

**ATUTOR LEARNING MANAGEMENT SYSTEM, ACADEMIC PERFORMANCE AND  
RETENTION OF SECONDARY SCHOOL STUDENTS IN BIOLOGY IN UYO, AKWA  
IBOM STATE**

BY

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**ABSTRACT**

*The study sought to examine the effect of ATutor LMS, academic performance and retention of secondary school students offering Biology in Uyo Local Government Area. Three research questions and three hypotheses were formulated to guide the study. The study adopted Quasi-experimental design using the pretest post-test non randomized control group design. The population comprised all the 3,183 Senior Secondary Two (SS II) students offering Biology in all the 15 public secondary schools in Uyo Local Government Area of Akwa Ibom State during 2024/2025 academic session. Purposive sampling technique was used in selecting a sample size of 102 students for experimentation and control. The experimental group was taught using ATutor LMS while the control group was taught using Expository method. An instrument called 'Biology Performance Test (BPT)' was used to pretest and posttest the students. The instrument was face and content validated by three validates in Faculty of Education, University of Uyo. Split half method and Kuder-Richardson formula-21 (KR-21) were used in determining the reliability of the instrument which had a reliability coefficient of 0.87. The data obtained from the pretest, posttest and retention test were analyzed using mean, Standard Deviation to answer all the research questions and Analysis of Covariance was used to test all the hypotheses at .05 significant level. The result indicated a significant difference in the mean performance scores of students in Biology when taught using ATutor LMS and expository method. The result also indicated a no significant difference in the mean performance scores of male and female students taught pollution using ATutor LMS and expository method. The study also revealed a significant difference in mean retention scores of students taught using the two instructional strategies. It was concluded that ATutor LMS is more effective and students retained concept better when taught with ATutor LMS than the expository method. Based on the findings, it is recommended among others, that Biology teachers should make effective use of ATutor LMS in teaching the concept of Pollution so that student's performance will be enhanced.*

**Keywords: A Tutor LMS, Biology and academic performance.**

## INTRODUCTION

Biology is a vital subject that plays a crucial role in understanding the intricacies of life and the natural world. It is important extends to various aspects of our lives, including medicine, environmental conservation, agriculture, and biotechnology. By studying biology, students will gain insights into the functioning of living organisms, the interconnectedness of ecosystems and the impact of human activities on the environment. This knowledge will enable students to develop innovative solutions to pressing global challenges, such as disease prevention, sustainable resource management and conservation of biodiversity. Ultimately, biology enables students to make inform decisions and actions, empowering them to promote human health, environmental sustainability and a better future for all.

The study of biology in secondary schools enable students to gain a deeper understanding of the living world, from the tiny Pollution that make up the body to the ecosystems that spark curiosity, creativity and a passion for science. Biology can also open doors to exciting career opportunities in fields like medicine, environmental science, research and conservation. The teaching of biology will instill in students' essential skills like critical thinking, problem-solving and analytical thinking which can benefit them in many areas of life. Despite this importance, students' performance in the subject is not encouraging. Each educational sector apportioning blame on teachers and teaching methods. Presently, it has been observed by the researcher that most secondary school teachers in Uyo are completely relying on the expository teaching strategy. Expository learning strategy is a teaching strategy where information is presented to learners in a structured and direct manner. This strategy emphasizes the delivery of content through explanations without demonstrations and descriptions by the teacher. The primary goal is to convey information and concepts efficiently, allowing students to absorb and understand the material without the need for extensive exploration or discovery on their own. Science teachers embraced this method for easy coverage of the school syllabus. The complete reliance of this teaching strategy could be responsible for this poor performance of students both internally and externally.

Students' academic performance refers to the level of achievement or proficiency that a student has attained in their educational pursuits. It is typically measured through a variety of assessments, including examinations, quizzes, assignments, projects, and classroom participation (Fred, 2021). Students' academic performance is often quantified using grades or scores that reflect a student's understanding, skills, and competencies in various subjects. It is measured by the final grades or scores earned during a course of study. Higher scores indicate better academic performance (Opara, 2022). To enhance students' performance in Biology, there are other innovative teaching platforms like ATutor that can be used by teachers in teaching Biology concepts to enhance students' performance.

ATutor is an open source, online learning environment used to develop web-based courses, author e-learning content, and present instructional materials on the internet. ATutor is an acronym coined from the place of development. It was developed at Adaptive King Technology Resource Centre University of Toronto (Sobowale, *et al.* 2020). Adaptive Technology University of Toronto was shortened to ATutor. ATutor supports self-directed learning because it enhances students' ability to set an appropriate pace for learning and get assistance from various resources, thereby enhancing their academic performance. ATutor is unique for providing versatile spaces open for collaboration

among students with support from the tutors especially as the students chat online. ATutor is a Learning Management System (LMS) platform that provides a comprehensive framework for delivering educational content, facilitating communication and tracking students progress, thereby supporting a more interactive and personalized learning experience (Yusuf and Balogun, 2020). Among the various LMS platforms available, A Tutor stands out for its flexibility, user-friendliness and robust features that cater to both educators and students. ATutor is an open-source LMS that allow educators to create and manage online courses, integrate multimedia content and assess students learning through quizzes and assignments. ATutor platform gives students access to learning materials at their own pace, allows them to participate in discussions and receive feedback on their performance. According to Wang and Xu (2022), ATutor is effective in presenting complex concepts through interactive session thereby enhancing students' understanding and retention of the concepts taught. A Tutor learning management system interface is easy and simple to use. ATutor is an effective platform for teaching and learning because it enables group conversations, multimedia file sharing, easy access to conversion history and is accessible for individuals. ATutor LMS allows for immediate synchronous communication and maximal mobility (as it is installed on mobile phones), and is highly accessible to the general populace, including teachers who may perceive it. Application of ATutor LMS into teaching and learning of Biology helps to facilitate students' learning effectiveness and academic performance.

According to Gachago (2015), ATutor LMS can be used to create immediate connections, encourage reflection and facilitate coordination in informal and formal learning. In addition, Mtebe (2015) posited that ATutor is a useful electronic tool that can facilitate information sharing. ATutor LMS served as a tool for bridging access to learning resources, rendering peer-based and hierarchical support, leveraging on-task behaviour and enhancing meaningful context-free learning. However, to make learning to be student-centered, ATutor as online learning platforms have been observed to enable educators to design online courses in which the students can access anytime like a virtual classroom (Chukwuemeka *et al.* 2015). Students may be intellectually and physically capable to learn but may never learn until their interest is aroused through an active approach of teaching. In line with this, Freeman *et al.* (2014) posited that active learning strategies have been shown to improve students understanding and retention of subject matter, leading to higher academic performance. Researches from Sobowale, *et al.* (2020), Ugbaga, and Simon, (2023) and Basil *et al.*, (2021), revealed that students taught with LMS platforms performs better than those taught with expository method.

Apart from teaching strategy, gender is another factor that hinders students' performance. Gender is defined as a wide range of biological, behavioural, physical and mental characteristics regarding and differentiating the female and male population (Okeke, 2020). Gender is an aspect concerning the responsibilities, roles, opportunities, constraints and needs of males and females in all aspect of social context (Omosho, 2019). Researches from Oludipe (2019), Adigun *et al.* (2019), Gongden and Gongden (2019) found no statistically different in the mean performance scores of male and female students while researches from Dorathy (2015) and Iloputaife *et al.* (2016) found out in their studies that gender had significant difference on students' academic performance in science.

Retention of learnt concept is another factor that hinders students' performance. Retention is the ability to hold, keep or recall past experiences and reproduce a learnt concept when the need arises. Bukunola and Idowu (2015) posited that retention is an important variable in learning because only a learnt experience is recalled and learning cannot be said to have taken place if there is no proper

retention. The ability of learners to recall past learnt basic science concept as an objective of basic science teaching and learning process may likely enhance good performance in the subject. According to White (2018), retention is a wonderful trait of human being and it is very important to educators because of the role it plays in teaching and learning process as the yardstick for measuring content learnt. Retention function is a process which begins from the time of receipt of information to the time of recall and usage. Research from Maria (2018) revealed equal performance in terms of retention in gender while research of Tukura *et al.* (2020), revealed that the use of e-learning platform has positive effect on student's retention than the expository classroom.

### **STATEMENT OF THE PROBLEM**

Effective teaching and learning of Biology in secondary schools is an issue of great concern to stakeholders in the educational sector. Despite the importance of Biology in life, industrial and technical development, researchers have continually documented reports of poor performance of students in Biology. The Poor performance of students in Biology in external examination has been attributed to several factors among which is the poor instructional delivery methods adopted by teachers during classroom instruction. In view of this, Biology teachers have continued to search for better instructional delivery methods that will provide the bridge between unfamiliar concepts and prior knowledge to improve students' performance and retention in Biology. It is on this basis that the researcher is investigating the effect of ATutor LMS on students' academic performance and retention in Biology. Can the performance and retention of students in Biology be enhanced when ATutor LMS is used in teaching the concept of Pollution? This study seeks to answer this question.

### **PURPOSE OF THE STUDY**

The aim of this study is to determine the difference in the performance of students taught the concept of Pollution using ATutor LMS and those taught using Expository method in Biology in Uyo Local Government Area. Specifically, the study sought to;

1. determine the difference in the mean performance score of students taught the concept of Pollution using ATutor and expository methods.
2. compare the mean performance scores of male and female students taught the concept of Pollution using ATutor and expository methods.
3. determine the difference in the mean retention score of students taught the concept of Pollution using ATutor and expository methods.

### **RESEARCH QUESTIONS**

To accomplish the purpose of this investigation, the following research questions guided the study;

1. What is the difference in the mean performance scores of students taught the concept of Pollution using ATutor and expository methods?
2. How does the mean performance scores of male and female students differ when taught the concept of Pollution using ATutor and expository methods?
3. What is the difference in the mean retention score of students taught the concept of Pollution using ATutor and expository methods?

### **Research Hypotheses**

The following hypotheses guided the study and were tested at 0.05 level of significance;

1. There is no significant difference in the mean performance score of students taught the concept of Pollution using ATutor and expository methods.
2. There is no significant difference in the mean performance scores of male and female students taught the concept of Pollution using ATutor and expository methods.
3. There is no significant difference in the mean retention scores of students taught the concept of Pollution using ATutor and expository methods.

### **Methodology**

This study adopted quasi-experimental research design. Specifically, the non-randomized pre-test-posttest control group design was used. This study was carried out in Uyo Local Government Area of Akwa Ibom State. Uyo is the state capital of Akwa Ibom State, Nigeria. The population size of this study was 3,183 SS II students from the fifteen public secondary schools in Uyo Local Government Area during the 2024/2025 academic session. 102 (50 male and 52 female) SSII students formed the sample size of the study. The sample were drawn from two (2) intact classes from one co-educational public secondary school in Uyo. Purposive sampling technique and simple random sampling technique of balloting was used in selecting the school from the fifteen co-educational public secondary schools in Uyo.

One researcher-made instrument tagged: Biology Performance Test (BPT) was used for data collection. BPT was designed to measure the students' performance in the concept of Pollution and was also used to test for students' retention. The instrument contained twenty (20) multiple choice items with four options A – D. Each correct option carries 5 marks giving a total 100%. This instrument was re-shuffled and used for post-test and retention test respectively. The instrument was subjected to face and content validation. To ascertain the reliability of the Biology Performance Test (BPT), the instrument was trial tested on 30 Biology students in a school not selected for the study but part of the population. The data obtained was analyzed using the Kuder Richardson (K-21) formula and the reliability coefficient of 0.87 was realized, indicating that the instrument was reliable and capable of measuring the intended knowledge with consistency. The data collected from the study were analyzed using Mean and Standard deviation to answer the research questions and Analysis of Covariance (ANCOVA) was used to test the hypotheses at 0.05 level of significance. In testing the null hypotheses, if the calculated probability value is less than the significance level of 0.05 the null hypothesis was rejected and if the calculated probability value is greater than the significance level of 0.05 the null hypothesis was upheld

### **DATA ANALYSIS AND RESULTS**

**RESEARCH QUESTION 1:** What is the difference in the mean performance scores of students taught the concept of Pollution using ATutor and expository methods?

The result of the analysis is presented in Table 1

**Table 1: Mean and Standard Deviation of Pre-test and Post-test Scores of SS II Students taught the concept of Pollution using ATutor and expository methods**

Treatment Groups	n	Pretest		Posttest		Mean Gain	Mean Difference
		$\bar{x}$	SD	$\bar{x}$	SD		
ATutor (Experimental)	52	14.82	5.43	76.62	9.84	61.8	7.53
Expository (Control)	50	14.71	5.36	68.98	7.22	54.27	
<b>Total</b>	<b>102</b>						

Data in Table 1 revealed the pre-test and post-test mean scores of experimental students taught Biology with ATutor of 14.82 and 76.62 and their respective standard deviations of 5.43 and 9.84. The result further shows the pre-test and post-test mean scores of students taught using expository method of 14.71 and 68.98 and their respective standard deviations of 5.36 and 7.22 respectively with mean difference of 7.53 between the two treatment groups. This means that use of ATutor method in teaching the concept of Pollution enhanced students' performance than expository method.

**Research Question 2:** How does the mean performance scores of male and female students differ when taught the concept of Pollution using ATutor and expository methods?

The result of the analysis is presented in Table 2

**Table 2: Mean and Standard Deviation of Pre-test and Post-test Scores of SS II male and female students taught the concept of Pollution using ATutor and expository methods**

Treatment Groups	Gender	n	Pre-test		Post-test		Mean Gain	Mean Diff.
			$\bar{x}$	SD	$\bar{x}$	SD		
ATutor	Male	26	12.46	3.12	45.82	5.28	33.36	0.62
	Female	26	12.92	3.58	45.66	5.02	32.74	
Expository	Male	24	12.03	3.36	45.46	5.46	33.43	0.43
	Female	26	12.00	3.01	45.86	5.06	33.86	
<b>Total</b>		<b>102</b>						

Data in Table 2 revealed the pre-test and post-test mean scores of male students taught the concept of Pollution with ATutor methods of 12.46 and 45.82 and their respective standard deviations of 3.12 and 5.28. The result further shows the pre-test and post-test mean scores of female students

taught using ATutor of 12.92 and 45.66 and their respective standard deviations of 3.58 and 5.02 respectively with mean difference of 0.62 between the two treatment groups (male and female). This means that use of ATutor in teaching the concept of Pollution enhanced male and female students' performance equally.

Data in Table 2 also revealed the pre-test and post-test mean scores of male students taught the concept of Pollution with Expository method of 12.03 and 45.46 and their respective standard deviations of 3.36 and 5.46. The result further shows the pre-test and post-test mean scores of female students taught using expository method of 12.00 and 45.86 and their respective standard deviations of 3.01 and 5.06 respectively with mean difference of 0.43 between the two treatment groups (male and female). This means that use of expository method in teaching the concept of Pollution enhanced male and female students' performance equally. In summary, the use of ATutor LMS and expository method in teaching the concept of Pollution enhanced male and female students' performance equally.

**Research Question 3:** What is the difference in the mean retention score of students taught the concept of Pollution using ATutor and expository methods?

The result of the analysis is presented in Table 3

**Table 3: Mean and Standard Deviation of Post-test and retention scores of SS II Students taught the concept of Pollution using ATutor and expository methods**

Treatment Groups	n	Post-test		Retention		Mean Gain	Mean Diff.
		$\bar{x}$	SD	$\bar{x}$	SD		
ATutor (Experimental)	52	76.62	9.84	88.02	10.08	11.4	4.12
Expository (Control)	50	68.98	7.22	76.26	9.02	7.28	
<b>Total</b>	<b>102</b>						

Data in Table 3 revealed the post-test and retention scores of students taught Biology with ATutor LMS of 76.62 and 88.02 and their respective standard deviations of 9.84 and 10.08. The result further shows the post-test and retention scores of students taught using expository method of 68.98 and 76.26 and their respective standard deviations of 7.22 and 9.02 respectively with mean difference of 4.12 between the two treatment groups. This means that experimental students retained concepts taught using ATutor method better than those taught using expository method.

### Testing of Hypotheses

**Hypothesis I:** There is no significant difference in the mean performance score of students taught the concept of Pollution using ATutor and expository methods.

**Table 4: Summary of ANCOVA analysis of SS II students taught the concept of Pollution using ATutor method and those taught using expository method (n=102).**

Source	Type III Sum of Squares	df	Mean Square	F	P-value	Decision
Corrected Model	4845.047	2	2422.524	37.431	.000	
Intercept	33875.578	1	33875.578	523.423	.000	
Pre-test	5.276	1	5.276	.082	.776	
Instructional strategies* Pretest	4778.051	1	4778.051	73.827	.000	Sig.
Error	12749.708	99	64.719			
Total	683799.000	102				
Corrected Total	17594.755	101				

The result of ANCOVA analysis in Table 4 reveals that {F-ratio (2, 102) is 73.827,  $p=.000<0.05$ }. The implication of this, is that the significant value (.000) was found to be less than the alpha value (0.05) in which the decision was based. With this result, the null hypothesis of no significant difference in the mean performance score of students taught the concept of Pollution using ATutor and those taught with expository method was rejected. This implies that there is a significant difference in the performance score of students taught the concept of Pollution using ATutor and expository methods. The result points to the fact that the experimental group taught with ATutor method had a significant performance over the control group which is the expository group.

**Hypothesis II:** There is no significant difference in the mean performance scores of male and female students taught the concept of Pollution using ATutor and expository methods.

**Table 5: Summary of ANCOVA analysis of SS II male and female students taught the concept of Pollution using ATutor method and those taught using expository method (n=102).**

Source	Type III Sum of Squares	df	Mean Square	F	P-value	Decision
Corrected Model	11.177	2	5.589	.101	.904	
Intercept	21246.744	1	21246.744	.382.893	.000	
Pretest	5.859	1	5.859	.106	.746	
Instructional strategies Gender*Pretest	7.741	1	7.741	.139	.710	N/Sig.*
Error	5382.533	99	55.490			
Total	398899.000	102				
Corrected Total	5393.710	101				

The result of the ANCOVA analysis in Table 5 reveals that {F-ratio (2, 102) = .139,  $p=.710>0.05$ }. The implication of this is that the p-value (.710) was found to be greater than the alpha

value (0.05) which the decision was based. With this result, the null hypothesis of no significant difference in the mean performance scores of male and female students taught the concept of Pollution using ATutor and expository method was retained. This implies that there is no significant difference in the mean performance scores of male and female students taught Pollution using ATutor and expository methods. The result points to the fact that both male and female students in the two treatment groups performed equally.

**Hypothesis III:** There is no significant difference in the mean retention score of students taught Pollution using ATutor and expository method.

**Table 6: Summary of ANCOVA analysis of mean retention of SSII Students taught the concept of Pollution using ATutor method and those taught using expository method (n=102).**

Source	Type III Sum of Squares	df	Mean Square	F	P-value	Decision
Corrected Model	280.561	2	140.281	1.975	.144	
Intercept	11601.593	1	11601.593	163.321	.000	
Posttest	.248	1	.248	.003	.953	
Instructional strategies* Retention_Posttes	279.725	1	279.725	6.938	.001	Sig.*
Error	6890.439	99	71.035			
Total	284900.000	102				
Corrected Total	7171.000	101				

The result of the ANCOVA analysis in Table 6 reveals that {F-ratio (2, 102) =6.938, p=.001<0.05}. The implication of this is that the p-value (.001) was found to be less than the alpha value (0.05) which the decision was based. With this result, the null hypothesis of no significant difference in the mean retention score of students taught Pollution using ATutor and expository method was rejected. This implies that there is a significant difference in the mean retention score of students taught Pollution using ATutor and expository methods. This result is an indication that significant difference exists in the mean retention score of students taught Pollution using ATutor and expository methods.

### **Results and Discussion**

The result of the analysis of the difference in the mean performance score of students taught Pollution using ATutor LMS and those taught using expository method revealed that there is a significant difference in the mean performance score of students taught Pollution using ATutor and expository method. This result can be attributed to the fact that ATutor LMS offers interactive learning environment where students engage with content through various multimedia tools, such as videos, quizzes and discussion forums. This interactivity fosters active learning, which is more effective than the passive learning that typically occurs in the expository instruction. This finding is in line with the position of Freeman *et al.* (2014) who posited that active learning strategies have been shown to

improve students understanding and retention of subject matter, leading to higher academic performance. Researches from Sobowale, *et al.* (2020), Ugbaga and Simon, (2023) and Basil *et al.*, (2021), revealed that students taught with LMS platforms performs better than those taught with expository strategy.

The result of the analysis of the difference in the mean performance score of male and female students taught the concept of Pollution using ATutor LMS and those taught using expository method revealed that there is no significant difference in the mean performance score of students taught Pollution using ATutor and expository method. The reason could be that both students were exposed to the same instructional strategies and same content at the same time. Therefore, gender does not have a strong effect on students' performance. This outcome is in tandem with the findings of Oludipe (2019), Adigun *et al.* (2019), Gongden and Gongden (2019) whose findings revealed a no significant difference in academic performance of male and female students. However, this study is contrary to the findings of Dorathy (2015) as well as Iloputaife *et al.* (2016) who found that gender had significant difference on students' academic performance in science.

The result of the analysis of the difference in the retention score of students taught the concept of Pollution using ATutor LMS and those taught using expository method revealed that there is a significant difference in the retention score of students taught Pollution using ATutor LMS and expository method. The findings could be attributed to the fact that ATutor LMS offers students the opportunity to access learning materials irrespective of time and location. It may also be that ATutor LMS was able to develop the students as independent learners, who worked at their own pace and level. The outcome of this study supports the finding of Tukura *et al.* (2020), whose study revealed that the use of e-learning has positive effect on student's retention and performance in favour of the experimental group. The reason for this result could be to the fact that LMS incorporate game-like features, making learning more engaging and with fun, which led to increase in students' retention. When students are actively involved in the teaching-learning process, it aids their retention in concepts taught. The finding of this study contradicts with that of Maria (2018), whose findings revealed that neither male nor female students in the two groups retained significantly better than the other in Biology after treatment.

## **CONCLUSION**

Based on the findings of this study, it was concluded that the use of ATutor LMS in teaching the concept of Pollution was more effective in facilitating students' academic performance and retention than expository method. Gender and was not a significant determinant of students' performance.

## **RECOMMENDATIONS**

Based on the findings and the conclusion drawn, the following recommendations were made:

- i. Biology teachers should utilize ATutor LMS effectively in teaching the concept of Pollution.
- ii. Government in conjunction with other professional bodies like Science Teachers Association of Nigeria and State Ministry of Education should endeavour to organize and sponsor regular workshops, seminar and conferences to train science teachers on the use of LMS platforms.

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**NAVIGATING POSTGRADUATE RESEARCH IN UNIVERSITY OF CALABAR  
THROUGH ARTIFICIAL INTELLIGENCE (AI): IMPLICATIONS FOR SKILL  
DEVELOPMENT, MENTORSHIP AND SUPERVISION**

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**ABSTRACT**

*The study investigated the integration of Artificial Intelligence (AI) in postgraduate research, focusing on its potential to enhance research skills, mentorship, and supervision. It aimed at identifying the benefits of AI tools for postgraduate students and their mentors, as well as the challenges faced in adopting these technologies. Three research questions were adopted for this study. Survey design utilizing ‘Postgraduate research skills and Artificial Intelligence Partnership questionnaire’ was used to gather data. Stratified and accidental sampling technique was used to select a sample of 354 out of a population of 1,768 postgraduate students from the University of Calabar. The instrument’s Cronbach reliability estimates were 0.78, 0.80 and 0.84 for the research skills, research mentorship/supervision and challenges encountered by postgraduate students. Instrument’s validity was assessed by four experts in Educational Technology, Educational Psychology, Research, Measurement, and Evaluation departments. The findings revealed that most students surveyed were grappling with their research activities due to limited understanding of AI tools. It was recommended that urgent steps be taken by various faculties through training workshops and seminars to expose students to workable optimizing AI-driven strategies in order to boost their skills development, encourage effective mentorship and supervision within higher education thus fostering a more effective research environment.*

**KEYWORDS: Postgraduate Research, University of Calabar, Artificial Intelligence, Skill Development, Mentorship and Supervision.**

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**INTRODUCTION**

Artificial Intelligence (AI) is shaking up postgraduate research all around the world, offering

fresh tools that boost skill development, mentorship, and academic teamwork. Globally, AI technologies like large language models and smart tutoring systems are revolutionizing research methods, enabling students to conduct literature reviews, sharpen their research questions, and improve their writing quality with incredible efficiency. On a continental scale, initiatives like the AI for Development (AI4D) Africa program highlight the urgent need to cultivate AI leadership in Africa through targeted educational and mentorship programs (Anderson, 2025). In like manner, Sanchez-Anguix, Chalumuri, Alberola and Aydogan (2020) reported that AI applications improve academic communication and supervisory processes. Nguyen and Barbieri (2025) found that AI supports research mentorship by clarifying ideas and reducing workload. Omodan (2025) emphasized the role of AI in facilitating collaborative learning environments, while Bouzar, El Idrissi, Ghourdou, and Ali (2025) highlighted AI's contribution to feedback and research supervision. Collectively, these studies suggest that AI is increasingly recognized as a supportive tool for enhancing the quality and effectiveness of mentorship and supervision in postgraduate research.

Bringing artificial intelligence into postgraduate research at the University of Calabar can really boost skill development by providing students with personalized learning experiences and access to cutting-edge research tools. With AI-driven platforms, students can automate mundane tasks, allowing them to focus more on critical analysis and creative thinking (Owan, 2025). Additionally, AI can enhance mentorship by offering real-time guidance and feedback (Sanchez-Anguix, Chalumuri, Alberola & Aydogan 2020), which is especially helpful when traditional mentorship resources are scarce and better teaching and learning practices (Chang, 2024, Thong, Attallah, Islam, Lim & Cherukuri 2025, and Tseng, Huang & Chen 2025), This technical support can empower students to tackle complex research challenges more effectively. These partnerships and navigation can lead to innovative solutions for regional issues such as empowerment leading to entrepreneurship, autonomy (Ekarika & Isogon 2020) and boost the global visibility of research outputs.

In summary, strategically integrating AI into postgraduate research at the University of Calabar could significantly enhance skill development, mentorship and supervision thus positioning the institution at the forefront of research excellence in Africa. By integrating Artificial Intelligence (AI) into postgraduate research, we have the chance to revolutionize research methods, boost writing efficiency, and foster the development of crucial academic skills. To start, there is a noticeable gap in formal training on AI and related technologies within the university's postgraduate programs, leaving students ill-equipped to integrate the more complex AI into their research practices (Dastin, 2022, Oke & Adekola (2022). Additionally, many students struggle to access modern AI tools due to financial constraints (high subscription cost) or technical issues, poor digital literacy which limits their exposure to the latest advancements in AI-driven research (Agbo, Ekarika & Eteng 2021; Dwivedi et al. 2021, Kavitha & Sangeetha, 2021). Ethical concerns as observed by Kumar and Bervell (2019); Almahasees and Qassem (2023) have also contributed negatively towards the poor adoption levels of AI among postgraduate students. Furthermore, the absence of mentorship from experienced academics who may not be well-versed in AI hinders students' ability to incorporate AI into their research methods. Lastly, the perception of AI as a complicated and intimidating field often deters students from exploring its potential, a situation that is compounded by the absence of comprehensive support.

### **STATEMENT OF PROBLEM**

Postgraduate research at the University of Calabar has increasingly underscored the need for fresh strategies to enhance the quality and impact of academic work. However, a significant hurdle remains: most postgraduate students in University of Calabar actually embrace the emergence AI technology with open arms and look forward to accessing and adopting these tools in their research practices but they are faced with numerous challenges. Some are not fully aware of the technicalities of modern AI skills or how to adopt them effectively. Even with a growing number of AI tools available, a lot of students either do not know about these resources or lack the skills and are financially constrained to access and use them properly. These challenges are made worse by limited mentorship opportunities and a lack of collaborative academic platforms that could help students make the most of AI in their research writing. The obstacles that these postgraduate students face in becoming aware of and adopting AI skills are quite intricate and calls for more research in order to examine areas of significant concerns thus giving rise to this study.

### **LITERATURE REVIEW**

The following empirical studies have been reviewed to give direction to this study. A study carried out by Udang, Odey and Akor (2025) investigated the application of artificial intelligence (AI) in higher education, focusing on identifying global best practices. It utilized an ex-post facto design with a sample of 208 participants drawn from a population of 3,800 students and staff at the University of Calabar. The study employed a questionnaire to assess two independent sub-variables and analyzed the data using mean, standard deviation, and simple linear regression at a significance level of 0.05. Findings revealed a significant impact of AI on teaching and learning processes, underscoring its importance in enhancing educational practices. The study also established a predictive relationship between AI usage in educational settings and the performance outcomes of both staff and students. Overall, the research confirms that AI plays a crucial role in improving educational effectiveness and predicting academic performance in higher education.

Similarly, Omodu (2025) investigated the role of Artificial Intelligence (AI) in staff mentoring and its impact on teaching effectiveness in public universities in Rivers State, Nigeria. It was guided by two research questions and hypotheses, employing a correlation design specifically targeting public universities in the region. The study's population included 1,186 senior lecturers from three institutions: Rivers State University, University of Port Harcourt, and Ignatius Ajuru University, from which a sample of 302 senior lecturers was selected using simple random sampling. Data collection was facilitated through two validated instruments: the "Utilization of Artificial Intelligence in Staff Mentoring (UAISM)" and "Teaching Effectiveness in Public Universities (TEPU)." The analysis of the data involved calculating mean and standard deviation for the research questions, while Pearson product moment correlation analysis was used to test the null hypotheses. The findings indicated that the application of AI in staff mentoring significantly enhances teaching effectiveness compared to traditional methods.

Relatedly, Madu and Musa (2024) set out to evaluate how aware lecturers at the Federal University Wukari in Nigeria are about AI and how that awareness connects to their digital skills. Using a correlational design, the study included all 67 academic staff members from the Faculty of Education, gathering data through the Artificial Intelligence Awareness Questionnaire (AIAQ) and the Digital Competence Questionnaire (DCQ), both of which showed impressive reliability scores of 0.93 and 0.87, respectively. The results showed that lecturers have a moderate understanding of AI

and found a positive link between their AI awareness and digital competence. These findings underscore the need for focused training programs to boost lecturers' digital skills, which could ultimately enhance the learning experience for students. The research wraps up by emphasizing that raising AI awareness among educators can lead to better teaching methods, improved learning experiences, and ultimately, better outcomes for students.

Examining the extent of awareness, perceptions, and challenges associated with the integration of AI in learning among postgraduate students within the Faculty of Education at Ignatius Ajuru University of Education, located in Port Harcourt, Rivers State, Kasumu and Agbarakwe (2024) employed a descriptive survey research design to carry out this study. The population comprised 52 postgraduate students from the Curriculum Studies and Educational Technology department. The entire population served as the sample size. A self-structured questionnaire developed by the researchers, titled the Artificial Intelligence Awareness Perception and Challenges Questionnaire (AIAPCAQ), was utilized for this study. The analysis of the collected data was conducted using mean and Z-tests. The findings indicated that students with an interest in technology frequently engage in extracurricular activities such as coding clubs, robotics competitions, or STEM programmes, which provide practical experience with AI-related tools and concepts, thereby enhancing their understanding of technology application.

Focusing on how artificial intelligence (AI) is being used in higher education, Essien, Bekeh and Anam (2024) undertook a study with a particular focus on identifying the best practices from around the globe. To steer the investigation, two null hypotheses were established, and an ex-post facto design was employed. The study involved a population of 3,800 students and staff from the University on the Calabar campus, from which a stratified random sample of 208 participants was chosen, making up about 1.12% of the total group. A questionnaire was crafted to assess two independent sub-variables, and the research questions were tackled using mean and standard deviation. Additionally, a simple linear regression analysis was conducted to evaluate the null hypotheses at a significance level of 0.05. The results showed a significant effect of AI on teaching and learning in higher education, emphasizing its role in fostering global best practices. Moreover, the study found a noteworthy predictive relationship between the use of AI in educational settings and the performance outcomes of both staff and students at the university. In summary, the research highlights the substantial impact of AI in improving teaching and learning processes in higher education, confirming that its application plays a significant role in predicting the performance of university staff and students.

Investigating the role of Artificial Intelligence in enhancing research capabilities of postgraduate students at the University of Karachi, Ali and Khan (2021) explored how AI impacts research productivity and skills among postgraduate students in Pakistan. They took a mixed-methods approach, using surveys to gather quantitative data from students and conducting in-depth interviews with faculty members. The findings showed that AI tools, like reference managers and data analysis software, significantly boosted students' research skills by speeding up data processing and literature reviews. The authors concluded that while AI tools can enhance research efficiency, there's a noticeable gap in awareness and training about these tools among both students and faculty. They recommended that universities invest in training programs to fully harness the potential of AI in academic research.

In a related study, William and Johnson (2020) examined how AI could transform postgraduate mentorship at the University of Cape Town. Their research aimed to assess the use of

AI-based mentorship platforms in improving research supervision practices. They employed a qualitative research design, conducting semi-structured interviews with postgraduate students and their supervisors. The results showed that these AI mentorship platforms made communication between students and supervisors more efficient, allowing for more frequent and structured feedback. However, some supervisors expressed concerns about whether AI could provide the personalized guidance that students need. The researchers concluded that while AI has the potential to enhance mentorship processes, it should complement, not replace, human interaction. They called for further exploration of hybrid mentorship models that integrate both AI and personal guidance.

In a similar vein, Khalifa and Albadawy (2024) have extensively explored the integration of Artificial Intelligence (AI) in academic and medical domains. Their 2024 systematic review, on integrating artificial intelligence in academic writing and research, seeing it as an essential productivity tool, identified six core domains where AI enhances academic productivity to include facilitating idea generation and research design, improving content development and structuring, supporting literature review and synthesis, enhancing data management and analysis, assisting in editing, review, and publishing, and promoting communication, outreach, and ethical compliance. This review synthesizes findings from 24 studies, highlighting AI's role in streamlining various aspects of academic work, from writing assistance to ethical compliance.

Relatedly, a study by Owan, Chukwu and Agama (2025) aimed to examine how students in public universities in Nigeria accept and utilize AI tools for self-directed research learning (SDRL). The research used a predictive correlational design, gathering data from 456 students across two institutions through stratified random sampling. Two validated instruments assessed students' acceptance of AI and their actual use of AI for SDRL, employing descriptive statistics and linear regression analyses to uncover patterns and predict usage based on acceptance. The findings showed a high level of acceptance of AI for SDRL. A weak yet statistically significant correlation was found between acceptance and usage of AI suggesting that just because students accept AI doesn't mean they engage with it extensively.

Generally, these studies collectively emphasize the significance of AI in teaching and learning effectiveness, specifically enhances research efficiency in research and underscore its potential to revolutionize skills development, mentorship, and supervision. However, there are some relevant theories on which this research was anchored on. First of all, the Technology Acceptance Model (TAM), developed by Davis in 1989, provides a fundamental framework for comprehending technology adoption, highlighting perceived ease of use and perceived usefulness as key factors. In the realm of AI tools in education, students are more inclined to embrace these technologies if they perceive them as user-friendly and advantageous. Nevertheless, TAM has its drawbacks, as it mainly concentrates on individual perceptions and neglects the impact of organizational elements, such as institutional support and infrastructure, which are vital for effective AI integration. Moreover, TAM reduces the adoption process by focusing solely on two dimensions, overlooking other obstacles like resistance to change and ethical issues.

Secondly, the Everett Rogers' Diffusion of Innovations Theory (DOI), presented in 2003, delineates the stages of technology adoption and classifies adopters into five categories: innovators, early adopters, early majority, late majority, and laggards. This theory emphasizes factors that affect adoption, including relative advantage, compatibility, complexity, trialability, and observability. Although DOI offers a thorough perspective on the adoption process, it may oversimplify the non-linear dynamics of adoption in educational environments, where various factors can concurrently

influence the integration of AI tools. Additionally, DOI primarily concentrates on individual adoption without sufficiently addressing the collective decision-making processes within educational institutions, which can greatly impact the utilization of AI tools.

Thirdly, the Constructivist Learning Theory, linked to thinkers like Jean Piaget and Lev Vygotsky, suggests that learners actively build their knowledge through interactions with their surroundings, rather than just soaking it up passively. This approach emphasizes the importance of hands-on experiences, social engagement, and problem-solving, allowing learners to draw on what they already know through experiential learning. While constructivism is praised for encouraging critical thinking, creativity, and independent learning, it does face some pushback regarding its practicality in traditional educational settings. Critics argue that the focus on self-directed learning can be tough for students who might not have a solid foundation or the motivation to thrive. When it comes to weaving Artificial Intelligence (AI) into education, AI can really boost constructivist methods by offering personalized learning experiences, instant feedback, and adaptable learning environments. AI tools can tailor content to fit individual learning styles, which helps deepen engagement and lets learners move at their own pace. Summarily, these theories provide important insights into the adoption of AI tools by students; however, they do not fully encompass the wide array of factors that influence AI integration in education. The individual-focused nature of TAM and the linear approach of DOI fail to consider the complexities of institutional contexts and teaching methodologies. A more comprehensive strategy that integrates aspects from both theories, while also taking into account skills development, is essential for a complete understanding of AI adoption in educational settings.

The reviewed literature leaves the researchers with gaps that needed to be filled through this study. The reviewed studies had none conducted in the postgraduate programme in the University of Calabar specifically in the area of perception, and barriers encountered in the adoption of AI skills. The fact that most empirically reviewed studies concentrated on perception, awareness, adoption and barriers encountered in getting AI skills in other institutions clearly show that these are persistent problems in tertiary institutions in Nigeria that need urgent attention even in the University of Calabar postgraduate programme. Also, AI is a complex and evolving field that demands pertinent researches into its accessibility, adoption and ever-present barriers to its adoption thus prompting this study. Hence, this study was undertaken with the following aims and objectives as well as specific research questions to give direction to the study:

1. To explore the role of Artificial Intelligence (AI) in strengthening the research skills of postgraduate students at the University of Calabar.
2. To assess postgraduate students' perceptions of the use of AI tools in enhancing research mentorship and supervision.
3. To examine the challenges postgraduate students' encounter in integrating AI tools into their research activities.

### **RESEARCH QUESTIONS**

1. What role does Artificial Intelligence (AI) play in strengthening the research skills of postgraduate students at the University of Calabar?
2. How do postgraduate students perceive the use of AI tools in enhancing research mentorship and supervision?

3. What challenges do postgraduate students encounter in integrating AI tools into their research activities?

### **METHODOLOGY**

The study used a descriptive survey research design. The population of postgraduate students in the University of Calabar is 1,768 for the 2024/2025 academic session (University of Calabar Graduate School, 2025). A stratified random sampling technique was used to choose a sample of 20% (354) of postgraduate students. The questionnaire utilized for data collection was termed "Postgraduate research skills and Artificial Intelligence Partnership questionnaire (PRAIQ)". The questionnaire was structured using the modified Likert 4-point rating scales ranging from strongly agree (SA = 4) to strongly disagree (SD = 1). Experts in Measurement and Evaluation, Educational Technology and Educational Psychology validated the instrument for content and face validity. Cronbach Alpha method was used to establish the reliability, which yielded coefficients of 0.78, 0.80, and 0.84 for the research skills, research mentorship and supervision and challenges encountered by postgraduate students. The research questions were answered using frequency and percentage analysis.

### **PRESENTATION OF THE RESULT**

Research question one: What role does Artificial Intelligence (AI) play in strengthening the research skills of postgraduate students at the University of Calabar?

Table 1: Frequency and percentage of AI in strengthening the research skills of postgraduate students (N = 354)

The results in Table 1 show postgraduate students' responses to the role of Artificial Intelligence (AI) in strengthening research skills at the University of Calabar. A large proportion of respondents, 76.84 percent, agreed that AI tools help them improve their ability to search for relevant research materials, while only 23.16 percent disagreed, indicating a strong positive perception of AI in enhancing literature search. Similarly, 75.14 percent agreed that AI enhances their critical analysis and interpretation of data, showing that AI is considered a useful aid in the analytical aspects of research. In addition, 76.27 percent agreed that AI makes it easier to organize and manage research

<b>S/N</b>	<b>Item</b>	<b>SA</b>	<b>A</b>	<b>D</b>	<b>SD</b>	<b>N</b>
1	AI tools help me improve my ability to search for relevant research materials.	140 (39.55)	132 (37.29)	52 (14.69)	30 (8.47)	354
2	The use of AI enhances my critical analysis and interpretation of research data.	128 (36.16)	138 (38.98)	56 (15.82)	32 (9.04)	354
3	AI applications make it easier for me to organize and manage research literature.	150 (42.37)	120 (33.90)	52 (14.69)	32 (9.04)	354
4	AI strengthens my academic writing and referencing skills in research projects.	134 (37.85)	126 (35.59)	58 (16.38)	36 (10.17)	354
5	AI contributes to the development of my problem-solving and innovative thinking	138 (38.98)	130 (36.72)	54 (15.25)	32 (9.04)	354

	skills.					
6	AI significantly improves my research competence as a postgraduate student.	142 (40.11)	128 (36.16)	50 (14.12)	34 (9.60)	354

literature compared to 23.73 percent who disagreed, suggesting that AI plays a vital role in literature management. Furthermore, 73.44 percent of the respondents agreed that AI strengthens their writing and referencing skills, highlighting its supportive role in academic writing. Also, 75.70 percent agreed that AI contributes to problem-solving and innovation, indicating that AI is seen as beneficial for creativity and research innovation. Finally, 76.27 percent agreed that AI significantly improves their overall research competence, demonstrating that most students acknowledge AI's contribution to their research growth.

The findings, therefore, reveal that the majority of postgraduate students at the University of Calabar perceive Artificial Intelligence as playing a significant role in strengthening their research skills. Across all items, more than 73 percent of respondents agreed that AI enhances research activities, particularly in literature search, data analysis, literature management, writing, problem-solving, and overall competence. The relatively lower percentages of disagreement, ranging between 14 and 26 percent, suggest that only a minority of students face challenges or remain skeptical about its usefulness. It can thus be concluded that AI is widely regarded as an effective tool for enhancing postgraduate students' research skills at the University of Calabar.

Research question two: How do postgraduate students perceive the use of AI tools in enhancing research mentorship and supervision?

Table 2: Frequency and percentage of postgraduate students' perception of the use of AI tools in enhancing research mentorship and supervision (N = 354)

S/N	Item	SA	A	D	SD	N
7	AI tools make communication between students and supervisors more effective.	136 (38.42)	130 (36.72)	54 (15.25)	34 (9.60)	354
8	The use of AI improves feedback quality and timeliness from supervisors.	140 (39.55)	128 (36.16)	52 (14.69)	34 (9.60)	354
9	AI applications support better guidance in structuring and refining research work.	148 (41.81)	124 (35.03)	50 (14.12)	32 (9.04)	354
10	AI helps to clarify complex research concepts suggested by supervisors.	132 (37.29)	136 (38.42)	54 (15.25)	32 (9.04)	354
11	AI tools reduce the workload of supervisors, making mentorship more focused and productive.	138 (38.98)	134 (37.85)	50 (14.12)	32 (9.04)	354
12	AI enhances the effectiveness of research mentorship and supervision.	144 (40.68)	126 (35.59)	52 (14.69)	32 (9.04)	354

The results in Table 2 present postgraduate students' perceptions of the use of Artificial Intelligence (AI) in enhancing research mentorship and supervision at the University of Calabar. A total of 75.14 percent of respondents agreed that AI tools make communication between students and supervisors more effective, while 24.85 percent disagreed, suggesting that AI is widely seen as facilitating interaction in the mentoring process. Similarly, 75.71 percent agreed that AI improves

the quality and timeliness of feedback from supervisors, with only 24.29 percent in disagreement, indicating that AI is viewed as a supportive mechanism for more efficient supervisory feedback. In addition, 76.84 percent agreed that AI applications provide better guidance in structuring and refining research work, compared to 23.16 percent who disagreed, reflecting a strong belief in AI's role in shaping research direction. Furthermore, 75.71 percent of the respondents agreed that AI helps to clarify complex research concepts suggested by supervisors, showing that students find AI useful in simplifying difficult ideas. Also, 76.83 percent agreed that AI reduces supervisors' workload, making mentorship more focused and productive, with 23.16 percent in disagreement, highlighting AI's potential to ease supervisory responsibilities. Finally, 76.27 percent agreed that AI enhances the overall effectiveness of research mentorship and supervision, while 23.73 percent disagreed, confirming that students generally perceive AI as an important tool in supervisory processes.

The findings, therefore, reveal that postgraduate students at the University of Calabar perceive Artificial Intelligence as a valuable tool for improving the quality and effectiveness of research mentorship and supervision. Across all items, more than 75 percent of the respondents agreed that AI strengthens mentorship by enhancing communication, improving feedback, guiding research structure, clarifying complex concepts, reducing supervisory workload, and increasing overall effectiveness. The relatively lower percentages of disagreement, ranging between 23 and 25 percent, indicate that only a minority of students do not share this positive perception. It can thus be concluded that AI is widely perceived as an effective aid in advancing research mentorship and supervision among postgraduate students.

Research question three: What challenges do postgraduate students encounter in integrating AI tools into their research activities?

Table 3: Frequency and percentage of challenges postgraduate students encounter in integrating AI tools into their research activities (N = 354)

S/N	Item	SA	A	D	SD	N
13	Limited access to AI tools (premium versions) makes it difficult for me to use them effectively in my research.	122 (34.46)	128 (36.16)	62 (17.51)	42 (11.86)	354
14	Lack of adequate formal training prevents me from effectively applying AI in research activities.	138 (38.98)	124 (35.03)	56 (15.82)	36 (10.17)	354
15	The high subscription cost of some AI applications is a barrier to their adoption in my research work.	130 (36.72)	132 (37.29)	54 (15.25)	38 (10.73)	354
16	Technical challenges, such as internet connectivity, affect my ability to use AI tools.	142 (40.11)	126 (35.59)	50 (14.12)	36 (10.17)	354
17	I am concerned about the accuracy and reliability of AI-generated research outputs.	126 (35.59)	136 (38.42)	58 (16.38)	34 (9.60)	354
18	Ethical concerns (e.g., plagiarism, over-reliance on AI) limit my willingness to use	134 (37.85)	128 (36.16)	56 (15.82)	36 (10.17)	354

AI in research.					
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The results in Table 3 present postgraduate students’ responses to the challenges they encounter in integrating Artificial Intelligence (AI) tools into their research activities at the University of Calabar. A total of 70.62 percent of respondents agreed that limited access to premium versions of AI tools makes it difficult to use them in research, while 29.37 percent disagreed, indicating that accessibility remains a notable challenge. Similarly, 74.01 percent agreed that lack of adequate training prevents them from effectively applying AI in research, compared to 25.99 percent who disagreed, showing that insufficient knowledge and skills are major barriers. In addition, 74.01 percent of respondents agreed that the high subscription cost of some AI applications is a barrier to adoption, with 25.98 percent in disagreement, reflecting the financial constraints faced by students in adopting such tools. Furthermore, 75.70 percent agreed that technical challenges, such as internet connectivity, affect their ability to use AI tools, while 24.29 percent disagreed, emphasizing infrastructural difficulties as a significant obstacle. Likewise, 74.01 percent agreed that concerns about the accuracy and reliability of AI-generated research outputs limit their use, compared to 25.98 percent who disagreed, indicating apprehension about the dependability of AI results. Finally, 74.01 percent agreed that ethical issues such as plagiarism and over-reliance on AI restrict their willingness to use these tools in research, while 25.99 percent disagreed, pointing to the ethical dilemmas associated with AI integration.

The findings, therefore, reveal that postgraduate students at the University of Calabar encounter several challenges in integrating Artificial Intelligence into their research activities. Across all items, over 70 percent of respondents identified limited access to premium versions, lack of training, high subscription costs, technical difficulties, accuracy concerns, and ethical issues as significant obstacles. The relatively lower percentages of disagreement, ranging between 24 and 29 percent, suggest that only a minority of students do not perceive these issues as barriers. It can thus be concluded that while AI offers substantial benefits for research, postgraduate students continue to face accessibility, financial, technical, and ethical challenges that limit its effective integration into their academic work.

## **DISCUSSION OF FINDINGS**

The findings of research question one of this study revealed that the majority of postgraduate students at the University of Calabar perceive Artificial Intelligence as playing a significant role in strengthening their research skills. More than 73 percent of the respondents agreed that AI enhances their ability to search for relevant research materials, analyze and interpret data, organize and manage literature, improve writing and referencing, support problem-solving, and boost overall research competence. This finding aligns with the works of Ali and Khan (2021), Omodu (2025) and Udang, Odey and Akor (2025) that AI is widely acknowledged as a valuable tool in postgraduate research and is increasingly recognized as an enabler of academic productivity especially in the area of teaching and learning. In addition, this conclusion was reached by previous studies such as Khalifa and Albadawy (2024), Zhang and Wu (2024), Thong et al., (2025), and Tseng et al., (2025), all of which reported that AI enhances research skills, improves academic writing, supports supervision, and strengthens overall competence.

Theoretical explanations also reinforce these findings. The Technology Acceptance Model (TAM) posits that users’ acceptance of a technology is influenced by its perceived usefulness and

ease of use, which explains why students readily embrace AI tools for research purposes. Constructivist Learning Theory further emphasizes that learners actively construct knowledge through the use of tools and interactions in their environment, suggesting that AI provides postgraduate students with dynamic platforms to engage in knowledge construction.

Collectively, these findings highlight a broader global trend in which AI is embraced as an indispensable tool for academic development and research advancement. A possible reason for this result is the growing integration of digital technologies and AI-powered applications into academic research environments. Many postgraduate students now have access to mostly free version of AI tools such as language models, reference managers, plagiarism checkers, and data analysis software, which directly improve their research efficiency and accuracy. These technologies simplify complex research tasks, reduce the time and effort required to complete them, and consequently shape students' positive perceptions of AI. In addition, the demand for high-quality research output within limited timeframes may further encourage postgraduate students to adopt innovative technological solutions like AI to meet academic expectations.

The findings of the research question two of this study revealed that postgraduate students at the University of Calabar perceive Artificial Intelligence as a valuable tool for improving the quality and effectiveness of research mentorship and supervision. More than 75 percent of the respondents agreed that AI enhances communication between students and supervisors, improves the quality and timeliness of feedback, supports the structuring of research work, clarifies complex concepts, reduces supervisors' workload, and enhances overall supervisory effectiveness. This supports the conclusion by William and Johnson (2020), Madu and Musa (2024), Kasumu and Agbarakwe (2024) that AI is widely viewed as a facilitator of better mentorship processes and stronger student-supervisor relationships. Other previous studies further reinforce this result. For instance, Sanchez-Anguix et al. (2020) reported that AI applications improve academic communication and supervisory processes. Nguyen and Barbieri (2025) found that AI supports research mentorship by clarifying ideas and reducing workload. Omodan (2025) emphasized the role of AI in facilitating collaborative learning environments, while Bouzar et al. (2025) highlighted AI's contribution to feedback and research supervision. Collectively, these studies suggest that AI is increasingly recognized as a supportive tool for enhancing the quality and effectiveness of mentorship and supervision in postgraduate research.

This finding is also supported by theoretical perspectives such as the Technology Acceptance Model, which emphasizes that people are likely to adopt AI tools when they perceive them as useful and easy to apply in supervisory contexts. Similarly, Constructivist Learning Theory highlights that learners actively construct knowledge through supportive tools and guidance, with AI serving as a bridge between formal supervision and independent learning. A possible reason for this result is the ability of AI-powered applications to bridge communication gaps and provide immediate support in research-related tasks. Tools such as collaborative platforms, intelligent writing assistants, and automated feedback systems reduce delays in supervision, making research interactions more efficient. AI also helps students to clarify complex ideas suggested by supervisors and to refine their work independently before seeking further guidance, thereby reducing the pressure on supervisors and making mentorship more productive. The growing demand for quality supervision, coupled with limited time and resources available to academic staff, may also drive students' positive perceptions of AI as a complementary tool in research guidance.

The findings of research question three of this study revealed that postgraduate students at the

University of Calabar encounter several challenges in integrating Artificial Intelligence into their research activities. More than 70 percent of the respondents agreed that limited access to AI tools, lack of adequate training, high costs, technical difficulties such as poor internet connectivity, concerns about accuracy and reliability of outputs, and ethical issues such as plagiarism or over-reliance on AI hinder their effective use of these technologies. This indicates that while students recognize the benefits of AI, a range of practical, technical, and ethical barriers continues to restrict its full integration into their research processes as confirmed through the studies conducted by Kasumu and Agbarakwe (2024), Madu and Musa (2024). Previous studies support these findings. For example, Dwivedi et al. (2021) highlighted cost and access as barriers to AI adoption in higher education. Oke and Adekola (2022) found that lack of digital literacy and infrastructural support limited students' use of AI in research. Kumar and Bervell (2019) observed that concerns about reliability and ethical misuse slowed adoption among postgraduate students. Almahasees and Qassem (2023) similarly reported that ethical dilemmas and technical constraints were major obstacles in the effective integration of AI into academic work. Collectively, these studies reinforce the finding that while AI holds promise for enhancing research, its adoption among postgraduate students remains constrained by practical, technical, and ethical challenges.

Also, aligning with these findings are the theoretical basis of the Technology Acceptance Model, which asserts that external barriers such as cost, access, and training affect users' willingness to adopt new technologies, regardless of perceived usefulness. Similarly, the Diffusion of Innovation Theory is also robbed in here emphasizing that the rate of adoption of a new technology depends on infrastructural readiness, training, and social acceptance. A possible reason for this result is the uneven availability of resources and infrastructural support within the University of Calabar academic environment. Many students may lack the financial means to access premium AI applications (high subscription cost) or may depend on unstable internet services (in form of poor network coverages, high data charges for Wi-Fis) that limit their use of online tools. Additionally, inadequate training opportunities leave students uncertain about how best to apply AI in research, leading to underutilization. Concerns about the accuracy and reliability of AI outputs, as well as the risk of plagiarism and ethical misconduct, may also contribute to students' hesitancy in fully adopting these tools. These challenges reflect the tension between the potential of AI and the contextual limitations faced by students in a developing academic environment.

### **IMPLICATIONS FOR SKILLS DEVELOPMENT, MENTORSHIP AND SUPERVISION**

These results underscore the pressing need to go beyond just enthusiasm for AI and tackle the real barriers to its use. Targeted interventions at the institutional level are vital to enhance AI literacy and integrate AI tools into research support systems. Such initiatives could bolster postgraduate research capabilities and improve learning outcomes in Nigerian higher education. This is an urgent call for the University authority to introduce better policies that will enhance the adoption and integration of AI into the academic environment. Training of technical staff is a vital step towards addressing these challenges. This has to do with promoting seminars, training workshops and conferences that are intentionally meant to boost AI knowledge and integration. In navigating the training programmes, this will call for technical staff support in each department and faculties alike who will spearhead the facilitation of AI skills to these students and staff.

Setting up mentorship platforms that accommodate staff from diverse fields could encourage academic collaboration. Periodic training programmes will equip mentors and supervisors on the

current changes in AI applications and usage. This will go a long way to boost and upgrade the technical skills of students and staff alike. When staff are trained, they will be motivated to adopt these training skills in their deliveries and supervision roles leading to effective mentorship and supervision. Even ethical concerns about accuracy and reliability of AI applications could be doused through appropriate exposure to the rudiments of AI applications. Noteworthy is the need to address inadequate facilities of AI development in terms of high subscription cost for premium versions of AI applications. This is actually a complex issue needing private and public intervention. While the institutions can assist in providing Wi-Fis for students to be able to navigate their research activities on a wider coverage, it is imperative to mention that high cost of premium versions of AI applications could be subsidized at the faculty levels, through sponsors and non-governmental organizations in order to enable both students and staff alike to have wider access to these tools for effective research practices.

## **CONCLUSION**

Conclusively, the findings showed that the majority of postgraduate students at the University of Calabar perceive Artificial Intelligence as playing a significant role in strengthening their research skills. It also revealed that postgraduate students at the University of Calabar perceive Artificial Intelligence as a valuable tool for improving the quality and effectiveness of research mentorship and supervision. However, it also disclosed that postgraduate students at the University of Calabar encounter several challenges in integrating Artificial Intelligence into their research activities which included limited access to AI tools, lack of adequate training, high subscription costs, technical difficulties such as poor internet connectivity, concerns about accuracy and reliability of outputs, and ethical issues such as plagiarism or over-reliance on AI which hindered their effective use of these technologies.

## **RECOMMENDATIONS**

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

1. That the various stakeholders, government, institution's administrators, educators should introduce better policies that will enhance the adoption and integration of AI into the academic environment.
2. Establishment of training forums, workshops, and resources focused on promoting AI skills development, scheduled to keep staff and students abreast with the intricacies of AI tools.
3. That mentorship platforms be set up to enhance academic collaborations among staff of diverse field's thus encouraging professional mentorship and supervision.
4. Incorporate ethics education into postgraduate curricula, focusing on the ethical implications of artificial intelligence thus educating students about the misuse of AI-generated content, algorithmic biases, and data privacy concerns.
5. Lastly, the University's Management must provide adequate internet and AI facilities to alleviate the burden on the students and lecturers alike, improve on the quality of power supply provide subsidies to reduce high subscription cost of premium versions of AI applications.

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**CHEQUE CLEARING AND PERSON-TO-PERSON PAYMENT SERVICES AS  
PREDICTORS OF CUSTOMERS' SATISFACTION IN COMMERCIAL BANKS**

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**ABSTRACT**

*The study assessed cheque clearing and person-to-person payment services as predictors of customers' satisfaction in commercial banks. Correlational research design was adopted for this study. The area of this study was South-South, Nigeria. The population of the study comprised all the customers of commercial banks in South-South geopolitical zone of Nigeria. A purposive sampling approach was used in the selection of 311,600, 000 active customers in the 26 commercial banks in South-South Nigeria, where 8 commercial banks were selected based on the bank Size, ownership Structure and presence in the South-South Zone. The sample size for the study comprised 400 reliable commercial banks acute customers. A researcher developed instrument tagged "Operational Banking Services and Customers Satisfaction Questionnaire (OBSCSQ)" was used in the collection of data for the study. The instrument went through face validation by three experts. To determine the reliability coefficient of the instrument, an internal consistency method was applied. Regression analysis was used in answering the research questions and in testing the hypotheses at 0.05 level of significance. The study showed that cheque clearing services and person-to-person paying services do not significantly predict customer's satisfaction in commercial banks in South-South, Nigeria. One of the recommendations made was that banks should gradually reduce reliance on cheque clearing by promoting digital payment alternatives.*

**KEYWORDS: Cheque clearing, Person-to-person payment services, Customers' Satisfaction and Commercial Banks"**

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**INTRODUCTION**

In today's banking, customers are more informed and demanding than ever before, largely due to the availability of diverse banking options and global access to financial services. Customers now expect not only high levels of convenience and accessibility but also personalised and responsive service. The rise of digital banking, combined with access to real-time information and mobile apps, has shifted the power dynamics between banks and customers, with the latter now having greater control and flexibility over their financial transactions (Vandell, 2018). Consequently, commercial banks are increasingly under pressure to provide a seamless customer experience, reduce transaction

costs, and enhance the overall customer journey. In response to these changes, banks have continuously adapted their operational services to improve their efficiency, customer experience, and satisfaction. One major shift in banking operations has been the digital transformation of services, with an increasing emphasis on creating digital platforms that are secure, user-friendly, and capable of handling a high volume of transactions to enhance customers' satisfaction.

Cheque clearing services is viewed as the process through which a cheque is processed, validated, and transferred between banks or financial institutions in order to complete a payment transaction. Park (2022) asserted that cheque clearing services are a crucial aspect of banking, ensuring the smooth and secure transfer of funds between banks when cheques are deposited or presented for payment. These services not only ensure that cheques are processed efficiently but also play an important role in enhancing customer satisfaction. One of the most significant ways cheque clearing services enhance customer satisfaction is by providing timely access to funds. When customers deposit a cheque, they expect the funds to be available quickly and without undue delay. With modern clearing systems, particularly electronic cheque clearing and same-day clearing systems, the time it takes for a cheque to clear has drastically reduced. Also, the transparency provided by cheque clearing services enhances the overall customer experience by allowing customers to track the status of their cheques throughout the clearing process (Fred, 2021). Banks that provide efficient cheque clearing services can reduce operational costs, which may translate into lower fees for customers.

Person-to-person payment services are digital platforms that allow individuals to send money directly to each other using mobile apps or websites (Vandell, 2018). Person-to-person payment services significantly enhance customer satisfaction by offering a variety of benefits that make financial transactions easier, more convenient, and often more secure. Person-to-person payment services allow for instantaneous or near-instantaneous transfers, making it much easier for customers to send and receive money. This is particularly valuable in time-sensitive situations like paying for a shared meal, settling debts with friends, or handling emergencies. The ability to send money with just a few taps on a smartphone increases the convenience of daily financial transactions (Park, 2022). This is particularly valuable in time-sensitive situations like paying for a shared meal, settling debts with friends, or handling emergencies. The ability to send money with just a few taps on a smartphone increases the convenience of daily financial transactions.

## **STATEMENT OF PROBLEM**

Operational banking services, such as account opening services, loan opening services, efficient account opening, user-friendly digital platforms, and responsive customer support, significantly enhance customer satisfaction by providing convenience and reliability. These services reduce wait times, minimise errors, and enable customers to access their accounts and complete transactions quickly and securely. But observed in the banking sector during daily transaction are the problems of slow banking services in accepting deposits, lending money, facilitating transactions, flow of money, contraction of money supply, non-stability in asset prices, layoffs and job losses for employees, inability of businesses and consumers to pay their debts, investor sentiments, slow financial intermediation process and lack of depositors confidence in the commercial banks. Also observed in banking services that do not enhance customer satisfaction are the challenges of non-protection against error and fraud in financial transactions, and making online payments with ease. These problems seem to have a negative effect on the growth of the commercial banks.

### **RESEARCH OBJECTIVE**

1. The extent to which cheque clearing services predict customers' satisfaction in commercial banks.
2. The extent to which person-to-person payment services predict customers' satisfaction in commercial banks.

### **RESEARCH QUESTION**

1. To what extent do cheque clearing services predict customers' satisfaction in commercial banks?
2. To what extent do person-to-person payment services predict customers' satisfaction in commercial banks?

### **RESEARCH HYPOTHESIS**

1. Cheque clearing services do not significantly predict customers' satisfaction in commercial banks.
2. Person-to-person payment services do not significantly predict customers' satisfaction in commercial banks.

### **CONCEPTUAL REVIEW**

#### **CUSTOMER SATISFACTION**

Customer satisfaction in banking services is a critical aspect of a bank's success and long-term sustainability. The banking sector, like any other, relies heavily on maintaining a loyal customer base, and customer satisfaction directly impacts loyalty, retention, and overall growth. In this sector, satisfaction is not just about the products themselves, such as savings accounts, loans, or credit cards, but also about the experience customers have with the services provided (Jerry, 2021). It involves factors like the quality of interactions, ease of use, transparency, security, and personalised services. Banks that offer personalised services, where staff members know a customer's history and financial needs, tend to enjoy higher satisfaction. Personalisation might include understanding customer preferences, offering tailored financial advice, or recommending the best products that fit the customer's specific situation. Customers feel valued when they are treated as individuals rather than as numbers. Rashid (2016) asserted that customers expect seamless communication channels. Whether it's face-to-face with a bank representative, through online chat, on social media, or by phone, responsive communication is vital. Customers want quick resolutions to their inquiries or issues. In modern banking, this also includes offering self-service options like mobile apps, which should be user-friendly and easy to navigate.

Digital banking plays a massive role in customer satisfaction today (Oladele, 2020). Customers expect to be able to access their accounts and perform transactions anytime, anywhere, through apps, websites, and ATMs. A user-friendly and intuitive online banking platform enhances satisfaction. If a bank offers smooth online banking services like bill payments, balance checks, fund transfers, and investment tracking, customers are likely to be more satisfied. With the rise of smartphones, mobile banking apps have become an integral part of customer satisfaction. A bank's app needs to offer an easy and secure experience for things like checking balances, making payments, or applying for loans. Furthermore, incorporating advanced technologies like AI chatbots for customer service or biometric security features (like fingerprint or facial recognition) can improve convenience and customer trust. Chan (2023) opined that offering robust online customer support

and troubleshooting can improve the customer experience. Fast response times and the ability to resolve issues without having to visit a branch build confidence and reduce frustration.

Francis (2019) submitted that customers expect fast processing times for their transactions, whether it's transferring funds, applying for a loan, or even getting their check cleared. Long wait times can cause dissatisfaction and frustration. Banks that prioritise speed, without compromising security, are more likely to build trust and increase customer satisfaction. When things go wrong, such as a declined card transaction or a miscommunication, the speed at which the bank resolves the issue is crucial. Banks that handle customer complaints and concerns efficiently, perhaps through dedicated customer service teams, tend to score higher in customer satisfaction surveys. Wilson (2023) asserted that in banking, one of the most significant concerns for customers is the security of their personal and financial information. Banks that employ advanced encryption methods, two-factor authentication, and fraud detection systems tend to earn more trust from their customers. A breach in security can have a significant negative impact on customer satisfaction, even if the bank handles it well. Customers expect their bank to ensure their accounts and transactions are safe.

### **COMMERCIAL BANKS IN SOUTH-SOUTH NIGERIA**

Commercial banks in South-South Nigeria have implemented various strategies to improve customer satisfaction, including investing in digital banking platforms and mobile banking apps (Financial Standard, 2022). These investments have enabled commercial banks to provide convenient and accessible financial services to individuals and businesses. According to a report by the Financial Standard, Nigerian banks' ICT spending hit N81.92 billion in the first half of 2022, representing a 58.7% increase from 2021 (Financial Standard, 2022).

Customer satisfaction is also influenced by the quality of service delivery, including the responsiveness of bank staff, the accuracy of transactions, and the resolution of complaints (Parasuraman *et al.*, 1985). Commercial banks in South-South Nigeria have implemented various measures to improve service delivery, including training programs for staff and the implementation of service quality metrics.

In terms of digital banking, commercial banks in South-South Nigeria have made significant investments in online and mobile banking platforms (PwC Nigeria, 2022). These platforms enable customers to access financial services, including account management, bill payment, and fund transfer, from the comfort of their homes or offices. According to a report by the Enhancing Financial Innovation and Access (EFInA), the percentage of adults with access to formal financial services in Nigeria increased from 30% in 2010 to 63.2% in 2018 (EFInA, 2018). Commercial banks in South-South Nigeria have also implemented various measures to improve customer engagement, including social media engagement and customer feedback mechanisms (BusinessDay, 2022). These measures enable commercial banks to understand customer needs and preferences in order to develop products and services that meet those needs (Fisayo, 2017).

According to the Central Bank of Nigeria (CBN), there are 26 licensed commercial banks operating in Nigeria. Some of the notable commercial banks with presence in the South-South region. These comprises Access Bank Plc, Citibank Nigeria Limited, Ecobank Nigeria Plc, First Bank of Nigeria Limited, Guaranty Trust Bank Plc, United Bank for Africa (UBA), Zenith Bank Plc, Fidelity Bank Plc, First City Monument Bank (FCMB), Globus Bank Limited, Heritage Banking Company Ltd, Jaiz Bank Limited, Keystone Bank Limited, Parallax Bank Ltd, Polaris Bank Plc, Premium Trust Bank, Providus Bank, Signature Bank Limited, Stanbic IBTC Bank Plc, Standard Chartered

Bank Nigeria Ltd, Sterling Bank Plc, SunTrust Bank Nigeria Limited, Titan Trust Bank Plc, Union Bank of Nigeria Plc, Unity Bank Plc, Wema Bank Plc.

### **CHEQUE CLEARING SERVICES AND CUSTOMER SATISFACTION**

Cheque clearing services refer to the process through which a bank verifies and transfers funds from the payer's account to the payee's account when a cheque is deposited. It involves several steps to ensure that the cheque is legitimate, that there are sufficient funds in the payer's account, and that the transfer can happen smoothly (Luster, 2018). Fabes (2017) asserted that Cheque clearing is a financial process that ensures the secure transfer of funds between two parties when a cheque is issued and deposited. It involves multiple steps that guarantee the legitimacy of the cheque, verify sufficient funds, and facilitate the actual transfer of money. This process typically occurs between the bank of the person writing the cheque (the payer) and the bank of the person receiving it (the payee), but in modern banking, it often involves clearinghouses or electronic payment systems to streamline the operation.

When a cheque is deposited into the payee's bank, the first step in the clearing process involves its submission to the payer's bank (Fisayo, 2017). In traditional methods, this is done by physically transporting the cheque to the payer's bank through a clearinghouse or an intermediary. However, with the rise of digital banking systems, the process has become faster and more efficient through electronic or digital channels. Modern banking systems now allow for the transmission of cheque images or data electronically, which significantly reduces the time required for physical transport and the associated risks of handling paper cheques. These advancements allow the process to be more streamlined and can even enable same-day processing, depending on the systems in place (Bassey, 2019). Once the cheque reaches the payer's bank, the institution begins the critical process of verifying the cheque. The first thing the bank checks is whether the cheque has been signed correctly. A missing or incorrect signature can lead to the cheque being considered invalid, which would halt the clearing process. The bank will also inspect the cheque for any issues, such as it being post-dated or stale. Lamb (2020) asserted that a post-dated cheque is one that is issued for a date in the future, and a stale cheque is one that is presented after a certain period of time, usually six months. Both types of cheques may not be honoured if presented outside the specified time frame.

The payer's bank ensures that these factors are checked to avoid potential complications or fraud. In addition to verifying the basic details of the cheque, the payer's bank also checks the payer's account status. The most important verification at this stage is whether there are sufficient funds in the payer's account to cover the cheque amount. If the account balance is inadequate, the bank will flag this as insufficient funds and may decide not to process the cheque (Miller, 2016). Banks typically have processes in place to check for available credit or overdraft limits in cases where a customer's balance is low, but this decision is at the discretion of the bank. In the case of a discrepancy, the cheque may be returned unpaid, which means the payee will not receive the funds they were expecting. Adeola and Ekere (2022) posited that if any discrepancies are found, the payer's bank will not honour the cheque, and the cheque may be returned to the payee's bank. In turn, the payee's bank will notify the payee about the failure and provide a reason for the non-payment, such as insufficient funds, a signature mismatch, or an invalid cheque date. This process ensures that both parties are informed and can take corrective actions if necessary.

In the event that the cheque is rejected, the payee may choose to re-present the cheque or seek alternative means of payment (Emeka, 2017). Through these checks, the clearing system aims

to protect both the payer and the payee from fraud and errors, ensuring that only valid and authorised transactions proceed. Olufemi (2016) posited that if all checks are cleared, the payer's bank then transfers the specified amount of money to the payee's bank. The transfer typically involves a series of intermediary steps, especially if the banks are located in different regions or use different systems. This part of the process ensures that the payment is processed correctly and that the appropriate accounts are debited and credited. Once the funds are received, the payee's bank credits the amount to the payee's account, completing the transaction. Depending on the methods used (traditional paper-based clearing or modern electronic clearing), this process may take a few days or several business hours to complete. The time taken for the funds to appear in the payee's account can vary based on the efficiency of the clearing system, the involved financial institutions, and whether any issues arise during the verification stage.

Sylvester (2021) asserted that cheque clearing services, particularly through electronic systems, have greatly improved in terms of speed and convenience. Many banks now use automated clearing house systems (ACH) or central clearing systems, which significantly reduce the time it takes to clear cheques. Nevertheless, despite technological advancements, cheque clearing remains an essential process in ensuring that the money is transferred securely and efficiently, protecting both the payer and payee from potential fraud or error. Once the necessary identification is provided and verified, the customer will be required to make an initial deposit to activate the account (Nkem, 2021). This deposit serves as a confirmation that the customer is committed to opening the account and is often a prerequisite for it to be officially opened. The amount of the initial deposit varies significantly depending on the type of account being opened and the policies of the financial institution. For example, basic checking accounts may have little to no minimum deposit requirement, allowing customers to open an account with just a small amount of money or even none at all. On the other hand, more specialised accounts, such as certain types of savings accounts, fixed deposits, or premium checking accounts, may require a more substantial initial deposit to activate the account. This amount could range from a few dollars to hundreds or even thousands, depending on the account's features and the institution's guidelines.

#### **Person-to-person payments, Services and Customer Satisfaction**

Person-to-person payments services are defined as the transfer of funds between two individuals, typically through a digital platform or mobile application, without the need for physical cash or traditional bank transfers. This method enables people to send and receive money directly from one bank account or digital wallet to another, facilitating quick and convenient financial transactions. The transfer process usually involves linking a user's account or payment service to their smartphone or email, allowing them to send money to anyone with an email address, phone number, or a linked account on the same platform. In recent years, person-to-person payment services have seen a surge in popularity, fundamentally changing the way individuals handle financial transactions. Services such as Venmo, PayPal, Zelle, and Cash App have grown in prominence, providing an easy and accessible way for people to send and receive money without the need for physical cash or complicated banking procedures (Dayo, 2019). These platforms have been especially transformative in enabling individuals to quickly and conveniently pay for services, send money to loved ones, or split shared expenses.

Whether it's for a group dinner, rent payments, or contributing to a friend's birthday gift, person-to-person payment services have become an indispensable tool for modern-day financial exchanges. Rashid (2016) posited that the user-friendly interfaces of these platforms are another key

reason for their widespread adoption. Person-to-person payments apps are designed to be intuitive, requiring minimal technical knowledge, which makes them accessible to a wide demographic, including those who might not be particularly tech-savvy. Transactions can be made with just a few taps on a smartphone, and most platforms allow users to link their bank accounts or credit/debit cards, eliminating the need to visit a bank or carry cash. (Michael, 2023) This convenience has made person-to-person services highly attractive, especially for younger generations who are accustomed to digital-first solutions for daily tasks. The simplicity of these platforms has also been a key factor in their success, as users can send money to friends and family with ease, whether they are in the same city or on the other side of the world (Chidi and Ebere, 2021).

Another significant advantage of person-to-person payment services is the speed with which transactions are processed (Okekeet *al*, 2021). Unlike traditional bank transfers, which often take several business days to complete, person-to-person payments are typically instant or occur within minutes. This rapid transaction time allows for a seamless flow of money between individuals, making it ideal for situations where quick payments are needed. For instance, if a person needs to reimburse a friend for a dinner bill or pay for tickets to an event, the transaction can be completed almost immediately, without the delays that are common in traditional banking systems (Solomon, 2017). This efficiency makes person-to-person payments an attractive alternative to older methods like wire transfers or checks, which can involve lengthy processing times. The speed and ease of person-to-person payments are especially beneficial in a globalised world, where people are increasingly engaging in cross-border financial transactions.

Oladele (2020) posited that these services allow individuals to send money to family members, friends, or colleagues who are in different geographical locations without incurring high fees or waiting for days to complete the transfer. This instant gratification is particularly useful for those sending money internationally or paying for services abroad. Moreover, while international wire transfers can often involve steep fees and unfavourable exchange rates, many person-to-person services offer competitive or even free cross-border transfers, further cementing their position as a preferred payment method for people who want to avoid the complexities of traditional banking. Ugochukwu (2020) submitted that person-to-person payment services have gained significant traction due to their ease of use, speed, and accessibility. Platforms like Venmo, PayPal, Zelle, and Cash App have revolutionised how people manage financial transactions, making it easier than ever to pay for goods and services, send money across distances, and settle shared expenses. The instant processing times of these services have made them a preferred option over traditional bank transfers, contributing to the growing shift towards digital and mobile payments. As these platforms continue to evolve, they are likely to become even more ingrained in everyday financial transactions.

One of the key concepts behind person-to-person payments is the use of digital wallets or payment systems that act as intermediaries between users and their bank accounts. These systems handle the payment processing, ensuring that funds are transferred securely (Emmanuel, 2021). Some platforms may charge fees for certain types of transactions, like instant transfers or international payments, but many allow free transfers between users who are within the same network or platform. Rashid (2016) asserted that person-to-person payments are typically designed to be secure, with many platforms using encryption and multi-factor authentication to protect users from fraud or unauthorised transactions. However, because of the ease of use and accessibility, person-to-person payments can also carry risks, particularly if the user sends money to someone they don't know or trust. As a result, users are often advised to be cautious and only transact with people

they have a trusted relationship with. Akinlade and Emeka (2021) stated that person-to-person payments have revolutionized the way individuals manage and transfer money, offering speed, convenience, and flexibility.

**Methodology**

A correlational research design was adopted for this study. The area of this study was South-South, Nigeria. The population of the study comprised all the customers of commercial banks in the South-South geopolitical zone of Nigeria. A purposive sampling approach was used in the selection of 311,600, 000 active customers in the 26 commercial banks in South-South Nigeria, where 8 commercial banks were selected based on the bank Size, ownership Structure and presence in the South-South Zone. The sample size for the study comprised 400 reliable commercial banks' acute customers. A researcher developed an instrument, tagged "Operational Banking Services and Customer Satisfaction Questionnaire (OBSCSQ)", was used in the collection of data for the study. The instrument went through face validation by three experts. To determine the reliability coefficient of the instrument, an internal consistency method was applied. Regression analysis was used in answering the research questions and in testing the hypotheses at the 0.05 level of significance.

**RESULTS AND DISCUSSIONS**

**Research Question One:** To what extent do cheque clearing services predict customers' satisfaction in commercial banks?

**Table 1: Summary of Regression Analysis of the extent to which Cheque clearing services Predict Customers' Satisfaction in Commercial Banks (N=400)**

Variables	R	R <sup>2</sup>	Adjusted R <sup>2</sup>
Cheque clearing Services(X)	.481	.231	0.230
Customers Satisfaction (Y)			

**Source: Field Work (2025)**

Table 1 shows the extent to which cheque clearing services predict customers' satisfaction in commercial banks. The coefficient of correlation (R) of .481 shows that cheque clearing services predict customers' satisfaction to a moderate extent. Also, the coefficient of determination (R<sup>2</sup>) value of .231 indicates that cheque clearing services predict up to 21.3 per cent variation in customer satisfaction in commercial banks. This result shows that cheque clearing services predict customer satisfaction in commercial banks to a moderate extent.

**Research Question Two:** To what extent do person-to-person payment services predict customers' satisfaction in commercial banks?

**Table 2: Summary of Regression Analysis of the extent to which Person-to-person payment Services Predict Customers' Satisfaction in Commercial Banks (N=400)**

Variables	R	R <sup>2</sup>	Adjusted R <sup>2</sup>
Person-to-person payments Services (X)	.882	.778	.778
Customers' Satisfaction (Y)			

**Source: Field Work (2025)**

Table 2 shows the extent to which cheque clearing services predict customers' satisfaction in commercial banks. The coefficient of correlation (R) of .882 indicates that person-to-person payment services predict customer' satisfaction to a very high extent. Also, the coefficient of determination (R<sup>2</sup>) value of .778 shows that person-to-person payment services predict up to 77.8 per cent variation in customer satisfaction in commercial banks. This result shows that person-to-person payment services predict customers' satisfaction in commercial banks to a very high extent.

**Hypothesis Testing**

**Hypothesis One:** Cheque clearing services do not significantly predict customers'satisfaction in commercial banks.

**Table 3: Regression Analysis of the prediction of Customers' Satisfaction in Commercial Banks by Cheque clearing services (N=400)**

Model	Sum of Square	DF	Mean Square	F	Sig	Remarks
Regression	12.149	1	12.149	.152	.537	Not Significant
Residual	31853.617	398	80.06			
Total	31865.766	399				

**\*= Not Significant at .05 alpha level. Source: Field Work (2025)**

The results of Table 3show that the p-value of .537 is greater than .05 at 1 and 398 degrees of freedom and at .05 level of significance. Therefore, the null hypothesis, which stated that Cheque clearing services do not significantly predict customer satisfaction in commercial banks, is accepted. Hence, cheque clearing services do not significantly predict customersatisfaction in commercial banks in South-South, Nigeria.

**Research Hypothesis Two:** Person-to-person paymentservices do not significantly predict customer satisfaction in commercial banks.

**Table 4: Regression Analysis of the prediction of Customers' Satisfaction in Commercial Banks by Person-to-person payments Services (N=400)**

Model	Sum of Square	DF	Mean Square	F	Sig	Remarks
Regression	586.202	1	586.202	6.801	.009	Significant
Residual	46024.268	398	86.188			
Total	46610.470	399				

**\*= Significant at .05 alpha level. Source: Field Work (2025)**

The results of Table 4show that the p-value of .009 is less than .05 at 1 and 398 degrees of freedom and at .05 level of significance. Therefore, the null hypothesis, which stated that person-to-person paymentservices do not significantly predict customer satisfaction in commercial banks,is rejected. Thus, person-to-person payment services significantly predictcustomer satisfaction in commercial banks in South-South, Nigeria.

**CONCLUSION**

In conclusion, cheque clearing and person-to-person payment services play a vital role in shaping customers' satisfaction in commercial banks. Efficient cheque clearing builds trust and reliability, while seamless person-to-person payments promote convenience and accessibility. Together, these services influence customer loyalty, service perception, and long-term patronage. Thus, the ability of banks to enhance these financial services directly determines the level of

satisfaction and competitiveness within the industry. The study showed that cheque clearing services and person-to-person paying services do not significantly predict customersatisfaction in commercial banks in South-South, Nigeria.

#### **RECOMMENDATIONS**

- i. Banks should gradually reduce reliance on cheque clearing by promoting digital payment alternatives. Educational campaigns should inform customers of faster and more secure options like transfers and e-checks. Banks should review the cost-benefit of maintaining cheque services and consider strategic scaling down.
- ii. Person-to-person platforms to facilitate fast, seamless and low-cost transfers should be expanded and secured by banks. They must integrate these services into mobile banking apps with intuitive user experiences. Awareness campaigns should be launched to educate customers on how to safely use these services for everyday transactions.

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**EFFECT OF REPEATED STRATEGY AND READING COMPREHENSION**

By

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**ABSTRACT**

This study investigated the effect of Repeated Reading Strategy and Reading Comprehension of pupils in public primary schools in Uyo Local Government Area of Akwa Ibom State. The study adopted a quasi-experimental non-equivalent group design. The population of the study was 46,071 primary four pupils of public primary schools. Simple random sampling technique was used to draw four schools and the sample size was 200. Reading Comprehension Achievement Test (RCAT) was used as instrument for the study. The instrument's validity was determined by experts. Kuder Richardson Formula 20 was used to determine the internal consistency of Mathematics Achievement Test (MAT) which yielded a coefficient index of 0.70. Mean and standard deviation were used to answer the research questions while Analysis of Covariance (ANCOVA) was used to test the hypothesis. The study revealed that pupils exposed to repeated reading strategy performed better in their ability to answer questions, find main ideas, follow directions, comprehend word meanings and make summary from a passage than those exposed to the conventional reading strategy. Based on the findings of the study, the researcher recommended among others that emphasis should be made on the use of repeated reading strategy by the teachers to enhance pupils' ability in reading comprehension. Teachers should acquaint themselves with the skills and principles of this method and use them to enhance effective teaching and learning process. This should be achieved through attending seminars, workshops, conferences and other in-service training programmes organized by the Federal and State Ministries of Education and other professional bodies.

**KEYWORDS: Repeated, Strategy, Reading and Comprehension**

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**INTRODUCTION**

Reading is fundamental to meaningful living. In the educational system, reading is the principal instrument used to help pupils to learn. According to Webster Dictionary of English Language (2016), reading is the art of studying and understanding written characters and symbols. Similarly, Tiwalwu (2017) view reading as a form of communication in which the decoder (reader) endeavours to interpret the mind of the encoder (writer). Reading is significant among school activities in being both a subject of instruction and a tool for the mastery of other subjects of the school curriculum. Learning of any subject in the school curriculum depends largely on the reading ability of the learner (Eze, 2017). Reading is required on a daily basis by adults if they are to participate in modern day society. When we teach children how to read, we are preparing them to be abreast of social, cultural, economic and political changes in the society. The goal of reading instruction at the primary school level is that each child should be functionally literate and be able to communicate effectively. Functional literacy means an individual can read with learning, think

critically and utilize efficiently problem solving skills, which are crucial for effective and successful living. The achievement of this child to read and to learn, it also ensures that a child that terminates his or her education at this level will not slip back into illiteracy (Omogjuwa, 2015). In recognition of the significance of reading in a child's life, the National Policy on Education (2014:11), stipulates "the inculcation of permanent literacy and numeracy and the ability to communicate effectively". There are certain skills an individual should acquire in order to ensure mastery of comprehension. They should have ability to answer questions from a selection or passage, find more ideas from a passage, follow directions from a passage and comprehend word meanings and ability to summarize a passage. The ability to answer questions directly from a story or passage is an indication that the child comprehends the story or the passage that he or she has read. Answering questions from a passage helps pupils to develop the ability to formulate significant questions for themselves.

Another aspect of skill a child should acquire for effective reading comprehension is learning to follow directions. Following direction involves repeating directions, drawing a picture from directions, observing written directions, drawing a picture from directions given. Developing reading comprehension skills in words meanings is equal in child's reading ability. This skill involves finding the meaning of words through class discussion, studying the word written in context on the chalk-board, invoking up words in a dictionary before reading a story of a passage (Eze, 2017).

All these reading comprehension skills can be developed effectively in the children through the use of appropriate instructional strategies. Instructional strategies are the overall plan for the orderly presentation of learning material. It is procedural and in consonance or view assumptions dealing with the nature of the reading act and the nature of teaching and reading (Omojuwa, 2015). Etuk (2015), Ene (2014) and Ikonta (2014) blame the inability of pupils to read effectively on the wrong use of instructional strategies by teachers. Omojuwa states that pupils fail to read because of poor teaching methods employed by the teacher in teaching reading.

## **STATEMENT OF THE PROBLEM**

The high rate of reading comprehension failures owing primary school pupils has continued to be a source of concern to all stake-holders in the education of children in this level. This is because of its implications for the quality of education of the higher level. The poor performance of pupils in reading comprehension in Nigerian primary schools has been attributed to the use of poor instructional strategies by teachers. It is evident that the last majority of pupils have difficulties comprehending what they read. This disturbing phenomenon is not without its many negative ramifications especially given the fact that reading comprehension correlates academic achievement.

The slow and poor performances of pupils in reading comprehension have been attributed to the use of conventional instructional methods and poor strategies by instructors. Parents and the society at large blame poor comprehension of pupils on teacher's poor instructional strategies. The frequent use of conventional method of instruction regardless of modest achievement made, has not really mitigated the problem of poor reading comprehension and link between oral and written language. Therefore, it is based on the blame of pupil's poor reading comprehension on teachers use of conventional method of instruction that the researcher seek to determine the effect of repeated reading strategy and reading comprehension of pupils in public primary schools in Uyo Local

Government Area.

### **OBJECTIVE OF THE STUDY**

- i. Determine the difference in pupils' ability to answer questions from a passage when taught using repeated reading strategy and taught using the conventional reading strategy.
- ii. Examine the difference in pupil's ability to find the main ideas from a passage when taught using repeated reading strategy and taught using the conventional reading strategy.
- iii. Ascertain the difference in pupil's ability to follow directions from a passage when taught using repeated reading strategy and when taught using the conventional reading strategy.

### **RESEARCH QUESTIONS**

- i. What is the difference in pupil's ability to answer questions from a passage when taught using repeated reading strategy and taught using the conventional reading strategy?
- ii. What is the difference in pupil's ability to find the main ideas from a passage when taught using repeated reading strategy and taught using the conventional reading strategy?
- iii. What is the difference in pupil's ability to follow direction from a passage when taught using repeated reading strategy and taught using the conventional reading strategy?

### **RESEARCH HYPOTHESIS**

- i. There is no significant difference in the ability to answer questions from a passage by pupils taught using repeated reading strategy and taught using the conventional reading strategy.
- ii. There is no significant difference in the ability to find the main ideas from a passage by pupils when taught using repeated reading strategy and taught using the conventional reading strategy.
- iii. There is no significant difference in the ability to follow directions from a passage by pupils taught using repeated reading strategy and taught using the conventional reading strategy.

### **CONCEPTUAL REVIEW**

According to Dorathy (2016) reading is a total integrative process that starts with the reader and includes the following domains: the effective, the perceptual and the cognitive. In the words of Sisulu (2014) reading is one of the fundamental building blocks of learning. Becoming a skilled and adaptable reader enhances the chances of success at school and beyond. Reading is not just for school, it is for life. Reading in all its variety is vital to being better informed, have a better understanding of us as well as others. It makes man to be a thoughtful and constructive contributor to a democratic and cohesive society. Leading world nations pride themselves on their promotion of reading. They see a high level of literacy as a major source of their competitiveness and social maturity. The absence of a reading comprehension ability in the case of Nigeria acts as an effective barrier to our development and international competitiveness. The economic, social and political health of our nation today depend on building literate citizens that are able to read widely and apply it practically for development. It is therefore a necessity to make the present generation more aware of the benefits and importance of reading and ensuring that they have the literacy skills required in

the modern society.

Reading according to Hornby (2014) means, to look at and understand the meaning of written or printed words or symbols. Reading is a unique human activity that is characterized by the translation of symbols or letters into word and sentences that communicate information and mean something to the reader. The reader seeks to understand the meaning of the written text, evaluates its significance and uses what he or she has read to enhance his or her knowledge, effectiveness or pleasure, voluntary reading is important not just for personal use and life-long education, but even for learning in schools. It requires a lot of reading to become a fluent reader. In its broad meaning therefore, Ogbonna (2014) states that reading literally refers to the ability to recognize and understand characters or speak words that may be printed or written on paper and other formats of recording human knowledge.

Reading is the ability to obtain meaning from words. The ability to read and write is called literacy and a person who can read is said to be literate, while a person who lacks the ability to read is said to be illiterate. Holte (2018) remarks that a situation in which a large number of people rarely read either because they have the skill or simply because they do not care enough to take time to concentrate will pose serious problems in the future. Reading is essential to full participation in modern society. It adds quality to life, provides access to culture and cultural heritage, empowers and emancipates citizens as well as brings people together.

### **READING COMPREHENSION AND PUPILS ABILITY TO ANSWER QUESTIONS**

Reading comprehension and ability to answer questions are highly interwoven as there cannot be comprehension without ability to answer questions, contemplate between lines, words, think loud, ask, generates, and answer questions so as to avail the key point, main idea, and reason behind a passage (Yallet, 2014).

To Raphael, (2016), questioning has long been used by teachers as a way to guide and monitor pupils' learning to read. "Research shows that teacher questioning strategy supports and advances pupil's learning from reading" (Armbruster, Lehr and Osborn, 2014). "No comprehension activity has a long or more persuasive tradition, asking pupils question about their reading, whether this occurs before, during, or after reading" (Duke and Pearson, 2016). Teachers need to ask pupils questions for a better comprehension, need to ask both the teachers themselves and friends questions, for improvement in reading comprehension.

Raphael (2016) spent time observing pupils and the strategies pupils use while answering questions. She found out that many pupils fell into one or many categories.

- i. Those who relied only on the memory or prior knowledge to find answer.
- ii. Those who rely on only the text.

These observations read the importance of teaching pupils the relationship between question, answering of questions, and comprehension.

As a result, Raphael (2016) developed an approach called QACR or Question Answer

Comprehension Relationship which teaches pupils how to distinguish questions with answers that focus “in the head”. This research confirmed that when pupils are taught to use strategy, their ability to observe questions correctly improves. Therefore, QACR assists pupils in differentiating among questions based on where the answers can be found, either in the book or in the head (Caldwell and Leslis, 2015).

## **READING COMPREHENSION AND PUPILS ABILITY TO FIND MAIN IDEAS**

The ability to find or identify main idea in a text is a key reading comprehension skill (Jolly, 2014). Elementary aged children, unfortunately find identification of main ideas in expository text problematic (Baumann, 2014), in spite of a considerably alteration paid to main idea, comprehension in instructional resources suffer as pupils find it difficult to practice or find main idea in a given story (Johnson and Berrett, 2016). Researchers consequently examined the nature of main idea comprehension and discovered that pupils’ insensitive to main idea is due in part, to the character of main idea instruction in instructional resources. Certainly, Durkin (2015) reveal correspondence between basal reader manual prescriptions and teachers behaviours.

Bratt (2016) discloses that authors do not always provide complete and explicitly description of information about a topic, a character, a thing, an event or about the main idea in a passage. However, they do provide clues or suggestions that readers can use to read between the lines, thus allowing the reader to make inference about the main idea of the passage based on the information in the next and / or on the readers own background knowledge. The ability to make inference about the main idea from a story or passage by pupils has been described as the heart of the reading process. In fact, it has been showing that pupils significantly improve their ability to get meaning, draw conclusion and find main idea in a passage. It has also been disclosed that pupils are able to get meaning from reading when they are taught directly how to draw conclusion ad make inferences. Indeed, research strategy supports the value of providing even young pupils with such instructions.

Bratt (2016) also stated that in reading text passages, sometimes the main idea is stated in the opening sentence and developed with examples and evidence in the sentences that follow, or a passage may conclude with the main idea – a point that the author has been building toward throughout the passage with supporting evidence. It is suggested that readers should not mind into thinking that he or she only need to read the first and last sentences of the passage for main idea. The main idea of complex passages are not easy to identify.

## **STRATEGIES FOR ANSWERING MAIN IDEA QUESTIONS**

- i. Look for key words that identify the question as a main idea question. Pupils should be guided on ways to seek the word that identify the question as a main idea. If the question includes any of the main idea key words listed above, this will help pupils focus on identifying the authors point as they are.
- ii. Teachers are to teach pupils to read passages and make notes. This in order words means that once they identify the question as a main idea question, they should read the passage and making notes on their papers as they read.

- iii. Remember to pay special attention to words such as but, yet, again, since, only, together, however. These words signal a shift, a qualification, something pupils should note, the ideas that follow these words are usually important to the overall meaning of the passage.

## **READING COMPREHENSION AND PUPILS ABILITY TO FOLLOW DIRECTION**

Another comprehension skill a child should acquire for effective reading comprehension is learning to follow direction. Some reading passages or stories give the reader directions to follow in accomplishing a task. For pupils to follow the steps sequentially in accomplishing such a task as read from the passage, they have to understand what is written. This implies that they must have a good ability to comprehend reading. Morgan (2017) observes that children who are learning to follow direction in a reading be able to carry out the following skills: repeat direction given by the teacher, observe written directions by the teacher; such as “make one ball yellow, make the other ball blue”, answer questions about a set of direction such as “what should you do after drawing a picture?” he should be able to follow written or oral directions for making thing such as a folder for papers or producing a paper mache. He should be able to arrange in a correct order, the sentences for directions to do or make something. This ability can be improved with the use of effective strategies in teaching reading comprehension.

## **READING AND INSTRUCTIONAL STRATEGIES**

Many reading approaches are being implemented to teach reading skills, and because of its importance. These are some of the approaches.

Firstly, shared reading approach, “this is a general instructional practice that involves an adult reading a book to a child or group of children without any extensive interaction from the children, this practice allows the teacher to model fluent oral reading to pupils experiencing difficulties” (Rasinski, 2013).

Secondly, assisted doze, “in this strategy, sessions last 10-15 minutes. The teacher chooses text at the pupils’ instructional level, the teacher reads aloud while the pupils follow quietly and wave a finger. At some point, the teacher stops and the pupils are expected to read the following word in the text. The process proceeds until the whole passage has been read. After that the pupils take the teacher’s turn while the teacher takes the pupil’s turn (Rasinski, 2016).

Thirdly, choral reading, this is a reading strategy which can be implemented with pupils as individuals or in groups. Each session lasts for 10-15 minutes in which a teacher chooses a passage aloud as well, so teacher and pupils read together. In this strategy, teacher encourages pupils to read expression (Miskal, 2016).

Fourthly, duet reading, in this strategy, the teacher picks a passage at the pupil’s instructional or independent level. During reading the teacher and the pupils take turns to read one word at a time, while the teacher follows in the passage with an index finger. When the pupils become more fulfilled, the teacher can change the ratio to move more responsibility to the pupils: for instance, if the teacher reads a single word aloud, the pupils read three words aloud in advance (Gallagher, 2018).

Fifthly, echo reading, in this strategy, to improve pupils' reading fluency, the teacher chooses a text at the pupil's instructional level. The teacher begins by reading small part (e.g, one or two sentences) while the pupils track silently. The pupils then read the same short part aloud and the read-aloud action continues, substituting turns between teacher and pupils till the end of the passage.

Sixthly, look and say method is another strategy. Look and say method is made part of the pupils' everyday life. This is done through the use of initial contact of a child with any written word is through labels which the child is familiar with either at home or in the classroom. Label could be a piece of paper or any other material that is printed to an object and it gives information about the object. Labels should normally be written as sentence e.g, this is a table, this is a desk. The advantage of using sentences is that the learners are made to know how to express themselves in complete sentences rather than using isolated words. The teacher makes use of labels for many objects by pinning them to objects, drawing, ect., (Rasinski, 2016).

### **REPEATED READING STRATEGY**

Repeated reading is reading of selected text for a set number of times or until a fluency criterion is met, is the fluency development tool of interest to this study. Repeated reading is the most used method of developing reading fluency (Meyer and Felton, 1999 and Samuel, 1979) are connected to respected theory (LaBerge and Samuels, 1974).

Samuels (1976), wrote the classic work on repeated reading which initiated a significant line of research documenting the success that the technique has had on improving fluency and subsequently comprehension. He wrote that repeated reading was designed to be a supplement to the core curriculum. It was a useful technique for pupils with learning difficulties; however, it could also be a useful strategy for normally developing children.

### **METHODOLOGY**

This study adopted a quasi-experimental research design. Specifically, it is a pretest, posttest nonequivalent control group design. Quasi-experimental design is a design in which random assignment of subject to treatment and control groups is not possible.

The population of the study consisted of 2,071, (SUBEB, 2016) primary four pupils in 48 public primary Schools in Uyo Local Government Area. Multi stage sampling techniques was use in selecting schools from the target population. The Instrument use for the study is titled "Reading Comprehension Achievement Test (RCAT) and content validation of the instrument was carried out by an expert from measurement and evaluation, one from Curriculum Studies (English Language) and one from early childhood Education, Faculty of Education, University of Uyo. The reliability coefficient of 0.70 was considered to be highly reliable and useful in collecting the required data for the study Mean and Standard deviation was used in answering the research questions while analysis of covariance (ANCOVA) was used to test the hypothesis at 0.05 level of significant.

**Research Question One:** What is the difference in pupils ability to answer questions from a passage when taught using repeated reading strategy and when taught using conventional reading strategy?

**Table 1:** Mean Standard Deviation and Mean difference of Pupils ability to answer questions from a passage when taught using Repeated Reading Strategy (RRS)

Group	N	Pre-Test		Post-Test		Mean Difference
		X	SD	X	SD	
Repeated Reading Strategy	101	3.64	1.86	9.44	2.19	5.80
Conventional Reading Strategy	99	3.72	1.82	3.79	1.72	0.07

The result presented in Table 1 shows the pretest mean achievement scores of pupils ability to answer questions when taught using repeated reading strategy (experimental group) was 3.64 with a standard deviation of 1.86 and a posttest mean of 9.44 with a standard deviation of 2.19. The different between the pretest and protest mean for the experimental group was 5.80. The conventional reading strategy (control group) had a pretest mean 3.72 with a standard deviation of 1.82 and posttest mean 3.79 with a standard deviation of 1.72. The different between pretest and posttest mean for conventional reading strategy (control group) was 0.07 for (experimental group) and (control group), the posttest mean were greater than the pretest with Repeated reading strategy having higher mean gain. This is indicative that pupil's ability to answer questions from a passage more than exposed to conventional reading strategy.

**Research Question Two:** What is the difference in pupils ability to find the main ideas from a passage when taught using repeated reading strategy and when taught using conventional reading strategy?

**Table 2:** Mean, Standard Deviation and Mean difference of pupil's ability to find the main ideas from a passage when taught using Repeated Reading strategy RRS and when taught conventional reading Strategy CRS.

Group	N	Pre-Test		Post-Test		Mean Difference
		X	SD	X	SD	
Repeated Reading Strategy	101	3.12	2.06	10.12	2.35	7.00
Conventional Reading Strategy	99	3.94	1.69	4.32	2.89	0.38

The result presented in Table 2 shows the pretest mean achievement scores of Pupil’s ability to find the main ideas when taught using repeated reading strategy (experimental group) was 3.12 with a standard deviation of 2.06 and posttest mean of 10.12 with a standard of 2.35. The difference between the pretest and posttest mean for the experimental group was 7.00. The conventional reading strategy (control group) had a pretest mean 3.94 with a standard deviation of 1.69 and a posttest mean 4.32 with a standard deviation of 2.89. The difference between the pretest and posttest mean for conventional reading strategy (control group) was 0.38 for (experimental group) and (control group), the Repeated Reading Strategy improves pupil’s ability to find the main ideas from a passage more than those not exposed to this Strategy.

**Research Question Three:** What is the difference in pupil’s ability to follow directions from a passage when taught using repeated strategy and when taught using conventional reading strategy?

**Table 3:** Mean, Standard Deviation and Mean Difference of Pupil’s ability to follow directions from a passage taught using repeated reading strategy RRS when taught using conventional reading strategy CRS

Group	N	Pre-Test		Post-Test		Mean Difference
		X	SD	X	SD	
Repeated Reading Strategy	101	3.79	1.78	9.32	1.92	5.53
Conventional Reading Strategy	99	4.11	2.59	4.04	1.82	-0.07

The result presented in Table shows the pretest mean achievement scores of pupil’s ability to follow directions from a passage when taught using repeated reading strategy (experimental group) was 3.79 with a standard deviation of 1.78 and a posttest mean for the experimental group 5.53. The conventional reading strategy (control group) had a pretest mean 4.11 with a standard deviation of 2.59 and a posttest mean 4.04 with a standard deviation of 1.82. The difference between the pretest and posttest mean for conventional leading strategy (control group) was -0.07. The mean gain of (experimental group) 5.53 was greater than the mean gain of (control group) -0.07. This implies that pupils exposed to repeated reading strategy performed better in their ability to follow directions from a passage than those exposed to the conventional reading strategy.

**PRESENTATION OF NULL HYPOTHESES**

**Hypothesis 1:** There is no significant difference in pupils’ ability to answer questions from a passage when taught using repeated reading strategy and when taught using conventional reading strategy.

**Table 1:** Analysis of covariance (ANCOVA) on difference in pupils’ ability to answer questions from

a passage when taught using repeated reading strategy and when taught using conventional reading strategy.

Source	Type III Sum of Squares	Df	Mean square	F-cal	P-value
Corrected Model	1197.601	2	598.801	167.842	.001
Intercept	843.3571	1	843.357	236.391	.001
Pretest	48.766	1	48.766	13.669	.001
Method	1158.0181	1	1158.018	452.591	.001
Residual	503.038197	2.553			
Total	8074.000	200			
Corrected Total	199				

a.R Squared = .704 (adjusted R squared =.700)

= Significant at P< .05 alpha level

**Hypothesis 2:** There is no significant difference in pupils' ability to find the main ideas from a passage when taught using repeated reading strategy and when taught using the conventional reading strategy.

**Table 2:** Analysis of covariance (ANCOVA) on difference in pupils' ability to find the main ideas from a passage when taught using repeated reading strategy and when taught using the conventional reading strategy.

Source	Type III Sum of Squares	Df	Mean square	F-cal	P-value
Corrected Model	1325.1172	662.559	107.770	.001	
Intercept	974.834	1	974.834	158.564	.001
Pretest	114.585	1	114.585	18.638	.001
Method	1315.9201	1315.920	229.072	.001	
Residual	866.855197	4.400			
Total	9790.000	200			

Corrected Total 2191.972 199

a. R square = .605 (adjusted R squared = .599)

= significant at  $P < .05$  alpha level

**Hypothesis 3:** There is no significant difference in pupils' ability to follow directions from a passage when taught using repeated reading strategy and when taught using conventional reading strategy.

**Table 3:** Analysis of Covariance (ANCOVA) on difference in pupils' ability to follow directions from a passage when taught using conventional reading strategy.

Source	Type III Sum of Squares	Df	Mean square	F-cal	P-value
Corrected Model	1018.182 <sup>a</sup>	2	509.091	149.813	.001
Intercept	1247.239	1	1247.239	367.031	.001
Pretest	17.482	1	17.482	5.145	.025
Method	1014.613	1	1014.613	417.192	.001
Residual	479.144	197	2.432		
Total	7991.000	200			

Corrected Total 1419.326 199

a. R squared = .680 (adjusted R squared = .675)

Significant at  $P < .05$  alpha level

## CONCLUSION

Based on the findings of this study, the conclusion reached were that pupils exposed to repeated reading strategy performed better overall in reading comprehension skills of ability to answer question, find the main ideas and follow directions than those exposed to the conventional reading strategy., Pupils exposed to reading repeated reading strategy performed better in their ability to answer questions from a passage than those exposed to the conventional reading strategy. There was a significant difference in pupils ability to answer questions from a passage when exposed to

repeated reading strategy. The pupils exposed to repeated reading strategy performed better in their ability to find the main ideas from a passage than those exposed to the conventional reading strategy. Above all, there was a significant difference in pupil's ability to answer questions, find the main ideas and follow direction.

### **RECOMMENDATION**

- Teachers should integrate repeated reading strategy into reading activity to enhance pupils ability to answer questions, find the main ideas and follow directions
- Institutions responsible for teacher preparation in early childhood education should incorporate the use of repeated reading strategy into their reading and language curriculum so as to equip the pre-service teachers the competencies needed in the use of this method.
- Reading intervention classes should be inaugurated in every school where pupils could be intervened for, by providing appropriate repeated book reading and activities which serves as a support base to boost their performance in reading comprehension.
- Periodic monitoring of teachers to ascertain the compliance with repeated reading strategy should be carried out by school administrators.

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**ATUTOR LEARNING MANAGEMENT SYSTEM, ACADEMIC PERFORMANCE AND  
RETENTION OF SECONDARY SCHOOL STUDENTS IN BIOLOGY IN UYO, AKWA  
IBOM STATE**

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**ABSTRACT**

The study sought to examine the effect of ATutor LMS, academic performance and retention of secondary school students offering Biology in Uyo Local Government Area. Three research questions and three hypotheses were formulated to guide the study. The study adopted Quasi-experimental design using the pretest post-test non randomized control group design. The population comprised all the 3,183 Senior Secondary Two (SS II) students offering Biology in all the 15 public secondary schools in Uyo Local Government Area of Akwa Ibom State during 2024/2025 academic session. Purposive sampling technique was used in selecting a sample size of 102 students for experimentation and control. The experimental group was taught using ATutor LMS while the control group was taught using Expository method. An instrument called 'Biology Performance Test (BPT)' was used to pretest and posttest the students. The instrument was face and content validated by three validates in Faculty of Education, University of Uyo. Split half method and Kuder-Richardson formula-21 (KR-21) were used in determining the reliability of the instrument which had a reliability coefficient of 0.87. The data obtained from the pretest, posttest and retention test were analyzed using mean, Standard Deviation to answer all the research questions and Analysis of Covariance was used to test all the hypotheses at .05 significant level. The result indicated a significant difference in the mean performance scores of students in Biology when taught using ATutor LMS and expository method. The result also indicated a no significant difference in the mean performance scores of male and female students taught pollution using ATutor LMS and expository method. The study also revealed a significant difference in mean retention scores of students taught using the two instructional strategies. It was concluded that ATutor LMS is more effective and students retained concept better when taught with ATutor LMS than the expository method. Based on the findings, it is recommended among others, that Biology teachers should make effective use of ATutor LMS in teaching the concept of Pollution so that student's performance will be enhanced.

**KEYWORDS: A Tutor LMS, Biology and Academic Performance.**

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**INTRODUCTION**

Biology is a vital subject that plays a crucial role in understanding the intricacies of life and the natural world. It is important extends to various aspects of our lives, including medicine, environmental conservation, agriculture, and biotechnology. By studying biology, students will gain insights into the functioning of living organisms, the interconnectedness of ecosystems and the impact of human activities on the environment. This knowledge will enable students to develop innovative solutions to pressing global challenges, such as disease prevention, sustainable resource management and conservation of biodiversity. Ultimately, biology enables students to make inform decisions and actions, empowering them to promote human health, environmental sustainability and a better future for all. The study of biology in secondary schools enable students to gain a deeper understanding of the living world, from the tiny Pollution that make up the body to the ecosystems that spark curiosity, creativity and a passion for science. Biology can also open doors to exciting career opportunities in fields like medicine, environmental science, research and conservation. The teaching of biology will instill in students' essential skills like critical thinking, problem-solving and analytical thinking which can benefit them in many areas of life. Despite this importance, students' performance in the subject is not encouraging. Each educational sector apportioning blame on teachers and teaching methods.

Presently, it has been observed by the researcher that most secondary school teachers in Uyo are completely relying on the expository teaching strategy. Expository learning strategy is a teaching strategy where information is presented to learners in a structured and direct manner. This strategy emphasizes the delivery of content through explanations without demonstrations and descriptions by the teacher. The primary goal is to convey information and concepts efficiently, allowing students to absorb and understand the material without the need for extensive exploration or discovery on their own. Science teachers embraced this method for easy coverage of the school syllabus. The complete reliance of this teaching strategy could be responsible for this poor performance of students both internally and externally.

Students' academic performance refers to the level of achievement or proficiency that a student has attained in their educational pursuits. It is typically measured through a variety of assessments, including examinations, quizzes, assignments, projects, and classroom participation (Fred, 2021). Students' academic performance is often quantified using grades or scores that reflect a student's understanding, skills, and competencies in various subjects. It is measured by the final grades or scores earned during a course of study. Higher scores indicate better academic performance (Opara, 2022). To enhance students' performance in Biology, there are other innovative teaching platforms like ATutor that can be used by teachers in teaching Biology concepts to enhance students' performance.

ATutor is an open source, online learning environment used to develop web-based courses, author e-learning content, and present instructional materials on the internet. ATutor is an acronym coined from the place of development. It was developed at Adaptive King Technology Resource Centre University of Toronto (Sobowale, *et al.* 2020). Adaptive Technology University of Toronto was shortened to ATutor. ATutor supports self-directed learning because it enhances students' ability to set an appropriate pace for learning and get assistance from various resources, thereby enhancing their academic performance. ATutor is unique for providing versatile spaces open for collaboration among students with support from the tutors especially as the students chat online.

ATutor is a Learning Management System (LMS) platform that provides a comprehensive framework for delivering educational content, facilitating communication and tracking students'

progress, thereby supporting a more interactive and personalized learning experience (Yusuf and Balogun, 2020). Among the various LMS platforms available, ATutor stands out for its flexibility, user-friendliness and robust features that cater to both educators and students. ATutor is an open-source LMS that allow educators to create and manage online courses, integrate multimedia content and assess students learning through quizzes and assignments. ATutor platform gives students access to learning materials at their own pace, allows them to participate in discussions and receive feedback on their performance. According to Wang and Xu (2022), ATutor is effective in presenting complex concepts through interactive session thereby enhancing students' understanding and retention of the concepts taught.

ATutor learning management system interface is easy and simple to use. ATutor is an effective platform for teaching and learning because it enables group conversations, multimedia file sharing, easy access to conversion history and is accessible for individuals. ATutor LMS allows for immediate synchronous communication and maximal mobility (as it is installed on mobile phones), and is highly accessible to the general populace, including teachers who may perceive it. Application of ATutor LMS into teaching and learning of Biology helps to facilitate students' learning effectiveness and academic performance.

According to Gachago (2015), ATutor LMS can be used to create immediate connections, encourage reflection and facilitate coordination in informal and formal learning. In addition, Mtebe (2015) posited that ATutor is a useful electronic tool that can facilitate information sharing. ATutor LMS served as a tool for bridging access to learning resources, rendering peer-based and hierarchical support, leveraging on-task behaviour and enhancing meaningful context-free learning. However, to make learning to be student-centered, ATutor as online learning platforms have been observed to enable educators to design online courses in which the students can access anytime like a virtual classroom (Chukwuemeka *et al.* 2015). Students may be intellectually and physically capable to learn but may never learn until their interest is aroused through an active approach of teaching. In line with this, Freeman *et al.* (2014) posited that active learning strategies have been shown to improve students understanding and retention of subject matter, leading to higher academic performance. Researches from Sobowale, *et al.* (2020), Ugbaga, and Simon, (2023) and Basil *et al.*, (2021), revealed that students taught with LMS platforms performs better than those taught with expository method. Apart from teaching strategy, gender is another factor that hinders students' performance. Gender is defined as a wide range of biological, behavioural, physical and mental characteristics regarding and differentiating the female and male population (Okeke, 2020). Gender is an aspect concerning the responsibilities, roles, opportunities, constraints and needs of males and females in all aspect of social context (Omosho, 2019). Researches from Oludipe (2019), Adigun *et al.* (2019), Gongden and Gongden (2019) found no statistically different in the mean performance scores of male and female students while researches from Dorathy (2015) and Iloputaife *et al.* (2016) found out in their studies that gender had significant difference on students' academic performance in science.

Retention of learnt concept is another factor that hinders students' performance. Retention is the ability to hold, keep or recall past experiences and reproduce a learnt concept when the need arises. Bukunola and Idowu (2015) posited that retention is an important variable in learning because only a learnt experience is recalled and learning cannot be said to have taken place if there is no proper retention. The ability of learners to recall past learnt basic science concept as an objective of basic science teaching and learning process may likely enhance good performance in the subject. According to White (2018), retention is a wonderful trait of human being and it is very important to

educators because of the role it plays in teaching and learning process as the yardstick for measuring content learnt. Retention function is a process which begins from the time of receipt of information to the time of recall and usage. Research from Maria (2018) revealed equal performance in terms of retention in gender while research of Tukura *et al.* (2020), revealed that the use of e-learning platform has positive effect on student's retention than the expository classroom.

### **STATEMENT OF THE PROBLEM**

Effective teaching and learning of Biology in secondary schools is an issue of great concern to stakeholders in the educational sector. Despite the importance of Biology in life, industrial and technical development, researchers have continually documented reports of poor performance of students in Biology. The Poor performance of students in Biology in external examination has been attributed to several factors among which is the poor instructional delivery methods adopted by teachers during classroom instruction. In view of this, Biology teachers have continued to search for better instructional delivery methods that will provide the bridge between unfamiliar concepts and prior knowledge to improve students' performance and retention in Biology. It is on this basis that the researcher is investigating the effect of ATutor LMS on students' academic performance and retention in Biology. Can the performance and retention of students in Biology be enhanced when ATutor LMS is used in teaching the concept of Pollution? This study seeks to answer this question.

### **PURPOSE OF THE STUDY**

The aim of this study is to determine the difference in the performance of students taught the concept of Pollution using ATutor LMS and those taught using Expository method in Biology in Uyo Local Government Area. Specifically, the study sought to;

4. Determine the difference in the mean performance score of students taught the concept of Pollution using ATutor and expository methods.
5. Compare the mean performance scores of male and female students taught the concept of Pollution using ATutor and expository methods.
6. Determine the difference in the mean retention score of students taught the concept of Pollution using ATutor and expository methods.

### **RESEARCH QUESTIONS**

To accomplish the purpose of this investigation, the following research questions guided the study;

4. What is the difference in the mean performance scores of students taught the concept of Pollution using ATutor and expository methods?
5. How does the mean performance scores of male and female students differ when taught the concept of Pollution using ATutor and expository methods?
6. What is the difference in the mean retention score of students taught the concept of Pollution using ATutor and expository methods?

### **RESEARCH HYPOTHESES**

The following hypotheses guided the study and were tested at 0.05 level of significance;

4. There is no significant difference in the mean performance score of students taught the concept of Pollution using ATutor and expository methods.

5. There is no significant difference in the mean performance scores of male and female students taught the concept of Pollution using ATutor and expository methods.
6. There is no significant difference in the mean retention scores of students taught the concept of Pollution using ATutor and expository methods.

### METHODOLOGY

This study adopted quasi-experimental research design. Specifically, the non-randomized pre-test-posttest control group design was used. This study was carried out in Uyo Local Government Area of Akwa Ibom State. Uyo is the state capital of Akwa Ibom State, Nigeria. The population size of this study was 3,183 SS II students from the fifteen public secondary schools in Uyo Local Government Area during the 2024/2025 academic session. 102 (50 male and 52 female) SSII students formed the sample size of the study. The sample were drawn from two (2) intact classes from one co-educational public secondary school in Uyo. Purposive sampling technique and simple random sampling technique of balloting was used in selecting the school from the fifteen co-educational public secondary schools in Uyo.

One researcher-made instrument tagged: Biology Performance Test (BPT) was used for data collection. BPT was designed to measure the students' performance in the concept of Pollution and was also used to test for students' retention. The instrument contained twenty (20) multiple choice items with four options A – D. Each correct option carries 5 marks giving a total 100%. This instrument was re-shuffled and used for post-test and retention test respectively. The instrument was subjected to face and content validation. To ascertain the reliability of the Biology Performance Test (BPT), the instrument was trial tested on 30 Biology students in a school not selected for the study but part of the population. The data obtained was analyzed using the Kuder Richardson (K-21) formula and the reliability coefficient of 0.87 was realized, indicating that the instrument was reliable and capable of measuring the intended knowledge with consistency. The data collected from the study were analyzed using Mean and Standard deviation to answer the research questions and Analysis of Covariance (ANCOVA) was used to test the hypotheses at 0.05 level of significance. In testing the null hypotheses, if the calculated probability value is less than the significance level of 0.05 the null hypothesis was rejected and if the calculated probability value is greater than the significance level of 0.05 the null hypothesis was upheld.

### DATA ANALYSIS AND RESULTS

**Research Question 1:** What is the difference in the mean performance scores of students taught the concept of Pollution using ATutor and expository methods?

The result of the analysis is presented in Table 1

**Table 1: Mean and Standard Deviation of Pre-test and Post-test Scores of SS II Students taught the concept of Pollution using ATutor and expository methods**

Treatment	Pretest Posttest Mean Mean						Groups
	n	$\bar{X}$	SD	$\bar{X}$	SD	Gain	

ATutor (Experimental)	52	14.82	5.43	76.62	9.84	61.8	7.53
Expository (Control)	50	14.71	5.36	68.98	7.22	54.27	
<b>Total</b>	<b>102</b>						

Data in Table 1 revealed the pre-test and post-test mean scores of experimental students taught Biology with ATutor of 14.82 and 76.62 and their respective standard deviations of 5.43 and 9.84. The result further shows the pre-test and post-test mean scores of students taught using expository method of 14.71 and 68.98 and their respective standard deviations of 5.36 and 7.22 respectively with mean difference of 7.53 between the two treatment groups. This means that use of ATutor method in teaching the concept of Pollution enhanced students' performance than expository method.

**Research Question 2:** How does the mean performance scores of male and female students differ when taught the concept of Pollution using ATutor and expository methods?  
The result of the analysis is presented in Table 2

**Table 2: Mean and Standard Deviation of Pre-test and Post-test Scores of SS II male and female students taught the concept of Pollution using ATutor and expository methods**

Treatment Groups	Gender	n	Pre-test		Post-test		Mean Gain	Mean Diff.
			$\bar{X}$	SD	$\bar{X}$	SD		
ATutor	Male	26	12.46	3.12	45.82	5.28	33.36	0.62
	Female	26	12.92	3.58	45.66	5.02	32.74	
Expository	Male	24	12.03	3.36	45.46	5.46	33.43	0.43
	Female	26	12.00	3.01	45.86	5.06	33.86	
<b>Total</b>		<b>102</b>						

Data in Table 2 revealed the pre-test and post-test mean scores of male students taught the concept of Pollution with ATutor methods of 12.46 and 45.82 and their respective standard deviations of 3.12 and 5.28. The result further shows the pre-test and post-test mean scores of female students taught using ATutor of 12.92 and 45.66 and their respective standard deviations of 3.58 and 5.02 respectively with mean difference of 0.62 between the two treatment groups (male and female). This means that use of ATutor in teaching the concept of Pollution enhanced male and female students' performance equally.

Data in Table 2 also revealed the pre-test and post-test mean scores of male students taught the concept of Pollution with Expository method of 12.03 and 45.46 and their respective standard deviations of 3.36 and 5.46. The result further shows the pre-test and post-test mean scores of female students taught using expository method of 12.00 and 45.86 and their respective standard deviations of 3.01 and 5.06 respectively with mean difference of 0.43 between the two treatment groups (male

and female). This means that use of expository method in teaching the concept of Pollution enhanced male and female students' performance equally. In summary, the use of ATutor LMS and expository method in teaching the concept of Pollution enhanced male and female students' performance equally.

**Research Question 3:** What is the difference in the mean retention score of students taught the concept of Pollution using ATutor and expository methods?

The result of the analysis is presented in Table 3

**Table 3: Mean and Standard Deviation of Post-test and retention scores of SS II Students taught the concept of Pollution using ATutor and expository methods**

Treatment Groups	n	Post-test $\bar{X}$	SD	Retention $\bar{X}$	SD	Mean Gain	Mean Diff.
ATutor (Experimental)	52	76.62	9.84	88.02	10.08	11.4	4.12
Expository (Control)	50	68.98	7.22	76.26	9.02	7.28	
<b>Total</b>	<b>102</b>						

Data in Table 3 revealed the post-test and retention scores of students taught Biology with ATutor LMS of 76.62 and 88.02 and their respective standard deviations of 9.84 and 10.08. The result further shows the post-test and retention scores of students taught using expository method of 68.98 and 76.26 and their respective standard deviations of 7.22 and 9.02 respectively with mean difference of 4.12 between the two treatment groups. This means that experimental students retained concepts taught using ATutor method better than those taught using expository method.

#### Testing of Hypotheses

**Hypothesis I:** There is no significant difference in the mean performance score of students taught the concept of Pollution using ATutor and expository methods.

**Table 4.4: Summary of ANCOVA analysis of SS II students taught the concept of Pollution using ATutor method and those taught using expository method (n=102).**

Source	Type III Sum of Squares	df	Mean Square	F	P-value	Decision	Corrected
Model	4845.047	2	2422.524	37.431	.000		
Intercept	33875.578	1	33875.578	523.423	.000		
Pre-test	5.276	1	5.276	.082	.776		
Instructional_strategies* Pretest	4778.051	1	4778.051	73.827	.000		Sig.
Error	12749.708	99	64.719				
Total	683799.000	102					
Corrected Total	17594.755	101					

The result of ANCOVA analysis in Table 4.4 reveals that {F-ratio (2, 102) is 73.827,

$p=.000<0.05$ }. The implication of this, is that the significant value (.000) was found to be less than the alpha value (0.05) in which the decision was based. With this result, the null hypothesis of no significant difference in the mean performance score of students taught the concept of Pollution using ATutor and those taught with expository method was rejected. This implies that there is a significant difference in the performance score of students taught the concept of Pollution using ATutor and expository methods. The result points to the fact that the experimental group taught with ATutor method had a significant performance over the control group which is the expository group.

**Hypothesis II:** There is no significant difference in the mean performance scores of male and female students taught the concept of Pollution using ATutor and expository methods.

**Table 4.5: Summary of ANCOVA analysis of SS II male and female students taught the concept of Pollution using ATutor method and those taught using expository method (n=102).**

Source	Type III Sum of Squares	df	Mean Square	F	P-value	Decision
Corrected Model	11.177	2		5.589	.101	.904
Intercept	21246.744	1	21246.744	382.893	.000	
Pretest	5.859	1	5.859	.106	.746	
Instructional strategies_	7.741	1	7.741	.139	.710	N/Sig.*
Gender*Pretest						
Error	5382.533	99	55.490			
Total	398899.000	102				
Corrected Total	5393.710	101				

The result of the ANCOVA analysis in Table 4.5 reveals that {F-ratio (2, 102) = .139,  $p=.710>0.05$ }. The implication of this is that the p-value (.710) was found to be greater than the alpha value (0.05) which the decision was based. With this result, the null hypothesis of no significant difference in the mean performance scores of male and female students taught the concept of Pollution using ATutor and expository method was retained. This implies that there is no significant difference in the mean performance scores of male and female students taught Pollution using ATutor and expository methods. The result points to the fact that both male and female students in the two treatment groups performed equally.

**Hypothesis III:** There is no significant difference in the mean retention score of students taught Pollution using ATutor and expository method.

**Table 4.6: Summary of ANCOVA analysis of mean retention of SSII Students taught the concept of Pollution using ATutor method and those taught using expository method (n=102).**

Source	Type III Sum of Squares	df	Mean Square	F	P-value	Decision
Corrected Model	280.561	2	140.281	1.975	.144	
Intercept	11601.593	1	11601.593	163.321	.000	
Posttest	.248	1	.248	.003	.953	

Instructional strategies*	279.725	1	279.725	6.938	.001	Sig.*
Retention_Posttest						
Error	6890.439	99	71.035			
Total	284900.000	102				
Corrected Total	7171.000	101				

The result of the ANCOVA analysis in Table 4.6 reveals that  $\{F\text{-ratio}(2, 102) = 6.938, p = .001 < 0.05\}$ . The implication of this is that the p-value (.001) was found to be less than the alpha value (0.05) which the decision was based. With this result, the null hypothesis of no significant difference in the mean retention score of students taught Pollution using ATutor and expository method was rejected. This implies that there is a significant difference in the mean retention score of students taught Pollution using ATutor and expository methods. This result is an indication that significant difference exists in the mean retention score of students taught Pollution using ATutor and expository methods.

## RESULTS AND DISCUSSION

The result of the analysis of the difference in the mean performance score of students taught Pollution using ATutor LMS and those taught using expository method revealed that there is a significant difference in the mean performance score of students taught Pollution using ATutor and expository method. This result can be attributed to the fact that ATutor LMS offers interactive learning environment where students engage with content through various multimedia tools, such as videos, quizzes and discussion forums. This interactivity fosters active learning, which is more effective than the passive learning that typically occurs in the expository instruction. This finding is in line with the position of Freeman *et al.* (2014) who posited that active learning strategies have been shown to improve students understanding and retention of subject matter, leading to higher academic performance. Researches from Sobowale, *et al.* (2020), Ugbaga and Simon, (2023) and Basil *et al.*, (2021), revealed that students taught with LMS platforms performs better than those taught with expository strategy.

The result of the analysis of the difference in the mean performance score of male and female students taught the concept of Pollution using ATutor LMS and those taught using expository method revealed that there is no significant difference in the mean performance score of students taught Pollution using ATutor and expository method. The reason could be that both students were exposed to the same instructional strategies and same content at the same time. Therefore, gender does not have a strong effect on students' performance. This outcome is in tandem with the findings of Oludipe (2019), Adigun *et al.* (2019), Gongden and Gongden (2019) whose findings revealed a no significant difference in academic performance of male and female students. However, this study is contrary to the findings of Dorathy (2015) as well as Iloputaife *et al.* (2016) who found that gender had significant difference on students' academic performance in science.

The result of the analysis of the difference in the retention score of students taught the concept of Pollution using ATutor LMS and those taught using expository method revealed that there is a significant difference in the retention score of students taught Pollution using ATutor LMS and expository method. The findings could be attributed to the fact that ATutor LMS offers students the opportunity to access learning materials irrespective of time and location. It may also be that ATutor LMS was able to develop the students as independent learners, who worked at their own pace and level. The outcome of this study supports the finding of Tukura *et al.* (2020), whose study revealed

that the use of e-learning has positive effect on student's retention and performance in favour of the experimental group. The reason for this result could be to the fact that LMS incorporate game-like features, making learning more engaging and with fun, which led to increase in students' retention. When students are actively involved in the teaching-learning process, it aids their retention in concepts taught. The finding of this study contradicts with that of Maria (2018), whose findings revealed that neither male nor female students in the two groups retained significantly better than the other in Biology after treatment.

### **CONCLUSION**

Based on the findings of this study, it was concluded that the use of ATutor LMS in teaching the concept of Pollution was more effective in facilitating students' academic performance and retention than expository method. Gender and was not a significant determinant of students' performance.

### **RECOMMENDATIONS**

- Based on the findings and the conclusion drawn, the following recommendations were made:
- Biology teachers should utilize ATutor LMS effectively in teaching the concept of Pollution.
  - Government in conjunction with other professional bodies like Science Teachers Association of Nigeria and State Ministry of Education should endeavour to organize and sponsor regular workshops, seminar and conferences to train science teachers on the use of LMS platforms.

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**DEVELOPMENT SPENDING AND POVERTY ERADICATION: LESSONS FROM  
NIGERIA**

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**ABSTRACT**

*The eradication of poverty occupies the first spot on the sustainable development goals agenda and the enhanced delivery of development finance is seen as a possible stimulant to its realization. This study therefore investigates development spending and the extent of its effects on poverty alleviation; with particular focus on the Nigerian scenario. It specifically assesses the effects of federal government capital expenditures on agriculture, education, health and infrastructure (works, roads and housing) on per capita income in Nigeria. Annual time series data from 1990 to 2021, obtained from the World Bank as well as the Central Bank of Nigeria Databases were utilized for the study, which were analysed using the Auto Regressive Distributed Lag (ARDL) estimation technique. The results reveal that capital expenditure on agriculture, health and infrastructure have insignificant, mainly positive, effects on per capita income while that on education has a significant negative effect on per capita income. Thus, development spending has not impacted strongly on poverty eradication in Nigeria. It is therefore recommended that the federal government should be more consistent in its capital spending on primary welfare while particularly reviewing its educational spending, especially with regards to the NEEDS assessment of educational institutions.*

**KEYWORDS: Development Spending, Poverty Eradication, Agriculture, Education, Health, Infrastructure**

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**INTRODUCTION**

The overriding importance of human wellbeing informs the placement of poverty eradication as the most priority goal in the sustainable development goals (SDGs) of the United Nations. As enshrined in the 2030 Action Agenda, the complete eradication of all dimensions of poverty is critical to unlocking so much of the human potential, as thousands of people continue to lose their lives as a result of lack of access to good food and clean water ([www.globalgoals.org](http://www.globalgoals.org)). It is widely believed that the achievement of a more-productive and fulfilling life will be more realizable if most people across the globe can access basic needs and have greater capacity to tackle sicknesses and diseases. Poverty, which describes those who are unable to afford up to \$1.25 for their upkeep per day, is a phenomenon that has continued to plague the human race; and no meaningful socio-economic growth can be achieved without addressing the issue of poverty. Ghali (1996), cited in Ososuakpor (2012) reiterated that the thrust of development should be on the improvement of humans and enhancing their wellbeing. Consequently, this understanding has stimulated a new consensus to save the world from the clutches of poverty.

In Nigeria, several initiative and interventions have been introduced, at one time or the other, to tackle the issue of poverty, although most of them has hardly ever been successful (Aibieyi, & Dirisu,

2010). Some of these include the “Better Life for Rural Women” – pioneered by Maryam Babangida in 1987, “Poverty Alleviation Programme” (PAP) and “National Poverty Eradication Programme” (NAPEP) – instituted under the Obasanjo’s civil administration in 1999 and 2001, respectively; to mention a few. The essence of these programmes was to significantly reduce the level of poverty through the delivery of microcredit and the institution of skills development programmes.

Over the years the government has continued to channel its revenue to tackle critical sectors in a bid to achieved desired growth and development in the country. These development arise under two major categories: economic and social services. While those of economic services are mainly targeted at agriculture, roads and construction as well as transport and communication, expenditures on social services are mainly directed at education and health. Although these economic and social spending have gradually increased in the past decades, it is not quite clear the extent of its effect on poverty eradication. This is mainly because the impact of such development spending have rarely been weighed against poverty level in Nigeria.

Although, there has been quite a handful of empirical literature on government expenditure and poverty eradication in Nigeria, but almost all of these studies have examined government expenditure generally. This study deviates from the previous studies by examining purely development spending of the government and the extent to which they have contributed to poverty eradication in Nigeria.

## **LITERATURE REVIEW**

The word “poverty” is expressed to mean a situation in which cannot afford the minimal level of basic needs, necessary for sustenance and wellbeing. It refers to a condition in which a person is unable to acquire the basic human needs. As noted by David (1981) “a poverty-stricken person is poor in comparison with a majority of others in his society but his level of living usually does not constitute an immediate threat to life and or health”. “Poverty is seen as an essential condition in which an individual lacks the skills and the techno-material where with all to produce to sustain a living above poverty” (Guardian, 1999). Thus, most interventions, such as the NAPEP, are specifically driven towards providing the necessary assistance that enables most of the poor people to be able to live a better life in which they can at least afford basic necessities. It is therefore, desired that the multi-prong approach to the epidemic is appropriate. The issue of poverty is simply viewed by Hornby, (2001) as “a state of being poor or a state of social, economic and political inferiority”. In the same vein, Miller (1977) defines poverty in terms of individual or family insufficiency of assets, income and public service. He went further to state that “poverty is also lack of certain capabilities, such as being able to participate with dignity in society”. The capabilities are absolute, but the commodities needed are relative. Mencher, (1977) says that “poverty is a condition of having an income incompatible with a society’s national objectives”.

## **DEVELOPMENT SPENDING**

Developing spending is a term that that can be used interchangeably as development expenditure, and it is any form of expenditure that is expended to improve development, be it social, mental or economic. In Nigeria, development spending is situate under two categories of expenditure: social and economic expenditure. Social expenditure refers to expenditures that are targeted at education, health and other social and community services; whereas agriculture, roads and construction as well as transport and communication fall under the economic expenditure.

## **THEORETICAL FRAMEWORK**

### **Wagner's Law**

The "law of increasing expansion of public and particularly state activities", popularly referred to as "Wagner's law", is one of the earlier theories which tried to explain the rationale behind government spending, was put together by Adolph Wagner in 1876. The theory precipitates on the fact that the level of economic growth determine the level of government spending. According to Wagner, "social progress has led to increasing state activity with resultant increase in public expenditure". One of the underlying propositions of the theory was that government proportion of spending will increase by the proportion which per capita income increases.

By virtue of Wagner's law, government spending is geared towards the improvement of the social and economic welfare, which can be captured by the per capita income, which incidentally is a metric for assessing poverty level. An increase in per capita income suggests an improvement in the welfare of the citizenry, which translates into greater social and economic development. Given this scenario, it is expected that the thrust of government spending in Nigeria should be to enhance human welfare, which accentuates the many programmes and interventions of the government in its bid to reduce or possibly eliminate it. By targeting agriculture, education, health and infrastructure, it is believed that government sets the stage for enhanced and sustained growth and development, socially and economically.

### **EMPIRICAL REVIEW**

Osundina, Ebere, and Osundina (2014) assessed the impact of government disaggregated infrastructural spending and the extent to which they have reduced the level of poverty in Nigeria. They examined the effects of government spending on building and construction, transportation, education and health on per capita income (PCI) in Nigeria from 1970 to 2012. Applying the Vector Autoregressive Model, they found significant positive and negative effects of building and construction as well as transportation on PCI, respectively. On the other hand, educational and health spending had insignificant negative and positive effects on PCI, respectively.

Sunkanmi, and Abayomi (2014) examined the extent of the effect of government expenditure on the alleviation of poverty in Nigeria between 1975 and 2010. The result of the regression analysis, powered by the Fully Modified Ordinary Least Square (FMOLS) analytical technique, revealed that educational, targeted poverty alleviating, power and roads expenditures are significant in alleviating poverty in Nigeria.

Ozoana (2013) also examined the extent of government agricultural, educational, health, and other spending on poverty level in Nigeria. The study, which covered the period from 1980 to 2011, employed the multiple regression technique and found that only public spending on agriculture significantly influenced poverty level in Nigeria, though directly while spending on education and health had indirect but insignificant effect on poverty level.

Enyim (2013) investigated the government spending-poverty alleviation nexus in Nigeria. The study set out to ascertain the extent of government spending on agriculture and agricultural guarantee on Nigeria's poverty level between 1980 and 2009. Using the least square regression estimation model, the study showed that government agriculture spending has strong but none-alleviating influences on poverty level in Nigeria.

Omodero (2019) explored the link between government expenditure and the quest for alleviating poverty in Nigeria within the 18-year period from 2000 to 2017. The result of the OLS estimation revealed that government spending, particularly on agriculture, education, and health does not

significantly affect poverty level in Nigeria.

Memon, Panhwar, and Rohrra (2014) examined development expenditure and economic development in Pakistan. This study was conducted in the light of fiscal plan of Pakistan and secondary data was used from State Bank of Pakistan and Ministry of Finance for year 2000-01 to 2009-10 and linear regression was applied for checking the above said impact, and concluded that the value of R-square which states that all six independent variables of economic development are rightly predicting the development expenditure while using general approach but when we used the stepwise regression method which clearly escaping or leaving three of them and only using remaining three variables namely Health & Nutrition, Exports, and Imports are rightly predicting the development expenditure (Dependent Variable) and states that Health & Nutrition Expenditure is negatively related with development expenditure which is purely policy matter, and Exports, Imports are positively related with development expenditure it is right in the case of exports only but needs serious attention by the policymakers in the case of Imports.

## METHODOLOGY

This study employs time series data, obtained from the CBN and World Bank databases from the period of 1990 to 2021, which were analysed using the Auto Regressive Distributed Lag (ARDL) model. The model for the study is specified as:

$$PCI = f(CEAGR, CEEDU, CEHLT, CEWHR) \quad (1)$$

This is further expressed econometrically as:

$$PCI = \beta_0 + \beta_1 CEAGR + \beta_2 CEEDU + \beta_3 CEHLT + \beta_4 CEWHR + \mu \quad (2)$$

Where PCI = Per capita income (measured as annual percentage change),

CEAGR = capital expenditure on agriculture = (measured as percentage of CEAGR to TGCE = Total government capital expenditure)

CEEDU = capital expenditure on education = (measured as percentage of CEEDU to TGCE)

CEHLT = capital expenditure on health = (measured as percentage of CEHLT to TGCE)

CEWHR = capital expenditure on works, housing and roads = (measured as percentage of CEWHR to TGCE)

$\beta_0$  = Intercept,  $\beta_1, \beta_2$  = Slope of the regression, and  $\mu$  = Error term. Also by a priori,  $\beta_1, \beta_2, \beta_3, \beta_4 > 0$ .

## RESULTS AND DISCUSSION

**Table 1 Descriptive Statistics**

	CEAGR	CEEDU	CEHLT	CEWHR	PCI
Mean	5.086250	16.72724	9.734171	8.400946	21.97209
Median	3.255000	14.29878	8.638537	6.264651	18.22397
Maximum	30.39000	43.85783	23.46789	40.21681	66.85944
Minimum	-29.41000	2.753867	1.817160	1.641266	0.098703
Std. Dev.	13.16918	10.46806	5.784375	7.970003	16.19066
Skewness	-0.359803	0.821441	0.625076	2.690414	0.952907
Kurtosis	3.044961	3.002161	2.447679	10.42107	3.565241
Jarque-Bera	0.693139	3.598750	2.490582	112.0341	5.268832
Probability	0.707110	0.165402	0.287857	0.000000	0.071761

Sum	162.7600	535.2716	311.4935	268.8303	703.1069
Sum Sq. Dev.	5376.250	3396.990	1037.229	1969.149	8126.262
Observations	32	32	32	32	32

Source: Author's Computation using Eviews 10

**Table 2: ADF Unit Root Test**

Variables		t-statistic	Critical value (0.05)	Prob.	Order of Integration
CEAGR	Level	-3.212347	-2.960411	0.0288	$I(0)$
CEEDU	Level	-3.366138	-2.960411	0.0202	$I(0)$
CEHLT	Level	-2.625223	-2.960411	0.0988	$I(1)$
	1 <sup>st</sup> Difference	-5.144868	-2.963972	0.0002	
CEWHR	Level	-2.129969	-2.960411	0.2349	$I(1)$
	1 <sup>st</sup> Difference	-7.051734	-2.963972	0.0000	
PCI	Level	-2.542699	-2.960411	0.1156	$I(1)$
	1 <sup>st</sup> Difference	-6.312823	-2.971853	0.0000	

Source: Researcher's Computation using E-views 10

**Table 3: VIF Test**

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
CEAGR	0.092884	8.017544	2.205197
CEEDU	0.216406	6.154691	1.568754
CEHLT	0.190029	5.614652	2.615230
CEWHR	0.030989	5.105842	1.759976
C	23.85312	5.334660	NA

Source: Researcher's Computation using E-views 10

**Table 4: ARDL Bounds Test**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CEAGR1	0.431351	1.051405	0.410262	0.6854
CEEDU1	0.257429	1.865604	0.137987	0.8915
CEHLT1	-0.264485	1.519570	-0.174052	0.8633
CEWHR1	-0.109644	0.587231	-0.186714	0.8535

$$EC = PCI - (0.4314*CEAGR + 0.2574*CEEDU - 0.2645*CEHLT - 0.1096*CEWHR)$$

F-Bounds Test Null Hypothesis: No levels relationship

Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	1.374708	10%	2.696	3.898
K	4	5%	3.276	4.63
Actual Sample Size	31	1%	4.59	6.368

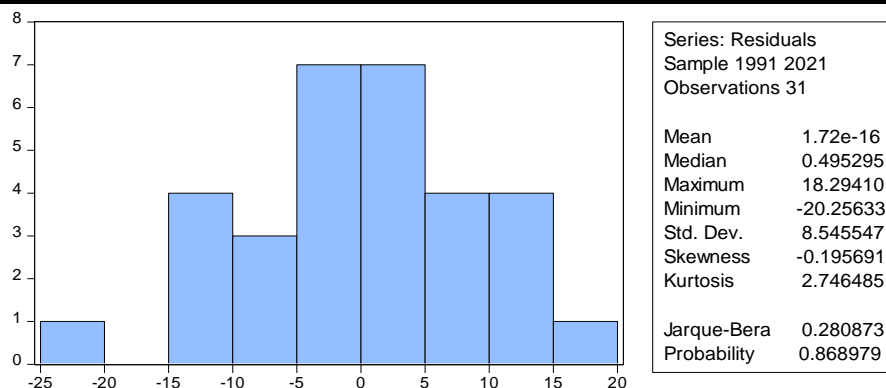
Finite Sample: n=35

Source: Author's Computation using Eviews 10

**Table 5: ARDL Short run Test**

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
PCI(-1)	0.657331	0.166308	3.952492	0.0006
CEAGR	0.147811	0.368261	0.401375	0.6918
CEEDU	-0.985392	0.424135	-2.323300	0.0294
CEEDU(-1)	1.073605	0.581862	1.845118	0.0779
CEHLT	0.643076	0.400762	1.604634	0.1222
CEHLT1(-1)	-0.733706	0.379039	-1.935702	0.0653
CEWHR	-0.037572	0.207003	-0.181504	0.8576
C	0.250400	5.342460	0.046870	0.9630
R-squared	0.591669	Mean dependent var		5.191613
Adjusted R-squared	0.467395	S.D. dependent var		13.37315
S.E. of regression	9.759702	Akaike info criterion		7.612037
Sum squared resid	2190.791	Schwarz criterion		7.982098
		Hannan-Quinn		
Log likelihood	-109.9866	criter.		7.732668
F-statistic	4.760985	Durbin-Watson stat		2.027129
Prob(F-statistic)	0.001994			

Source: Author's Computation using Eviews 10



**Figure 1: Histogram Normality Test**  
Source: Author's Computation using Eviews 10

**Table 6: Serial Correlation Test**

F-statistic	0.125959	Prob. F(2,21)	0.8823
Obs*R-squared	0.367470	Prob. Chi-Square(2)	0.8322

Source: Author's Computation using Eviews 10

**Table 7: Heteroskedasticity Test**

F-statistic	0.697842	Prob. F(7,23)	0.6735
Obs*R-squared	5.430597	Prob. Chi-Square(7)	0.6076
Scaled explained SS	2.610446	Prob. Chi-Square(7)	0.9186

Source: Author's Computation using Eviews 10

**Table 8: Granger Causality Test**

Null Hypothesis:	Obs	F-Statistic	Prob.
CEAGR does not Granger Cause PCI	30	0.11205	0.8944
PCI does not Granger Cause CEAGR		0.31696	0.7312
CEEDU does not Granger Cause PCI	30	0.82801	0.4485
PCI does not Granger Cause CEEDU		0.01205	0.9880
CEHLT does not Granger Cause PCI	30	0.02204	0.9782
PCI does not Granger Cause CEHLT		1.22218	0.3116
CEWHR does not Granger Cause PCI	30	0.21132	0.8109

**Source: Author's Computation using Eviews 10**

The descriptive statistics in Table 1 show that about 5.1%, 16.7%, 9.7%, and 8.4% of total capital expenditure, on the average, are spent annually on agriculture, education, health, as well as Works, housing and roads construction, respectively; while PCI changes annually by an average of about 22%. The high standard deviation statistics also suggests that these spending are largely inconsistent over the period while the Jarque-Bera statistics reveal that all the variables are normally distributed, except CEWHR. In Table 2, the VIF loadings for the variables are all less than 3.0, which indicate that there is absence of multi co-linearity in the variables modelled. The unit root test in Table 3 reveal that CEAGR and CEEDU are integrated at level ( $I/0$ ) whereas CEHLT, CEWHR and PCI are integrated at their first differences. Furthermore, the Bounds test in Table 4 shows an F-statistic of 1.375, which is lower than the 5% critical value of 4.63, suggesting unlikelihood of cointegration among the variables. On the other hand, the ARDL short run results in Table 5 indicate that 46.7% of the variations in PCI are absolutely explained by the independent variables while the F-statistic and probability value of 4.76 and 0.002 reveal a good fit of the model. In addition, only CEEDU significantly influences PCI at 5% level. The validity of the result in Table 5 were upheld by the normality, serial correlation and heteroskedasticity tests in Figure 1 and Tables 6 and 7. Lastly the Granger causality test in Table 8 showed that there were no causal relations between the variables in the research model.

**DISCUSSION OF FINDINGS**

From the results in Table 5, PCI (-1) is positive and significant at 5% level, implying that previous levels of can significantly enhance future level. More so, CEAGR has insignificant positive effect on PCI, which is consistent with the a priori expectation. This buttresses Omodero (2019) and implies that an increase in the capital allocation to agriculture can reduce poverty. This is because the agricultural sector still provides meaningful employment to most persons in the country, thus, government spending on the sector has the capability to improve welfare, though not significantly. Contrastingly, CEEDU exerted a significant negative effect on PCI, which is inconsistent with the a priori expectation, implying that government spending on education has not contributed positively to poverty eradication in Nigeria. The result is similar to Osundina, et al (2014) as well as Ozoana (2013), who found an insignificant negative effect of health on poverty in Nigeria. This could probably be as a result of the continuing conflict between the Federal Government and labour unions of educational institutions (such as ASUU and ASUP) over lack of implementation of various agreements between the duo; including that of NEEDS assessment. However, CCEDU was also found to be positive but weakly significant in its one-period lag, which also indicates that such spending can stimulate improvement in welfare.

In the case of health expenditure, an insignificant positive influence on PCI was observed, though the one-period lag exerted an insignificant negative effect on PCI. Osundina, et al (2014) also found an insignificant positive effect of health on poverty while Omodero (2019) established that health expenditure does not significantly affect poverty level in Nigeria This implies that government spending on the health sector has not impacted strongly on per capita income. This may probably be due to the low capital investment on the sector as well as due to inconsistencies in such allocations

over the years. Lastly, infrastructure spending (expenditure on works, housing and roads) has insignificant negative effect on PCI. This differs from Osundina, et al (2014) who found a significant positive effect of building and construction on poverty. The lack of sustainability in government spending as well as the insufficiency of such spending may largely be responsible for such negative contribution.

Osundina, Ebere, and Osundina (2014) assessed the impact of government disaggregated infrastructural spending and the extent to which they have reduced the level of poverty in Nigeria. Applying the Vector Autoregressive Model, they found significant positive and negative effects of building and construction as well as transportation on PCI, respectively. On the other hand, educational and health spending had insignificant negative and positive effects on PCI, respectively.

### **CONCLUSIONS AND RECOMMENDATIONS**

This study concludes that government development spending has not had the desired impact on poverty eradication in Nigeria. While government spending on agriculture and health have exerted positive influences on per capital income (proxy for poverty level), those of education and infrastructure (works, housing, and roads) have contributed negatively but only that of education has strong, howbeit negative effect on per capita income. Thus, the study recommends a more consistent capital allocation strategy or pattern for key primary welfare sectors (as captured in this study). That is government should allocate a fixed proportion of its capital budget on each of these sectors. More so, the Federal Government should review its agreements with the likes of ASUU and ASUP, so as to create the needed goodwill that can enhance the sector's contribution to poverty eradication in the country.

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**AN APPRAISAL OF POLITICAL TRANSITION IN AFRICA: THE QUESTION OF  
TENURE ELONGATION.**

By

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**ABSTRACT**

*This work examines the sit-tight syndrome of African leaders who have no respect for national constitution, preferring to remain in power indefinitely inspite of tenure limitation by the constitution. The study adopted leadership theory as its theoretical framework and findings show that probe for wrong doings, misconception of democracy for monarchy, strong authoritarian instinct, lack of accountability and transparency, cheap access to state resources and intolerance of opposition are some of the causes of tenure elongation in Africa which has spelt negative implications for democracy and development. The work recommends building of strong institution, independent of the judiciary, respect for the rule of law and constitution establishment of constitutional courts in AU to regulate tenure common language and common market establishment.*

**KEYWORDS: Appraisal, Political, Transition, Africa, Question, Tenure, Elongation.**

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**INTRODUCTION**

Recent history of Africa is replete with leaders who are obsessed with power, constantly engaging in manipulating democratic institutions (legislature, executive & judiciary) in order to suppress opposition and hang onto power. Some African leaders assume office on a sober note but, in due course, assume that they are indispensable. They deploy their manipulative skills, including oratory power, persuasion and playing on the sentiments of the people in order to perpetrate themselves in power (Gaubu, 2007). With monarchial instincts, a typical African leader believes that once he is appointed, selected, or elected to political office, particularly at the apex of the polity, he is to rule or hold such office for life, whether elections were conducted at intervals or not. In effect, the general impression or mentality of an African was disposed towards perpetual rulership which would terminate only at death of the incumbent. In order to perpetuate themselves in office, African leaders Tinker with the constitution, use crude methods of intimidating opposition, use freely state funds and security apparatus, manipulate the legislature and the judiciary, call for and manipulate referendum to support their stay in power, incite ethnic tension and conflict to divert attention of the people and disrespect rule of law and court orders. In Nigeria, for instance, President Obasanjo plotted for tenure elongation towards the expiration of his second term in office in 2007, but failed because the 1999 constitution limits the presidential term of office to a minimum of four years and a maximum of eight years. The Senate and the House of Representatives, both stand dissolved at the expiration of the period of four years commencing from the date of the first seating of the Assembly. Typical African leaders engage in all manners of manipulations to perpetuate themselves in power are often haunted by fear of probe for wrong doings, misconception of democracy for monarchy which was the prevalent mode of leadership recruitment style in the pre-colonial and even the first few years of post-colonial era when kings wielded absolute powers over their subjects, strong

authoritarian self-serving leaders with messianic instincts for self-succession, fear of marginalization and suppression, weak political institutions but strong personalities, resentment against opposition, lack of accountability and transparency and fear of prosecution, ethnic cleansing and emergency situation, civil war/strifes, disease or conflict or national calamities.

The supreme law of the land prescribes that once a person has been elected to the office of the President for two terms of four years each, he is forever barred from holding the office again. Any president who exceeds or attempts to exceed two terms is bound to set a dangerous precedent of becoming an institution himself, attracting loyalties of personal nature, his authority will be all-pervading, a cult of personality is built around him, generating belief in his infallibility and indispensability (Nwabueze, 1984). Given this sit-tight leadership instinct, what are the factors that promote this leadership style in Africa; what are the effects of this on democracy, what does this portend to the welfare of the people and what are the measures to be adopted to ensure that leaders conform to their constitutional limits? This study is premised on the presumption that in spite of the prescriptions of the national constitution, electoral and extant laws, political transition process in Africa is often marred in crises and bitter experiences.

This work adopts Burns (1978) leadership typologies of transformational and transactional leadership styles. Leadership here entails one's ability to unite people in pursuits of common objectives/goals through persuasion, influence and cooperation rather than intimidation, power dominance, social superiority or imposition (Okafor, 2006).

According to J. M. Burns, transformational leader is a person who stimulates and inspires the followers to achieve outcome that is beneficial to the generality of the people, recognizes the needs of the followers, and is ever ready to provide such needs. A transformational leader enhances motivation and moral of the followers, he is proactive. Transactional leadership on the other hand, believes in what he stands to gain from the followers, for instance, vote for money and loyalty and support in exchange for provision of amenities, does not believe in change but in the maintenance of status quo. The transactional leadership is reminiscent of African leaders who assume position and are initially friendly to the people, but suddenly because of the paraphernalia of the office, plot against his own people whenever they may draw his attention to his non-performance.

Consequently, authoritarian instincts in most African leadership is un-reservedly strong and since 1990 about 24 African leaders had initiated moves to stay in office beyond constitutionally defined terms. With this sit-tight impostor and messianic self-serving leaders intact, democracy in Africa faces serious threats (Odumeru & Ogbonna, 2013).

The study adopted the descriptive/historical analysis and the materials for the work were generated from secondary sources such as books, magazines, newspaper which contents were critically scrutinized with a view to discerning some missing gaps and filling same. The study will be of immense benefit and serve as guide to policy makers, national leaders and politicians in Africa as well as to scholars in academic and research institutions.

### **TENURE ELONGATION IN AFRICA**

African history is replete with leaders who are or were obsessed with power constantly engaging in manipulating democratic institutions, (Legislative, Executive and Judiciary), to suppress opposition and hang onto power in perpetuity. The continent parades the highest number of presidential monarchies. Of the 10 longest ruling non-monarchs in the world as of 2020, 6 are from Africa, and the top most spot on that roll is held by Cameroonian President Paul Biya who has been in office for more than 44 years and is not prepared to leave office. Others are Teodoro Obiang Nguema of Equatorial Guinea 40 years, Dennis Sassan Nguesso of Congo 35 years, Yoweri Museveni of Uganda 34 years, Idris Derby of Chad 29 years, Isaias Afweki of Eritrea 26 years. Beyond the top 10, there are Paul Kagame of Rwanda 25 years, Hage Geinob of Namibia 19 years, Faure Gnassingbe of Togo 14 years, Pierre Nkuruziza of Burundi 14 years, Ibrahim Bouba Car Keita of Mali 12 years. In 2001 President Lansana Conte of Guinea organized a referendum that scrapped term limit. In 2005 President Idris Derby of Chad held a referendum to delete Article 61 (2) of the constitution which restricted the President to two terms, Mamadou Tandja of Niger abolished term limits through referendum even though Article 49 of the Nation's constitution expressly forbade it. In Burkina Faso, President Blaise compare who had already served two terms argued in 2005 that the term limit restriction in Article 37 of the Constitution could not apply retroactively to limit him. He won tenure elongation for another 2 terms and in 2014, tried to abolish term limit but this led to riot and street protest/upheaval which forced him out of the office to exile. Meanwhile some military adventures led by Gen. Gilbert Diendere tried to cash in on the situation by toppling the country's interim government but the coup was resisted by the people, ECOWAS and African Union.

In Senegal, Abdoulaye Wade in 2012 argued that the term limit in his country's constitution could not apply retroactively to his first term in office. Nguesso, 71 has ruled Congo for 25 years, called national referendum to discuss extension and scraping two term limit, announced referendum to change constitution to allow him run for 3rd term. The uprising that hit the Arab world and North Africa led to the deposition of sit-tight President Sine Abidine Ben Ali of Tunisia 20 years on the thrones, Hosni Mubarak spent about 31 years on the saddle before being forced out.

In Togo, Gnassingbe Eyadema who ruled for 38 years run Togo as a personal estate. Edwando do santos of Angola ruled for 38 years (1979) and changed Constitution to rule till 2022 and Alassane Ouattara of Ivory Coast 12 years. In 2010, at least 3,000 persons were killed in Cote d'voire before Ouattara was able to assume office because Laurent Gbagbo, then the incumbent, refused to vacate office after an electoral defeat. Now after two full terms as prescribed by the constitution. Robert Mugase ruled Zimbabwe for 39 years before forced out in 2017 (ugwu, 2013).

**Table 1 Tenure Elongation in Africa 2020**

S/N	Country	President/ Head of State	Date of Birth	Assumption of Office	Tear of Exit	No. of Yrs. Spent	Means of Exit
1	Equatorial Guinea	Teodore Obiang Nguema Mbasogo	5/6/42	1979	In power	41	
2	Cameroon	Paul Biya	12/3/33	1982	In power	39	
3	Zimbabwe	Robert Mugabe	21/2/80 - 21/2/24	1980	Forced out in 2018	39	
4	Uganda	Yoweri Museuni	16/9/44	1986	In power	34	
5	Sudan	Omar Al- Bashir	1/1/44	1989	Forced out in 2019	31	
6	Chad	Idris Derby	18/6/52	1990	Died in power 2023	30	
7	Burundi	Pierre Nkuruziza	18/12/64	1994	June, 2020 by death	26	
8	Eritrea	Isaias Afewerki	2/2/46	1993	In power	27	
9	Rep. of Congo	Dennis Sassou Agueso	27/11/43	1997	In power	24	
10	Rwanda	Paul Kagami	23/10/57	2000	In power	20	
11	DRC	Joseph Kabila	4/6/71	2001	In power	19	
12	Togo	Faure Gnassingbe	6/6/06	2005	Still in power	15	
13	Burkina Faso	Blaise Campalore	31/5/45	1957	Forced out in 2014	28	
14	Gambia	Yahaya Jameh	25/5/65	1994	Forced out in 2017	23	
15	Jose Edeando dos Sambo	M. Angola	28/8/42	1979	Forced out of office 2017	38	

### **EFFECTS OF UNCONSTITUTIONAL LEADERSHIP SUCCESSION PLAN IN AFRICA**

This propensity to personalize rule and to perpetuate it indefinitely is a disastrous factor in the politics of African countries. It has undermined the quality of democracy on the continent, and exposed government to disaffection and acts of subversion, often culminating in its forcible overthrow by the military, with all the attendant instability and the disruption in the country's normal democratic evolution. It has deprived the countries of the benefit of change in leadership for change may either prevent or check sterility and complacency by enabling a fresh vitality and a fresh approach to be brought to bear upon the problems of government (Nwanbueze, 1984). Consequently,

unconstitutional tenure elongation is threat to democracy and leadership and leads to ineptitude, weak institutions, apathy by the citizens, poor governance, corruption, endemic poverty and disease, dwindling economic fortunes, instability and absence of national cohesion.

African leaders have often criticized the limiting of the president to two terms of four years each on the following grounds;

- I. That such would stifle zeal and make the president indifferent to his duty.
- II. That a president, knowing he would be barred from the office for ever after, might be tempted to exploit for personal advantage the opportunities of the office while they lasted.
- III. That an ambitious president might be tempted to try to prolong his term by perverse means.
- IV. That it would deprive the country of the advantage of the president's previous experience in the office.

That it would lead to a lack of continuity in policy and consequently to instability in administration. But indefinite eligibility is best or wrought with a number of oddities as earlier outlined above.

It has been accepted that, tenure elongation could bring violence in the societies which rely on coercion to maintain order in lieu of providing adequate patterns or value satisfying action (Gur, 1970).

Respect for the rule of law ensures stability in any nation because without security there can be no development, for as noted by McNamara (1968) development means economic, social and political progress. It means reasonable standard of living and reasonable in this context requires continual redemption; for what is reasonable in an earlier stage of development will become unreasonable at a later stage. Most African leaders came to power to execute the constitution of the country and to be limited to specific time period but would want to remain perpetually in power without effecting meaningful development to enhance the living standard of the people. In today's world, development has taken a new dimension. According to Rodney (1986), development involves increased skills and capacity, greater freedom, creativity, self-discipline, responsibility and natural wellbeing increasing capacity to regulate both internal and external relations. For Africa to witness social political and economic development, the leaders should always apply self-restraints and place the interest of their people at heart at all times. Development does not consists in perpetual eligibility but with better health care delivery, long-life span, expectancy, better nutrition, abundance supply of food and energy, good shelter, more and better schools, improve political participation by the people in the political process, poverty reduction, employment generation. If all these have declined from high levels then, beyond doubt, there is no development for the country concerned. If one or two of these central issues have been growing worse, especially if all these are involved, it will be strange to call the result development even if per capita income is double (Seers, 1963). This informs why most African countries under perpetual leaders suffer from civil war, political instability and incessant violence in the system.

The World Bank has noted that this negative development retard development which gives rise to virtuous and vicious circles. Where development succeeds, countries become progressively safer from violent conflict, making subsequent development easier. Where development fails, countries are at high risk of being caught in conflict trap in which war wrecks the economy and increases the risk of further war. (World Bank, 2023). Generally, illegal tenure elongation in Africa has engendered bitterness, corruption, ethnic tension and rivalry, marginalization, acrimony, oppression, religious intolerance, open confrontation, poverty, disease, civil strife and war, and plunder of the commonwealth by a few elite. These are common features today in African political landscape.

There are usually frequent forceful change of government through coup, poverty is in the increase and the gap between the rich and the poor becomes wider on daily basis, leaders are ethnically based, drawing support mainly from their ethnic groups, larger ethnic groups dominate and oppress the minority ethnic groups, loyalty is not to the nation, but to powerful individuals and their ethnic groups. The governing elites believe in divide and rule tactic and live ostentatiously, spending and embezzling public fund at will. African countries lack both internal and external unity. The francophone nations prefer France to fellow Anglophone African Countries. Giving rise to France has impoverished her colonies to bad governance, unemployment, insurgency, violence, kidnapping, armed robbery, drug & human trafficking and proliferation of small arms and light weapons circulating in all parts of Africa today and retard economic development. Thus democracy which strives on tolerance of opposing views, justice, freedom of association and participation in the political process is seriously bastardized in Africa. Instead of free, fair and credible elections, Africa is noted for all manners of election malfeasance, ranging from rigging, impersonation of candidates, impunity, ballot box and paper snatching, falsification of results and announcement of discredited and corrupt politicians as leaders. It is doubtful if the perpetuity of many of these leaders in power has resulted in meaningful development strides for their countries. Worse is that some have had to brutally muscle through the rewriting of their respective country's constitutions to accommodate their regular hold on power. Sit-tight leaders have turned Africa into a waste land and brought mockery to the continent. The world ridicules Africa and its leaders in their obsession with staying in power for life. It was due to this ugly trend in democracy in Africa that President Muhammadu Buhari (2020) advised the leaders of the Economic Community of West African State (ECOWAS) to spare their countries political upheavals by keeping to constitutional limits of tenure, and also respect the law and ensure free and fair elections in their countries. President Buhari pointed out that the attempts to elongate tenure tend to generate crises and political tension in the region, that the challenges facing the sub-region are enormous and these range from socio-economic matters to security issues, which are in themselves difficult enough. When therefore, another political turmoil is added in the form of tenure elongation, he went on, the result is always a brew of violence and economic disruption which often turns to economic and political disaster.

## **SUMMARY AND CONCLUSION**

At independence in the early 1960's, leadership recruitment in emergent independent states of Africa was through, except few states such as Nigeria, one-party authoritarian model. The new states believe that it was only through single party system that the countries would be able to mobilize and integrate the various internal ethnic diversities into national ethos. Due to inherent weakness, couple with systemic corruption and nepotism, and the inability to inculcate a sense of national unity and bring about development, most civil one party democracies in Africa were swept away by the military who made incursion into politics in Africa. The military leadership recruitment and transition was through coup 'd tat that enthroned power seekers or autocratic life president or head of state who did not only rule with impunity but also plundered the wealth of these nations and further under-developed their countries and people. Today, however, military coup is no longer fashionable and most African countries are democratizing their political institutions, providing limit to power and tenure, even though, most leaders are not bothered by these constitutional restraints as they use the resources of the state to bribe their ascension and continued stay in power and manipulate the legislature to have their way. This has given rise to instability, corruption, poverty and disease, gross

disrespect for the constitution and rule of law, human rights abuse, impoverishing the people and further under-developing African countries.

### **RECOMMENDATIONS**

This work therefore, recommends the followings as panacea for indefinite eligibility to political office at the apex of the nation in Africa.

1. African countries are noted for strong leaders but very weak political institutions. There is the need then to build strong institutions that would drive democratic process.
2. The justice system should be overhauled and the judiciary should enjoy substantial independence to enable it dispense justice without fear or favour.
3. African leaders should do more to encourage partnership and peer review with a view to evolving a common practice code for leaders.
4. There should be aggressive determination and commitment on the part of African leaders to be amended to the rule of law and respect for court decisions.
5. African countries should establish constitutional courts to adjudicate on matters bordering on exercising power beyond prescribed limits, deal with all forms of constitutional infringement and litigations concerning elections.
6. African leaders should be made to always keep in mind that African problems can only be settle by Africans. Some African countries, particularly the French speaking, should realize that their destiny is not in France but in Africa and take concrete steps from being continually used by Paris to destabilize Africa economically and politically.
7. Africa should consider, beside the common market that is in the offing, adoption of a common language for Africa to assist in the integration process.

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#### **ABSTRACT**

*This study investigates the evolving roles of academic conferences in facilitating knowledge exchange, fostering scholarly networks, and advancing interdisciplinary research in a globalized academic environment. The effectiveness of academic conferences in fulfilling these roles depends significantly on the strategies employed in their planning, execution, and follow-up. Key strategies include hybrid conference models, thematic clustering, inclusive panel representation, and the use of digital platforms for broader participation. These strategies aim to enhance engagement, foster interdisciplinary collaboration, and ensure that academic discussions are reflective of global scholarly concerns. Despite these advancements, academic conferences face numerous challenges that can hinder their impact and sustainability. Financial constraints, digital divide issues, limited inclusivity, and environmental concerns from frequent travel are among the most pressing barriers. The study concluded the integration of strategic innovations such as hybrid formats, digital tools, and inclusive planning has significantly enhanced the accessibility and impact of these events. The study recommended that there should be regular assessment of conferences using participant feedback, engagement analytics, and knowledge dissemination outcomes to refine future strategies.*

**KEYWORDS: Academic Conference, Strategies and Challenges**

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#### **INTRODUCTION**

Academic conferences have long served as dynamic platforms for knowledge dissemination, scholarly networking, and collaborative innovation across diverse disciplines. These events not only provide researchers with the opportunity to present their latest findings but also foster critical peer feedback, interdisciplinary dialogue, and academic visibility. In an increasingly globalized and digitized academic landscape, the role of conferences has evolved, bridging geographical and institutional boundaries to promote inclusive and accessible knowledge exchange (Lee & Bozeman, 2021). As such, academic conferences are integral to shaping research trajectories, influencing policy decisions, and nurturing early-career researchers.

However, the effectiveness of academic conferences in fulfilling these roles depends significantly on the strategies employed in their planning, execution, and follow-up. Key strategies include hybrid conference models, thematic clustering, inclusive panel representation, and the use of digital

platforms for broader participation (Andersen & Ponti, 2023). These strategies aim to enhance engagement, foster interdisciplinary collaboration, and ensure that academic discussions are reflective of global scholarly concerns. Moreover, conference organizers increasingly adopt tools such as artificial intelligence and real-time translation to widen accessibility and improve the experience for diverse participants (Chen et al., 2022).

Despite these advancements, academic conferences face numerous challenges that can hinder their impact and sustainability. Financial constraints, digital divide issues, limited inclusivity, and environmental concerns from frequent travel are among the most pressing barriers (Smith & Hall, 2020). Additionally, the COVID-19 pandemic has exposed vulnerabilities in traditional conference models and sparked debate around the efficacy of virtual gatherings versus in-person interactions (Wang et al., 2021). Understanding these challenges and strategically addressing them is essential for ensuring that academic conferences continue to serve as vital engines of scholarly growth and global knowledge sharing.

### **CONCEPT OF ACADEMIC CONFERENCE**

Academic conference is a formal gathering where researchers present their work, debate methods, exchange ideas, and consider potential future directions in their subject. These gatherings are typically hosted by academic institutions, professional associations, or scholarly societies and frequently include networking opportunities, panel discussions, keynote addresses, workshops, and paper presentations. Academic conferences' main objectives are to disseminate research, encourage scholarly discussion, and cultivate professional relationships that may result in future partnerships.

Academic conferences have long been a cornerstone of scholarly activity, offering a platform for researchers, academics, and professionals to exchange ideas, present research findings, and network with peers. The idea of an academic conference, its functions, its evolving nature, and the impact of recent trends, including virtual and hybrid models, are explored. Academic conferences have changed significantly over the last few decades, particularly with the advancement of digital technology and changes brought about by global challenges like the COVID-19 pandemic. These events are essential for advancing knowledge across disciplines, fostering collaborations, and ensuring that new ideas are rigorously debated and disseminated.

A formal gathering where researchers present their work, debate methods, exchange ideas, and consider potential future directions in their subject is called an academic conference. These gatherings are typically hosted by academic institutions, professional associations, or scholarly societies and frequently include networking opportunities, panel discussions, keynote addresses, workshops, and paper presentations. Academic conferences' main objectives are to disseminate research, encourage scholarly discussion, and cultivate professional relationships that may result in future partnerships.

Academic conferences also provide a platform for critical peer review. Unlike journal articles, where the feedback process may take months, conferences allow for real-time interaction, often leading to immediate suggestions for improvement. This aspect of conferences serves as a crucial mechanism for academic quality control, as it encourages scholars to refine their ideas and methods based on constructive criticism from experts in the field (Smith, 2020). In the twenty-first century, technology has played a major influence in the radical transformation of the academic conference concept. Prior to the internet era, conferences were mostly in-person gatherings that were frequently constrained by logistical, financial, and geographic constraints. Researchers would travel across

continents to present their work, which, while offering opportunities for face-to-face networking, also posed challenges, such as significant costs and environmental concerns due to travel (Bates, 2020).

The COVID-19 pandemic accelerated the adoption of virtual platforms for academic conferences, making remote participation the norm rather than the exception. Virtual conferences became an essential way for researchers to present their work while complying with social distancing measures. These events leveraged digital tools such as video conferencing, live-streaming, and digital poster sessions to replicate the experience of traditional conferences (Lee & Chen, 2021). For instance, the 2020 International Conference on Virtual and Augmented Reality Technologies, held entirely online, was attended by researchers from over 50 countries, highlighting the global accessibility of digital conferences (Gao, 2021).

As we move into the post-pandemic era, many academic conferences have adopted hybrid models, combining the benefits of both in-person and online participation. This hybrid format allows for greater inclusivity, enabling participants from diverse geographical locations and with varying financial means to engage in the academic dialogue. Additionally, hybrid events often provide greater flexibility for attendees, who can choose between attending in person or joining remotely depending on their availability or preference (Miller et al., 2022).

## **THE ROLES OF ACADEMIC CONFERENCE**

### **➤ Dissemination of Research Findings**

One of the foremost roles of academic conferences is the dissemination of new research findings. Conferences allow researchers to present their work before peer review and publication, offering early exposure and constructive critique. This is particularly important for emerging fields or ongoing studies that benefit from timely feedback. For instance, Jacob, Osei, and Nzewi (2023) noted that international conferences such as the International Conference on Sustainable Development (ICSD) facilitate the rapid exchange of research findings, enabling scholars to collaborate on global challenges in real time.

### **➤ Fostering Academic and Interdisciplinary Networking**

Conferences serve as hubs for networking, where scholars across the globe connect and form partnerships. They provide opportunities for informal conversations, collaborative proposals, and interdisciplinary projects that might not develop in isolated academic settings. Liu, Tran, and Baker (2022) emphasised that both face-to-face and virtual conference interactions are vital in establishing long-term research collaborations, especially in interdisciplinary fields such as environmental sciences and public health.

### **➤ Facilitating Professional Development**

Workshops, seminars, and panel discussions organised during conferences enhance professional growth. These sessions cover grant writing, publishing techniques, data analysis tools, and the latest research methodologies, all of which contribute to scholarly advancement. According to Kumar and Salim (2021), academic conferences play a significant role in skill development, particularly for early-career researchers who benefit from targeted workshops and mentoring sessions that improve their academic performance and publishing success.

### **➤ Enabling Peer Review and Constructive Critique**

Academic conferences allow for preliminary peer review in a live setting. This environment facilitates

critical dialogue on the presented research, helping authors refine their arguments, address methodological weaknesses, and improve clarity before formal publication. McAlister and Zeng (2022) reported that over 75% of researchers revised their papers based on conference feedback, illustrating the powerful role of live scholarly critique in enhancing research quality.

➤ **Providing Access to Emerging Trends and Technologies**

Conferences showcase cutting-edge research and innovations. Through keynote addresses and poster presentations, attendees gain insight into future trends, theoretical shifts, and technological advancements across disciplines. Smith and Torabi (2023) observed that climate science conferences, for example, provide early access to evolving environmental models and new policy frameworks, often preceding their appearance in formal journal literature.

### **THE STRATEGIC STEPS OF ORGANIZING ACADEMIC CONFERENCES**

Organising academic conferences is a critical aspect of scholarly communication, enabling the dissemination of research, fostering interdisciplinary collaboration, and promoting academic discourse. Since the strategies for planning and executing conferences have evolved in response to technological advancements, globalisation, and the COVID-19 pandemic. This paper discusses the key strategic steps for organising successful academic conferences, with references to recent scholarly literature.

➤ **Defining Objectives and Scope**

The first strategic step in organising an academic conference involves clearly articulating its objectives and thematic focus. Organisers must determine whether the conference aims to disseminate original research, build academic networks, or stimulate policy debates. According to Kato and Obeng-Odoom (2020), clarity of purpose enhances the relevance of the conference and informs all subsequent planning decisions. Moreover, identifying a thematic focus aligned with current academic discourse increases participant engagement and submission rates (Chiu & Smith, 2022).

➤ **Establishing an Organizing Committee**

A well-structured organising committee ensures effective planning and distribution of responsibilities. Key roles often include logistics coordination, sponsorship, technical support, and program curation. As Quinton and Reynolds (2021) note, collaborative leadership is essential in ensuring timely decision-making and quality assurance. A diverse and experienced committee can also broaden the conference's reach and inclusivity.

➤ **Budget Planning and Funding Acquisition**

Financial planning is central to conference organisation. It includes estimating costs for venue, catering, speaker fees, technical infrastructure, and marketing. Organisers must also secure funding through grants, institutional support, or sponsorship. According to Yang and Chen (2021), transparent budgeting enhances accountability and resource optimisation. Virtual and hybrid formats, while sometimes cost-effective, require investment in high-quality digital platforms (Roos & Carpenter, 2020).

➤ **Selecting Date, Venue, and Format**

Choosing an appropriate date and venue ensures high attendance and logistical feasibility.

Organisers should avoid scheduling conflicts with major academic or cultural events. Since the COVID-19 pandemic, hybrid and virtual conferences have gained traction, offering increased accessibility (Hilted, 2020). However, as Gümüş (2021) highlights, selecting the right format—whether in-person, hybrid, or fully virtual—must align with the conference goals and audience preferences.

➤ **Call for Papers and Peer Review**

An official call for papers (CFP) invites scholarly contributions and builds the academic content of the event. The CFP should outline the theme, submission guidelines, and deadlines. Submissions should be subjected to rigorous peer review to ensure academic quality. According to Das and Ponnusamy (2022), peer-reviewed selection processes enhance the credibility of the conference and contribute to the scholarly impact of presented works.

➤ **Program Development**

A well-curated conference programme balances keynote addresses, parallel sessions, workshops, and networking activities. Programme planners must consider time zones, diversity of topics, and participant engagement. As shown in research by Ibrahim et al. (2023), interactive formats such as roundtables and breakout sessions improve knowledge exchange and participant satisfaction.

➤ **Registration and Communication**

Efficient registration systems streamline attendee management. Organisers should employ secure, user-friendly platforms for registration, payment, and access control. Regular communication through email newsletters, social media, and academic networks keeps participants informed and engaged. According to Shah and Ahmad (2021), timely and transparent communication builds trust and enhances the conference experience.

➤ **Logistical and Technical Planning**

Attention to logistics—including travel arrangements, accommodations, catering, and technical support—is essential for operational success. For hybrid and online events, reliable internet, audio-visual tools, and backup systems are critical (Manca, 2021). Accessibility features, such as captioning and inclusive facilities, also contribute to equity and participation (Kimmons, 2022).

➤ **Marketing and Outreach**

Promotion is crucial for attracting high-quality submissions and attendees. Strategies include academic mailing lists, social media campaigns, and institutional partnerships. Highlighting keynote speakers, publication opportunities, and networking benefits can improve visibility. Marketing should also be inclusive, multilingual where appropriate, and culturally sensitive (Chiu & Smith, 2022).

➤ **Execution and Contingency Planning**

On the event day, real-time coordination is necessary to manage sessions, support speakers, and handle unforeseen challenges. The organising team should be equipped with contingency plans for technical failures or speaker cancellations (Roos & Carpenter, 2020). Live help desks or chat support features are valuable for virtual formats.

➤ **Post-Conference Evaluation and Reporting**

After the event, collecting feedback from participants helps evaluate its effectiveness and identify

areas for improvement. Organisers should analyse survey results and prepare reports that document achievements and lessons learnt. According to Quinton and Reynolds (2021), post-conference analysis strengthens institutional memory and enhances future planning efforts.

## **THE CHALLENGES OF ORGANISING ACADEMIC CONFERENCES**

Organising academic conferences is a complex and demanding task, with several challenges that organisers must address to ensure successful events. These challenges have evolved significantly in the past few years, especially due to global disruptions like the COVID-19 pandemic, which reshaped how academic conferences are conducted. The transition from in-person to virtual and hybrid formats brought new sets of challenges but also opportunities for innovation. This essay examines the key challenges faced by academic conference organisers to the present and discusses the mitigating strategies that have been employed to overcome these hurdles, backed by journal references from the period.

### ➤ **Technological Barriers and Infrastructure Issues**

The quick transition to virtual and hybrid meeting formats following the COVID-19 pandemic was one of the biggest obstacles. Many educational institutions and event planners lacked the technology infrastructure necessary to hold sizable virtual conferences, which made it challenging to oversee virtual platforms, guarantee effective communication, and grant participants easy access. Organisers faced issues related to unstable internet connections, poor audiovisual quality, and inadequate platform familiarity, which undermined the effectiveness of the event (Bostanci, 2021).

### ➤ **Maintaining Participant Engagement**

Despite their convenience, virtual conferences had issues with participant engagement. Maintaining attendees' attention and participation was challenging because of the absence of in-person encounters, networking opportunities, and casual conversations. Organisers struggled to create dynamic experiences that could replicate the social aspects of traditional in-person events, leading to diminished participant satisfaction (O'Neill & Patton, 2020).

### ➤ **Financial Constraints and Budgeting Issues**

Academic conference hosting has historically required a large financial outlay for things like venue reservations, food, speaker fees, and administrative expenses. Despite the potential cost reductions, virtual conferences still needed a significant investment in platform licences, technology, and staff training. Moreover, fluctuating funding due to the economic uncertainties caused by the pandemic made it difficult to secure financial stability for many events (Liu et al., 2022).

### ➤ **Diversity and Inclusivity Concerns**

It has always been difficult to ensure diversity and inclusivity at academic conferences, but new obstacles have emerged as a result of the global move to online platforms. In theory, virtual events made it possible for more people to participate, but they also brought attention to problems like time zone differences, unequal access to technology, and digital literacy. Organisers needed to adapt their strategies to make conferences more accessible to under-represented groups (Thorne et al., 2021).

### ➤ **Coordination and Logistics**

There are many logistical responsibilities involved in conference planning, whether it is virtual, in-person, or hybrid. Managing staff, suppliers, presenters, and attendees in a timely and orderly way

can be very difficult. Virtual platforms introduced new challenges such as managing virtual rooms, scheduling sessions across time zones, and ensuring the quality of presentations and discussions (Guevara & Larsen, 2020).

## **THE MITIGATING STRATEGIES TO THE CHALLENGES OF ORGANISING ACADEMIC CONFERENCES**

### **➤ Investment in Technology and Training**

Many organisers concentrated on purchasing top-notch digital platforms and providing staff and participant training in order to overcome technological obstacles. Organisers may minimise technical problems by selecting systems that were easy to use and able to accommodate a variety of interactive features (such as breakout rooms, virtual networking sessions, and Q&A). Additionally, offering pre-conference training for speakers and attendees helped reduce confusion during the event (Nguyen, 2022).

### **Hybrid Conference Models**

Many conferences used hybrid methods, which blend virtual and in-person participation, as the world moved past the pandemic. By using hybrid forms, organisers were able to accommodate both those who could come in person and those who would rather engage virtually. The hybrid approach also opened up opportunities for more diverse international participation, as attendees from around the world could join without the need for travel (Koç, 2021). To ensure the success of these hybrid models, organisers adopted better event management software and employed real-time translation services to foster inclusivity.

### **➤ Enhancing Participant Engagement**

Organisers started incorporating interactive tools and strategies, such as live polls, Q&A sessions, and virtual networking lounges, to address the engagement difficulty. In order to increase interaction, several conferences implemented gamification elements, such as digital badges and prizes for attendees' involvement. The incorporation of asynchronous content, such as pre-recorded sessions with live Q&A, also allowed participants to engage at their convenience, making the event more accessible (Baldwin, 2021).

### **➤ Addressing Financial Constraints**

Numerous academic conferences have to review their budgets due to financial difficulties. Rather than depending exclusively on registration fees, the organisers started looking into other sources of income, like crowdfunding, virtual sponsorships, and partnerships with educational platforms. Furthermore, offering tiered pricing and reduced fees for students or under-represented groups helped increase accessibility and attract a wider audience (Cheng & Lee, 2022). Many conferences also made strategic decisions to reduce overhead costs, such as eliminating travel expenses and opting for affordable virtual platforms.

### **➤ Promoting Diversity and Inclusivity**

To overcome diversity and inclusivity challenges, organisers made a conscious effort to adopt inclusive practices. These included offering conference sessions in multiple languages, providing subtitles for presentations, and accommodating participants from diverse geographical regions by scheduling sessions at different times to suit global time zones. Virtual platforms with features like sign language interpretation and accessibility options (e.g., screen readers) also ensured that

participants with disabilities could fully engage with the content (Farley & Turner, 2021).

➤ **Efficient Logistics Management**

Effective logistical management in virtual and hybrid events relied heavily on detailed planning and clear communication. Organisers used advanced event management software to handle registration, scheduling, speaker coordination, and attendee engagement. Time zone challenges were mitigated by employing automated scheduling tools and providing session recordings for those unable to attend live sessions. The use of professional event coordinators to oversee virtual platforms and technical support teams was also essential in maintaining smooth event operations (Harris & McDonald, 2023).

## **CONCLUSION**

In conclusion, academic conferences play a pivotal role in advancing scholarly communication, fostering professional networks, and promoting interdisciplinary collaboration across global research communities. The integration of strategic innovations such as hybrid formats, digital tools, and inclusive planning has significantly enhanced the accessibility and impact of these events. However, conferences continue to face considerable challenges, including financial limitations, technological disparities, and the need for greater environmental and social sustainability. Addressing these issues requires a deliberate and forward-thinking approach from organizers, institutions, and participants alike to ensure that academic conferences remain resilient, relevant, and effective platforms for intellectual growth and global knowledge exchange.

## **RECOMMENDATIONS**

- Regularly assess conferences using participant feedback, engagement analytics, and knowledge dissemination outcomes to refine future strategies.
- Grant agencies should allocate funds specifically for conference participation and follow-up collaboration.
- Publication partnership should be encouraged with reputable journals or conference proceedings

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**INTEGRATING INDIVIDUAL COUNSELING AND ISLAMIC STEM EDUCATION FOR  
SUICIDE PREVENTION AND SELF-FORGIVENESS**

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**ABSTRACT**

*The problem of suicidal ideation among college students is increasingly worrying and requires a comprehensive intervention approach. This study aims to develop and explore the effectiveness of a suicide ideation prevention intervention model that integrates individual counselling based on Islamic values with a STEM approach that is responsive to Islamic culture. This study used a qualitative approach with a retrospective case study method on four students who underwent individual counselling services and were indicated to have suicidal ideation. Data were collected through in-depth interviews, observations, and documentation, then analysed using a spiral model. The results showed that two of the four subjects experienced a decrease in suicidal ideation and an increase in self-forgiveness after undergoing counselling, while the other two subjects still showed obstacles due to limited self-disclosure. The integration of the Islamic counselling approach and STEM education with spiritual and social values has been shown to contribute to strengthening students' psychological and spiritual resilience. These findings indicate that a contextual and religious intervention approach is very relevant to be applied in the Islamic higher education environment in Indonesia as a preventive effort against mental health crises.*

**Keywords: Individual Counseling, STEM, Suicidal Ideation, Self-Forgiveness**

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**Introduction**

The results of the 2022 Indonesia National Adolescent Mental Health Survey, 1.4% of adolescents have suicidal thoughts, 0.5% have made suicide plans, and 0.2% have attempted suicide (Alexander, 2023) Teenagers or those included in the Generation Z (Gen Z) group were born between 1995 and 2012 and makeup around 27.94% of the total population in Indonesia With the characteristics of social media as a communication medium that is embedded in everyday life (Lasti Yossi hastini, Rahmi Fahmi, 2020) Although the survey focused on the adolescent population, the data provides important insights into the mental health of young people in general, including college students. College students, as part of the late adolescence to early adulthood age group, often face complex challenges involving academic pressures, social demands, family expectations, and the search for identity.

In the fast-paced and competitive digital era, students live under pressure that not only comes from within themselves, but also from the external environment that demands productivity, high academic performance, and self-image on social media. When individuals do not have an adequate support system and are unable to manage these pressures, various psychological problems can arise — one of which is the idea of ending their life (Cho & Haslam, 2010). Students with suicidal ideation often feel trapped in failure, misunderstood by their environment, and have no strong hope or meaning in life (Bertera, 2007)

One factor that is often overlooked in the context of preventing suicidal ideation is an individual's ability to forgive themselves (self-forgiveness). Students who experience certain failures or mistakes often harbor feelings of guilt, shame, or even self-loathing (McCullough, 2000; Ramadhani, 2021). Without a healthy self-forgiveness process, these negative emotions can accumulate and erode self-esteem, create emotional isolation, and increase the risk of hopelessness. Self-forgiveness is a psychological process that allows individuals to make peace with their past, reduce damaging emotional burdens, and rebuild a healthier meaning of life (Larasati & Widyastuti, 2020).

To optimally cultivate self-forgiveness, individual counseling intervention plays a crucial role. Individual counselling is a form of professional service that allows students to unravel inner conflicts, reflect on life experiences, and find personal strength through a therapeutic process (Corey, 2009). Counseling that is combined with an approach to Islamic values such as repentance, tawakal, and Allah's mercy, will be more meaningful spiritually and culturally. These values provide a foundation for students to realize human weaknesses, accept destiny, and grow hope in life. Islamic-based counseling allows students not only to understand themselves psychologically but also spiritually.

However, dealing with suicidal ideation is not enough through a psychological approach. The education system also needs to be reviewed as part of the prevention ecosystem. Science, Technology, Engineering, and Mathematics (STEM)-based education is an important part of the college curriculum, but so far it has emphasized more technical and rational aspects. STEM is often considered value-neutral, even though it can be an important space in shaping students' character and perspectives on the world and themselves (Anas & M, 2024). STEM is designed responsively to Islamic culture and values not only teaches critical thinking and problem-solving skills, but also introduces ethical principles, social responsibility, and the spiritual meaning of science.

STEM education rooted in Islamic values provides students with an understanding that knowledge is a trust and a means of devotion to God and society. Integrating values such as honesty, hard work, sincerity, and social contribution into the STEM curriculum can strengthen students' sense of meaning in life, which in turn supports their psychological resilience. In this way, STEM not only shapes intellectual intelligence but also becomes a tool for forming complete self-awareness.

Based on this, an intervention model is needed that integrates individual counseling and STEM education that is responsive to Islamic culture to prevent suicidal ideation and strengthen self-forgiveness in students. This model is expected to be a holistic approach, combining psychological, spiritual, and academic dimensions of students within a cultural framework that is relevant to the context of their lives as Muslims in Indonesia.

## **Method**

### **Research Approach**

Using qualitative research with a case study approach to understand the problem in depth (Arikunto, 2013), a case study is a study that explores in depth and comprehensively a program, event, or process, in one or more individuals (Creswell, 2007), and through case study research, researchers seek to learn more about known or poorly understood situation (Ormrod, Paul D. Leedy, 2015). The type of case study used in this study is a Retrospective case study, The type of case study used is a retrospective case study, which is a study that re-examines the subject's past experiences to identify causes, patterns, and possible interventions that have been or can be given. Retrospective studies are curative because they focus on efforts to handle or improve conditions that have occurred and open up space for assessing the effectiveness of a treatment or intervention. In the context of this study, the treatment in question is individual counseling based on Islamic values and the integration of STEM education values that are responsive to Islamic culture.

This study involved students who had experienced suicidal ideation and had attended individual counseling sessions with an Islamic approach. In addition, the researchers also examined their experiences in the context of STEM-based education, especially in the aspect of internalizing the values of responsibility, self-reflection, and the meaning of life through scientific learning. Data were collected through in-depth interviews, observations, and documentation, to then be analyzed thematically to find patterns of meaning, experience, and integrative contributions of the counseling and education approach to students' mental and spiritual resilience. By using this design, researchers hope to build an intervention model that is not only curative but also preventive, which is culturally, spiritually, and academically relevant for Muslim students in dealing with psychological crises such as suicidal ideation.

Data collection techniques in this study were carried out through in-depth interviews, direct observation, and documentation. Interviews were conducted with four students who were the subjects of the study to explore their personal experiences related to suicidal ideation, the individual counseling process, and reflections on Islamic values and STEM education. Observations were made during counseling sessions, both offline and online, to record emotional responses and subject involvement. Additional data were obtained from counseling service archives, communication transcripts, and other supporting documentation. This technique allows researchers to obtain a complete and in-depth picture through a data triangulation approach.

### **Research Subject**

This study involved four Muslim students who were or had participated in individual counseling services based on Islamic values. The four subjects were selected purposively because they had a background of serious psychological problems and indications of suicidal ideation. The first subject was an orphan student who experienced conflict with her partner's family; the second subject showed self-harm behavior due to emotional stress; the third subject faced matchmaking pressure and often came home late to avoid conflict; while the fourth subject felt neglected by her parents and often had disagreements with her siblings. All subjects were in an academic environment that was beginning to integrate STEM values based on Islamic culture. This study aims to explore the contribution of individual counseling and educational approaches to preventing suicidal ideation and strengthening students' self-forgiveness.

### **Intervention Description**

This study involved four students who were identified as experiencing severe psychological stress and having suicidal tendencies. Each subject received individual counseling services with an Islamic value-based approach and integration of reflection on meaningful STEM learning. The following is a description of the intervention process carried out on each subject:

Subject 1 is a student who lost both of his parents and is facing a serious conflict with his girlfriend's family. The researcher provided an intervention in the form of two face-to-face counseling sessions and one online session. The focus of counseling included emotional recovery from grief and social rejection, exploration of self-worth values, and strengthening the meaning of life through reflection on the knowledge learned in the STEM field (for example, seeing knowledge as a path to devotion to Allah and society).

Subject 2 is a student with a tendency to self-harm in response to mental stress. The researcher conducted two face-to-face counseling sessions. The intervention was directed at cognitive restructuring, strengthening self-forgiveness, and awareness of self-worth through the integration of STEM narratives—especially in terms of perseverance, experimentation, and ethics in science that can reflect psychological and spiritual resilience.

Subject 3 experienced rejection of the arranged marriage forced by the family, and showed risky behavior such as coming home late at night without self-control. The researcher conducted one face-to-face counseling session and one online session. The focus of the service included validation of emotions, identification of autonomy needs, and discussion of Islamic values related to freedom of choice and personal responsibility. STEM reflection was carried out through the concept of order and the law of causality as an analogy of the importance of thinking logically and being responsible for one's own decisions.

Subject 4 is a student who experienced a lack of attention from parents and was often involved in conflict with siblings. The researcher also provided one offline counseling session and one online session. The approach was directed at reconstructing one's role in the family, validating hurt feelings, and strengthening self-compassion. The integration of STEM values focuses on aspects of collaboration and social contribution in academic projects as a reflection of the importance of the individual's role in the social environment.

Through this intervention, each subject not only gets space to reflect on internal conflicts and find personal meaning but is also directed to interpret the STEM learning process within the framework of Islamic values, so that it has a holistic impact on their psychological and spiritual recovery.

### **Data Analysis Techniques**

Data analysis in this study used a spiral model involving five main stages (Creswell, 2007). The first stage is data management, namely organizing the results of interviews, observations, and documentation. The second stage is carried out by reading the data thoroughly to understand the context and depth of meaning. Furthermore, the researcher describes and classifies cases according to the themes that emerge. The fourth stage is an interpretation of meaning and naturalistic generalization to understand the patterns of subject experiences. Finally, the data is analyzed and presented in the form of narratives and visualizations that describe the contribution of individual counseling and the integration of Islamic-based STEM values to the prevention of suicidal ideation and strengthening self-forgiveness in students.

## Result and Discussion

### Result

This study revealed that the integration of individual counseling services based on Islamic values and a culturally responsive STEM education approach has a significant contribution to preventing suicidal ideation and strengthening self-forgiveness in college students. The four subjects in this study showed different developments, reflecting the complexity of their backgrounds, psychological readiness, and involvement in the intervention process and the academic environment they were experiencing.

Subject 1, a student who had lost both of his parents and was facing serious conflict with his partner's family, showed a very positive response to the counseling process. After attending two offline sessions and one online session, the subject showed an increase in his ability to recognize and manage emotions, build acceptance of traumatic experiences, and begin to reconstruct the meaning of his life more completely. In the context of education, the subject's involvement in STEM-based courses that instill the values of responsibility, collaboration, and social benefits became an important channel in forming his mental and spiritual resilience. The subject said that the STEM approach associated with Islamic values - such as honesty in research, blessings of knowledge, and trustworthiness in academic tasks - gave him new enthusiasm for carrying out his college activities.

Subject 2, who exhibited self-harm behavior as a form of escape from emotional stress, also showed significant progress. Through two individual counseling sessions, the subject was able to identify the roots of guilt and disappointment that had been suppressed. Spiritual support internalized through an Islamic approach to counseling, such as the values of repentance and Allah's mercy, helped the subject begin the process of self-forgiveness. The subject also began to show interest in collaborative and project-based STEM learning activities, which allowed him to feel useful and involved in positive dynamics with his classmates. This learning environment also strengthened the subject's motivation to undergo academic and social processes in a healthier way.

Unlike the first two subjects, Subject 3 still experienced obstacles in the process of change. This subject experienced family pressure due to rejection of the arranged marriage and chose to avoid it by often coming home late at night. Despite having attended one face-to-face session and one online session, the subject had not shown adequate openness to the counselor. He also tended to reject self-reflection and maintain his habits as a form of comfort zone. In the context of STEM learning, although cognitively involved, the subject has not been able to absorb the reflective values, responsibility, and meaning of the knowledge taught, so the impact of education on strengthening self-identity has not been significant.

Subject 4, who felt neglected by her parents and often had disagreements with her siblings, was still in the early counseling and monitoring stages. The subject began to show signs of openness and readiness to build healthier relationships with her environment. In the counseling session, the subject stated that she began to understand the importance of assertive communication and the meaning of self-acceptance. However, there were still emotional barriers that hindered the formation of healthy connections with family members. On the other hand, the subject's participation in STEM learning activities with an Islamic ethics approach provided an initial stimulus to understand the importance of contributing to a team, respecting differences, and being responsible for the tasks assigned.

Overall, the results of the study indicate that the success of the intervention is largely determined by the psychological readiness of the subject, the quality of the counseling relationship, and the extent

to which spiritual and cultural values can be internalized through the education and counseling process. The integration of individual counseling and Islamic culture-based STEM education offers a comprehensive approach to fostering students' psychological resilience. This approach not only functions curatively for students who are facing a psychological crisis, but also has the potential to be a preventive model in creating a campus ecosystem that cares about the mental health, spirituality, and local cultural values of Muslim students.

The results of this study describe the dynamics of individual counseling interventions given to four students with different psychological backgrounds, but who have similarities in their tendency towards suicidal ideation. The counseling process was carried out with an Islamic values-based approach and combined with the reinforcement of STEM educational values that are responsive to Islamic culture, such as responsibility, self-reflection, and spiritual meaning in mastering knowledge. Each subject showed varying responses to the intervention, depending on the level of openness, psychological condition, and environmental support. To provide a more systematic picture of the subject's condition, response to counseling, and the contribution of STEM values in supporting recovery, the following is a summary of the results in tabular form:

**Table 1. Results of Counseling Intervention and the Role of STEM Values in Students**

<b>Subject</b>	<b>Background of the Problem</b>	<b>Response to Individual Counseling</b>	<b>Implementation of Islamic Culturally Responsive STEM Values</b>	<b>Key Results</b>
1	Loss of both parents and conflict with partner's family (boyfriend)	Experiencing a process of self-reflection, starting to accept the situation, and building a new meaning in life.	The values of trust and social responsibility in STEM tasks help subjects feel the meaning of life and real contribution.	Decreased suicidal ideation, increased self-forgiveness, greater academic enthusiasm
2	Self-harm behavior due to emotional wounds	Able to recognize the root of the problem and start managing emotions	Collaborative STEM project activities that instill togetherness, honesty, and life purpose provide corrective experiences.	More stable emotions, reduced suicidal ideation, more socially open.

Subject	Background of the Problem	Response to Individual Counseling	Implementation of Islamic Culturally Responsive STEM Values	Key Results
3	Stress due to rejection of arranged marriage	Closing oneself off from the counseling process, not ready to explore feelings	Not yet able to absorb the values of reflection, future orientation, and Islamic ethics in learning	No significant changes, still comfortable in the old pattern
4	Lack of parental attention and conflict with siblings	Start opening up and showing a willingness to change	STEM activities that emphasize cooperation, patience, and contribution within a group provide early triggers for engagement.	Initial changes are positive, but further support is still needed.

## Discussion

The findings of this study reveal the psychological dynamics of Muslim students who experience suicidal ideation due to emotional burdens, relational stress, and limited family support. Of the four subjects who received individual counseling services based on Islamic values, two subjects showed significant recovery, while the other two were still in the process of adjustment and monitoring.

The phenomenon of suicidal ideation experienced by the subjects is closely related to the first stage in the theory of suicidal behavior, namely suicidal ideation, namely the emergence of thoughts or fantasies to end life, either explicitly or implicitly (Muhith, 2015). According to Silverman et al. (2007), this is the initial phase of a series of possibilities leading to further suicidal actions. Prevention at this stage is very important so that it does not develop into threats, signals, or suicide attempts (Silverman et al., 2007).

The causal factors for the emergence of suicidal ideation in this study are consistent with the four psychosocial factors according to Rutter and Behrendt (2004): helplessness, hostility, negative self-concept, and feelings of isolation (Rutter & Behrendt, 2004). Subjects 1 and 2 experienced intense relational conflict and loss of support figures, while subjects 3 and 4 faced social pressure and emotional rejection from their families. Their inability to manage these pressures strengthened the tendency to blame themselves, which in the long term contributed to the emergence of suicidal ideation.

One of the key aspects of the recovery process is the ability to forgive oneself (self-forgiveness). Self-forgiveness functions as a coping strategy that helps individuals release negative emotions and build self-acceptance (Lydia Woodyatt). Based on the theory of self-forgiveness, individuals go through four phases: (1) the uncovering phase, namely recognition of guilt and painful emotions; (2) the decision phase, commitment to forgive oneself; (3) the work phase, efforts to accept mistakes empathetically; and (4) deepening phase, the search for meaning and spiritual growth from painful experiences (Compton & Hoffman, n.d.). Subjects 1 and 2 showed progress through these phases, while subjects 3 and 4 were still stuck in the early phase because they were not fully open to the counseling process.

The individual counseling used in this study is based on Islamic values, such as the concepts of repentance, mercy, and tawakal, which provide a spiritual foundation in the process of self-acceptance and the formation of meaning in life. The application of these religious values strengthens the belief that every human being has the right to rise from mistakes and be given a second chance. This strengthens the argument that the spiritual-religious approach is not only culturally relevant but also psychologically effective.

Furthermore, this study also considers the role of education, especially the STEM (Science, Technology, Engineering, and Mathematics) approach that is designed responsively to Islamic culture. STEM in this context is not just the transmission of technical knowledge, but also a means to instill the values of honesty, responsibility, and community service. STEAM integrates various disciplines to create learning experiences that are relevant to real life (Sari & Zulfa, 2024; Zubaidah, 2019). The internality of these values contributes to students' mental resilience because they are invited to see knowledge as part of the search for the meaning of life and worship. The integration of psychological and educational approaches in this model forms a holistic intervention - touching on the mental, spiritual, and academic aspects of students. By combining individual counseling based on Islamic values and character building through STEM rooted in religious values, students are helped to emerge from psychological crises, while forming a foundation of values that can guide them in facing life's challenges.

## **CONCLUSION**

This study concludes that an intervention model that integrates individual counseling based on Islamic values with a STEM approach that is responsive to Islamic culture has significant effectiveness in preventing suicidal ideation and building self-forgiveness in college students. This intervention is able to answer the psychological and spiritual needs of college students, especially those who experience emotional stress and severe interpersonal conflict. Of the four subjects who were the focus of the study, two of them showed real positive changes after undergoing counseling sessions and being involved in a value-based academic environment. They were able to rebuild the meaning of life, develop self-forgiveness, and reduce the tendency to blame or hurt themselves. Meanwhile, the other two subjects still experienced obstacles because they were not fully open and received optimal assistance. These findings indicate that the effectiveness of the intervention is greatly influenced by the openness of the subjects in the counseling process and the educational environment that supports spiritual and social values.

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**AN OVERVIEW OF ENDSARS PROTEST: INVESTIGATING THE DESTRUCTIVE  
EFFECTS ON HUMAN LIFE AND PROPERTY**

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**ABSTRACT**

*This study overviewed the EndSARS protest, investigating its destructive effects on human life and property. The study mentioned that the EndSARS protest, which began in October 2020 in Nigeria, was a movement driven by the youth to demand the disbandment of the Special Anti-Robbery Squad (SARS), a unit of the Nigerian Police notorious for brutality, unlawful arrests, and extrajudicial killings. In the quest to carry out this study, several subheads were also taken into consideration, such as the concept of protest, an overview of EndSARS protests in Nigeria, causes of EndSARS protests, effects of EndSARS protests on human life and property, and remedies to protests in Nigeria. The study mentioned the causes of the EndSARS protest to be: police brutality and extrajudicial killings, failure of previous police reforms, economic hardship, and youth unemployment, among others. The study further mentioned loss of life, destruction of public property, looting, and vandalism of private property as the effects of the EndSARS protest on human lives and properties. Furthermore, it highlighted police and security reformation and economic empowerment, among others, as the remedies to persistent protests in Nigeria. The study concluded that the EndSARS protest resulted in significant loss of lives, destruction of properties, and widespread economic damage. One of the recommendations made was that the government should offer compensation and psychological counselling to victims and affected families as providing support will help address the trauma caused by the violence and ensure justice for those affected.*

**KEYWORDS:** EndSARS, Protest, Destruction, Human Life and Property

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**INTRODUCTION**

The End SARS protest, which began in October 2020 in Nigeria, was a movement driven by the youth to demand the disbandment of the Special Anti-Robbery Squad (SARS), a unit of the Nigerian Police notorious for brutality, unlawful arrests, and extrajudicial killings. The peaceful protests started as a social media campaign, quickly gaining global attention, with #EndSARS trending across platforms. The protesters sought not just the dissolution of SARS but also broader police reforms, better governance, and accountability in Nigeria's public institutions. However, the peaceful protests soon took a destructive turn, resulting in significant damage to human life and property (Adeyemi & Okonkwo, 2021).

The protest, initially non-violent, became chaotic after the events of October 20, 2020, when the Nigerian military reportedly opened fire on protesters at the Lekki toll gate in Lagos, leading to several deaths and injuries. This tragic incident, now referred to as the "Lekki Massacre," marked a turning point in the movement. It sparked widespread anger and triggered a wave of violent clashes between protesters, security forces, and criminal elements who hijacked the protests. The escalation of violence led to the destruction of government buildings, police stations, private businesses, and

infrastructure across major cities in Nigeria (Nwankwo & Oduah, 2021).

The destructive effects of the End SARS protest on human life were grave. Numerous individuals lost their lives, both from the protester and law enforcement sides. Innocent civilians, including bystanders, were caught in the crossfire, and there were reports of severe injuries and psychological trauma among survivors. The widespread violence also left many families in mourning, with some searching for their missing loved ones. According to Nwafor (2022), the exact number of casualties remains disputed, but the effects on the victims' families are long-lasting, leaving an indelible scar on Nigerian society.

In addition to the loss of life, the economic impact of the protests, particularly the destruction of property, was significant. In Lagos, which was the epicentre of the protests, several public and private properties, including banks, shopping malls, and media houses, were vandalised or set ablaze. The Nigerian government estimated that the destruction caused by the protests resulted in billions of naira in losses. Key public infrastructure, such as government offices and police stations, were also destroyed, leading to a breakdown in law enforcement and public services in some areas (Onyema & Esen, 2022).

The aftermath of the End SARS protest highlighted the deep-seated frustrations of the Nigerian youth with the nation's leadership and institutions. The economic losses, coupled with the human cost, exposed the fragility of Nigeria's socio-political system. Many analysts argue that the protest should serve as a wake-up call for the Nigerian government to address systemic issues such as unemployment, police reform, and the marginalisation of the youth. The protest, though destructive, has also been seen as a pivotal moment in Nigerian history, raising awareness about the need for meaningful reform (Eze & Adekunle, 2021).

The End SARS protest had far-reaching consequences for both human life and property. While it began as a peaceful demand for change, it tragically morphed into a violent and destructive movement that left a significant toll on Nigeria. The loss of lives, destruction of properties, and emotional trauma experienced by victims are lasting legacies of the protest. It remains crucial for the Nigerian government to engage in genuine reforms to prevent similar incidents in the future, ensuring a safer and more just society.

### **CONCEPT OF PROTEST**

A protest is any of the many ways that people and organisations choose to voice their discontent with the status quo in politics. Protests frequently involve large-scale activism that happens outside of the established legislative process, like boycotts, civil disobedience, and demonstrations. Protests are marches held in public as a way to hold and show dissatisfaction. On a worldwide scale, they are regarded as legitimate ways to get involved in politics. Through protests, the public can gather knowledge that has been distributed secretly and communicate it to decision-makers. Protest is an invaluable way to speak truth to power (Eesuola, 2015).

Protest can be caused by numerous reasons as mentioned by Nikejah, Udoh and Essien (2016) can be caused by unemployment which can inject negative impact on the youths including the urge to protest. Protestants can express their disapproval of the current political system in a number of ways, most often through large-scale activity conducted outside of the established legislative procedures. Examples of this include boycotts, civil disobedience, and protests. The term "protest" more commonly refers to forms of mass political activism that take place outside of traditional parliamentary channels, such as demonstrations and marches, labour stoppages, boycotts, and other tactics that combine direct action, persuasion, and noncooperation with political, economic, and

social institutions. Protest can also be registered through voting, letter writing, campaign contributions, membership in interest groups and political parties, and other traditional means.

According to Chisom (2021), protests have often inspired positive social change and improved protection of human rights, and they continue to help define and protect civic space in all parts of the world. Through facilitating direct involvement in public affairs, protests enhance representative democracy and foster the growth of an informed and involved populace. They give people and groups the ability to voice their disapproval and complaints, to exchange ideas and opinions, to highlight problems with governance, and to openly demand that the government and other powerful institutions address issues and take responsibility for their actions, as demonstrated by the Nigeria Youths' protest against police brutality.

Some of the most influential social movements have been propelled by protests, which have revealed wrongdoing and abuse, called for responsibility, and encouraged people to hold out hope for a better future. Making ensuring that institutions of power recognise our human rights has been made possible through protest. Nampoothiri (2024) affirmed that protests are a feature of both democratic and non-democratic regimes.

In recent years, protest has expanded in scope, importance, and influence, turning into a vital tool for expressing political opinions and applying pressure for social and political change. Globalisation makes it possible for groups to adopt and disseminate new strategies and ideas across borders, which is what has led to the proliferation of protests. Protesting is a valid and essential means for communities in democracies to demand change on matters that decision-makers overlook. Protests can take many different forms, such as boycotts, demonstrations, and blockades, which make up a repertoire of grievances that is always being added to. Digital repertoires of dispute (social media, online petitions, digital sit-ins, Twittering) are also being implemented with the advent of new information and communication technologies (ICTs).

### **An Overview of EndSARS Protest in Nigeria**

The EndSARS movement, which gained significant momentum in 2020, represents a major protest against police brutality in Nigeria. The Special Anti-Robbery Squad (SARS), a notorious unit within the Nigerian Police Force, faced widespread accusations of human rights abuses, including extrajudicial killings and torture. This protest highlighted critical issues regarding governance, police reform, and youth activism in Nigeria (Olaniyan, 2022).

#### ***Origins and Background***

**Establishment and Role of SARS:** SARS was established in 1992 to address armed robbery and violent crimes. Over the years, however, the unit became notorious for its involvement in various forms of abuse, including extortion and illegal detention. As noted by Fagbemi (2022), the unit's practices led to increasing public outrage, particularly as reports of abuse become more frequent and severe.

**Public Outrage and Early Protest:** While earlier protest against SARS did occur, significant action was not achieved until 2020. Social media platforms, especially Twitter, played a crucial role in mobilizing support for the movement. The hashtag #EndSARS became a central rallying cry for activists and garnered international attention. According to Amadi (2023), social media was instrumental in organizing and amplifying the protests, highlighting the rule of digital platforms in modern activism.

#### ***The 2020 Protests***

**Triggering Incidents and Mobilization:** The movement gained substantial momentum in October

2020 after a video surfaced showing SARS officers allegedly killing a young man in Delta state. This incident triggered nationwide protest across major Nigerian cities such as Lagos, Abuja and Port Harcourt. The protest were characterized by peaceful demonstrations, organized rallies and extensive social media campaigns demanding police reforms and justice for victims.

**Protests and Demands:** The EndSARS protests were driven by specific demands:

1. **Immediate Dissolution of SARS:** Protesters called for the disbandment of SARS due to its abusive practices.
2. **Justice for Victims:** Protesters demanded accountability for SARS officers involved in brutality and justice for the victims.
3. **Compensation for Families:** Compensations for the families of victims who were unlawfully killed or detained was also a significant demand.
4. **Independent Oversight of the Police:** The creation of an independent body to investigate and oversee police misconduct was widely demanded by the protesters.
5. **Psychological Evaluation and Retraining of Officers:** Protesters also called for a thorough psychological evaluation and retraining of former SARS officers to prevent further abuses.

**Government Response and Escalation:** In response to the growing protests, the Nigerian government announced the dissolution of SARS on October 11, 2020. However, this move was met with skepticism, as previous promises of disbanding SARS had not been followed by meaningful reform. Despite the dissolution, protests continued as demonstrators believed that disbanding SARS was not enough without border reforms. The climax of the protest occurred on October 20, 2020, when security forces allegedly opened fire on peaceful protesters at the Lekki Toll Gate in Lagos, a tragic event that supposedly led to multiple casualties.

#### ***Post-Protest Impact***

**Judicial Panels and Accountability:** Following the protests, the Nigerian government established judicial panels to investigate police brutality and recommend reforms. However, these panels faced significant criticism for their slow progress and lack of tangible outcomes (Thomas, 2024). Despite high expectations, the judicial panels were not able to meet the public's demand for swift justice and accountability.

**Political and Social Impact:** The EndSARS movement had a transformative impact on Nigerian political and social landscape. It illustrated the power of youth activism and social media in driving large-scale social movements. The protest also sparked broader conversation about governance, corruption and the state of human right in Nigeria. Moreover, the movement's legacy continues to inspire civil society efforts to push for greater accountability in Nigerian policing and governance.

**Continued Activism and Future Prospect:** Despite the disbandment of SARS, the broader issues of police brutality, corruption and governance remain unsolved. The EndSARS protests paved the way for continued activism and social engagement. The movement empowered a new generation of Nigerians to challenge systemic issues, signaling that protests could re-emerge if meaningful reforms are not implemented.

#### **Causes of EndSARS Protest**

The EndSARS protest, which erupted in October 2020, was driven by several key factors that were not only rooted in police misconduct but also in deeper social, economic, and political issues. The Special Anti-Robbery Squad (SARS) of the Nigerian Police Force had long been accused of human rights abuses, and the movement against SARS became a symbol of the demand for broader reforms in governance and justice.

- **Police Brutality and Extrajudicial Killings**

The most immediate cause of the EndSARS protest was the widespread reports of police brutality and extrajudicial killings committed by SARS officers. According to Obasanjo & Adigun (2020), SARS officers routinely violated the rights of Nigerian citizens, especially young people, through arbitrary arrest, extortion, torture, and even murder. These violations continued unchecked for years, fostering deep public resentment. The unit's history of brutal actions against civilians, often with little accountability, sparked widespread outrage. As noted by Johnson (2022), the culture of impunity surrounding the Nigerian police force allowed SARS officers to operate without fear of punishment, making it difficult for victims to seek justice. This long-standing issue of police brutality became the focal point of the protest, with Nigerians calling for the unit's immediate dissolution.

- **Failure of Previous Police Reforms**

Another critical cause of the EndSARS protest was a failure of the previous attempts to reform the police system. Although there had been multiple promises from the Nigerian government to reform SARS, these initiatives were often superficial and did not address the root cause of the problem. Olatunji & Adekunle (2023) argue that the government's ability to implement meaningful reform to curb police abuses resulted in the lack of public trust in the police force. The consistent failure to address systemic problems within the police force, including corruption and abuse of power, led to public frustration, which manifested in the EndSARS protest.

- **Economic hardship and youth unemployment**

Economic conditions in Nigeria, particularly high youth unemployment and poverty, also contributed to the EndSARS movement. Nigeria's youth faced significant challenges, including limited employment opportunities and widespread economic inequality. These economic hardships compounded the grievances against SARS, as young people were disproportionately targeted by the police based on their appearance or economic status. SARS officers often profiled young Nigerians driving cars or carrying expensive gadgets, assuming they were involved in cybercrime (Adebayo & Ojo, 2021). This sense of economic disenfranchisement fuelled the protest, with the youth demanding not only an end to police brutality but also broader reforms to address unemployment and economic inequality.

- **Social Media and Global Awareness**

The rise of social media played a significant role in mobilising support for the EndSARS movement, both within Nigeria and internationally. According to Nwosu & Eke (2020), platforms like Twitter, Instagram, and Facebook enabled young Nigerians to share their experiences of police brutality and coordinate protests across the country. Hashtags such as #EndSARS became viral, amplifying the movement's message globally and gaining the attention of international celebrities, activists, and media outlets. Social media also allowed for the rapid dissemination of police violence during the protest, making it difficult for the government to downplay the extent of the problem. The visibility provided by social media empowered protesters and kept the momentum of the movement alive, even in the face of government opposition.

- **General Mistrust in Government Institutions**

Finally, the general mistrust in Nigerian government institutions fuelled the EndSARS protest. According to Akinola & Taiwo (2020), years of corruption, poor governance, and a lack of transparency created a climax of distrust between citizens and the government. Many Nigerians felt that government institutions were incapable of delivering justice or protecting citizens' rights, and the police were seen as enforcers of the state's corrupt practices. The EndSARS protest became a

broader call for accountability, transparency, and good governance, as citizens demanded not just police reform but a change in how the country is governed. The movement became symbolic of the larger struggle against systemic oppression and the demand for a more just and equitable society.

### **Effects of EndSARS Protest on Human Life and Property**

The End SARS protests in Nigeria, which began in October 2020, had significant and wide-ranging effects on human life and property. These protests were fuelled by grievances against police brutality, especially the misconduct of the Special Anti-Robbery Squad (SARS), leading to nationwide demonstrations. Below is a detailed look at the effects.

#### **Effects on Human Life**

**Loss of Lives:** The Nigerian military allegedly opened fire on peaceful protesters, sparking outrage both within Nigeria and internationally. Despite denials by the Nigerian government, multiple eyewitnesses and video footage confirmed the incident.

**Injuries and Trauma:** Hundreds of protesters sustained injuries during confrontations with the police and military. Many of these injuries were caused by the use of live ammunition, tear gas, and physical force by security forces.

**Human Rights Violations:** The End SARS protests revealed deep-rooted issues of human rights abuses by the police. According to reports from Human Rights Watch, security forces used excessive force to quell the protests, and there were numerous reports of arbitrary arrests and detentions of protesters. These actions were widely condemned by international bodies, further damaging the government's reputation regarding human rights.

#### **Effects on Property**

**Destruction of Public Property:** In the aftermath of the protests, anger over the government's handling of the situation led to widespread vandalism and destruction of public properties. Several police stations, public transportation systems, and government buildings were set on fire or heavily damaged. Lagos, Nigeria's economic capital, was one of the hardest-hit cities. The destruction of police stations further weakened the already fragile law enforcement structure, creating a sense of insecurity in many affected areas (Amnesty International, 2020).

**Looting and Vandalism of Private Property:** During the protests, many private businesses were looted and destroyed, particularly after the Lekki Toll Gate shooting. Warehouses holding COVID-19 relief materials were raided, and shopping malls, stores, and other establishments suffered substantial damage (Human Rights Watch 2021). The economic impact of these acts was severe, with business owners losing billions of Naira in assets.

**Economic Disruption:** The protests led to economic paralysis in major cities like Lagos, Abuja, and Port Harcourt. Curfews were imposed, leading to the closure of businesses, markets, and banks for several days. Many small and medium enterprises (SMEs) were hit hard by the disruptions, resulting in substantial financial losses for both business owners and employees. The long-term economic impact is still felt today, especially among small business owners who struggled to rebuild (The Guardian 2020).

#### **Remedies to Protests in Nigeria**

Protests in Nigeria, such as the End SARS movement, have highlighted deep-rooted issues within the country, ranging from police brutality to socio-economic challenges. To effectively remedy protests and reduce the likelihood of violent unrest, a holistic and multi-faceted approach is required (International Crisis Group, 2021). Below are key remedies that can address the root causes and effects of protests in Nigeria.

➤ **Police and Security Reforms**

**Accountability and Oversight:** One of the primary demands of the End SARS protests was accountability for police misconduct. To address this, the government must establish independent oversight bodies that can investigate police abuses, hold officers accountable, and ensure transparency. Instituting measures that prevent impunity, such as prosecuting officers involved in human rights violations, will help rebuild trust in law enforcement.

**Professional training and capacity building:** Training has always been an important aspect in governance as mentioned by Ekanem, Afia, Ekong and Udoh (2024) training provides a systematic improvement of knowledge and skills, which in turn helps the trainees to function effectively and efficiently in their given task on completion of the training. Regular training of police officers on human rights, deescalation techniques, and community engagement is crucial. Strengthening the professionalism of the police force through better pay, improved working conditions, and psychological support can reduce the risk of abuses. In addition to all these, as mentioned by Ekong, Udoh and Akpan (2024) this training will lead to competency which is an important factor in effective service delivery.

➤ **Economic Empowerment and Social Welfare**

**Job Creation Programmes:** High youth unemployment is a major contributing factor to protests in Nigeria. The government should implement targeted economic policies that create sustainable jobs, especially for young people, through vocational training, entrepreneurship programs, and support for small and medium enterprises (SMEs). This will reduce frustration and give people a stake in society.

**Social Welfare Programmes:** Expanding social safety nets, including health care, education, and social assistance programmes, is vital in addressing the economic inequalities that often fuel unrest. Improved access to quality education and healthcare will reduce the economic pressures that contribute to protests.

➤ **Dialogue and Conflict Resolution Mechanisms**

**Engagement with Civil Society:** To prevent violent escalations, the government should engage directly with civil society groups and activists through established dialogue platforms. Dialogue mechanisms should include regular consultations with youth leaders, activists, and community representatives to discuss grievances and propose solutions before they lead to mass protests.

**Mediation and Peace building Initiatives:** Establishing independent peace building commissions to mediate between protesters and government authorities can help prevent conflicts from escalating. These commissions should include neutral third-party facilitators to ensure objectivity and trust from all sides.

➤ **Judicial and Legal Reforms**

**Strengthening the Judiciary:** The judicial system must be empowered to handle cases of police brutality and misconduct efficiently. Ensuring the independence of the judiciary and expediting the handling of human rights violations can help foster accountability and justice for victims of state violence.

**Legal Protections for Protesters:** Clear laws protecting the right to peaceful assembly must be enforced. Governments should respect international legal frameworks regarding the treatment of protesters, ensuring that they are not subject to arbitrary arrests or excessive force.

➤ **Electoral and Political Reforms**

**Electoral Reforms:** Many protests in Nigeria are linked to dissatisfaction with governance and political leadership. Comprehensive electoral reforms, such as ensuring free, fair, and transparent elections, are essential to address grievances related to governance failures. Strengthening democratic institutions and improving voter confidence in electoral processes will reduce the frustrations that lead to unrest.

**Inclusion of Marginalized Groups:** Greater inclusion of marginalized groups, such as women, youth, and ethnic minorities, in decision-making processes can help create a more representative and just political system. Empowering these groups politically and economically can reduce the tensions that fuel protests.

➤ **Improved government transparency and communication**

**Proactive Governance:** The government should adopt proactive measures to address societal challenges and communicate policy actions transparently to citizens. Regular updates on reforms and development plans, alongside open discussions on issues like police reform, will foster public trust.

**Freedom of Information:** Ensuring that citizens have access to information about government activities through laws like the Freedom of Information Act can help reduce misinformation and the distrust that often fuels protests.

**CONCLUSION**

The End SARS protest, which began in October 2020, started as a peaceful movement demanding the disbandment of the Special Anti-Robbery Squad (SARS) and broader reforms in Nigeria. However, after the Lekki toll gate incident, where the military allegedly opened fire on protesters, the movement turned violent. This resulted in significant loss of lives, destruction of properties, and widespread economic damage. The protest highlighted deep-seated frustrations with governance and the police system. It is now viewed as a pivotal moment in Nigerian history, emphasising the urgent need for systemic reforms.

**RECOMMENDATIONS**

1. The government should offer compensation and psychological counselling to victims and affected families. Providing support will help address the trauma caused by the violence and ensure justice for those affected.
2. Comprehensive police reforms are necessary, including better training, strict oversight, and independent investigations of misconduct. Transparent prosecution of law enforcement officials who violate the law is essential to rebuild public trust.
3. The government should create platforms for ongoing dialogue with the youth, ensuring their inclusion in decision-making processes. This will address frustrations and promote a peaceful, progressive society.

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