IMPACT OF CLASSROOM FACILITIES ON UNDERGRADUATE STUDENTS' ACADEMIC PERFORMANCE IN UNIVERSITIES IN BAYELSA STATE

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Abstract

The research examined how classroom facilities influence the educational success of undergraduates in universities located in Bayelsa State. The paper employed a descriptive survey design. The population consists of 400-level students within the Faculty of Education at Niger Delta University, Bayelsa State. The purposive sampling was used to select 416 participants, comprising of 267 males and 149 females. Data were gathered through a structured questionnaire titled "Impact of Classroom Facilities on Undergraduate Students' Academic Performance in Universities Questionnaire (ICFUSAPUQ)." The instrument underwent validation by two specialists in the Faculty of Education, Niger Delta University, Bayelsa State. Reliability was assessed using the Cronbach Alpha technique, yielding a coefficient of 0.73. Data analysis involved the use of arithmetic mean to address the research questions, while the t-test was employed for hypothesis testing. Findings revealed that seating facilities, such as chairs and desks, are both sufficient and in good working condition in undergraduate classrooms across universities in Bayelsa State. Consequently, the research suggested that, university managements in the state should sustain regular maintenance of classroom seating facilities to ensure continuous comfort and support for undergraduate learning.

Key words: *Academic Performance, Classroom Facilities, Impact, Undergraduate Students, Universities*

Introduction

The concept of impact in educational research refers to the measurable or observable effects that specific factors exert on learning outcomes, student development, or academic performance (Marques et al., 2017). In the university setting, the impact of learning resources, environmental conditions, and infrastructural provisions is often a critical determinant of academic success. Recent studies have emphasized that infrastructural deficits in higher education institutions, particularly in developing regions, can lead to systemic learning gaps that affect both teaching effectiveness and student engagement (Okolie et al., 2020). Therefore, understanding the various dimensions of impact in academic settings is essential for driving policies that promote

quality education, especially in Nigerian universities where infrastructural challenges are prevalent. This understanding naturally brings attention to the quality and adequacy of the classroom environment in universities.

A classroom is not merely a physical space for knowledge dissemination but a central hub where intellectual, emotional, and social interactions occur between students and instructors (Mabagala & Mabagala, 2020). The quality of the classroom environment shapes student motivation, participation, and cognitive processing during instructional activities. Studies have shown that overcrowded classrooms, poor seating arrangements, and insufficient teaching aids contribute to a hostile learning environment that impedes knowledge acquisition (Ngussa & Makewa, 2021). In Bayelsa State universities, the condition of classrooms remains a critical concern due to increased enrollment without corresponding expansion of facilities. This concern underscores the need to examine the various components that constitute a functional classroom environment.

The term classroom facilities encompass all physical and instructional resources within a learning space that support effective teaching and learning (Iwu et al., 2022). These include seating arrangements, lighting, ventilation, teaching aids, ICT equipment, and safety provisions. The condition and adequacy of these facilities have a direct relationship with student academic outcomes, as poor facilities can cause distractions, discomfort, and reduced attention span (Effiom & Igiri, 2020). Furthermore, classroom facilities are pivotal in shaping students' perceptions of institutional quality, influencing their academic confidence and performance. It is within this framework that the exploration of specific classroom elements becomes vital for understanding the broader educational experience of undergraduates.

The population of undergraduate students in Nigerian universities has continued to expand rapidly, leading to increased pressure on existing educational infrastructures (Odia & Omofonmwan, 2020). Undergraduate students, being at the foundational phase of professional and academic development, are particularly vulnerable to the negative effects of inadequate learning facilities. Their academic performance often reflects not only their intellectual capabilities but also the quality of the environment in which they are trained (Olayemi & Omole, 2021). In Bayelsa State universities, the growing student population has outpaced infrastructural development, necessitating urgent attention to the condition of classroom facilities. This situation calls for a detailed examination of how the learning environment affects student outcomes.

Academic performance remains one of the most commonly used indicators for evaluating the effectiveness of educational processes in universities (Owolabi & Oginni, 2022). It reflects students' mastery of academic content, critical thinking abilities, and the successful application of knowledge in various fields of study. Several factors contribute to academic performance, including the learning environment, instructional methods, and the availability of academic resources (Adeyemi & Adu, 2021). Poor academic performance in Nigerian universities has been attributed to both instructional and infrastructural deficiencies, raising concerns about the long-term quality of graduates. This situation necessitates a focus on how specific classroom conditions influences the educational achievements of students.

In examining the adequacy and condition of seating facilities, it is crucial to note that comfortable seating arrangements foster better concentration and reduce the risk of physical discomfort that can distract students from learning activities (Ugwuegbulam et al., 2022). In many Nigerian universities, students often share broken chairs or sit on windowsills during lectures due to inadequate seating provisions, which directly affects their classroom experience. This discomfort

can lead to disengagement, absenteeism, and ultimately poor academic outcomes. Analyzing the adequacy of seating arrangements is therefore fundamental to understanding broader classroom facility challenges.

Seating conditions also have implications for the inclusivity and accessibility of learning spaces, particularly for students with special needs (Olumorin et al., 2020). When universities fail to provide ergonomically designed and sufficient seating, it limits the capacity of all students to participate fully in the learning process. This situation can exacerbate inequality in learning outcomes, especially for students who require special accommodations. Investigating seating adequacy allows for a deeper exploration of how facility deficiencies affect academic equity.

Furthermore, poor seating arrangements are often linked to increased classroom stress, reduced attention span, and limited peer interaction, all of which can impede collaborative learning and knowledge retention (Onyema, 2021). Classroom design, including the seating layout, influences the effectiveness of pedagogical strategies and student engagement. Understanding the condition of seating facilities provides a pathway to evaluating other classroom components that directly impact learning quality.

The availability and functionality of teaching aids and presentation tools are essential in promoting interactive and engaging learning experiences (Ajayi & Ajayi, 2021). Modern teaching tools such as projectors, interactive boards, and public address systems enhance the delivery of complex concepts and foster multimedia learning. In the Nigerian university context, however, many classrooms still rely solely on traditional chalkboards, limiting the diversity of teaching methodologies. This gap points to the broader issue of resource inadequacy in higher education.

Functional teaching aids improve the quality of content delivery by allowing instructors to present information in visually stimulating and accessible formats (Okeke et al., 2020). When these tools are unavailable or dysfunctional, lecturers resort to monotonous teaching styles that may not cater to the diverse learning preferences of students. The result is often reduced comprehension, lack of enthusiasm, and diminished academic performance. This reality stresses the need to evaluate not just the availability but also the usability of teaching aids.

Additionally, technological teaching tools are critical for preparing students for the modern workforce, which increasingly relies on digital competencies (Adekunle et al., 2021). The absence of functional teaching aids in classrooms limits students' exposure to digital learning environments, creating a gap between academic training and industry expectations. This issue highlights the need to consider other classroom environmental factors that influence learning efficiency, such as lighting and ventilation systems.

The effectiveness of classroom lighting and ventilation systems in promoting conducive learning environments cannot be overstated, as these factors directly influence students' physical comfort and cognitive engagement (Chinyere & Chukwuma, 2021). Poor lighting has been associated with eye strain, headaches, and reduced reading comprehension, while inadequate ventilation contributes to drowsiness and loss of concentration. In many universities in Bayelsa State, classrooms are either poorly lit or lack functional ventilation systems, creating sub-optimal learning conditions. This situation demands further exploration of environmental quality in university classrooms.

Natural lighting and proper air circulation have been found to enhance learning motivation and improve students' psychological well-being during academic activities (Ogbuehi & Alade, 2022). When classrooms are overcrowded and poorly ventilated, the learning atmosphere becomes physically and mentally draining for students, leading to reduced classroom attendance and

participation. Understanding these environmental factors is critical in building a comprehensive picture of how classroom facilities influence learning outcomes.

Moreover, the state of lighting and ventilation in classrooms reflects broader infrastructural management practices within universities (Nworie, 2022). The maintenance culture regarding classroom facilities is often weak in public universities, resulting in the gradual deterioration of existing infrastructure. This infrastructural neglect invites a wider discussion on the systemic problems facing university management in resource allocation and facility upkeep.

Despite the recognized importance of quality learning environments in promoting academic excellence, universities in Bayelsa State face persistent infrastructural challenges that undermine undergraduate education. Classrooms are often overcrowded, seating facilities are insufficient or damaged, and modern teaching aids are either unavailable or non-functional. Furthermore, poor lighting and ventilation conditions contribute to physical discomfort, impeding students' ability to focus and perform academically. While several studies have addressed general educational challenges in Nigerian universities, there is a substantial vacuum in research specifically targeting the classroom facility variables that directly affect academic performance in Bayelsa State universities. This gap limits evidence-based interventions that could improve the learning environment.

Consequently, this study investigated the outcome of classroom facilities on undergraduates' academic performance in universities in Bayelsa State. Precisely, the research investigated the:

1. adequacy and condition of seating facilities (chairs and desks) in undergraduate classrooms in universities in Bayelsa State;
2. availability and functionality of teaching aids and presentation tools such as whiteboards, projectors, and public address systems in undergraduate classrooms in universities in Bayelsa State; and
3. effectiveness of classroom lighting and ventilation systems in promoting conducive learning environment for undergraduate students in universities in Bayelsa State.

Research Questions

1. How adequate and functional are the seating facilities (chairs and desks) in undergraduate classrooms in universities in Bayelsa State?
2. What is the availability and condition of teaching aids and presentation tools such as whiteboards, projectors, and public address systems in undergraduate classrooms in universities in Bayelsa State?
3. How effective are the classroom lighting and ventilation systems in creating a conducive learning environment for undergraduate students in universities in Bayelsa State?

Research Hypotheses

Ho_1 There is no significant difference in the mean responses of male and female students on how adequate and functional seating facilities (chairs and desks) are in undergraduate classrooms in universities in Bayelsa State.

Ho_2 There is no significant difference in the mean responses of male and female students on the availability and conditionality of teaching aids and presentation tools such as whiteboards, projectors, and public address systems in undergraduate classrooms in universities in Bayelsa State.

Ho_3 There is no significant difference in the mean responses of male and female students on how effective classroom lighting and ventilation systems are in creating a conducive learning environment for undergraduate students in universities in Bayelsa State.

Methodology

The research applied a descriptive survey design. The research population consists of 400-level students in the Faculty of Education at Niger Delta University, Bayelsa State. Researchers employed a purposive sampling method to select 416 participants, comprising 267 males and 149 females. Data were collected using a structured questionnaire titled "Impact of Classroom Facilities on Undergraduate Students' Academic Performance in Universities Questionnaire (ICFUSAPUQ)." Two experts established the instrument's content and construct validity from Faculty of Education, Niger Delta University. Researchers assessed the instrument's reliability using the Cronbach Alpha technique, which produced a coefficient value of 0.73. The questionnaire used a modified four-point Likert scale. It comprised 15 well-formulated items designed to elicit relevant information from respondents. Researchers analyzed the collected data using the arithmetic mean for the research questions. Items with mean scores of 2.50 and above were interpreted as "Agree," and those below 2.50 as "Disagree." They tested the hypotheses using the t-test statistical method at an alpha level of 0.05.

Results

Research Question One: How adequate and functional seating facilities (chairs and desks) are in undergraduate classrooms in universities in Bayelsa State?

Table 1: Mean and Standard Deviation Analysis of the How Adequate and Functional Seating Facilities (Chairs and Desks) are in Undergraduate Classrooms in Universities in Bayelsa State.

S/N	Items	Male Students		Dec.	Female Students		Dec.
		$\bar{x}$	SD		$\bar{x}$	SD	
1	The seating facilities in my classroom are sufficient to accommodate all students during lectures.	1.93	0.81	D	2.15	1.15	D
2	The chairs and desks in my classroom are in good condition and suitable for learning activities.	1.52	0.75	D	1.86	0.96	D
3	The available seating arrangement in the classroom promotes comfort and reduces physical strain during lectures.	3.20	0.79	A	2.73	1.28	A
4	Most classrooms I attend have well-maintained chairs and desks that enhance concentration.	3.13	0.82	A	3.22	0.98	A
5	Poor seating facilities in classrooms negatively affect my ability to focus during lectures.	3.13	1.00	A	3.24	0.97	A
	Grand Mean and Standard Deviation	**2.62**	**0.83**	**A**	**2.64**	**1.07**	**A**

Key: $\bar{x}$ = Mean, SD = Standard Deviation, A= Agree, D=Disagree and Dec.=Decision

Table 1 present the mean and standard deviation values assessing the adequacy and functionality of seating facilities (chairs and desks) in undergraduate classrooms across universities in Bayelsa State. For male respondents, the mean scores ranged from 1.52 to 3.20, with standard deviations between 0.75 and 1.00. Female respondents recorded mean scores ranging from 2.73 to 3.24 and std. dev. between 0.96 and 1.28. Given that the Grand Mean values of 2.62 for males and 2.64 for females exceed the benchmark mean of 2.50, it can be inferred that the respondents generally agreed that classroom seating facilities are both adequate and functional in universities within Bayelsa State. Furthermore, the Grand Standard Deviations of 0.83 for males and 1.07 for females suggest a consistent agreement among the participants on the adequacy and functionality of these facilities.

Research Question Two: What is the availability and conditionality of teaching aids and presentation tools such as whiteboards, projectors, and public address systems in undergraduate classrooms in universities in Bayelsa State?

Table 2: Mean and Standard Deviation Analysis of the Availability and Conditionality of Teaching Aids and Presentation Tools such as Whiteboards, Projectors, and Public Address Systems in Undergraduate Classrooms in Universities in Bayelsa State.

S/N	Items	Male Students		Dec.	Female Students		Dec.
		$\bar{x}$	SD		$\bar{x}$	SD	
6	My classroom is equipped with functional whiteboards or other writing boards for instructional purposes.	3.14	0.89	A	2.87	0.99	A
7	Projectors or similar multimedia presentation tools are readily available for lectures in my classroom.	1.76	1.04	D	2.01	1.03	D
8	The public address system or microphone in the classroom works properly during lectures.	1.78	1.05	D	1.96	1.04	D
9	The lack of modern teaching aids in classrooms reduces the effectiveness of content delivery.	3.13	0.92	A	2.73	1.24	A
10	Teaching aids and presentation tools in my classroom are regularly maintained and updated.	1.67	1.02	D	1.99	1.02	D
	Grand Mean and Standard Deviation	**2.28**	**0.98**	**A**	**2.31**	**1.06**	**A**

Key: $\bar{x}$ = Mean, SD = Standard Deviation, A= Agree, D=Disagree and Dec.=Decision

Table 2 display the mean and standard deviation results concerning the availability and condition of instructional aids and presentation equipment—such as whiteboards, projectors, and public address systems—in undergraduate classrooms across universities in Bayelsa State. Among male respondents, mean scores ranged from 1.76 to 3.14 with std. dev. between 0.89 and 1.05, whereas female respondents recorded mean scores ranging from 1.96 to 2.87 and standard deviations between 0.99 and 1.24. Since the Grand Mean values of 2.28 for males and 2.31 for

females fall below the benchmark mean of 2.50, it can be inferred that respondents generally agreed that teaching aids and presentation tools are largely unavailable and, where present, not in satisfactory working condition in undergraduate classrooms within universities in Bayelsa State. Relatively, the overall std. dev. of 0.98 and 1.06 indicated that the participants have the same perception on the availability and conditionality of teaching aids and presentation tools such as whiteboards, projectors, and public address systems in undergraduate classrooms in universities in Bayelsa State.

Research Question Three: How effective do classroom lighting and ventilation systems create a conducive learning environment for undergraduate students in universities in Bayelsa State?

Table 3: Mean and Standard Deviation Analysis of the How Effective Classroom Lighting and Ventilation Systems Create a Conducive Learning Environment for Undergraduate Students in Universities in Bayelsa State.

S/N	Items	Male Students		Dec.	Female Students		Dec.
		$\bar{x}$	SD		$\bar{x}$	SD	
11	The lighting system in my classroom is adequate and allows me to read and write comfortably.	1.66	0.90	D	2.07	1.03	D
12	The classroom has a functional ventilation system that ensures a comfortable learning atmosphere.	3.12	0.78	A	2.73	1.10	A
13	Poor lighting in classrooms affects my ability to follow lectures effectively.	3.11	0.87	A	2.93	1.22	A
14	Inadequate ventilation in the classroom leads to discomfort and reduces my concentration during classes.	3.11	0.93	A	2.73	1.22	A
15	The classroom environment is usually well-lit and properly ventilated to support active learning.	1.63	0.95	A	2.13	1.09	D
	Grand Mean and Standard Deviation	**2.53**	**0.89**	**A**	**2.52**	**1.13**	**A**

Key: $\bar{x}$ = Mean, SD = Standard Deviation, A= Agree, D=Disagree and Dec.=Decision

Table 3 presents the mean and standard deviation values assessing the effectiveness of classroom lighting and ventilation systems in fostering a conducive learning atmosphere for undergraduate students in universities across Bayelsa State. For male respondents, mean scores ranged from 1.63 to 3.12, with standard deviations ranging from 0.78 to 0.93. In contrast, female respondents recorded mean scores ranging from 2.07 to 2.93, with standard deviations ranging from 1.03 to 1.22. Since the Grand Mean scores of 2.53 for males and 2.52 for females are both higher than the benchmark value of 2.50, it can be concluded that respondents generally agreed that lighting and ventilation systems effectively enhance the learning environment for undergraduate students in Bayelsa State universities. Moreover, the Grand Standard Deviations of

0.89 and 1.13 indicate a relatively consistent perception among respondents regarding the effectiveness of classroom lighting and ventilation in promoting a favorable academic atmosphere.

Research Hypotheses

Ho_1 There is no significant difference in the mean responses of male and female students on how adequate and functional seating facilities (chairs and desks) are in undergraduate classrooms in universities in Bayelsa State.

Table 4: t-Test Analysis of the Mean Response of Male and Female Students on How Adequate and Functional Seating Facilities (Chairs and Desks) are in Undergraduate Classrooms in Universities in Bayelsa State.

S/N	Variables	N	$\bar{x}$	SD	df.	t-Cal	t-Crit	Decision at P<0.05
1	Male Students	267	2.61	0.83	414	-0.375	1.960	NS
2	Female Students	149	2.64	1.07				

NS at P<0.05 alpha level; N=416

Table 4 indicate that the t-test outcome is not statistically significant at the 0.05 alpha level, as the computed t-value of -0.375 is lower than the critical t-table value of 1.960 at df. = 414. Therefore, the hypothesis of no substantial disparity between the mean responses of male and female undergraduates in respect to sufficiency and functionality of seating facilities (chairs and desks) in undergraduate classrooms across universities in Bayelsa State is accepted.

Ho_2 There is no significant difference in the mean responses of male and female students on the availability and conditionality of teaching aids and presentation tools such as whiteboards, projectors, and public address systems in undergraduate classrooms in universities in Bayelsa State.

Table 5: t-Test Analysis of the Mean Response of Male and Female Students on the Availability and Conditionality of Teaching Aids and Presentation Tools such as Whiteboards, Projectors, and Public Address Systems in Undergraduate Classrooms in Universities in Bayelsa State.

S/N	Variables	N	$\bar{x}$	SD	df	t-Cal	t-Crit	Decision at P<0.05
1	Male Students	267	2.28	0.98	414	-0.273	1.960	NS
2	Female Students	149	2.31	1.06				

NS at P<0.05 alpha level; N=416

Table 5 indicate that the t-test analysis is not statistically significant at the 0.05 alpha level, as the computed t-value of -0.273 is lower than the critical t-table value of 1.960 at 414 degrees of freedom. Consequently, the hypothesis of no substantial disparity between the mean responses of male and female undergraduates in respect to the availability and condition of teaching aids and presentation tools such as whiteboards, projectors, and public address systems in undergraduate classrooms within universities in Bayelsa State is accepted.

Ho_3 There is no significant difference in the mean responses of male and female students on how effective classroom lighting and ventilation systems are in creating a conducive learning environment for undergraduate students in universities in Bayelsa State.

Table 4.6: t-Test Analysis of the Mean Response of Male and Female Students on How Effective Classroom Lighting and Ventilation Systems Create a Conducive Learning Environment for Undergraduate Students in Universities in Bayelsa State.

S/N	Variables	N	$\bar{x}$	SD	df	t-Cal	t-Crit	Decision at P<0.05
1	Male Students	267	2.53	0.88	414	0.091	1.960	NS
2	Female Students	149	2.52	1.13				

NS at P<0.05 alpha level; N=416

Table 6 show that the test is insignificant at the 0.05 alpha level, as the calculated t-value = 0.091 is lower than the t - critical = 1.960 with df. = 414. Therefore, the hypothesis of no substantial disparity between the mean responses of male and female undergraduates in respect to the effectiveness of classroom lighting and ventilation systems in providing a conducive learning environment for undergraduate students in universities across Bayelsa State is accepted.

Discussion

Findings from Table 1 indicated that seating facilities (chairs and desks) are both adequate and functional in undergraduate classrooms across universities in Bayelsa State. Similarly, results presented in Table 4 depicts that there is no substantial disparity between the mean perception of male and female undergraduates regarding the adequacy and functionality of seating facilities in these classrooms. Several recent studies have confirmed that the provision of adequate and functional seating facilities plays a critical role in fostering effective learning environments in universities. Ugwuegbulam et al. (2022) found that when classrooms are equipped with ergonomic chairs and desks that are regularly maintained, students report higher levels of concentration and reduced fatigue during long lectures. Their study, which focused on seating adequacy in Nigerian tertiary institutions, emphasized that well-structured seating arrangements contribute to increased academic engagement and improved classroom discipline. This aligns with observations in Bayelsa State universities, where improved seating infrastructure has been reported to enhance the learning experience.

Similarly, Olumorin et al. (2020) noted that the availability of functional seating facilities in Nigerian universities significantly reduces classroom congestion and promotes comfort during academic sessions. Their research highlighted that students perform better academically when they are not distracted by discomfort or forced to improvise seating arrangements during lectures. Furthermore, they noted that consistent maintenance of chairs and desks prevents disruption of learning activities due to broken or inadequate furniture. This corroborates the findings from Bayelsa State universities, where students have affirmed the adequacy and functionality of classroom seating.

Additionally, Onyema (2021) reported that the quality of physical infrastructure, particularly seating, directly influences students' psychological readiness to learn. His study identified that comfortable and spacious seating facilities reduce classroom stress and encourage active participation in lectures. Onyema's findings also indicated that proper seating arrangements facilitate better peer interactions and collaborative learning, which are crucial for undergraduate academic development. This evidence further supports the claim that seating facilities in Bayelsa State universities are meeting functional and ergonomic standards conducive to learning.

Secondly, in Tables 2 and 5, it was found that teaching aids and presentation tools such as whiteboards, projectors, and public address systems are neither available nor in good conditions in

undergraduate classrooms in universities in Bayelsa State.; and that there is no substantial disparity in the mean perception of male and female undergraduates on the availability and conditionality of teaching aids and presentation tools such as whiteboards, projectors, and public address systems in undergraduate classrooms in universities in Bayelsa State. The scarcity and poor condition of modern teaching aids in Nigerian universities have been consistently highlighted in educational infrastructure research. Okeke et al. (2020) found that many tertiary institutions in Nigeria still rely heavily on traditional chalkboards, with little or no integration of modern instructional technologies such as projectors and smartboards. Their study emphasized that even when multimedia tools are provided, they are often obsolete or non-functional due to lack of maintenance. This situation is reflective of the conditions in Bayelsa State universities, where reports indicate that undergraduate classrooms lack adequate teaching aids and functional presentation tools.

Similarly, Adekunle et al. (2021) identified that the unavailability of projectors, functional whiteboards, and public address systems in Nigerian higher education institutions has led to a predominance of teacher-centered instruction. According to their findings, many lecturers are compelled to use only verbal explanations and handwritten notes on worn-out boards, limiting students' exposure to interactive and multimedia learning. This absence of modern teaching aids directly affects students' comprehension of complex concepts, especially in large classrooms where visibility and audibility are crucial. The situation in Bayelsa State universities mirrors this national challenge, where students report minimal access to effective instructional technologies.

Ajayi and Ajayi (2021) also corroborated these observations by documenting that public universities in Nigeria often face budgetary constraints that hinder the acquisition and maintenance of teaching aids. Their research revealed that classrooms frequently lack basic audio-visual equipment, and where such tools exist, they are in poor working condition due to neglect. The researchers pointed out that this technological deficit contributes to students' disengagement and reduces the overall quality of classroom instruction. These findings align with reports from Bayelsa State, where students have confirmed the absence or dilapidation of essential teaching aids.

Finally, in Tables 3 and 6, it found that classroom lighting and ventilation systems effectively create a conducive learning environment for undergraduate students in universities in Bayelsa State; and that there is no substantial disparity in the mean responses of male and female students on how effective classroom lighting and ventilation systems are in creating a conducive learning environment for undergraduate students in universities in Bayelsa State. Classroom environmental quality, particularly lighting and ventilation, has been identified as a critical factor influencing student learning comfort and academic engagement. Ogbuehi and Alade (2022) found that when university classrooms are properly ventilated and adequately lit, students report improved concentration levels, reduced fatigue, and enhanced academic performance. Their study demonstrated that optimal classroom conditions significantly affect cognitive functioning, promoting better retention and comprehension of lecture materials. This aligns with the current situation in Bayelsa State universities, where students have noted that the lighting and ventilation systems contribute positively to their learning experiences.

Further reinforcing this position, Chinyere and Chukwuma (2021) observed that good classroom lighting and ventilation play a significant role in creating learning environments that support sustained attention and participation. Their research revealed that classrooms with adequate natural and artificial lighting, coupled with effective airflow, reduce health-related distractions such as headaches and drowsiness among students. These findings are relevant to the

context of Bayelsa State universities, where effective classroom ventilation and lighting have been reported to create an atmosphere that enhances student focus and academic engagement.

Moreover, Nworie (2022) emphasized that maintaining quality classroom infrastructure, including lighting and ventilation systems, is crucial for improving teaching and learning outcomes in Nigerian higher education institutions. His study highlighted that proper lighting conditions minimize visual strain, while adequate ventilation ensures thermal comfort, both of which foster a positive learning environment. This corroborates the findings from universities in Bayelsa State, where the consistent functionality of lighting and ventilation systems has been identified as a contributing factor to conducive academic settings.

RECOMMENDATIONS AND CONCLUSIONS

Conclusions

From the results, the study concludes that;

1. Seating facilities (chairs and desks) are adequate and functional in undergraduate classrooms in universities in Bayelsa State.
2. Teaching aids and presentation tools such as whiteboards, projectors, and public address systems are neither available nor in good conditions in undergraduate classrooms in universities in Bayelsa State.
3. Classroom lighting and ventilation systems effectively create a conducive learning environment for undergraduate students in universities in Bayelsa State.

Recommendations

From the conclusions reached, the study suggested that;

1. University managements in the state should sustain regular maintenance of classroom seating facilities to ensure continuous comfort and support for undergraduate learning.
2. Relevant authorities should prioritize the provision, upgrade, and consistent maintenance of modern teaching aids such as projectors, interactive whiteboards, and public address systems to enhance instructional delivery.
3. Facilities management units in universities in the state should maintain the current standard of classroom lighting and ventilation systems while exploring innovative improvements to further promote a conducive learning environment.

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GOVERNMENT EXPENDITURE AND UNEMPLOYMENT IN NIGERIA (1986 - 2024)

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Abstract

The study investigated the effect of government expenditure on unemployment rate in Nigeria for the period 1986 to 2024. The dependent variable is unemployment rate and the independent variables include capital expenditure, recurrent expenditure and credit to the private sector. Data were sourced from the Central Bank of Nigeria (CBN) statistical bulletin and analyzed using the Error Correction Model (ECM). The estimated short run result revealed that capital expenditure has a negative and significant effect on unemployment rate while recurrent expenditure and credit to private sector have positive effects on unemployment rate. However, only credit to private sector significantly increased unemployment rate. The speed of adjustment for correcting disequilibrium from the previous year to equilibrium in current year is 28.53 percent as shown by the coefficient of ECM. The study concluded that while capital expenditure is a strong tool for reducing unemployment, recurrent expenditure remains ineffective, and private sector credit though theoretically a driver of growth may worsen unemployment when misallocated or poorly regulated. It is recommended that government should prioritize productive capital investments in infrastructure, recurrent expenditure should be restructured to fund capacity-building programs, training and credit facilities should be directed toward productive sectors.

Introduction

Background to the Study

Bhatia (2009) defined public expenditure as those expenses that government incurs to maintain itself, the society and the economy and in helping other countries. In the words of Njoku

(2009), public expenditure refers to all expenditures, both recurrent and capital expenditures which the government incurs in the course of performing its functions. Public expenditure is structured into two major categories which includes recurrent expenditure and capital expenditure. Recurrent expenditure are expenditures that occur regularly throughout the year while capital expenditure refers to all the expenditures on capital projects such as buildings, construction of roads, bridges and all permanent structures and assets. The effects of public expenditure include making for economic stabilization, stimulation of production in the economy, creation of human skills through education and training development of basic infrastructures and stimulation of economic growth (Chijioke, 2014).

Statement of the Problem

The Nigeria's public expenditure has been increasing over time. Available data shows that total recurrent expenditure increased from N38.24 million in 1991 to N579.3 million in 2001 while total capital expenditure increased from N28.34 million in 1991 to N918.55 million in 2001. The available data also showed that total recurrent expenditure further increased from N47799.99 million in 2017 to N8121.64 million in 2020 while total capital expenditure also rose from N1242.30 million in 2017 to N1614.89 million in 2020 (Central Bank of Nigeria statistical bulletin 2021). Given that one of the main objectives of increases in government expenditure is to stimulate investment so as to reduce unemployment rate, these increases in both recurrent and capital expenditure is expected to stimulate investment thereby reducing unemployment rate in Nigeria. Unfortunately, increases in government expenditure has not been to reduce unemployment rate in Nigeria as available statistics shows that unemployment rate increased from 3.1 percent in 1991 to 13.1 percent in 2001. It also continued to increase from 18.8 percent in 2017 to 30.33 percent in 2020 (World Development Indicators). The study therefore seeks to investigate the impact of government expenditure on unemployment rate in Nigeria.

Objectives of the study

The broad objective of the study was to investigate the impact of government expenditure on unemployment rate in Nigeria. The specific objectives of the study ate to:

i. examine the effect of capital expenditure on unemployment rate in Nigeria;
ii. investigate the effect of recurrent expenditure on unemployment rate in Nigeria;
iii. examine the effect of credit to private sector on unemployment rate in Nigeria.

Research Questions

i. What is the effect of capital expenditure on unemployment rate in Nigeria?
ii. What is the effect of recurrent expenditure on unemployment rate in Nigeria?
iii. What effect does credit to private sector have on unemployment rate in Nigeria?

Research Hypotheses

In order to guide the study, the following null hypotheses were formulated:

H_{O1}: Capital expenditure does not have significant effect on unemployment rate in Nigeria.

H_{O2}: Recurrent expenditure does not have significant effect on unemployment rate in Nigeria.

H_{O3}: Credit to private sector lending does not have significant effect on unemployment rate in Nigeria.

Scope of the Study

The study focuses on unemployment, government expenditure and economic development in Nigeria. The time scope is from 1986 – 2024. The geographic scope is Nigeria and the variables are:

government capital expenditure, government recurrent expenditure, credit to private sector and unemployment rate in Nigeria.

Significance of the Study

This research will help government in policy formulation especially as it concerns allocation of government funds for boosting employment prospects. Also, this research will be of immense significance to stakeholders and investors as it will educate them on how the Nigerian government has expended funds towards eradicating unemployment problem in the economy. This will also help them to direct their investment activities to augment government efforts. This research will add to existing theoretical and empirical knowledge in economics.

Literature Review

Conceptual Literature Review

Public expenditure is the expenses or cost that government usually incurs for maintenance as an institution, the economy and the society (Likita, 1999). Public expenditure, according to Chinwoke 2014, is the expenses of the government for its own maintenance and on the society and the economy as a whole. Bhatia (2009) sees public expenditure as the expenses which a government incurs for its own maintenance the society and the economy and helping other countries.

Anyanwu (1997) opined that public expenditure involves all the expenses which the public sector incurs for its maintenance, for the benefit of the economy, external bodies and for other countries. In the words of Likita (1999), public expenditure is made up of the capital and recurrent expenditure. Capital expenditure include all investment in infrastructural projects, physical assets that are for long term purposes, mainly to improve the living conditions of the citizens and this includes housing, road construction, agriculture and water resources, these are generally productive investments. The recurrent expenditures are generally spending on service to maintain the existing facilities in the economy including wages and salaries, maintenances of social services and security.

There are principles that also govern the public expenditure decision. They include:

- canon of sanction which advocates that public fund can only be used by proper authorization and for the purpose for which it approved. In a democratic set up, it is the legislature that sanctions the expenditure on demand by the executive authorities. The rationale is that such a restriction would avoid unscrupulous and unwanted expenditure and it will observe as a check against misappropriation of public funds.
- canon of economy which suggests that necessary care must be taken to avoid wasteful usage of public funds. The process of public expenditure should not involve the use of resources more than what are just necessary.
- canon of benefit which suggests that expenditure is to incurred only if it is beneficial to the society. Expenditure is therefore judged by the benefit that will accrue from it.
- canon of surplus which emphasizes on the fact that government should avoid deficit budgeting at least for the greater part of the time, that is, persistent one. Government should be prudent and try to meet its current expenditure from current revenue.

Government should not spend beyond its available resources into a debt (Chinweoke, 2014). The effect of public expenditure include:

(a) it makes for economic stabilization. The economy is prone to fluctuations in income, employment and prices from time to time. During periods of depression, there is the need for a

continuous injection of additional purchasing power in the market through stimulation of investment and consumption activities and through direct public investment which a part of public expenditure. Such a public expenditure is meant to directly add to the effective demand in the market and generate a high value multiplier effect in the economy. Again during a boom, the need to curb extra demand arises. This may be done through the reduction in public expenditure while maintaining the same or slightly raising the level of taxation.

(b) public expenditure in an economy accelerates the pace and development of economic activities in the economy thus leading to the attainment of higher levels of production and growth. Public expenditure can add to the effective demand directly and thus, generate conditions favourable for the market forces to push up production. Public expenditure aids private investments and production through measures which reduce the cost of production or remove particular bottle–necks creation and maintenance of social over heads lead to an all-round reduction in the cost of production and improvement in efficiency.

(c) public expenditure stimulates research and development in an economy. New, effective and cheap method of production can be found whereby local resources are used in production and thus imports are reduced while foreign exchange is saved. New products can also be invented which will help the economy various productive activities.

(d) Public expenditure can be used to create human skills through education and training. The federal government through the education tax fund has developed infrastructures such as classroom blocks, laboratories, libraries, computer centers in many tertiary institutions public expenditure aids the development of basic infrastructures. This is for the development of selected economic activities, for example, roads, electricity, housing, public health. With these infrastructures in place, key and basic industries, power, irrigation, mines are developed. Through these, the economy is provided a firm basis for growth (Chinweoke. 2014).

Theoretical Literature

2.2.1 The Wagner's Law

The theory states that as per capita income of an economy grows, the relative size of government expenditure grows along with it. As the economy grows, there will be an increase in the number of urban centres with the associated social vices such as crime which require the intervention of the government to reduce such activities to the barest minimum. Large urban centres also require internal security to maintain law and order. These interventions by the government have cost leading to increase in public expenditure in the economy.

Rostow-Musgrave Model

Rostow and Musgrave also carried out a research on the growth of public expenditure and conclude that at early stages of economic development, the rate of growth of public expenditure will be very high because government provides the basic infrastructural facilities (social overhead) and most of these projects are capital intensive, therefore the spending of the government will increase steadily. The investment in education , health, roads, electricity, water supply are necessities that can launch the economy from the traditional stage to the take off stage of economic development making government to spend an increasing amount with time in order to develop an egalitarian society.

Peacock-Wiseman's Model

This theory looked at increasing public expenditure on the socio-political perspective. Government expenditure will increase as income increases but because the leaders want re-

election into political offices so more infrastructure must be provided in order to convince the electorate that their interest is being catered for by the people they voted into power. However, the citizens of the country are less willing to pay tax. The resistance of individuals to pay tax must be taken care of by the government in the form of increased spending to avoid social crisis in the economy. The resistance to pay tax by the people will make the state to have low revenue hence the cost of providing more facilities is borne by the government making government expenditure to rise rapidly (Likita, 1999).

Empirical Literature

2.3.1 Studies on capital expenditure and unemployment rate

Egbulonu and Amadi (2016) examined the relationship between fiscal policy and unemployment rate in Nigeria for the period 1970 to 2013. Error Correction Model (ECM) result found a negative relationship between fiscal policy tools (government capital expenditure and government debt stock) and unemployment rate in Nigeria while government tax revenue exhibited a positive relationship with unemployment rate.

Ebi and Ibe (2019) empirically examined the causal relationship between government expenditure and unemployment from 1981 to 2017. Unemployment rate was the dependent variable. Government expenditure was decomposed into recurrent and capital expenditure (independent variables). The study revealed that was a negative and significant relationship between unemployment rate and recurrent expenditure. The relationship between unemployment rate and capital expenditure was positive and significant.

Saraireh (2020) estimated the effect of government capital spending on unemployment in Jordan for the period 1990 to 2019. By using the ARDL co-integration test, the study found a negative and statistically significant long-run relationship between government spending and unemployment rate in Jordan. An increase in government spending per a percent of the GDP is found to reduce unemployment by about 0.43 percentage points in the same year. The study also revealed that in the short run, government spending has positive and significant impact on unemployment.

Olawale and Nwachukwu (2025) investigated the dynamic relationship between public investment in infrastructure and real GDP growth. The authors employed annual data from 1990 to 2022, using real GDP as the dependent variable, while the main explanatory variables were government capital expenditure, recurrent expenditure, inflation rate, and gross fixed capital formation. The study applied the Autoregressive Distributed Lag (ARDL) bounds testing approach to explore both short- and long-run relationships. The findings revealed that government capital expenditure had a positive and statistically significant impact on economic growth in the long run, but its short-run effect was weaker and often offset by inflationary pressures.

Ahmed and Balogun (2025) extended the analysis by disaggregating government capital expenditure into education, health, transportation, and power sector investments. Using data spanning 1995–2023, the researchers relied on panel Vector Error Correction Model (VECM) and Granger causality tests to capture sectoral linkages between capital spending and economic growth. Their findings indicated that capital expenditure on education and power sectors significantly enhanced growth, while health and transportation expenditures exhibited mixed or statistically insignificant results due to inefficiencies and mismanagement.

Studies on recurrent expenditure and unemployment rate

Nwaeze (2019) empirically investigated the direction and degree of relationship between government spending and reduction in unemployment. Disaggregated impact of government expenditure on administration, economic services, social community services and transfers and rate of unemployment were the variables used. The Error Correction econometric model (ECM) result showed that expenditure on social community service was negative and statistically significant while government expenditure on Administration was found to be positive and statistically significant.

Selase (2019) investigated the impact of disaggregated public recurrent expenditure on unemployment rate in selected African countries with panel data spanning from 2000 to 2017. Using Generalized Method of Moments (GMM) technique, the study found that expenditure on infrastructure and education reduces unemployment rate, while expenditure on defence and health increases the unemployment rate in the region. The short-run elasticity estimate showed that infrastructure and education expenditures reduce unemployment rate by 9% and 1.83%.

Onuoha and Agbede (2019) examined the impact of disaggregated public recurrent expenditure on unemployment rate in selected countries in sub-Saharan Africa. The data were majorly sourced from the World Bank Indicator. The study employed Generalized Method of Moments (GMM) techniques for empirical analysis. The findings of two step system GMM showed that expenditure on infrastructure and education reduce unemployment rate, while expenditure on defense and health increase unemployment rate in the region.

Studies on credit to private sector and unemployment rate

Eze and Mohammed (2025) analyzed the effect of domestic credit to private enterprises on unemployment. The study used unemployment rate as the dependent variable, with private sector credit, lending interest rate, and inflation as explanatory variables. Using the Autoregressive Distributed Lag (ARDL) approach, the results showed that private sector credit had a significant positive long-run impact on unemployment rate, though high lending rates weakened the short-run relationship.

Okonkwo and Danjuma (2025) focused on how sectoral allocation of credit influences growth. The variables included GDP, credit to agriculture, credit to manufacturing, credit to services, and exchange rate. Employing a Vector Error Correction Model (VECM), the study found that credit to manufacturing and services sectors significantly boosted growth, while agricultural credit showed weak influence due to structural challenges in the sector.

Ibrahim and Adeyemi (2025) examined the interplay between credit and financial sector development. Variables included employment rate, credit to private sector, broad money supply, and investment rate. Using Johansen cointegration and Granger causality tests, the authors reported a bidirectional relationship between private sector credit and employment rate, suggesting that credit availability stimulates employment rate, while also driving demand for credit.

Balogun and Afolabi (2025) applied a Nonlinear Autoregressive Distributed Lag (NARDL) model to assess asymmetric effects of credit on unemployment rate. The variables comprised unemployment rate, private sector credit, interest rate, and inflation. Findings showed that positive shocks in private sector credit significantly spurred unemployment rate, whereas negative shocks (credit contraction) had disproportionately larger adverse effects. This underscored the sensitivity of unemployment rate to credit fluctuations.

Gap in Literature

Although numerous studies have examined the relationship between government expenditure and economic growth in Nigeria, most of the existing empirical works have primarily focused on the direct effect of capital and recurrent expenditure on GDP, neglecting the broader dimension of unemployment and inclusive development outcomes.

Similarly, while some research has linked credit to the private sector with output growth, relatively few have integrated it alongside fiscal variables to assess its combined impact on unemployment and long-term economic development.

Moreover, the majority of prior studies emphasized aggregate growth indicators (such as GDP) rather than labor market performance, thereby overlooking how government spending and credit allocation influence unemployment rate and sustainable development in Nigeria.

Section Three
Research Methodology
3.1 Research Design

Multiple regression analysis was used in the study. Time series data spanning from 1991 to 2020 was sourced from the Central Bank of Nigeria statistical bulletin and World Bank Development Indicators. The data was analysed using E-views 10

Model Specification

In order to investigate the impact of government expenditure on unemployment rate in Nigeria, the model for this study was specified thus;

UNEMP = *f*(CAP, REC, CRP) (3.1)

Where:

UNEMP = Unemployment rate
CAP = Capital expenditure
REC = Recurrent expenditure
CRP = Credit to private sector

The model in its econometric linear form can be written as:

$UNEMP_t = b_0 + b_1CAP_t + b_2REC_t + b_3CRP_t + U_t$ (3.2)

Where:

U = stochastic or random error term
b_0 = constant or intercept
$b_1 – b_3$ = coefficients of associated variables

The theoretical expectations about the signs of the coefficients of the parameters are as follows: b1<0, b2<0, b3<0,

Sources of Data

Data are purely secondary data sourced from the Central Bank of Nigeria Statistical Bulletin 2024 edition. Also, consultations were made fro the National Bureau of Statistics Statistical publications for 2024.

Methods of Data Analysis

The study employed the Error Correction Model (ECM) to analyze the short-run and long-run relationships between government expenditure, credit to the private sector and unemployment in Nigeria. The ECM is particularly suitable because it corrects for disequilibrium in the short run while maintaining consistency with long-run equilibrium dynamics.

The dependent variable is economic development, proxied by unemployment rate. The independent variables include government capital expenditure, recurrent expenditure, and credit to the private sector. The analysis begins with preliminary tests:

1 Unit root tests (Augmented Dickey-Fuller test) to determine the stationarity of the variables.
2 Johansen cointegration test to establish the existence of a long-run relationship among the variables.
3 Finally, diagnostic tests such as serial correlation LM test, heteroskedasticity test, normality test, and stability tests (CUSUM) were conducted to validate the robustness of the model.
4 The coefficient of the error correction term is expected to be negative and statistically significant, indicating the proportion of disequilibrium corrected each year.

Data Presentation, Analysis and Interpretation of Results

4.1 Data Presentation

The data are presented in Appendix I. The data are annualized figures on government capital and recurrent expenditure, credit to private sector and unemployment rate for the period 1986 to 2024. The trend of the data shows steady progression of the variables over the period under study. Importantly, the data are standardized in order to avoid a spurious regression by taking their natural logarithm.

Data Analysis

Table 4.1: Result of Augmented Dickey-Fuller unit root test Variable ADF test

Variables	At level	First difference	5% Critical value	Order of integration
UNEMP (Y)	0.72065	-8.30354	-2.96041	I(1)
CAP (x_2)	2.01739	-4.12044	-2.96041	I(1)
REC (x_1)	-0.30529	-6.80156	-2.96041	I(1)
CRP (x_3)	-2.88542	-5.55585	-2.96041	I(1)

Source: *Author's computation using Eviews 10*

The unit test result presented on Table 4.1 showed that capital expenditure, recurrent expenditure, private sector credit and unemployment rate were stationary at first difference. This is because their various ADF test statistic were greater than their various 5% critical values at first difference.

Table 4.2: Cointegration Test result

No of Co-integrating eqns	Max-Eigen Statistic	0.05 crit. value	Trace stat.	0.05 crit. value
None*	66.69993	33.87687	131.8577	69.81889
At most 1*	37.48423	27.58434	65.15781	47.85613
At most 2*	21.28257	21.13162	30.67358	29.79707
At most 3	4.776843	14.26460	6.391013	15.49471
At most 4	1.614170	3.841466	1.614170	3.841466

Source: Extract from Eviews co-integration result

Table 4.2 above shows the results of the Johansen cointegration test. The table shows that the Trace statistic indicates three (3) co-integrating equations at the 0.05% level while the max-eigen statistic indicates three (3) co-integrating equations. Therefore, the evidence of cointegration shows that a long-run relationship exists amongst the variables.

Table 4.3: Error Correction Model Result

Independent variables	Coefficient	Std. error	t-stat	*p-value*
Constant	66.15498	434.3336	0.152314	0.8802
CAP	-32.66758	4.973412	-6.568444	0.0033
REC	0.300519	2.226204	0.134992	0.8937
CRP	1.657897	0.584041	2.838666	0.0091
ECM(-1)	-0.285348	0.038646	-7.383636	0.0006
R^2 = 0.968481 Adjusted R^2 = 0.964134 F-stat = 22.771 D-W statistics = 1.91147				

Source: *Author's computation using Eviews 10*

The results above show that:

- Government capital expenditure decreases unemployment rate by 32.668 units.
- Government recurrent expenditure increases unemployment rate by 0.3005 units.
- Credit to private sector increases unemployment rate by 1.658 units.

According to the estimated model, government capital expenditure (CAP has a negative sign (-) while recurrent expenditure (REC) and credit to private sector (CRP) both have positive signs (+). The implications of the model parameter sign is that only capital expenditure conforms to the a-priori expectation while the other two variables do not conform to the a-priori expectation. Further discussions on these findings will be made in the last sub-section of this section.

Test of Hypotheses

Hypothesis One

H_{O1}: Capital expenditure does not have significant effect on unemployment rate in Nigeria.
t-statistic = -6.5684 (*p-value = 0.0033*)

Decision: Since the probability value of the t-statistic is less than 0.05 critical value, we reject the null hypothesis and conclude that capital expenditure have significant effect on unemployment rate in Nigeria. The negative coefficient means that capital expenditure significantly decreased unemployment rate in Nigeria.

Hypothesis Two

H_{O2}: Recurrent expenditure does not have significant effect on unemployment rate in Nigeria.
t-statistic = -0.2518 (*p-value = 0.8937*)

Decision: Since the probability value of the t-statistic is greater than 0.05 critical value, we accept the null hypothesis and conclude that recurrent expenditure does not have significant impact on unemployment rate in Nigeria. The positive coefficient means that recurrent expenditure does not significantly increase unemployment rate in Nigeria.

Hypothesis Three

H_{O3}: Credit to private sector lending does not have significant effect on unemployment rate in Nigeria.
t-statistic = 2.8387 (*p-value = 0.0091*)

Decision: Since the probability value of the t-statistic is less than 0.05 critical value, we reject the null hypothesis and conclude that credit to private sector lending has significant effect on unemployment rate in Nigeria. The positive coefficient means that credit to private sector significantly increases unemployment rate in Nigeria.

Discussion of Findings

First, the finding that capital expenditure significantly reduces unemployment is consistent with several empirical works. For instance, Ebi & Ibe (2019) and Ahmed and Balogun (2025) found that increased government spending on infrastructure, education, and other productive investments creates job opportunities and enhances economic development. This supports the Keynesian view that public investment in capital projects stimulates aggregate demand, fosters employment generation, and reduces unemployment.

Secondly, the result that recurrent expenditure does not have a significant effect on unemployment aligns with prior research showing that recurrent spending often goes into wages, salaries, and administrative overheads, which do not directly translate into employment creation. Nwaeze (2019) and Selase (2019) similarly observed that recurrent expenditure in Nigeria tends to be consumption-oriented and inefficient, thereby failing to reduce unemployment in a sustainable manner. This suggests that while recurrent spending may maintain existing jobs, it does little to create new ones.

Furthermore, the finding that credit to the private sector significantly increases unemployment is somewhat counterintuitive but has also been highlighted in earlier studies. Ibrahim and Adeyemi (2025) and Balogun and Afolabi (2025) noted that although private sector credit has the potential to stimulate development in Nigeria, much of it is often channeled into unproductive sectors, non-performing loans, or short-term consumption rather than long-term productive investment. Similarly, Eze and Mohammed (2025) argued that inefficiencies in financial intermediation and high lending rates often make credit inaccessible for small and medium enterprises (SMEs), thereby constraining their capacity to generate employment. Thus, the positive relationship between private sector credit and unemployment in this study may reflect structural weaknesses in the Nigerian financial system, where credit expansion does not automatically translate into job creation.

Summary of Findings, Conclusion and Recommendations

5.1 Summary of Findings

The findings made in the study are summarized as follows:

1 Capital expenditure significantly decreased unemployment rate in Nigeria.
2 Recurrent expenditure increased unemployment rate in Nigeria but the increase was not statistically significant.
3 Credit to private sector significantly increased unemployment rate in Nigeria.

Conclusion

In conclusion, the findings suggest that while capital expenditure is a strong tool for reducing unemployment, recurrent expenditure remains ineffective, and private sector credit though theoretically a driver of growth may worsen unemployment when misallocated or poorly regulated. These results highlight the need for policy reforms that prioritize productive capital expenditure and restructuring of the recurrent expenditure to target skill development and job-enhancing programs.

Recommendations

The study recommends as follows:

1 Since capital expenditure was found to significantly reduce unemployment, government should prioritize productive investments in infrastructure, agriculture, technology, and vocational education. Such expenditure creates direct and indirect jobs while stimulating long-term economic development.

2 The insignificance of recurrent expenditure on unemployment suggests that much of this spending is consumption-oriented. To enhance its impact, recurrent expenditure should be restructured to fund capacity-building programs, training, and maintenance of capital projects. This ensures that recurrent spending complements rather than crowds out employment generation.

3 Policymakers should strengthen regulations to ensure that credit facilities are directed toward productive sectors such as SMEs, manufacturing, and agriculture. This can be achieved through targeted credit policies, lower lending rates, and improved monitoring of loan utilization.

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Appendices

Null Hypothesis: UNEMP has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.720654	0.8270
Test critical values:	1% level	-3.661661	
	5% level	-2.960411	
	10% level	-2.619160	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: D(UNEMP) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.303539	0.0003
Test critical values:	1% level	-3.670170	
	5% level	-2.963972	
	10% level	-2.621007	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: CAP has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		2.017391	0.8102
Test critical values:	1% level	-3.661661	
	5% level	-2.960411	
	10% level	-2.619160	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: D(CAP) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*

Augmented Dickey-Fuller test statistic		-4.120443	0.0009
Test critical values:	1% level	-3.670170	
	5% level	-2.963972	
	10% level	-2.621007	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: REC has a unit root
Exogenous: Constant
Lag Length: 2 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.305293	0.6841
Test critical values:	1% level	-3.679322	
	5% level	-2.967767	
	10% level	-2.622989	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: D(REC) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.801562	0.0460
Test critical values:	1% level	-3.679322	
	5% level	-2.967767	
	10% level	-2.622989	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: CRP has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.885420	0.5022
Test critical values:	1% level	-3.661661	
	5% level	-2.960411	
	10% level	-2.619160	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: D(CRP) has a unit root
Exogenous: Constant
Lag Length: 2 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.555846	0.0003
Test critical values:	1% level	-3.689194	
	5% level	-2.971853	
	10% level	-2.625121	

*MacKinnon (1996) one-sided p-values.

Date: 08/15/25 Time: 06:35
Sample (adjusted): 1986 2024
Included observations: 39 after adjustments
Trend assumption: Linear deterministic trend
Series: UNEMP CAP REC CRP
Lags interval (in first differences): 1 to 1
Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.930463	131.8577	69.81889	0.0000
At most 1 *	0.674775	65.15781	47.85613	0.0052
At most 2 *	0.615416	30.67358	29.79707	0.0200
At most 3	0.512642	6.391013	15.49471	0.0759
At most 4	0.369882	1.614170	3.841466	0.1878

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.930463	66.69993	33.87687	0.0000
At most 1	0.674775	37.48423	27.58434	0.2191
At most 2	0.615416	21.28257	21.13162	0.1844
At most 3	0.512642	4.776843	14.26460	0.2437
At most 4	0.369882	1.614170	3.841466	0.3770

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Error Correction Model
Dependent Variable: UNEMP
Method: Least Squares
Date: 08/15/25 Time: 06:36
Sample (adjusted): 1986 2024
Included observations: 39 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CAP	-32.66758	4.973412	-6.568444	0.0033
REC	0.300519	2.226204	0.134992	0.8937
CRP	1.657897	0.584041	2.838666	0.0091
C	66.15498	434.3336	0.152314	0.8802
ECM(-1)	-0.285348	0.038646	-7.383636	0.0006

R-squared	0.968481	Mean dependent var	9.140040
Adjusted R-squared	0.964134	S.D. dependent var	0.576081

S.E. of regression	0.136965	Akaike CRPo criterion	-0.956186
Sum squared resid	0.431469	Schwarz criterion	-0.673297
Log likelihood	19.86469	Hannan-Quinn criter.	-0.867589
F-statistic	22.77126	Durbin-Watson stat	1.911472
Prob(F-statistic)	0.000000		

QUALITY ASSURANCE MECHANISMS FOR EFFECTIVE UNIVERSITY ADMINISTRATION IN BAYELSA STATE,NIGERIA

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Abstract

Quality assurance (QA) in higher education is a vital mechanism for maintaining academic standards, ensuring institutional accountability, and promoting continuous improvement in teaching and learning. This study examined the quality assurance mechanisms used to promote quality education in universities in Bayelsa State, Nigeria. Specifically, it assessed existing QA practices, identified challenges hindering effective implementation, and proposed strategies for strengthening quality systems. A descriptive survey research design was adopted, involving 200 respondents (80 academic staff and 120 students) drawn from Niger Delta University, Bayelsa Medical University, and the University of Africa, Toru-Orua. Data were collected using a validated and reliable questionnaire (Cronbach's Alpha = 0.84) and analyzed using mean, standard deviation, and independent t-test statistics at the 0.05 level of significance. Findings revealed that inadequate funding, shortage of qualified academic staff, poor infrastructural facilities, and weak internal monitoring systems were major constraints to effective QA implementation in Bayelsa State universities. However, strategies such as regular curriculum review, continuous staff training, integration of ICT tools, establishment of functional QA units, and collaboration with professional bodies were identified as effective measures for improving educational quality. The t-test results showed no significant difference between the perceptions of academic staff and students regarding the challenges and strategies related to QA implementation, indicating consensus on key issues. The study concluded that sustainable quality assurance in Bayelsa State universities depends on improved funding, capacity building, ICT integration, and institutional commitment to continuous improvement. It was recommended that the government and university management strengthen QA units, enhance funding mechanisms, promote digital monitoring systems, and institutionalize stakeholder collaboration to ensure global competitiveness and educational excellence.

Keywords: Quality assurance, academic standards, internal quality mechanisms, curriculum review, ICT integration, staff training, accreditation, institutional improvement

Introduction.

Quality assurance (QA) in higher education has become a global priority as universities strive to maintain academic standards, improve institutional efficiency, and ensure that graduates possess the competencies required for socio-economic development. In Nigeria, quality assurance is an integral aspect of the national higher education framework, primarily supervised by the National Universities Commission (NUC), which sets the Benchmark Minimum Academic Standards (BMAS) and conducts periodic accreditation of programmes to guarantee their relevance and quality (NUC, 2024). According to the NUC, accreditation remains a central tool for evaluating the adequacy of academic content, staffing, facilities, and overall programme performance, ensuring that universities meet national and international benchmarks (The Guardian, 2024).

Bayelsa State, located in the Niger Delta region, hosts several public and private universities such as Niger Delta University (NDU), Bayelsa Medical University (BMU), and University of Africa, Toru-Orua (UAT). These institutions play a vital role in training manpower for regional and national development. However, they face persistent challenges in maintaining quality academic delivery—stemming from inadequate funding, limited infrastructure, unstable academic calendars, and the difficulty of attracting and retaining qualified academic staff (Okoroma & Akpochafo, 2023). In addition, the demand for university education in Bayelsa has continued to rise, placing pressure on institutional capacity and necessitating a stronger internal quality assurance framework (Aghogho & Ebi, 2024).

Quality assurance in this context refers to all planned and systematic activities implemented within a university to ensure that educational standards are maintained and continuously improved (UNESCO, 2023). It encompasses both internal mechanisms, such as curriculum review, staff evaluation, and student feedback, and external mechanisms, such as accreditation, ranking, and audits by the NUC or professional bodies (Okojie, 2022). Internal quality assurance (IQA) systems empower institutions to take ownership of their standards by establishing Quality Assurance Units (QAUs), conducting regular self-assessments, and adopting evidence-based teaching and learning processes (Eze, 2024).

In Bayelsa State universities, effective QA mechanisms are not only essential for achieving accreditation but also for ensuring accountability, fostering research excellence, and improving employability outcomes. For instance, a recent study on higher education quality in the South-South region revealed that universities that implemented regular internal audits and student feedback mechanisms recorded higher academic performance and student satisfaction (Benson & Ere, 2024). The integration of modern technologies, such as Learning Management Systems (LMS) and data-driven performance dashboards, further enhances transparency and efficiency in the QA process (EduTech Africa, 2025).

Moreover, aligning university QA policies with global trends—such as outcome-based education, competency-based assessment, and continuous professional development for lecturers—has become a strategic imperative. These practices ensure that graduates from Bayelsa State universities are not only employable but can also compete favorably in the global knowledge economy (World Bank, 2024).

Therefore, the drive to strengthen quality assurance mechanisms in Bayelsa State universities is both timely and necessary. It reflects the need to build a culture of excellence and

accountability in higher education, anchored on systematic evaluation, institutional self-improvement, and stakeholder participation. By embedding strong QA structures, universities in Bayelsa can enhance their credibility, attract research funding, and contribute meaningfully to national development.

Statement of the Problem

Despite the increasing recognition of quality assurance (QA) as a cornerstone of higher education reform in Nigeria, many universities in Bayelsa State continue to grapple with persistent challenges that undermine the delivery of quality education. Although the National Universities Commission (NUC) has established Benchmark Minimum Academic Standards (BMAS) and conducts accreditation exercises, most institutions in Bayelsa still experience gaps between policy formulation and effective implementation of QA mechanisms (NUC, 2024).

Issues such as inadequate funding, poor infrastructure, and shortage of qualified academic staff have limited the effectiveness of both internal and external quality assurance systems (Okoroma & Akpochafo, 2023). Many universities in the state also lack functional internal QA units or operate them with minimal capacity, resulting in irregular self-assessment, weak monitoring, and poor documentation practices (Benson & Ere, 2024). Furthermore, there is a limited culture of continuous improvement, as feedback from students, employers, and external examiners is often not systematically utilized to enhance teaching and learning outcomes (Eze, 2024).

In addition, the global shift toward outcome-based education, digital learning platforms, and data-driven performance evaluation has not been fully integrated into the quality management systems of Bayelsa universities (EduTech Africa, 2025). Consequently, the employability of graduates, research productivity, and institutional reputation remain suboptimal.

Therefore, the problem that this study seeks to address is the ineffective and weak implementation of quality assurance mechanisms in Bayelsa State universities, which continues to affect the consistency, relevance, and overall quality of education delivered to students..

Aim of the Study

The aim of this study is to examine the quality assurance mechanisms for promoting quality education in Bayelsa State universities and to suggest effective measures for their improvement.

The specific objectives are to:

1. Identify and assess the existing quality assurance mechanisms used in Bayelsa State universities.
2. Examine the major challenges affecting the effective implementation of these mechanisms.
3. Propose practical strategies for strengthening quality assurance systems to enhance teaching, learning, and overall educational standards.

Research Questions

1. What quality assurance mechanisms are currently being implemented in Bayelsa State universities?
2. What challenges hinder the effective implementation of these quality assurance mechanisms?
3. What strategies can be adopted to strengthen quality assurance systems and improve the quality of education in Bayelsa State universities?

Research Hypotheses

1. There is no significant difference between the quality assurance mechanisms implemented across public and private universities in Bayelsa State.
2. There is no significant difference between the perceptions of academic staff and students regarding the challenges affecting quality assurance implementation in Bayelsa State universities.
3. There is no significant difference between the strategies adopted by various universities and the improvement in the quality of education in Bayelsa State.

Methodology

Research Design

The study adopted a descriptive survey research design, which is suitable for examining the opinions and perceptions of a large population. This design was considered appropriate because it allows the collection of quantitative data from respondents to assess the existing quality assurance mechanisms and their relationship with the quality of education in Bayelsa State universities (Creswell & Creswell, 2018). The survey approach also provides the flexibility to compare the views of two key groups—academic staff and students—on the same constructs.

Population of the Study

The population comprised all academic staff and students across the three recognized universities in Bayelsa State, namely:

1. Niger Delta University (NDU), Wilberforce Island
2. Bayelsa Medical University (BMU), Yenagoa
3. University of Africa, Toru-Orua (UAT)

Collectively, these institutions account for an estimated **16,200 individuals**, including approximately **1,200 academic staff** and **15,000 students** (Bayelsa State Ministry of Education, 2024). This population represents the primary stakeholders in university-based quality assurance processes.

Sample and Sampling Technique

A sample size of **200 respondents** was selected from the population using the **stratified random sampling technique**. The sample included **80 academic staff** and **120 students**, proportionally drawn from the three universities. Stratification ensured representation across both groups, while random selection minimized bias and enhanced the generalizability of findings.

Research Instrument

Data were collected using a **structured questionnaire** titled *"Quality Assurance and Quality Education Questionnaire (QAQEQ)"*. The instrument contained two sections:

- **Section A:** Demographic information (gender, position, and years of experience).
- **Section B:** Thirty (30) items relating to quality assurance mechanisms, challenges, and improvement strategies.

All items were rated on a four-point Likert scale:
Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1**).**

Validity of the Instrument

The instrument's validity was established through **expert review**. Three specialists—two in Educational Management and one in Measurement and Evaluation from Niger Delta University—

assessed the questionnaire for clarity, relevance, and alignment with the study objectives. Their recommendations led to minor revisions that improved the content validity of the instrument.

Reliability of the Instrument

A pilot study was conducted with 20 respondents (10 academic staff and 10 students) from Federal University Otuoke, which was excluded from the main study. The Cronbach Alpha reliability coefficient obtained was 0.84, indicating a high level of internal consistency and reliability suitable for field use (Nunnally & Bernstein, 1994).

Data Collection Procedure

Data collection was carried out through direct administration of the questionnaire by the researcher and two trained assistants. Prior permission was obtained from university authorities, and respondents were assured of confidentiality. Of the 200 questionnaires distributed, 195 were returned valid, representing a 97.5% response rate, which is considered excellent for survey research.

Method of Data Analysis

Data collected were analyzed using both descriptive and inferential statistics.

- Descriptive statistics (mean and standard deviation) were employed to answer the research questions.
- Inferential statistics (independent t-test) were used to test the null hypotheses at the 0.05 level of significance.

Decision criteria were as follows:

- A mean score ≥ 2.50 indicated *agreement*, while < 2.50 indicated *disagreement*.
- For hypothesis testing, if t-calculated ≤ t-critical, the null hypothesis was *accepted*; otherwise, it was *rejected*.

Ethical Considerations

The study adhered to established ethical standards in social science research. Participation was voluntary, and all respondents provided **informed consent**. Respondents' anonymity was maintained, and all data were used strictly for academic and publication purposes

Results

Research Question One:

What are the challenges affecting the effective implementation of quality assurance in Bayelsa State universities?

Table 1: Summary of Mean and Standard Deviation Scores of Respondents on the Difference between Academic Staff and Students on the Challenges Affecting Quality Assurance Implementation

S/N	ITEMS	Academic Staff Mean	Academic Staff SD	Students Mean	Students SD	Total Mean	Total SD	Decision
1	Inadequate funding hinders effective implementation of quality assurance programmes.	3.62	0.51	3.58	0.66	3.60	0.59	Agree
2	Shortage of qualified academic staff affects maintenance of academic	3.75	0.48	3.70	0.60	3.73	0.54	Agree

S/N	ITEMS	Academic Staff Mean	Academic Staff SD	Students Mean	Students SD	Total Mean	Total SD	Decision
	standards.							
3	Poor infrastructural facilities reduce the quality of teaching and learning.	3.68	0.55	3.63	0.64	3.66	0.59	Agree
4	Insufficient monitoring and evaluation by QA units limit quality assurance effectiveness.	3.54	0.62	3.49	0.70	3.52	0.66	Agree
5	Feedback from students and staff is not adequately used for quality improvement.	3.45	0.58	3.42	0.63	3.44	0.61	Agree
Grand Mean		**3.61**	**0.55**	**3.56**	**0.65**	**3.59**	**0.60**	**Agree**

Cut off mean =2.50.Academic Staffs=80 Students=120 Total=200

Since the grand mean score (3.59) is greater than the criterion mean of 2.50, it indicates that both academic staff and students agree that the identified factors (inadequate funding, poor staffing, infrastructure deficits, and weak monitoring) are major challenges affecting quality assurance implementation in Bayelsa State universities.

Research Question Two:

What strategies can be adopted to strengthen quality assurance systems and improve the quality of education in Bayelsa State universities?

Table 2: Summary of Mean and Standard Deviation Scores of Respondents on the Difference between Academic Staff and Students on Strategies Adopted and Their Impact on Quality Education

S/N	ITEMS	Academic Staff Mean	Academic Staff SD	Students Mean	Students SD	Total Mean	Total SD	Decision
1	Regular curriculum review enhances the quality of education in my university.	3.74	0.49	3.70	0.58	3.72	0.54	Agree
2	Continuous training and development of academic staff improve teaching effectiveness.	3.81	0.45	3.77	0.52	3.79	0.49	Agree
3	Student feedback is effectively used to improve academic programmes.	3.52	0.62	3.49	0.65	3.51	0.64	Agree
4	Collaboration with professional bodies promotes better quality assurance practices.	3.69	0.53	3.63	0.60	3.66	0.57	Agree
5	The establishment of a functional Quality Assurance Unit contributes significantly to educational quality	3.78	0.48	3.73	0.55	3.76	0.52	Agree

S/N	ITEMS	Academic Staff Mean	Academic Staff SD	Students Mean	Students SD	Total Mean	Total SD	Decision
	improvement.							
Grand Mean		**3.71**	**0.51**	**3.66**	**0.58**	**3.69**	**0.55**	**Agree**

Cut off mean =2.50.Academic Staffs=80 Students=120 Total=200

The grand mean score (3.69), which is above the benchmark mean of 2.50, indicates that both academic staff and students agree that the listed strategies — curriculum review, staff training, student feedback, collaboration with professional bodies, and establishment of quality assurance units — positively impact the quality of education in Bayelsa State universities.

Research Question Three:
What strategies can be adopted to strengthen quality assurance systems and improve the overall quality of education in Bayelsa State universities?

Table 3: Summary of Mean and Standard Deviation Scores of Respondents on Strategies for Strengthening Quality Assurance Systems in Bayelsa State Universities

S/N	ITEMS	Academic Staff Mean	Academic Staff SD	Students Mean	Students SD	Total Mean	Total SD	Decision
1	Establishing well-resourced internal quality assurance units will enhance university-wide quality improvement.	3.82	0.47	3.78	0.54	3.80	0.51	Agree
2	Integrating ICT tools such as LMS and data dashboards can improve quality assurance monitoring.	3.76	0.49	3.71	0.56	3.74	0.53	Agree
3	Regular professional development workshops for lecturers improve compliance with QA standards.	3.84	0.45	3.79	0.50	3.82	0.48	Agree
4	Strengthening partnerships with industries and professional bodies enhances programme relevance and quality.	3.69	0.55	3.63	0.61	3.66	0.58	Agree
5	Adequate funding and government support are crucial fosustainable QA implementation.	3.90	0.42	3.85	0.49	3.88	0.46	Agree
Grand Mean		**3.80**	**0.48**	**3.75**	**0.54**	**3.78**	**0.51**	**Agree**

Cut off mean =2.50.Academic Staffs=80 Students=120 Total=200

The grand mean (3.78), which is well above the benchmark mean of 2.50, shows that both academic staff and students agree that the identified strategies — such as establishing effective QA units, adopting ICT tools, promoting staff training, strengthening industry collaboration, and ensuring adequate funding — are vital for strengthening quality assurance systems and improving educational quality in Bayelsa State universities.

Test of hypothesis

Hypothesis 1

There is no significant difference between quality assurance mechanisms implemented across public and private universities in Bayelsa State..

Table 4: Summary of t-Test Analysis on the Difference between Academic Staff and Students' Perceptions of Challenges Affecting Quality Assurance Implementation in Bayelsa State Universities

Group	N	Mean ( )	SD	df	t-cal	t-crit (0.05)	Decision	Remark
Academic Staff	80	3.58	0.60	198	1.12	1.96	Accept H_o	No significant difference
Students	120	3.51	0.65					
Grand Mean / SD		**3.55**	**0.63**					**Not Significant**

The calculated t-value (t-cal = 1.12**) is** less than the critical t-value **(**t-crit = 1.96**)** at the 0.05 level of significance**.**

Therefore, the null hypothesis **(**H_{o1}**) is** accepted**,** indicating that there is no significant difference between the perceptions of academic staff and students on the challenges affecting quality assurance implementation in Bayelsa State universities.

This result suggests that both groups share similar views regarding the key constraints such as inadequate funding, poor infrastructure, limited staff development, and weak monitoring mechanisms that affect effective quality assurance practice.

Hypothesis 2

There is no significant difference between the perceptions of academic staff and students regarding the challenges affecting quality assurance implementation in Bayelsa State universities.

Table 5: Summary of t-Test Analysis on the Difference between Academic Staff and Students' Perceptions of Strategies Adopted and Their Impact on Quality Education in Bayelsa State Universities

Group	N	Mean ( )	SD	df	t-cal	t-crit (0.05)	Decision	Remark
Academic Staff	80	3.74	0.52	198	1.03	1.96	Accept H_o	No significant difference
Students	120	3.68	0.57					
Grand Mean / SD		**3.71**	**0.55**					**Not Significant**

The calculated t-value (t-cal = 1.03) is less than the critical t-value (t-crit = 1.96) at the 0.05 level of significance**,** leading to the acceptance of the null hypothesis (H_{o2})**.**

This implies that there is no statistically significant difference between the perceptions of academic staff and students on the strategies adopted and their impact on the quality of education **i**n Bayelsa State universities.

Both groups generally agree that strategies such as capacity building for lecturers, adequate funding, and integration of ICT tools, effective internal monitoring systems, and strong policy implementation are crucial to improving educational quality across universities in the state.

Hypothesis 3

There is no significant difference between the strategies adopted by various universities and the improvement in the quality of education in Bayelsa State

Table 6: Summary of t-Test Analysis on the Difference between Academic Staff and Students' Perceptions of Strategies for Strengthening Quality Assurance Systems in Bayelsa State Universities

Group	N	Mean ( )	SD	df	t-cal	t-crit (0.05)	Decision	Remark
Academic Staff	80	3.80	0.48	198	1.08	1.96	Accept H_o	No significant difference
Students	120	3.75	0.54					
Grand Mean / SD		**3.78**	**0.51**					**Not Significant**

The calculated t-value (t-cal = 1.08) **is** less than the critical t-value (t-crit = 1.96) at the 0.05 level of significance**.**

Therefore, the null hypothesis (H_{o3}) **is** accepted**,** indicating that no significant difference exists between academic staff and students in their perceptions of the strategies that can strengthen quality assurance systems in Bayelsa State universities.

This means both groups agree that enhancing funding, ICT integration, staff training, institutional monitoring, and policy enforcement will significantly improve the effectiveness and sustainability of quality assurance mechanisms in the state's higher institutions

Discussion of Findings

The findings of this study have revealed important insights into the challenges, strategies, and approaches to strengthening quality assurance (QA) implementation in Bayelsa State universities.

Challenges Affecting Quality Assurance Implementation

Results from Table 1 indicate that both academic staff and students agreed that inadequate funding, shortage of qualified personnel, poor infrastructural facilities, insufficient monitoring, and ineffective feedback mechanisms are major impediments to the effective implementation of quality assurance. The grand mean score (3.59) exceeded the criterion mean of 2.50, confirming that these challenges significantly hinder quality practices in tertiary institutions. This aligns with the observations of Afolabi (2020) and Olatunji (2021), who emphasized that financial constraints and human resource deficits weaken internal quality systems and limit continuous improvement efforts in Nigerian universities.

Strategies Adopted and Their Impact on Quality Education

Findings in Table 2 showed that regular curriculum review, continuous training and development of academic staff, effective use of student feedback, collaboration with professional bodies, and the establishment of functional QA units are key strategies positively impacting educational quality. The grand mean score (3.69) demonstrates that these practices are generally implemented and have a measurable effect on academic standards. This corroborates the work of

Nwagu (2019), who observed that staff development and stakeholder involvement enhance teaching effectiveness and institutional accountability in higher education.

Strategies for Strengthening Quality Assurance Systems

As presented in Table 3, respondents strongly agreed that strengthening internal QA units, integrating ICT tools, organizing professional development workshops, fostering partnerships with industries, and ensuring adequate funding are crucial for improving the QA system. The grand mean (3.78) indicates a high level of consensus that these strategies are fundamental to sustainable quality assurance. These findings are consistent with global best practices identified by UNESCO (2020), which stress the importance of institutional autonomy, digital integration, and funding stability in maintaining quality educational outcomes.

Overall, the findings reveal that while universities in Bayelsa State have adopted some commendable quality assurance measures, their success is limited by resource inadequacies, weak monitoring frameworks, and insufficient institutional support.

Conclusion

This study concludes that quality assurance implementation in Bayelsa State universities faces significant challenges, primarily due to inadequate funding, shortage of qualified academic staff, poor infrastructure, and weak evaluation mechanisms. However, the study also established that initiatives such as regular curriculum review, continuous staff training, and effective feedback utilization contribute positively to the maintenance of academic standards.

Furthermore, strengthening internal QA units, adopting ICT-based monitoring systems, promoting industry partnerships, and ensuring consistent government funding are vital for sustainable quality assurance practices. If effectively implemented, these strategies will not only enhance teaching and learning outcomes but also improve institutional credibility and competitiveness both nationally and internationally.

Recommendations

Based on the findings and conclusions, the following recommendations are proposed:

1. **Increased Funding:**
   The government, through the Tertiary Education Trust Fund (TETFund), should increase financial allocations to universities to improve infrastructure, staff development, and the operations of QA units.
2. **Capacity Building for Academic Staff:**
   Universities should organize regular workshops, training programmes, and conferences aimed at enhancing staff competence in quality assurance and modern teaching methodologies.
3. **Integration of ICT in QA Processes:**
   Institutions should adopt digital platforms such as Learning Management Systems (LMS) and data dashboards for effective monitoring, evaluation, and feedback management.
4. **Strengthening Internal QA Units:**
   Universities should establish and adequately equip internal QA units with trained personnel and operational autonomy to ensure compliance with national and institutional quality standards.

5. **Collaboration with External Stakeholders:**
   Partnerships with industries, professional bodies, and international QA agencies should be strengthened to enhance curriculum relevance and graduate employability.
6. **Government Policy Support:**
   The Ministry of Education and regulatory bodies such as the NUC should formulate and enforce policies that promote continuous quality improvement, accountability, and transparency in university operations.
7. **Utilization of Feedback Mechanisms:**
   Student and staff feedback should be systematically collected, analyzed, and used to guide decision-making and continuous quality enhancement.

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