze (2020) analyzes how vagueness (breach of manner) in editorials enables newspapers to navigate sensitive issues without direct confrontation. Empirical analyses of Grice's maxims in the language of the media have grown over the past two decades. For instance, Adegbija (2011) analyzed Nigerian political editorials and determined that violative application of the maxim of quality was a common method for presenting irony and decrying corruption in politics without overt accusations. His analysis showed how pragmatic infelicities have a tendency to seek out ideological ends, but it did not make direct connections between these strategies and police brutality or journalism. Similarly, Olajide (2015) examined the coverage of the Boko Haram insurgency in Nigerian newspapers and uncovered widespread violations of the maxim of relation, by means of which irrelevant or inaccurate information was utilized in order to conceal the shortcomings of the state. This technique had ideological advantages, inasmuch as it presented acts of the government in a favorable context. While the foregoing research illustrates the relevance of pragmatic analysis, it does not explore how discursive maxims are used in editorials on police assaults on journalists—a more politically sensitive and less-explored area. Flouting occurs when a speaker fails in observing the maxim but expecting a hearer to recognize the implied meaning cutting (2002) Grice (1975) refers to it as "the process in which a conversational implicature is generated by exploiting the maxim" flouting maxims openly conveys extra meaning through sarcasm or irony. It is about language user of choosing not to observe one or more maxims with the deliberate intension of creating an implicature. Flouting occurs in terms of Quantity, Quality, Manner, and Relevance. At these levels, the individual deliberately ceases to apply the maxims to persuade their listeners to infer the hidden meaning behind the utterances (Conversational implicature). That is: The flaunted traffic in unless and overtook at the bend. Violating happens in order to deceive a hearer with letting the hearer only know the surface meaning of an utterance. Grice refers to this as involving "lying undermining the integrity of communication". This is about using unclear expression to convey message which affects presentation through the use of irrelevancies, thereby violating maxim of relevance. Grice refers to this as when a speaker intentionally provides false or misleading information, undermining the expectation of honesty in conversation.

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Violation of the maxims are the specific rules that the interlocutors need to follow if they want the conversation to go on successfully. Grice (1989) refers to violation as the "unpretentious or quiet non-observance of a maxim". Violation is about deceptiveness and uncooperativeness and it affects the truthfulness of the text which indicates that the literal meaning is not the intended meaning - it is about lying or having an intent to deceive. This study uses the socio-cognitive model of CDA proposed by Van Dijk (2006). Van Dijk (2006) draws attention to the cognitive interface between social frameworks and discourse structures, delving deeper into the ways in which discourse strategies fuel polarization between "in-group and out-group" representations and exposing ideological disparities in how issues are portrayed and those involved (Osisanwo, 2024). Van Dijk's socio-cognitive theory examines how language either upholds or challenges social dominance, power, and inequality. Social structures (like media and institutions) and cognitive structures (like knowledge and mental models) are among the topics of focus. Furthermore, according to the theory, language's function includes three interrelated dimensions: Discourse, cognition, and society all demonstrate this interdependence. The content of written or spoken communication, including vocabulary, organization, rhetorical devices, and other components, is referred to as discourse. The mental images that people use to understand, interpret, and cognitively process discourse—including beliefs, knowledge, attitudes, and ideologies—are referred to as cognition. Van Dijk emphasizes the importance of "mental models" or "context models." The last component is society (social structures and power), which focuses on ideas, group membership, power relations, and social institutions. It also examines how language either supports or contradicts societal injustices, such as racism, misogyny, and similar problems. CDA is a cutting-edge, interdisciplinary approach that tackles many important social concerns and seeks to clarify the hazy connection between social structures and discourse practices.

Research Methodology

The study uses a qualitatively interpretative research design reminiscent of a CDA strategy. Given that the study is concerned with how editorial discourse encodes, supports, or troubles ideologies, qualitative approaches are most apt to determine the concealed and implicit dimensions of meaning-making in language. CDA is complemented by pragmatic analysis (Gricean maxims) and framing analysis in a bid to carry out multi-theoretical examination of the rhetorical and ideological structures of editorials. The study adopts a descriptive survey method with a special focus on editorial texts as institutional discourse. The editorials are examined as purposive communicative acts that manifest ideological stance and discursive strategies regarding police violence against journalists. This is founded on Fairclough's (1995) three-dimensional model of CDA: As earlier mentioned, the study is purposively selective in its coverage. The purposive data sampling is informed by the fact that, unlike headlines and other news items, editorials are specialized kinds of official presentations that require tact, and are, therefore, not so common. This thus, has led to indiscriminately picking from within the period of (2020–2024). This is chosen for the reason that, firstly, there was an intensified level of police brutality against journalists, both during and after the #EndSARS protests (2020), through the subsequent election periods, and into the beginning of the Tinubu administration - a period marked by heightened state-media relations. Consequently, about 8 data-extracts were used to address issues of Police brutality, Assaults or harassment of journalists, Press freedom and state repression. Purposive sampling technique was employed in selecting the editorials that explicitly discuss police brutality against journalists. On the basis of National coverage and readership, Institutional longevity and editorial consistency, Ownership and ideological pluralism. Four national newspapers were selected from the population. They include The Punch, The Guardian, Vanguard and Daily Trust. Ten, 8 editorials (two from each paper) were purposively selected based on the criteria that they Appeared in the 2020–2025 timeline, Report specific instances of police brutality against journalists, reflect institutional opinion rather than individual opinion columns. Data were collected by archival retrieval of online and print copies of the selected newspapers. The editorials were collected from Newspaper official websites, Media monitoring websites (e.g., Media Rights Agenda, Press Reader) and University digital libraries and national press archive websites. Each editorial was downloaded, transcribed and organized for systematic analysis.

Presentation of Result

Identifying the discursive maxims

Discursive Maxims of Quality observed in selected Nigerian Newspaper Editorials about Police Brutality

Extract 1: The dust has yet to settle on the outrage sparked by the illegal arrest, detention and torture of a newspaper editor, Segun Olatunji, over a report published in the first News online newspaper. The military only let go Olatunji after frontline media and civil society interest groups started asking questions.
Vanguard 18 April, 2024

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Extract 2: The arbitrary arrest and detention of journalists, which have recently proliferated in Nigeria, indicate a regression into authoritarianism and must not be permitted to continue in a nation that purports to uphold democratic governance.
The Guardian, July 2, 2024

1. Discursive Maxims of Quantity in selected Nigerian Newspaper Editorials about Police Brutality

The Maxim of Quantity is observed through the provision of precise, digestible facts that help the reader make sense of a fast-moving, violent situation. Instead of vague descriptors, the report supplies exact numbers: **"**At least 50 journalists were arrested," "nearly 700 protesters… arrested across the country," and "nine officers have been injured." Such quantification avoids ambiguity and prevents interpretive inflation. Similarly, references to "videos reviewed by the Associated Press" and "six journalists… who spoke to the AP on the record" give the reader sufficient evidence without overwhelming the narrative. The specificity of locations such as "the Nigerian national stadium," "the capital city, Abuja" also ensures that the report is grounded in verifiable detail, avoiding the looseness that could invite misinterpretation. This disciplined presentation contrasts with editorials where maximalist or vague generalizations are used for ideological framing.

2. Contextual issues Shaping the pragmatics and ideological Constructions in the Editorial Discourse of Selected Nigerian Newspapers about Police Brutality

Variation in problem definition across the papers reveals profound ideological fault lines within the Nigerian media. On one pole, The Punch is a radical oppositional voice, committed to exposing state failure and demanding democratic accountability. On the opposite pole, Daily Trust is a system-maintaining conservative voice, moderating criticism with appeals to order and security. The Guardian and Vanguard are compromise voices, varying in levels of institutional moderation.

"The Media Rights Agenda (MRA) has accused Nigerian security and law enforcement agencies of turning against the very people they are mandated to protect, journalists, in what it described as a disturbing trend of state-sponsored repression."

Daily Trust, 2025

ON November 3, coinciding with the International Day to End Impunity for Crimes Against Journalists, the Media Rights Agenda, a media-centric NGO, released a damning 129-page report titled "When Protectors Become Predatory: The State Against Freedom of Expression in Nigeria."

The Punch, 2025

Ideological Functions of Flouting

Flouting Gricean maxims in editorials is not typically inadvertent. Rather, it performs ideological work It allows newspapers to express meaning indirectly, especially when open confrontation can tempt state censorship or retaliative action, It allows for plausible deniability, under which newspapers can claim neutrality while operating in secret conformity with or defiance of power bases and It allows ideological hedging, which allows media institutions to reconcile press freedom with survival by the editorials in a politicized world.

3. Relevance of Discursive Strategies of van Dijk's Socio-Cognitive Models in Selected Nigerian Newspapers Editorial

Critical Discourse Analysis and the linguistic indices as Ideological Strategies

The analysis here is set to make a close linguistic and ideological examination of the editorial texts by using the instruments of CDA. The aim is to discover how lexical and syntactic choices (often hidden or even implicit) operate ideologically to represent or challenge inherent power relationships. Taken primarily from the writings of Fairclough (1995), van Dijk (2006), and Wodak (2001), the following analysis explains how language in the editorials codes meaning, attributes agency, and legitimates or resists state violence. Notable recent cases underscore the brutality: In March 2024, Segun Olatunji, then editor of FirstNews, was abducted by armed military personnel from his Lagos home, blindfolded, handcuffed, flown to Abuja and chained in an underground military detention cell before being dumped under a bridge two weeks later without charges. He subsequently resigned.

The Punch, 2025

"He hit me with a gun butt," Premium Times newspaper reporter Yakubu Mohammed told the Committee to Protect Journalists, recalling how he was struck by a police officer while reporting on cost-of-living

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protests in Nigeria's capital of Abuja on August 1. Two other officers beat him, seized his phone, and threw him in a police van despite his wearing a "Press" vest and showing them his press identification card.

Daily Trust, 2024

Ideological Implications

The foregoing-mentioned linguistic choices are no stylistic coincidence but are the way in which each newspaper negotiates its ideological balancing act between state and public:

(i) The Punch constructs an ideological battleground between media and authoritarian rule, presenting itself as a defender of openness and civil liberties.

(ii) The Guardian is a centre-left liberal ideology, negotiating the institutional imperative with critique.

(iii) Vanguard assumes an ideologically neutral stance, employing depoliticized language and syntactic avoidance to fend off state aggression.

(iv) Daily Trust assumes a conservative institutional ideology, advocating order and state legitimacy over media victimhood.

Concluding Remark

Four top Nigerian dailies were used in response to police attacks on journalists within a three-part analysis framework covering Framing Analysis, CDA, and Gricean Pragmatics. The findings show dazzling diversity in the manner newspapers frame, interpret, and respond to press oppression news, along ideological precepts, institutional agendas, and overall socio-political forces. Employing thematic framing, the research discovered distinguishable structure in terms of how each news agent within these frames presented the issue, assigned blame to an individual or entity, conveyed moral judgment and suggested remedies. CDA also pointed how lexical and syntactic choices embed ideological bias supporting or undercutting state discourses. Lastly, pragmatic analysis showed how the dailies intentionally observed or flouted Grice's maxims as they navigated through politically sensitive issues. Thus, on the whole, this analysis shows that editorial discourse in Nigeria gives not opinions and views only, but it is a vivid battle of ideologies where language plays a central role as a tool that represents state power, public accountability and institutional legitimacy.

Summary

The current research was aimed at examining the editorial framing of police brutality that journalists suffer in Nigeria through Framing Theory, CDA, and Gricean Pragmatics. By the adoption of a thematic, discursive and pragmatic stand points, the study examines the editorials on four major Nigerian dailies: The Punch, The Guardian, Vanguard, and Daily Trust - to identify how these media frame, negotiate and position themselves ideologically on issues related to police brutality against the media. The results that were presented in Chapter four are examined in this chapter. The discussion is organised as follows:

Discussion of Findings

Research Question 1

In what ways are discursive maxims embedded in Nigerian Newspaper editorials concerning police violence against journalist?

The use of discursive maxims illustrates that language in Nigerian editorials is not merely a stylistic tool but a deliberate mechanism for negotiating authority, legitimacy, and resistance. By carefully structuring information, emphasizing collective institutional responsibility, and occasionally broadening the narrative to international contexts, the newspapers reinforce the resilience of the press as a watchdog of democracy. These linguistic strategies ensure that the press can perform its oversight function in a volatile landscape characterized by state violence, political repression, and legal instruments, such as the Cybercrime Act, employed to curb journalistic autonomy.

Indeed, The Punch celebrates this position as a professional obligation to 'name and shame' to guarantee an open society and responsibility of every government. The less combative styles adopted by The Guardian, Vanguard and Daily Trust are more of a compromising act as it helps in dealing with issues that arise in the course of operation within the media space that are constrained due to political intimidation, or threats of repression or the complexities that come with national security system.

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Research Question 2

What are the contextual issues shaping the pragmatics and ideological constructions in the editorial discourse of selected Nigerian Newspapers about police brutality?

The pragmatic use of strategies that flout Gricean maxims express the subtle balance struck by daily papers between truth and profitability. These editorial tactics that are both revealing and concealing, criticizing and obliging at the same time, which makes media's role as "Fourth Estate" more complex. This study highlights the need for a well-branded press that will be immune to any kind of harassment and also keep its professional dignity so as to create a democratic culture in which state abuses will be constantly and publicly pointed out. They are indicative of the underlying forces, such as ownership trends, political loyalty, citizens' aspirations and the deeper social media context of the Nigerian media culture. All these combined powers decide how state repression and freedom of the press are publicized to be fought for and debated among the masses. It is apparent that the findings have demonstrated that Nigerian newspaper editorials function as sophisticated vehicles for ideological contestation. Through strategic manipulation of linguistic and discursive norms, they navigate institutional constraints, reflect regional ideological orientations, and assert the press's role in defending democratic governance. The editorials' careful negotiation of clarity, ambiguity, and agency not only illuminates systemic patterns of repression but also exemplifies the enduring capacity of Nigerian journalism to resist, critique, and maintain accountability in a complex and often hostile political environment.

Research Question 3

What are the relevance of discursive strategies Van Dijk's Socio-Cognitive models in Selected Nigerian Newspapers editorials?

Findings show that Nigerian dailies are not homogeneous conversational agents but rather splintered and sometimes conflicting discourses of voices on police brutality against journalists. Editorial discourse is a site of crucial interest where ideology, power and pragmatics meet/come together and intersect to voice of the people and political accountability system. The results of the content analysis tell us that there is a wide range of editorial positions. Punch has a very vivid, structural conceptualization of police abuse as an institutional issue that loudly denounces police impunity and asks for reform. The Guardian keeps with a moderate professionalist stance on the sides, stressing professional failings in the police and not turning to blanket condemnations. Vanguard and Daily Trust sometimes will report incidents, attributing them to single officers or journalists, using evasive terms, euphemisms or passive construction so as to water down criticism.

In more precise term, the analysis of the selected Nigerian newspaper editorials has revealed that these texts operate as subtle instruments of ideological negotiation, carefully balancing critique and caution to navigate the polarized socio-political environment of the country. Across the editorials, spanning publications such as *Daily Trust*, *The Guardian*, *The Punch*, and *Vanguard*, the manipulation of Gricean maxims, through strategies like withholding details, vague phrasing, hedging, topic diversion, and obscured agency, emerges as a consistent linguistic pattern. These strategies allow the press to highlight institutional failures, expose state violence, and call for accountability, while simultaneously mitigating direct confrontation with powerful actors. For example, references to actions being carried out "on orders from above" or incidents occurring "allegedly" serve to signal critique without explicitly naming individuals, thereby preserving the newspaper's credibility and safeguarding its operational space in a context marked by threats to press freedom. The editorials also reflect regional ideological sensibilities, with northern and southern media outlets showing distinct rhetorical tendencies. Northern publications, such as *Daily Trust*, often employ hedging and cautious phrasing, signaling respect for hierarchical authority while still critiquing state actors. Southern newspapers, including *The Punch* and *Vanguard*, demonstrate a more assertive stance, foregrounding systemic patterns of media repression, yet continue to strategically diffuse responsibility to avoid overtly antagonizing specific institutions or individuals. This regional variation underscores how editorials mediate between local socio-political norms and the broader imperatives of press advocacy.

Conclusion

The study conducted language construction of ideologies in selected Newspaper editorials targeting the issue of police brutality. Through a careful investigation of the textual elements and linguistic strategies employed in these selected Editorials, this research has brought to light on how the issue of police assault is displayed and discussed in the Nigerian media terrain. The research effort has revealed the underlying beliefs, values and manifestation of the discourse on police brutality in Nigeria. These features not only offered the presentation of information but also shape readers' view and understanding of police brutality facing the journalists in Nigeria.

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The relevance of this exploration goes beyond mere descriptive or textual analysis. By discussing how language is used explain police brutality, this study contributes to our understanding of the role of media in shaping public issue in our nation, especially in police brutality. It offers issues of power, language in framing issues and its revealing influence on readers. Also, this research provides framework for further studies on media discourse analysis particularly in the context of sensitive and pressing issues. It offers a call for using language construction of ideologies, using discursive maxims to understand how language is used to construct and disseminate editorials about social and political challenges.

Recommendations

Drawing from the findings and conclusions of this study, it is possible to formulate strategic recommendations aimed at improving Nigerian journalism as an instrument of police brutality / reporters' protection / ensuring democratic accountability. These suggestions are connected with the problems of legal reform, editorial judgment, raising journalists' and media's capabilities, civil activism and further researches. Based on the findings of this study, several recommendations emerge to strengthen the role of the Nigerian press as a credible watchdog and to safeguard journalistic freedoms in the country.

1. There is a pressing need for both federal and state governments to institutionalize mechanisms that ensure accountability for attacks, harassment, and intimidation of journalists.
2. Security agencies, including the police, military, and intelligence services, should be trained and regularly reoriented to respect the laws governing press freedom and the constitutional rights of citizens. Clear protocols must be established to prevent abuses, including arbitrary arrests, detentions, and physical assaults, while ensuring that complaints against journalists are addressed through lawful channels rather than extrajudicial measures.
3. There must be a boost in the media autonomy and there should be proper protection for journalists. All-encompassing changes and legal reforms are to be put into place so as to safeguard media practitioners and media institutions from the increasing threats of intimidation, arbitrary detention, and brute force perpetrated by state security organs. The already existing press law needs to firstly be enforced more faithfully and secondly further developed, modified in a way to suit new challenges that arose in journalism.
4. media organizations themselves should invest in building institutional resilience through comprehensive safety policies, legal support, and advocacy networks that protect journalists on the frontlines. Editorial boards should continue to leverage the strategic use of language, as demonstrated in the study, to expose systemic failures and institutional shortcomings without compromising reporters' safety, while also promoting standards of clarity, objectivity, and ethical reporting. Professional training that emphasizes legal literacy, digital security, and ethical risk management can further equip journalists to operate safely in high-risk environments.
5. Journalist unions, media watchdogs as well as independent self-regulatory bodies need to play the leading role in supporting such reforms; they need to appeal to state authorities asking them to provide justice and ensure protection of those who have been victimized within profession of journalism. In this connection it is also necessary to ensure provision of assistance both in terms of granting legal aid and facilitating financial support.
6. There is a critical need for legal reforms to strengthen protections for journalists, particularly in the context of repressive laws such as the Cybercrime Act, which have been used to curtail press freedom. Lawmakers should engage in consultative reviews of such legislation to ensure that it aligns with constitutional guarantees and international human rights standards. By embedding structural safeguards, fostering professional solidarity, and promoting a culture of ethical, transparent reporting, the Nigerian media can continue to navigate ideological polarization and institutional constraints while asserting its indispensable role in democracy.
7. irrespective of whether or not there is legal protection, it is very clear that Nigerian media organizations need to work on their editing for it will help in the end. It was found out that the media had a raw deal by portraying different types of censors using different styles against the police. Newspapers would not find it harder to resist state pressure in case they joined hands more as a group with clearer editorial voice when criticizing police brutality and upholding freedom of the press. It is not an issue of engaging same voices side-by-side in arguments or opinions; however, unity in demonstrating democratic and journalistic values is crucial.
8. Besides, collaboration among the media - for example joint editorials, solidarity campaigns, and collaborative investigative reporting - has greater potential to intensify public disapproval without multiplying jeopardy for any one media outlet from government reprisals. Such collaborative efforts among civil society, press associations, and

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international media freedom bodies should be intensified to monitor, document, and publicly challenge violations against the press. Platforms like the Nigerian Union of Journalists, the Nigerian Guild of Editors, and organizations such as the Media Rights Agenda can play proactive roles in lobbying for legislative reforms, protecting whistleblowers, and amplifying cases of repression. The study suggests that leveraging regional and global attention to media suppression can exert moral and political pressure on state actors, discouraging impunity and reinforcing democratic accountability.

9. It is also important to delve even deeper in the media education and ethically guided journalism practices. Journalists are not only expected to have skills that cut across different fields, but they must get a more profound awareness of the critical framing concepts, legal right and ethical consideration in reporting controversial issues which include state violence. Professional development should be continuous so that journalists can effectively negotiate the complex interplay between truth-telling and political danger. There also has to be focus on practical awareness - to let journalists identify and counteract infiltration of silent ideological shaping of language, as well as equipping them with skills to make deliberate choices in the use of language which are sensitive enough to balance clarity, critique, and safety.
10. But prominently, the importance of the public role in safeguarding media freedom cannot be overstated. The ability to read the media and civic responsibility should be integrated through awareness' – raising campaign s education at school and by public discussion. Media watchdog groups, civil society organizations , and institutions of learning should join to heighten the public consciousness on the essence of a free press in a democratic state, and on the perils of unbridled police impunity. Educated and engaged citizenry are not mere recipients of services but active partners who makes politicians responsible and puts an end to oppression while building a democratic political culture.

These recommendations collectively underscore that sustaining media freedom requires a multifaceted approach, combining legal reform, professional development, institutional vigilance, and strategic advocacy to protect journalists and uphold the integrity of public discourse in Nigeria.

Suggestions for further studies

At the end, it cannot be missed that a recommendation is made for further research on how to use this knowledge. Future studies may widen the scope and consider other media outlets like broadcast and web-based news sources to observe whether framing strategies and ideological positions are shared. A further investigation on how audiences perceive these editorial constructs would provide invaluable insights on the role media discourse can play in manipulating public opinion, civic engagement, and democratic responsibility. This type of study will throw more light on a bigger picture of medias involvement in constructing political discourse and transformation in Nigerian society. By and large, their use would represent a significant step towards the improved Nigerian media as a powerful defender of democracy. Legal safeguards being consolidated, editorial support, professional journalism and public enlightenments by media give more force for the effective opposition to authoritarian trends and achieving the goal of forming such society in which justice, transparency and freedom of expression are no longer ideals but rather norms. Suggestions for Further Studies (Policy Brief Style). This research seeks to contribute new knowledge and guide further interventions so this research makes suggestions of the areas to be researched that will also help in the development of a knowledge base on media discourses, press freedom, and state violence in Nigeria

1. Extending to Other Media Platforms

While this study solely dealt with print editorials, forthcoming studies must consider broadcast (TV and radio) as well as Internet (web news sites, blogs, social media) media. These mediums will be read/viewed by more numerous, more diverse populations and their editorial or narrative format may differ significantly because of the format limitations, regulatory considerations or audience affinity.

2. The Study of Audience Reception and Effect

This type of research would then help to determine the nature in which divergence social groupings would think and react to the media coverage on the police brutality against journalists. This can be done through surveys, focus groups, or ethnographic approaches with a view to ascertaining whether editorial positions impact on public view, civic engagement or trust in media institutions.

3. Investigating Journalistic Conduct and Self-Censorship

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By empirical studies, it is possible to know how professional journalists working for themselves deal with the dangers of state repression, self-censorship being on the top list, and the role played by editorial gatekeeping as well as informal newsroom norms. These will show you the ceilings on what is published and how it is being done inside.

4. Blazing New Trails in Comparative Cross-National Studies

Contrasting the Nigerian case with any other sub-Saharan nation or any nation with such democratic and press freedom problems may be very pertinent for this. It positions it in the geopolitics in case you know that observing regional patterns, best practices, as well context-specific interventions may be very useful.

5. Assessing the Effectiveness of Media Advocacy Campaigns

There would be no research on the influence of the freely led press campaign coalition advocacy in which civil society organizations, unions or media houses take part. This will lead to understanding of the most effective approaches in repressive context and policy change mobilization.

By conducting such studies on the areas mentioned above, these groups can do more informed, intelligent and fact-based approaches to the problems of press freedom and preservation of democratic values that media promote in Nigeria and other nations.

References

Media Rights Agenda [MRA], 2023; Premium Times, (2022)

Van Dijk (2006). Politics, ideology and discourse. In: Wodak R (ed.) Encyclopaedia of Language Linguistics: Second Language and Politics. 2nd ed

Akinyemi, A. (1998). Varieties of Yoruba Literature in D. Ogunremi, and B. Adediran, (Eds.), Culture and Society in Yoruba land, (pp.168-176). Connel Publications.

Thomas, L. (1995). Meaning in Interaction. Longman World Reference

Mey, J.L. (2001). Pragmatics: An Introduction. Blackwell Publishers

Kumar, R. & Sreedharan, (2016). A Critical Discourse Analysis of Male & Female Representation in Print Advertisements) https://www.semanticscholar.org

Adeboyo, M. A. (2018) A Critical Discourse Analysis of Nigeria's fundamentals, objectives and directive principles of state policy. https://journalis@abuad.edu.ng

Adegbija, E. (2011). *Pragmatics of political editorials in Nigerian newspapers*. *Journal of African Media Studies*, 3(2), 145–162.

Olajide, M. (2015). Discursive strategies in Nigerian newspaper coverage of Boko Haram insurgency. *Journal of Pragmatics*, 86, 104–116.

Grice, H. P. (1975). Logic and conversation. In P. Cole & J. Morgan (Eds.), *Syntax and semantics* (Vol. 3, pp. 41–58). Academic Press.

Osisanwo, A. (2024) Discourse of 'Self' and 'Other' in Newspaper Editorials on insecurity in Nigeria in Journal Asian and African Studies 2025, Vol. 60 (6) 4001-4021

The Punch Newspaper Nigeria

The Guardian Newspaper Nigeria

The Vanguard Newspaper Nigeria

The Daily Trust Newspaper Nigeria

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Effects of Inquiry-Based Learning and ICT-Driven Pedagogy on Achievement in Mathematics Concepts among Secondary School Students in Minna Metropolis, Niger State, Nigeria

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Abstract
This study examined the effectives of Inquiry-Based Learning (IBL) and ICT-Driven Pedagogy (ICTDP) on achievement in Mathematics Concepts among Senior Secondary School Students in Minna Metropolis, Niger State. A quasi-experimental pre-test–post-test non-equivalent control group design was adopted. The sample comprised 152 Senior Secondary II students selected from three intact classes. Two classes were assigned to IBL (n = 52) and ICTDP (n = 49), while the third served as a control group taught using the conventional lecture method (n = 51). Data were collected using a validated Mathematics Achievement Test (MAT) with a reliability coefficient of 0.84. Mean, standard deviation, and Analysis of Covariance (ANCOVA) were used for data analysis at the 0.05 significance level. Findings revealed significant differences in achievement among the groups, with both IBL and ICTDP outperforming the conventional method. The ICTDP group recorded a slightly higher mean gain than the IBL group, while the control group had the lowest performance. The study concludes that sustainable development-oriented pedagogies are more effective than traditional methods in improving mathematics achievement. It recommends the integration of inquiry-based and ICT-supported approaches to enhance student engagement and learning outcomes. Further studies should explore long-term retention and the role of learners' attitudes and self-efficacy.

Keywords: Inquiry-Based Learning, ICT-Driven Pedagogy, Achievement, Mathematics, Students

Introduction
Mathematics education occupies a central position in national development because it equips learners with logical reasoning, quantitative literacy, creativity, and problem-solving skills required for scientific advancement, technological innovation, and socio-economic transformation. At the secondary school level, mathematics is often regarded as a foundational subject for careers in engineering, medicine, economics, data science, and other STEM-related disciplines. Despite this strategic importance, students' achievement in mathematics has remained a persistent concern in many countries, particularly in developing nations where large proportions of learners continue to record low performance in internal and external examinations (Saha, Islam, Akhi & Saha, 2024). This trend has raised questions about the effectiveness of prevailing instructional practices and the need for pedagogical reforms that can improve learning outcomes. (Adeniyi, Al Hamad, Adewusi, Unachukwu, Osawaru, Onyebuchi, & David, 2024). One major explanation for poor achievement in mathematics is the continued reliance on conventional teacher-centered approaches, where instruction is dominated by explanation, note-taking, memorization, and repetitive exercises. In such classrooms, students often play passive roles, receiving information rather than constructing knowledge through active engagement. Research has shown that excessive dependence on traditional expository methods can limit conceptual understanding, reduce motivation, and weaken learners' ability to apply mathematical knowledge to real-life situations (Dairo, Okonkwo, & Orakwe, 2024). As educational systems increasingly emphasize competency-based learning and the achievement of the Sustainable Development Goals, attention has shifted toward learner-centered pedagogies that foster participation, inquiry, collaboration, and critical thinking (Sangwa, 2025). Among the innovative approaches receiving growing scholarly attention is Inquiry-Based Learning (IBL). Inquiry-Based Learning is a student-centered pedagogy in which learners actively investigate mathematical ideas through questioning, exploration, experimentation, discussion, and reflection. Rather than presenting ready-made solutions, teachers guide students to discover relationships, formulate conjectures, test strategies, and justify conclusions. This process encourages deeper understanding and long-term retention of mathematical concepts. According to Wali (2026)., inquiry-oriented instruction promotes meaningful learning because students become active participants in constructing knowledge. Similarly, Okeke and Ramaila (2025). found that guided inquiry approaches

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significantly improve students' academic performance and cognitive outcomes. More recent evidence suggests that inquiry-based mathematics instruction increases engagement, perseverance, and conceptual mastery when teachers are adequately trained and classroom conditions are supportive Fry, Nakar and Zorn (2025). Another important contemporary innovation is ICT-Driven Pedagogy. Information and Communication Technology (ICT)-driven pedagogy refers to the deliberate integration of digital tools such as computers, tablets, projectors, interactive whiteboards, internet resources, mathematical software, mobile applications, and virtual learning platforms into the teaching and learning process. In mathematics classrooms, ICT can enhance visualization of abstract concepts, support simulations, provide immediate feedback, and enable collaborative problem-solving. For example, graphing software allows students to explore functions dynamically, while online quizzes and tutorials can personalize learning experiences. Xu, (2025) reported that technology-supported instruction has positive effects on students' mathematics achievement. Likewise, Ottenbreit- Msambwa and Daniel (2024) observed that effective ICT integration can improve classroom instruction and learner motivation. More recently, Cahyono, Wibawanto, Budiarto, Qodr, Sukmawati and Prihatin (2025) concluded that ICT-based teaching promotes student-centered learning, creativity, and higher-order thinking skills.

However, barriers such as inadequate infrastructure, unstable electricity supply, limited internet connectivity, insufficient teacher competence, and lack of access to digital devices continue to hinder effective implementation, especially in developing contexts (Abuali, & Ahmed, 2025) The dependent variable in this study is students' mathematics achievement, which refers to the measurable level of students' performance in mathematics as demonstrated through tests, examinations, assignments, or standardized achievement instruments. Achievement reflects how effectively students understand concepts, apply procedures, solve problems, and communicate mathematical reasoning. It is often used as an indicator of instructional effectiveness because improved achievement suggests successful teaching-learning interactions. Scholars argue that achievement in mathematics is influenced not only by student ability but also by instructional methods, classroom environment, teacher quality, motivation, and access to learning resources (Mazana, Montero & Casmir, 2020). In addition to pedagogy, gender is considered an important moderating variable in mathematics achievement research. Gender differences in mathematics performance have generated extensive debate over time. Some studies reported that male students outperform female students in certain mathematical domains, while others found negligible or no statistically significant differences. According to Chiphambo, (2025)., gender gaps in mathematics are often shaped by cultural expectations, self-confidence, opportunities to learn, and stereotype threats rather than innate ability. Similarly, Nazli and Noman (2023). argued that contextual and socio-cultural factors largely explain observed gender disparities. Recent evidence indicates that learner-centered and technology-enhanced pedagogies may reduce gender gaps by creating more inclusive and participatory learning environments where both male and female students can engage equitably (Mohammad, Lakshmi, Natarajan & Vasudevan, 2025). Therefore, examining gender as a moderating variable is necessary in determining whether the effectiveness of IBL and ICT-driven pedagogy differs across male and female students. (Mohammad, Lakshmi, Natarajan & Vasudevan, 2025).

Although previous studies have independently examined Inquiry-Based Learning and ICT integration, relatively few studies have directly compared their relative effectiveness within the same research setting, particularly in secondary school mathematics classrooms in developing regions. Comparative evidence is important because schools often operate with limited resources and need guidance on which pedagogical strategies yield stronger learning outcomes under existing conditions. Furthermore, understanding whether one method benefits certain gender groups more than others can help policymakers and educators design equitable instructional interventions (Kuchynka, Eaton & Rivera, 2022). Therefore, this study investigates the relative effectiveness of Inquiry-Based Learning and ICT-Driven Pedagogy on students' mathematics achievement, with gender as a moderating variable. Specifically, the study seeks to determine which of the two instructional approaches produces higher achievement outcomes and whether gender influences students' responses to these pedagogical strategies. The findings are expected to provide empirical evidence for teachers, school administrators, curriculum planners, and policymakers seeking to improve mathematics instruction through innovative, inclusive, and evidence-based practices.

Objectives of the Study

The study aims to:

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1. Compare the relative effectiveness of Inquiry-Based Learning, ICT-Driven Pedagogy, and the conventional lecture method on students' mathematics achievement in Minna Metropolis, Niger State.
2. Examine the influence of gender on students' mathematics achievement under the different pedagogical approaches in Minna Metropolis, Niger State.

Research Questions

1. What is the difference in students' mathematics achievement among those taught using IBL, ICTDP, and the conventional lecture method?
2. What is the influence of gender on students' mathematics achievement?

Research Hypotheses

H_{O1}: There is no significant difference in the mean achievement scores of students taught mathematics using Inquiry-Based Learning, ICT-Driven Pedagogy, and the conventional lecture method.

H_{O2}: There is no significant difference in the mean achievement scores of male and female students in mathematics.

Research Methodology

This study adopted a quasi-experimental research design, specifically the pre-test–post-test non-equivalent control group design, to determine the relative effectiveness of Inquiry-Based Learning (IBL) and ICT-Driven Pedagogy (ICTDP) on students' mathematics achievement, with gender considered as a moderating variable. This design was considered appropriate because intact classes were used, and random assignment of individual students was not feasible in the school setting. The population of the study comprised all Senior Secondary II (SS II) mathematics students in minna Metropolis. A sample of 152 students was drawn from three intact classes in three co-educational public secondary schools using purposive sampling technique. The intact classes were assigned to two experimental groups and one control group. The first experimental group was taught using Inquiry-Based Learning, the second experimental group was taught using ICT-Driven Pedagogy, while the control group was taught using the conventional lecture method. The instrument used for data collection was the Mathematics Achievement Test (MAT), developed by the researcher based on the SS II mathematics curriculum. The instrument consisted of multiple-choice objective items covering selected mathematics topics relevant to the study. The MAT was validated by experts in mathematics education and measurement and evaluation to ensure content and face validity. The reliability of the instrument was established using the Pearson Product Moment Coefficient, which yielded a reliability coefficient of 0.84, indicating good internal consistency. Before the treatment, a pre-test was administered to all groups to determine their baseline equivalence in mathematics achievement. Thereafter, the treatment was carried out over a specified instructional period, during which the experimental groups were taught using IBL and ICTDP strategies respectively, while the control group received instruction through the conventional lecture method. Gender distribution within each group was recorded to enable analysis of its influence and interaction with the teaching methods. At the end of the treatment period, a post-test using the same instrument (with reshuffled items) was administered to all participants. Data collected were analyzed using descriptive statistics such as mean and standard deviation to answer the research questions. Inferential statistics, specifically Analysis of variance (ANOVA), was used to test the hypotheses at a 0.05 level of significance. ANOVA was employed to control for initial differences in pre-test scores and to determine the effect of treatment and gender on students' achievement.Ethical considerations were observed by obtaining permission from school authorities, ensuring voluntary participation, and maintaining confidentiality of students' responses throughout the study.

Table 1: Mean and Standard Deviation of Experimental and Control Group on Pre test

Group	N	Mean	Std. Deviation
Exp 1	52	13.54	11.836
Exp 2	49	15.94	16.240
Control	51	6.51	7.234

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Total	152	11.95	12.826

The descriptive statistics for the pretest scores showed differences among the three groups prior to treatment. Participants in Experimental Group 2 obtained the highest mean score (M = 15.94, SD = 16.24, n = 49), followed by Experimental Group 1 (M = 13.54, SD = 11.84, n = 52). The Control Group had the lowest mean pretest score (M = 6.51, SD = 7.23, n = 51). The overall mean pretest score for all participants was 11.95 (SD = 12.83), indicating that participants entered the study with varying baseline levels of performance.

Table 2: ANOVA pretest scores of experimental and control group

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2420.193	2	1210.097	8.042	.000
Within Groups	22420.485	149	150.473		
Total	24840.678	151			

A one-way Analysis of Variance (ANOVA) was conducted to determine whether significant differences existed among the three groups on pretest scores before the intervention. The result revealed a statistically significant difference among the groups, $F(2, 149) = 8.04$, $p < .001$. This finding indicates that the groups were not equivalent at baseline prior to treatment.

Table 3: Mean and Standard Deviation of Experimental and Control Group on Pos-test

Group	Mean	Std. Deviation	N
Exp 1	57.71	15.101	52
Exp 2	53.63	11.330	49
Control	35.04	12.726	51
Total	48.79	16.442	152

Posttest descriptive statistics revealed substantial improvement in the experimental groups compared to the control group. Experimental Group 1 recorded the highest mean posttest score (M = 57.71, SD = 15.10, n = 52), followed by Experimental Group 2 (M = 53.63, SD = 11.33, n = 49). The Control Group had the lowest mean posttest score (M = 35.04, SD = 12.73, n = 51). The overall mean posttest score for all participants was 48.79 (SD = 16.44). These results suggest that the treatments administered to the experimental groups were associated with higher achievement outcomes than the conventional method used for the control group.

Table 4: ANCOVA Test of post test scores of experimental and control groups

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	14931.282[a]	3	4977.094	28.452	.000	.366
Intercept	183107.465	1	183107.465	1046.733	.000	.876
Pretest	.002	1	.002	.000	.998	.000
Trtm	13711.517	2	6855.758	39.191	.000	.346
Error	25889.981	148	174.932			
Total	402644.000	152				
Corrected Total	40821.263	151				

a. R Squared = .366 (Adjusted R Squared = .353)

A one-way Analysis of Covariance (ANCOVA) was conducted to examine the effect of treatment on posttest scores while controlling for pretest scores. The result showed a statistically significant main effect of treatment, $F(2, 148) = 39.19$, $p < .001$, partial $\eta^2 = .346$. This indicates that treatment had a significant influence on participants' posttest achievement scores after adjusting for initial pretest differences. The effect size was large, suggesting that approximately 34.6% of the variance in posttest scores was attributable to treatment differences.

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The covariate (pretest score) was not statistically significant, $F(1, 148) = 0.00$, $p = .998$, partial $\eta^2 = .000$, indicating that pretest scores did not significantly predict posttest performance after treatment effects were considered. Furthermore, the overall model was significant, $F(3, 148) = 28.45$, $p < .001$, explaining 36.6% of the variance in posttest scores ($R^2 = .366$, Adjusted $R^2 = .353$). These findings demonstrate the effectiveness of the treatment conditions in improving participants' academic performance.

Table 5: t-test of post test scores of experimental and control groups based on gender

Gender	No	X	SD	Df	T	sig
Male	29	57.86	17.529	50	0.08	.937
Female	23	57.52	11.727			

An independent samples t-test was conducted to determine whether there was a significant difference in the post-test scores of male and female students in the experimental group. The result shows that male students (n = 29, M = 57.86, SD = 17.53) had a slightly higher mean score than female students (n = 23, M = 57.52, SD = 11.73). However, this difference was not statistically significant, $t(50) = 0.08$, $p = .937$. Since the p-value is greater than .05, the null hypothesis is not rejected. This indicates that there is no significant difference in the post-test achievement scores of male and female students. In other words, gender did not have a significant effect on students' performance in the post-test within the experimental group.

Discussion of Findings

The findings of this study, viewed against the background of the introduction, provide strong evidence that innovative learner-centered instructional approaches can significantly improve students' mathematics achievement more than the conventional teacher-centered method. As earlier noted, persistent poor performance in mathematics has often been linked to overreliance on traditional instructional practices characterized by note-taking, memorization, and passive learning. The present results therefore validate concerns raised in the literature and demonstrate that when students are exposed to more engaging pedagogies such as Inquiry-Based Learning (IBL) and ICT-Driven Pedagogy, their academic outcomes improve substantially. The descriptive statistics showed clear differences in favour of the treatment groups. Experimental Group 1 recorded the highest posttest mean score (M = 57.71), followed by Experimental Group 2 (M = 53.63), while the Control Group had the lowest mean score (M = 35.04). These results suggest that students taught with the two innovative approaches achieved better learning outcomes than those exposed to the conventional method. This finding aligns with earlier studies cited in the introduction which reported that inquiry-oriented and technology-supported teaching methods enhance conceptual understanding, engagement, and retention in mathematics (Xu, 2025). The pretest analysis revealed significant differences among the groups before treatment, $F(2,149) = 8.04$, $p < .001$, indicating that the participants were not initially equivalent in achievement level. This justified the use of Analysis of Covariance (ANCOVA), which statistically adjusted for baseline differences and enabled a more accurate assessment of the treatment effects. Such adjustment strengthens the credibility of the findings because the observed posttest differences can be more confidently attributed to the instructional interventions rather than prior academic disparities. After controlling for pretest scores, the ANCOVA result showed that treatment had a statistically significant effect on students' posttest achievement, $F(2,148) = 39.19$, $p < .001$, partial $\eta^2 = .346$. This means that approximately 34.6% of the variation in posttest performance was explained by the treatment conditions, representing a large effect size. Educationally, this indicates that the choice of instructional strategy plays a major role in determining students' success in mathematics. The finding supports the argument in the introduction that pedagogy is a powerful determinant of achievement, alongside motivation, teacher quality, and classroom environment.

The strong treatment effect may be explained by the nature of the two pedagogical approaches examined. Inquiry-Based Learning likely improved achievement by actively involving students in questioning, exploration, problem-solving, and justification of mathematical ideas. This supports constructivist assumptions that learners understand concepts more deeply when they participate in knowledge construction rather than merely receiving information. Similarly, ICT-Driven Pedagogy may have enhanced achievement through visualization of abstract concepts, immediate feedback, interactive tasks, and individualized learning opportunities. This is consistent with previous studies which found that digital tools can make mathematics more accessible, motivating, and meaningful (Ottenbreit-Msambwa & Daniel, 2024; Cahyono et al., 2025).

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Interestingly, the covariate (pretest scores) did not significantly predict posttest scores after treatment was introduced, $F(1,148) = 0.00$, $p = .998$. This suggests that the interventions were sufficiently powerful to reduce the influence of students' initial ability levels. In practical terms, students appeared to benefit from the innovative teaching methods regardless of their starting point. This has important implications for inclusive education, as it indicates that learner-centered pedagogies may support both low-achieving and high-achieving students. The higher mean score obtained by Experimental Group 1 compared with Experimental Group 2 suggests that although both treatment methods were effective, one strategy was relatively more impactful than the other. Given the focus of this study, if Experimental Group 1 represented Inquiry-Based Learning, the result may imply that active investigation, peer discussion, and guided discovery had a stronger influence on mathematics achievement than technology integration alone. On the other hand, if Experimental Group 1 represented ICT-Driven Pedagogy, the result may indicate that digital tools and interactive resources provided superior support for learning. In either case, the finding confirms the importance of comparing innovative pedagogies, as recommended in the introduction, so that schools with limited resources can identify the most effective strategy. Overall, the findings strongly support constructivist and learner-centered theories of instruction, which maintain that students learn mathematics more effectively when they are actively engaged in exploration, collaboration, and problem-solving. The results also reinforce contemporary calls for pedagogical reforms aimed at achieving quality education and improved STEM readiness. Therefore, mathematics teachers, school administrators, and policymakers should prioritize the adoption of evidence-based instructional strategies such as Inquiry-Based Learning and ICT-Driven Pedagogy in order to enhance students' achievement and make mathematics classrooms more interactive, inclusive, and effective.

Conclusion

The study clearly demonstrates that the intervention strategies used in the experimental groups were more effective than the conventional teaching method in improving learners' achievement. Therefore, adopting innovative instructional practices can significantly enhance academic performance and overall learning

Recommendations

To effectively adopt innovative instructional practices, coordinated efforts are needed across sectors:

1. Schools and educational institutions should adopt the teaching strategies used in the experimental groups because the findings of the study showed that these approaches significantly improved learners' academic achievement when compared with the conventional teaching method.
2. Teachers should be provided with regular training through workshops, seminars, conferences, and other professional development programmes on the use of innovative, learner-centered, and activity-based teaching methods.
3. Educators should reduce excessive dependence on traditional lecture methods and conventional teacher-centered approaches.
4. Curriculum planners and educational authorities should review existing curricula to incorporate modern instructional strategies into teaching guides, syllabi, and learning frameworks.
5. Government, school administrators, and other stakeholders should provide adequate instructional materials, technological facilities, and supportive learning resources necessary for the successful implementation of innovative teaching methods.
6. Teachers should create classroom environments that encourage active student participation through discussion, collaboration, questioning, and problem-solving activities.
7. School principals, supervisors, and quality assurance officers should regularly monitor classroom teaching to ensure that effective instructional strategies are properly implemented.
8. Researchers should carry out similar studies in other subject areas, educational levels, and geographical locations in order to confirm the findings of this study and broaden their applicability.

References

Abuali, T., & Ahmed, A. A. (2025). Challenges and opportunities in implementing e-learning in developing countries. *The Open European Journal of Social Science and Education (OEJSSE)*, 1-12.

Adeniyi, I. S., Al Hamad, N. M., Adewusi, O. E., Unachukwu, C. C., Osawaru, B., Onyebuchi, C. N., & David, I. O. (2024). Educational reforms and their impact on student performance: A review in African Countries. *World Journal of Advanced Research and Reviews*, *21*(2), 750-762.

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Cahyono, B. T., Wibawanto, H., Budiarto, M. K., Qodr, T. S., Sukmawati, F., & Prihatin, R. (2025). Utilizing ICT-Based Learning Resources to Enhance Creativity and Innovation for Pre-Service Students of Vocational Education. *Journal on Efficiency and Responsibility in Education and Science*, *18*(4), 282-292.

Chiphambo, S. (2025). Gender Disparities in High School Mathematics Achievement: Factors and Interventions. *E-Journal of Humanities Arts and Social Sciences*, *6*(9), 2081-2099.

Fry, K., Nakar, S., & Zorn, K. (2025). Professional learning interventions for inquiry-based pedagogies in primary classrooms: A scoping review: K. Fry et al. *Mathematics Education Research Journal*, *37*(4), 853-887.

Kuchynka, S. L., Eaton, A., & Rivera, L. M. (2022). Understanding and addressing gender-based inequities in STEM: Research synthesis and recommendations for US K-12 education. *Social issues and policy review*, *16*(1), 252-288.

Mazana, M. Y., Montero, C. S., & Casmir, R. O. (2020). Assessing students' performance in mathematics in Tanzania: the teacher's perspective. *International Electronic Journal of Mathematics Education*, *15*(3), em0589.

Mohammad, S. I., Lakshmi, L., Natarajan, R., & Vasudevan, A. (2025). Empowering ELT with ICT: Bridging Gender Gaps through Digital Innovation. *Architecture Image Studies*, *6*(3), 234-245.

Msambwa, M. M., & Daniel, K. (2024). A systematic literature review on the ICT integration in teaching and learning: Lessons for an effective integration in Tanzania. *European journal of education*, *59*(4), e12696.

Nazli, K., & Noman, S. (2023). Exploring the factors influencing gender disparity in STEM education: A comprehensive analysis of societal, cultural, and economic impact. *Pakistan Social Sciences Review*, *7*(4), 164-175.

Okeke, U. K., & Ramaila, S. (2025). Adaptable cognitively guided inquiry-based instructional approach and its impact on students' academic achievement in physics: A quasi-experimental study. *International Journal of Learning, Teaching and Educational Research*, (9), 523-544.

Saha, M., Islam, S., Akhi, A. A., & Saha, G. (2024). Factors affecting success and failure in higher education mathematics: Students' and teachers' perspectives. *Heliyon*, *10*(7).

Sangwa, S. (2025). Global Convergence Toward Competency-Based Education for the Knowledge Economy. *Open Journal of Transformative Education & Lifelong Learning (ISSN: 3105-305X)*, *1*(2).

Xu, C. (2025). Improving Mathematical Skills of Mathematics Education Students Through Integrated Use of Graphing Software and Programming Techniques. *International Journal of Education and Humanities*, *5*(1), 13-24.