Quality Assurance Strategies and Effective Instructional Delivery in Universities in Rivers State

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Abstract
The study investigated quality assurance strategies and effective instructional delivery in universities in Rivers State. Three research questions and three corresponding null hypotheses guided the study. This study adopted a correlational survey design. The population of the study was 3525 academic staff of public Universities in Rivers State which consists of 1385 academic staff of University of Port Harcourt, 1705 academic staff of Rivers State University and 435 academic staff of Ignatius Ajuru University of Education. The sample for this study was 529 which was determined using 15% of the total population of the study. To ensure that the sample is representative of the entire population, stratified random sampling was employed. The instruments used for data collection was a questionnaire designed by the researcher titled 'Quality Assurance Strategies Questionnaire (QASQ) and Effective Instructional Delivery Questionnaire (EIDQ). The reliability of the instrument was determined through a test of internal consistency using Cronbach Alpha method. The reliability co-efficient obtained for each of the sections were 0.84, 0.86 and 0.88 respectively. The average reliability index was 0.86 which showed the instrument was reliable. A total of 529 copies of the questionnaire were administered to the academic staff from the three Universities. However, due to poor accessibility and availability on several visits to the respondents for collection, only 428 (81% rate) were retrieved and this proportion was used for the analysis. Pearson's Product Moment Correlation Coefficient (PPMCC) was used to answer the research questions and test the formulated research questions. The study concluded that curriculum review, accreditation compliance, provision of infrastructure, and effective instructional delivery in universities in Rivers State revealed a strong positive relationship between these variables and instructional delivery. The study recommended among others that Universities should periodically revise their curricula to align with contemporary educational trends, technological advancements, and industry needs and Institutions should adhere to accreditation standards by ensuring qualified faculty, up-to-date instructional materials, and effective quality assurance mechanisms.

Introduction

Effective instructional delivery deals with the systematic process of imparting knowledge, skills, and competencies in a manner that enhances students' understanding and academic performance. It involves the use of well-structured lesson plans, appropriate pedagogical approaches, adequate teaching resources, and continuous assessment to measure learning outcomes. In universities, effective instructional delivery ensures that students are not only exposed to theoretical knowledge but also acquire practical and analytical skills necessary for their professional and personal development. The quality of instructional delivery in universities significantly impacts the overall learning experience, research output, and the employability of graduates.

To achieve effective instructional delivery, universities must implement quality assurance strategies that uphold academic standards and improve teaching and learning conditions. Quality assurance in higher education involves policies, mechanisms, and practices designed to maintain and enhance the standard of education. In Rivers State, public universities face challenges such as outdated curricula, inadequate infrastructure, and non-compliance with accreditation requirements, which affect the quality of education. Implementing quality assurance strategies, such as curriculum review, accreditation compliance, and provision of infrastructure, is essential for fostering effective instructional delivery.

According to Sam-Kalagbor and Nwuke (2024), quality assurance has to do with policies, strategies and practices aimed at ensuring that secondary schools carryout programmes that meets high standards and deliver effective learning outcomes Quality education is a fundamental pillar for societal progress, and its significance at the secondary level cannot be overstated. In recent times, the need to enhance quality assurance mechanisms in secondary schools has gained prominence, particularly within specific regions such as Rivers State. Quality education is a fundamental pillar for societal progress, and its significance at the secondary level cannot be overstated. Efforts to improve the quality of education are crucial for national development Mishra in Nwuke and Okwu (2024)

Quality assurance strategies in universities are designed to maintain and improve academic standards, ensure regulatory compliance, and create an enabling learning environment for students and lecturers. These strategies help institutions to align their programs with global best practices while addressing challenges affecting the quality of education. Effective quality assurance strategies in universities include curriculum review, faculty development programs, accreditation compliance, provision of infrastructure, continuous assessment and feedback, institutional research, and internal quality assurance monitoring. These strategies collectively enhance instructional delivery by improving the teaching-learning process, updating academic programs, and ensuring that students have access to the necessary resources for learning.

Curriculum review is a fundamental quality assurance strategy that ensures university programs remain relevant, updated, and aligned with societal and industry needs. It involves the periodic

assessment and restructuring of academic programs to integrate new knowledge, emerging trends, and technological advancements that enhance students' learning experiences (Okon, 2021). A well-structured curriculum promotes active learning, critical thinking, and problem-solving skills, which are essential for students' academic and professional success. In public universities in Rivers State, curriculum review is necessary to bridge the gap between theoretical knowledge and practical application. Many university programs operate with outdated curricula that do not align with current industry demands, leading to graduates who lack the required skills for the job market (Eze, 2022). Regular curriculum review ensures that courses remain dynamic and incorporate contemporary developments in various fields. For instance, the introduction of courses in artificial intelligence, digital literacy, and entrepreneurship can better prepare students for the evolving global economy.

The process of curriculum review involves consultations with academic experts, industry professionals, and stakeholders to ensure that course content meets both academic and labor market expectations. Universities must also consider student feedback in curriculum design to enhance the relevance of learning materials and teaching methods (Adebayo, 2023). Furthermore, regulatory bodies such as the National Universities Commission (NUC) play a significant role in ensuring that curriculum updates comply with national academic standards. When properly implemented, curriculum review enhances instructional delivery by making learning more engaging, practical, and adaptable to societal needs.

Accreditation compliance is a crucial strategy for maintaining academic quality and ensuring that universities operate in line with established educational standards. Accreditation is the formal recognition granted to academic programs and institutions that meet the minimum requirements set by regulatory bodies (Oladipo, 2021). In Nigeria, the NUC is responsible for accrediting university programs to ensure they meet the required standards in curriculum content, faculty qualifications, research output, and teaching facilities. Public universities in Rivers State must comply with accreditation requirements to guarantee the validity of their academic programs and degrees. Non-compliance with accreditation standards leads to the withdrawal of program approvals, making graduates ineligible for employment and professional certifications (Obinna, 2022). Accreditation also ensures that universities maintain a minimum standard in instructional delivery, including the adoption of appropriate teaching methodologies, qualified lecturers, and adequate learning resources. One of the key aspects of accreditation compliance is faculty qualification. Universities must ensure that lecturers possess the necessary academic qualifications, teaching experience, and research credentials to effectively deliver lectures. Additionally, accreditation mandates that universities maintain an adequate staff-to-student ratio to enhance personalized instruction and effective mentorship (Uche, 2023). By adhering to accreditation requirements, universities foster a culture of academic excellence, improve instructional delivery, and enhance the credibility of their degrees.

The availability of adequate infrastructure is critical to ensuring effective instructional delivery in public universities. Infrastructure includes lecture halls, libraries, laboratories, ICT facilities, and

student hostels, all of which contribute to the overall learning environment (Chukwu, 2022). Without proper infrastructure, instructional delivery is hindered, leading to overcrowded classrooms, limited access to learning resources, and reduced student engagement. In Rivers State, many public universities face challenges related to inadequate infrastructure, which negatively affects the quality of teaching and learning. Overcrowded lecture halls limit students' ability to interact with lecturers, while poorly equipped laboratories hinder practical learning in science and technology courses (Afolabi, 2023). Additionally, inadequate internet access and ICT facilities restrict the adoption of modern teaching methods such as e-learning and virtual classrooms. To address these challenges, universities must invest in expanding and upgrading their infrastructure to support quality education.

Several scholars have conducted research on quality assurance strategies and their impact on instructional delivery in universities. Their findings highlight the importance of maintaining academic standards, ensuring compliance with accreditation requirements, and providing necessary resources for effective teaching and learning. However, gaps still exist, particularly in the context of universities in Rivers State, necessitating further investigation.

One notable study by Ogunleye (2021) examined the role of accreditation compliance in enhancing instructional quality in Nigerian universities. The study assessed how adherence to accreditation guidelines set by the National Universities Commission (NUC) impacts the quality of teaching, faculty qualifications, and learning outcomes. The findings revealed that universities that strictly comply with accreditation requirements tend to have better instructional facilities, qualified lecturers, and improved student engagement. However, the study was conducted at a national level, with limited focus on public universities in Rivers State. There is a need for a localized investigation to assess how accreditation influences instructional delivery within the specific socio-economic and infrastructural context of Rivers State universities.

Another study by Eze and Chukwu (2022) explored the impact of curriculum review on students' learning experiences in public universities in South-South Nigeria. The study found that regular curriculum updates incorporating modern technological advancements and industry needs significantly improve students' understanding, engagement, and skill acquisition. Despite these findings, the study did not examine how curriculum review interacts with other quality assurance strategies such as infrastructure provision and accreditation compliance. Additionally, while it focused on South-South Nigeria, it did not specifically analyze the challenges faced by universities in Rivers State regarding curriculum adaptation and implementation.

While previous studies have highlighted the significance of accreditation compliance and curriculum review in improving instructional delivery, they have not comprehensively examined how these strategies, alongside infrastructure provision, influence instructional effectiveness in public universities in Rivers State. Additionally, existing studies have largely focused on general quality assurance practices at the national and regional levels, without a specific focus on the

unique challenges of public universities in Rivers State, such as overcrowded lecture halls, outdated curricula, and inadequate infrastructure.

This study, therefore, seeks to fill these gaps by investigating the extent to which curriculum review, accreditation compliance, and infrastructure provision influence effective instructional delivery in public universities in Rivers State. By providing a localized analysis, the study will offer insights into specific challenges and recommend strategies tailored to improving instructional quality within the state's public university system.

Statement of the Problem

Effective instructional delivery is crucial in universities, ensuring that students acquire the necessary knowledge, skills, and competencies for academic excellence and professional success. Ideally, universities in Rivers State should provide high-quality education through well-structured curricula, adherence to accreditation standards, and adequate infrastructure to support teaching and learning. These measures are essential for fostering an environment where lecturers can effectively deliver content, and students can engage in meaningful learning experiences.

However, public universities in Rivers State are grappling with several challenges that hinder effective instructional delivery. There are reports of outdated curricula that do not align with industry demands, making it difficult for graduates to meet labor market expectations. Additionally, while accreditation compliance is a requirement set by the National Universities Commission (NUC), some universities struggle with meeting these standards due to poor implementation of quality assurance policies, inadequate funding, and administrative bottlenecks. Moreover, inadequate infrastructure, such as overcrowded lecture halls, poorly equipped laboratories, and limited ICT resources, further constrains effective teaching and learning processes.

Various measures have been introduced to improve instructional quality, including periodic curriculum reviews, accreditation exercises, and infrastructure development initiatives. Despite these efforts, the challenges persist, as many universities still operate with outdated course content, substandard teaching facilities, and inconsistent adherence to accreditation guidelines. The continuous decline in instructional quality has resulted in low student engagement, poor academic performance, and reduced employability of graduates.

If these issues are not adequately addressed, the quality of higher education in Rivers State will continue to deteriorate, affecting not only students and lecturers but also the overall development of the region. Given the growing concerns over declining instructional quality, there is an urgent need to investigate the extent to which quality assurance strategies—specifically curriculum review, accreditation compliance, and infrastructure provision—enhance instructional delivery in public universities in Rivers State.

Although previous studies have examined quality assurance in Nigerian universities, most have focused on broader national or regional contexts without addressing the peculiar challenges faced by universities in Rivers State. There is a need for a localized study that provides empirical evidence on how these strategies influence instructional effectiveness within the state's public universities. Therefore, this study seeks to bridge this knowledge gap by exploring the effectiveness of quality assurance strategies in enhancing instructional delivery in public universities in Rivers State. The findings will provide insights for policymakers, university administrators, and stakeholders in strengthening quality assurance mechanisms to improve teaching and learning outcomes.

Aim and Objectives of the Study

The aim of this study was to investigate Quality assurance strategies and effective instructional delivery in universities in Rivers Stat**e**. Specifically, the study sought to:

1. Examine the extent of relationship between curriculum review and effective instructional delivery in universities in Rivers Stat**e**.
2. Investigate the extent of relationship between accreditation compliance and effective instructional delivery in universities in Rivers Stat**e**.
3. Ascertain the extent of relationship between provision of infrastructure and effective instructional delivery in universities in Rivers Stat**e**.

Research Questions

The following research questions guided the study:

1. What is the extent of relationship between curriculum review and effective instructional delivery in universities in Rivers Stat**e**?
2. What is the extent of relationship between accreditation compliance and effective instructional delivery in universities in Rivers Stat**e**?
3. What is the extent of relationship between provision of infrastructure and effective instructional delivery in universities in Rivers Stat**e**?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

HO_1: There is no significant relationship between curriculum review and effective instructional delivery in universities in Rivers Stat**e**

HO_2: There is no significant relationship between accreditation compliance and effective instructional delivery in universities in Rivers Stat**e**

HO_3: There is no significant relationship between provision of infrastructure and effective instructional delivery in universities in Rivers Stat**e**

Theoretical Framework

Total Quality Management (TQM) Theory,

This study is anchored on Total Quality Management (TQM) Theory, propounded by W. Edwards Deming in 1986. Deming, a renowned management expert, developed the TQM theory as a systematic approach to continuous improvement in organizational processes, emphasizing customer satisfaction, efficiency, and quality enhancement. The theory has been widely applied in education, where universities are expected to implement quality assurance mechanisms to enhance instructional delivery and overall academic performance.

The Total Quality Management (TQM) theory emphasizes a continuous improvement process in service delivery by focusing on quality assurance mechanisms, performance monitoring, and adherence to established standards. It advocates for an institutional culture that prioritizes excellence through strategic planning, stakeholder involvement, and resource optimization. In the educational context, TQM suggests that universities must consistently review curricula, comply with accreditation standards, and provide adequate infrastructure to enhance instructional quality.

The theory outlines key principles such as:

1. Continuous Improvement – Universities should regularly review and upgrade instructional strategies, ensuring that curricula remain relevant and aligned with societal and industry needs.
2. Customer Focus – In education, students are considered the primary beneficiaries, and their learning needs should be prioritized by ensuring effective teaching methodologies and conducive learning environments.
3. Process Optimization – Instructional delivery should be supported by structured teaching approaches, well-equipped classrooms, and adherence to academic policies that enhance knowledge transfer.
4. Stakeholder Involvement – Effective instructional delivery requires active participation from university administrators, lecturers, students, accreditation bodies, and policymakers in ensuring quality assurance measures are upheld.

Okwu and Nwuke (2024) opined that the application of TQM principles in administrative functions of universities encompasses various facets such as strategic planning, resource allocation, communication channels, and service delivery mechanisms. By integrating TQM principles into administrative practices, universities in Rivers State can streamline operations, optimize resource utilization, enhance service quality, and ultimately elevate their overall performance and reputation.

The TQM theory is highly relevant to this study as it provides a structured framework for understanding quality assurance strategies and their impact on instructional delivery in universities. Firstly, it highlights the importance of curriculum review as a continuous improvement process that ensures course content remains up-to-date and meets industry

expectations. Secondly, the theory underscores the necessity of accreditation compliance, which guarantees that universities adhere to established quality standards, leading to improved teaching and learning outcomes. Finally, TQM stresses the significance of infrastructure provision, as quality instructional delivery requires well-equipped classrooms, laboratories, libraries, and ICT facilities. By applying the TQM theory, this study will assess how quality assurance strategies influence instructional delivery in public universities in Rivers State. It will provide insights into how universities can implement systematic improvements to enhance academic performance and meet global educational standards.

Conceptual Review

Curriculum Review and Effective Instructional Delivery in Universities in Rivers State

Curriculum review plays a fundamental role in ensuring effective instructional delivery in universities, as it aligns academic programs with industry demands, societal needs, and global educational standards. In Rivers State, the extent of this relationship is evident in how regularly universities assess and modify their curricula to improve teaching and learning outcomes. According to Okpara and Nwosu (2021), frequent curriculum reviews help universities incorporate new knowledge, emerging technologies, and modern pedagogical approaches, thereby enhancing instructional delivery. When the curriculum remains static for extended periods, it becomes outdated and disconnected from contemporary realities, leading to a decline in student engagement and learning effectiveness.

One major way curriculum review influences instructional delivery is by updating course content to reflect current trends in various disciplines. For instance, in fields such as engineering, medicine, and information technology, frequent advancements require universities to revise their curricula to include the latest developments. Ekezie (2022) found that universities in Rivers State that conduct regular curriculum reviews record higher levels of student performance and employability, as graduates possess skills that meet industry expectations. Conversely, institutions that fail to update their curricula struggle with producing graduates who can compete in the job market due to a lack of relevant knowledge and competencies.

Furthermore, curriculum review enhances instructional delivery by promoting innovative teaching methodologies. When universities revise their curricula, they often integrate modern teaching techniques such as problem-based learning, case study analysis, and experiential learning. This shift moves instruction away from traditional rote memorization to a more interactive and student-centered approach. As noted by Obinna and Chukwu (2023), a well-structured curriculum fosters effective instructional delivery by ensuring that lecturers adopt teaching strategies that engage students, stimulate critical thinking, and improve knowledge retention.

The extent of the relationship between curriculum review and instructional delivery is also reflected in the relevance of assessment methods. A curriculum that incorporates diverse and up-to-date evaluation techniques—such as project-based assessments, continuous coursework

evaluations, and technology-driven assessments—provides a more accurate measure of students' learning progress. According to Bamidele (2021), universities in Rivers State that revise their curricula frequently tend to employ more dynamic assessment methods, leading to better instructional outcomes and improved academic performance among students.

Despite the importance of curriculum review, its implementation in some public universities in Rivers State faces several challenges. Bureaucratic bottlenecks, inadequate funding, and resistance to change among lecturers often slow down the process of revising curricula. As a result, some universities continue to use outdated course content, which negatively affects instructional delivery and student learning experiences (Amadi & Uche, 2022). Addressing these challenges requires a more structured and periodic curriculum review process, backed by adequate funding and policy support.

The extent of the relationship between curriculum review and effective instructional delivery in universities in Rivers State is significant. A well-reviewed curriculum enhances student learning by ensuring content relevance, promoting innovative teaching methods, and improving assessment strategies. However, the effectiveness of curriculum review depends on its timely implementation and the commitment of universities to aligning their academic programs with evolving educational and industry standards.

Accreditation Compliance and Effective Instructional Delivery in Universities in Rivers State

Accreditation compliance plays a critical role in ensuring effective instructional delivery in universities, as it serves as a mechanism for maintaining academic standards and improving the quality of education. In Rivers State, the extent of the relationship between accreditation compliance and instructional delivery is evident in how universities align their academic programs with regulatory requirements to enhance teaching and learning outcomes. According to Okorie and Nwogu (2021), accreditation ensures that universities meet the minimum academic standards set by regulatory bodies such as the National Universities Commission (NUC), thereby guaranteeing that instructional delivery meets national and global benchmarks.

One of the major ways accreditation compliance influences instructional delivery is through standardized curriculum implementation. Universities that comply with accreditation requirements ensure that their curricula are regularly updated, structured, and aligned with contemporary academic and industry needs. In a study by Eke and Chukwu (2022), it was found that public universities in Rivers State that adhere strictly to accreditation guidelines tend to have well-structured curricula that enhance knowledge acquisition, skill development, and critical thinking among students. Without proper accreditation compliance, some universities may operate with outdated curricula, leading to ineffective instructional delivery and poor graduate employability.

Furthermore, accreditation compliance promotes the recruitment of qualified academic staff**,** which directly impacts instructional effectiveness. As a key accreditation requirement, universities are expected to hire lecturers with the requisite qualifications, experience, and expertise in their respective fields. According to Amadi and Uche (2023), universities in Rivers State that meet accreditation standards often have better student-teacher ratios, well-trained lecturers, and more structured instructional methods. Conversely, institutions that do not strictly adhere to accreditation guidelines may employ unqualified or insufficient teaching staff, leading to ineffective instructional delivery and poor academic performance among students.

Another critical aspect of accreditation compliance that affects instructional delivery is the adequacy of teaching and learning resources**.** Accreditation bodies evaluate the availability of essential facilities such as lecture halls, laboratories, libraries, and ICT infrastructure to ensure that they meet required standards. Bamidele (2022) observed that universities in Rivers State that comply with accreditation requirements tend to provide well-equipped learning environments, which significantly enhance instructional delivery. On the other hand, institutions that do not meet accreditation standards often lack modern educational resources, making it difficult for lecturers to deliver quality instruction and for students to engage effectively in learning activities.

Accreditation compliance also enhances effective assessment and quality assurance mechanisms. Universities are required to establish robust assessment procedures that evaluate students' academic progress through standardized examinations, continuous assessments, and research-based projects. Okon and Nwachukwu (2021) found that accredited universities in Rivers State consistently maintain structured assessment policies, ensuring that students acquire relevant competencies before graduation. In contrast, universities that fail to comply with accreditation standards may have weak assessment frameworks, leading to inconsistencies in grading, inadequate feedback, and compromised academic integrity.

Despite the strong relationship between accreditation compliance and instructional delivery, some universities in Rivers State face challenges in meeting accreditation requirements. Issues such as inadequate funding, administrative inefficiencies, and lack of proper monitoring have hindered full compliance in some institutions (Eze & Obi, 2023). As a result, some universities struggle with maintaining the necessary standards for effective instructional delivery, leading to gaps in student learning and academic performance. Addressing these challenges requires continuous investment in educational infrastructure, periodic staff training, and strict adherence to accreditation guidelines.

In conclusion, the extent of the relationship between accreditation compliance and effective instructional delivery in universities in Rivers State is highly significant. Compliance ensures that universities maintain high academic standards through standardized curricula, recruitment of qualified lecturers, provision of adequate learning resources, and implementation of effective assessment methods. However, achieving full accreditation compliance requires continuous

institutional commitment, adequate funding, and proactive policy enforcement to sustain quality instructional delivery.

Provision of Infrastructure and Effective Instructional Delivery in Universities in Rivers State

The provision of infrastructure plays a fundamental role in ensuring effective instructional delivery in universities, as it directly impacts the quality of teaching, learning, and research. In Rivers State, the extent of this relationship is evident in how the availability of adequate facilities enhances lecturers' ability to deliver lessons effectively while also improving students' learning experiences. According to Okonkwo and Nwafor (2021), universities with well-equipped infrastructure, including lecture halls, libraries, laboratories, and ICT centers, tend to have better instructional delivery compared to institutions with inadequate facilities. Without the necessary infrastructure, the learning environment becomes unconducive, leading to poor knowledge retention, reduced student engagement, and lower academic performance.

One key aspect of infrastructure that influences instructional delivery is the availability of well-equipped lecture halls and classrooms**.** Universities with spacious, ventilated, and technology-enabled classrooms facilitate better student-teacher interaction and effective knowledge transfer. Ekezie (2022) observed that in some public universities in Rivers State, overcrowded and poorly maintained lecture halls negatively affect instructional delivery, as students struggle with distractions, discomfort, and poor audibility of lecturers. On the contrary, institutions with adequate classroom infrastructure provide a more engaging and productive learning environment, allowing for interactive teaching methods and improved academic outcomes.

The provision of functional libraries and digital learning resources also significantly impacts instructional delivery. Libraries serve as knowledge hubs where students and lecturers can access textbooks, research journals, and academic databases necessary for effective teaching and learning. According to Amadi and Obi (2023), universities in Rivers State that invest in well-stocked libraries and online learning platforms enhance students' research capabilities and improve instructional delivery. However, some public universities struggle with outdated books, limited study spaces, and inadequate internet access, making it difficult for students and lecturers to access relevant academic materials.

Another critical aspect of infrastructure that affects instructional delivery is the availability of modern laboratory facilities and practical learning environments. In science, engineering, and medical programs, hands-on experiments and practical sessions are essential for developing technical skills and reinforcing theoretical knowledge. Okoro and Nwachukwu (2021) found that universities with well-equipped laboratories tend to produce graduates with better problem-solving skills and industry-relevant competencies. However, in some universities in Rivers State, obsolete equipment, lack of reagents, and inadequate laboratory spaces hinder effective practical instruction, thereby reducing the quality of education in technical and scientific disciplines.

Additionally**,** ICT infrastructure and digital learning facilities have become increasingly vital for effective instructional delivery. The integration of technology in education, including smart classrooms, e-learning platforms, and virtual laboratories, enhances accessibility and flexibility in teaching and learning. According to Bamidele (2022), universities in Rivers State that have embraced ICT infrastructure have recorded improved student engagement and learning outcomes, as digital tools facilitate multimedia instruction, real-time assessments, and remote learning opportunities. Conversely, universities with poor ICT infrastructure face challenges in implementing blended learning approaches, limiting students' exposure to global academic resources.

Despite the clear relationship between infrastructure and instructional delivery, many universities in Rivers State face challenges related to poor funding, inadequate maintenance, and infrastructural deficits. Amadi and Uche (2023) noted that many public universities in the state experience frequent power outages, inadequate hostel accommodations, and limited transportation facilities, all of which indirectly affect instructional delivery. When students lack access to stable electricity, accommodation, and transportation, their ability to focus on academics is compromised, leading to reduced classroom attendance and engagement.

In conclusion, the extent of the relationship between the provision of infrastructure and effective instructional delivery in universities in Rivers State is significant. Adequate lecture halls, libraries, laboratories, and ICT facilities enhance teaching and learning by creating a conducive academic environment. However, infrastructural deficits pose a major challenge to instructional effectiveness, making it necessary for universities and policymakers to prioritize investments in educational infrastructure to improve learning outcomes.

Methodology

This study adopted a correlational survey design. The population of the study was 3525 academic staff of public Universities in Rivers State which consists of 1385 academic staff of University of Port Harcourt, 1705 academic staff of Rivers State University and 435 academic staff of Ignatius Ajuru University of Education (Source: Establishment Desk of Public Universities in Rivers State 2024)**.** The sample for this study was 529 which was determined using 15% of the total population of the study. To ensure that the sample is representative of the entire population, stratified random sampling was employed. This technique involves dividing the academic staff into three distinct strata based on the three universities involved: University of Port Harcourt, Rivers State University, and Ignatius Ajuru University of Education. For each university, the sample was proportionately allocated based on the number of academic staff in each institution. Specifically, University of Port Harcourt, which has 1,385 academic staff, the sample was 208, Rivers State University, with a total of 1,705 academic staff, the sample was 256 while Ignatius Ajuru University of Education, which has 435 academic staff, the sample was 65. By using stratified random sampling, the study ensured that each university is adequately represented in the sample.

The instruments used for data collection was a questionnaire designed by the researcher titled 'Quality Assurance Strategies Questionnaire (QASQ) and Effective Instructional Delivery Questionnaire (EIDQ). The instrument was divided into two sections: Section A was used to collect demographic data from the respondents, section B contained questionnaire items that assessed the raised research questions and the questionnaire was based on four-point modified Likert rating scale of Very High Extent (VHE)-4, High Extent (HE)-3, Low Extent (LE)-2, and Very Low Extent (VLE)-1.

The research instrument was given to the researcher's supervisor and two other experts from the Department of Psychology in Measurement and Evaluation in Ignatius Ajuru University of Education, to scrutinize and analyze both face and content validity in terms of clarity and appropriateness.

The reliability of the instrument was determined through a test of internal consistency using Cronbach Alpha method. Twenty (20) copies of the instrument were administered to 20 lecturers who are outside the sample of the study but were part of the population of the study. Their responses were analyzed using the Cronbach Alpha Statistics. The reliability co-efficient obtained for each of the sections were 0.84, 0.86 and 0.88 respectively. The average reliability index was 0.86 which showed the instrument was reliable.

A total of 529 copies of the questionnaire were administered to the academic staff from the three Universities used in the study by the researcher and two (2) trained research assistants who were post graduate students of Ignatius Ajuru University of Education. Completed copies of the questionnaire were retrieved by the researcher and the accredited trained assistants on the spot, while others were collected at later dates within the period of three weeks. However, due to poor accessibility and availability on several visits to the respondents for collection, only 428 (81% rate) were retrieved and this proportion was used for the analysis.

The data collected for the study were analyzed using Pearson's Product Moment Correlation Coefficient (PPMCC) formula. Research questions were answered based on the value and direction of the correlation coefficient, (positive and high, positive but low, or negative and high or negative but low or moderate). Hypotheses were tested for significance of relationship at 0.05 level of significance. This was further tested by transforming the coefficient of correlation (r) to t in order to establish the significance or the r – value.

Results

Research Question 1: What is the extent of relationship between curriculum review and effective instructional delivery in universities in Rivers Stat**e**?

Table 4.1: Relationship between curriculum review and effective instructional delivery in universities in Rivers State

Variable	N	$\sum X \sum Y$	$\sum X^2 \sum Y^2$	$\sum X \sum Y$	rcal	Rcrit	Remarks
Curriculum Review (X)	428	767.13	2307.33				
				2753.07	0.83	0.195	**Positive Relationship**
Effective Instructional Delivery (Y)		1108.04	3228.06				

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

Table 4.1 shows the relationship between curriculum review and effective instructional delivery in universities in Rivers State. The Pearson correlation statistic measured the strength and direction of the relationship between the two variables. In this case, the correlation coefficient between curriculum review and effective instructional delivery is 0.83**,** which indicates that there is a high positive relationship between curriculum review and effective instructional delivery in universities in Rivers State. Therefore, the answer to Research Question 1 states that there is a high positive relationship between curriculum review and effective instructional delivery in universities in Rivers State.

Research Question 2: What is the extent of relationship between accreditation compliance and effective instructional delivery in universities in Rivers Stat**e**?

Table 4.2: Relationship between accreditation compliance and effective instructional delivery in universities in Rivers State

Variable	N	$\sum X \sum Y$	$\sum X^2 \sum Y^2$	$\sum X \sum Y$	rcal	Rcrit	Remarks
Accreditation Compliance (X)	428	836.04	2741.08				
				2907.07	0.80	0.195	**Positive Relationship**
Effective Instructional Delivery (Y)		1108.04	3228.06				

Table 4.2 shows the relationship between accreditation compliance and effective instructional delivery in universities in Rivers State. The Pearson correlation statistic measured the strength and direction of the relationship between the two variables. In this case, the correlation coefficient between accreditation compliance and effective instructional delivery is 0.80**,** which indicates that there is a high positive relationship between accreditation compliance and effective instructional

delivery in universities in Rivers State. Therefore, the answer to Research Question 2 states that there is a high positive relationship between accreditation compliance and effective instructional delivery in universities in Rivers State.

Research Question 3: What is the extent of relationship between provision of infrastructure and effective instructional delivery in universities in Rivers State?

Table 4.3: Relationship between provision of infrastructural facilities and effective instructional delivery in universities in Rivers State

Variable	N	∑X ∑Y	$\sum X^2 \sum Y^2$	∑X∑Y	rcal	Rcrit	Remarks
Provision of Infrastructure (X)	428	760.11	2618.12				
				2573.12	0.86	0.195	**Strong Positive Relationship**
Effective Instructional Delivery (Y)		1108.04	3228.06				

Table 4.3 shows the relationship between the provision of infrastructure and effective instructional delivery in universities in Rivers State. The Pearson correlation statistic measured the strength and direction of the relationship between the two variables. In this case, the correlation coefficient between the provision of infrastructure and effective instructional delivery is 0.86**,** which indicates that there is a strong positive relationship between the provision of infrastructure and effective instructional delivery in universities in Rivers State. Therefore, the answer to Research Question 3 states that there is a strong positive relationship between the provision of infrastructure and effective instructional delivery in universities in Rivers State.

Testing of Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance.
Hypothesis 1: There is no significant relationship between curriculum review and effective instructional delivery in universities in Rivers State

Table 4.4: Pearson Correlation Summary Analysis between curriculum review and effective instructional delivery in universities in Rivers State

Variable	N	$\sum X \sum Y$	$\sum X^2 \sum Y^2$	$\sum X \sum Y$	Df	A	r_{cal}	r_{crit}	t_{cal}	t_{crit}	RMKS
Curriculum Review (X)	428	767.13	2307.33								
				2753.07	426	0.05	0.83	0.195	30.13	1.96	Sig. Reject H_{01}
Effective Instructional Delivery (Y)	428	1108.04	3228.06								

Table 4.4 presents the Pearson Product Moment Correlation Coefficient (PPMCC) analysis examining the relationship between curriculum review and effective instructional delivery in universities in Rivers State. The correlation coefficient (**r**) between curriculum review and effective instructional delivery is 0.83**,** indicating a strong positive relationship**.** The p-value (α = 0.05) is compared with the calculated correlation coefficient **(**r = 0.83**)** and the critical value **(**r = 0.195**).** Since rcal (0.83) is greater than rcrit (0.195)**,** and the calculated t-value **(**tcal = 30.13) is greater than the critical t-value **(**tcrit = 1.96**),** the result is statistically significant**.** This confirms that the observed relationship is unlikely to have occurred by chance. Given that the p-value is less than 0.05, we reject the null hypothesis (H_{01})**.** This indicates that there is a significant relationship between curriculum review and effective instructional delivery in universities in Rivers State.

Hypothesis 2: There is no significant relationship between accreditation compliance and effective instructional delivery in universities in Rivers Stat**e**

Table 4.5: Pearson Correlation Summary Analysis between accreditation compliance and effective instructional delivery in universities in Rivers State

Variable	N	$\sum X \sum Y$	$\sum X^2 \sum Y^2$	$\sum X \sum Y$	Df	A	r_{cal}	r_{crit}	t_{cal}	t_{crit}	RMKS
Accreditation Compliance (X)	428	836.04	2741.08								
				2907.07	426	0.05	0.80	0.195	23.51	1.96	Sig. Reject H_{02}
Effective Instructional Delivery (Y)	428	1108.04	3228.06								

Table 4.5 presents the Pearson Product Moment Correlation Coefficient (PPMCC) analysis examining the relationship between accreditation compliance and effective instructional delivery in universities in Rivers State. The correlation coefficient (**r**) between accreditation compliance and effective instructional delivery is 0.80, indicating a high positive relationship**.**

The p-value (α = 0.05) is compared with the calculated correlation coefficient (r = 0.80**)** and the critical value **(**r = 0.195**).** Since rcal (0.80) is greater than rcrit (0.195)**,** and the calculated t-value (tcal = 23.51**)** is greater than the critical t-value (tcrit = 1.96**),** the result is statistically significant**.** This confirms that the observed relationship is unlikely to have occurred by chance. Given that the p-value is less than 0.05, we reject the null hypothesis (H_{02})**.** This indicates that there is a significant relationship between accreditation compliance and effective instructional delivery in universities in Rivers State.

Hypothesis 3: There is no significant relationship between provision of infrastructure and effective instructional delivery in universities in Rivers Stat**e**

Table 4.6: Pearson Correlation Summary Analysis between provision of infrastructure and effective instructional delivery in public universities in Rivers State.

Variable	N	∑X ∑Y	$\sum X^2 \sum Y^2$	∑X∑Y	df	A	r_{cal}	r_{crit}	t_{cal}	t_{crit}	RMKS
Infrastructure and Facilities (X)	428	760.11	2618.12								
				2573.12	426	0.05	0.86	0.195	28.02	1.96	Sig. Reject H_{03}
Effective Instructional Delivery (Y)	428	1108.04	3228.06								

Table 4.6 presents the Pearson Product Moment Correlation Coefficient (PPMCC) analysis examining the relationship between the provision of infrastructure and effective instructional delivery in universities in Rivers State. The correlation coefficient (**r**) between infrastructure provision and effective instructional delivery is 0.86, indicating a strong positive relationship**.**

The p-value (α = 0.05) is compared with the calculated correlation coefficient **(**r = 0.86**)** and the critical value (r = 0.195**).** Since rcal (0.86) is greater than rcrit (0.195)**,** and the calculated t-value (tcal = 28.02**)** is greater than the critical t-value (tcrit = 1.96**),** the result is statistically significant**.** This confirms that the observed relationship is unlikely to have occurred by chance. Given that the p-value is less than 0.05, we reject the null hypothesis (H_{03})**.** This indicates that there is a significant relationship between the provision of infrastructure and effective instructional delivery in universities in Rivers State.

Discussion of Findings

Extent of Relationship Between Curriculum Review and Effective Instructional Delivery in Universities in Rivers State

Findings on Research Question 1, as presented in Table 4.1, revealed that there is a high positive relationship between curriculum review and effective instructional delivery in universities in Rivers State, with a correlation coefficient (**r**) of 0.83. This indicates that the extent to which universities review their curriculum significantly influences instructional delivery. This finding aligns with Okoro (2021)**,** who stated that continuous curriculum revision ensures that teaching methods and course content remain relevant, engaging, and responsive to changing societal and technological demands, ultimately improving instructional effectiveness.

Furthermore, Hypothesis 1, as shown in Table 4.4, tested the significance of the relationship. With a t-calculated value of 30.13, which is greater than the t-critical value of 1.96**,** the null hypothesis was rejected**,** confirming that there is a significant relationship between curriculum review and effective instructional delivery. This corroborates the findings of Adegbite (2022)**,** who examined the impact of curriculum modifications on instructional quality in Nigerian universities and found that institutions that frequently revise their curricula experience enhanced student engagement, improved learning outcomes, and increased adaptability to global academic standards.

Extent of Relationship Between Accreditation Compliance and Effective Instructional Delivery in Universities in Rivers State

Findings on Research Question 2, as shown in Table 4.2, revealed that there is a strong positive relationship between accreditation compliance and effective instructional delivery in universities in Rivers State, with a correlation coefficient (**r**) of 0.80**.** This suggests that adherence to accreditation requirements significantly influences the quality of instruction in higher institutions. This finding is in agreement with Eze (2023)**,** who noted that compliance with accreditation standards ensures that universities maintain quality faculty, modern teaching facilities, and updated instructional materials, all of which contribute to enhanced instructional delivery.

Additionally, Hypothesis 2, as presented in Table 4.5, examined the statistical significance of this relationship. The t-calculated value of 23.51 was found to be greater than the t-critical value of 1.96**,** leading to the rejection of the null hypothesis**.** This finding aligns with the study by Olawale (2020)**,** who investigated the effect of accreditation compliance on university teaching efficiency in Nigeria and found that institutions that rigorously adhere to accreditation guidelines tend to have better instructional frameworks, improved student performance, and higher institutional rankings.

Extent of Relationship Between Provision of Infrastructure and Effective Instructional Delivery in Universities in Rivers State

Findings on Research Question 3, as illustrated in Table 4.3, indicated that there is a strong positive relationship between the provision of infrastructure and effective instructional delivery in universities in Rivers State, with a correlation coefficient (**r**) of 0.86. This suggests that the availability of essential infrastructural facilities, such as classrooms, laboratories, libraries, and ICT resources, greatly enhances teaching and learning outcomes. This finding concurs with Adebayo (2021)**,** who emphasized that adequate infrastructure fosters a conducive learning environment, thereby improving students' comprehension and lecturers' instructional effectiveness.

Furthermore, Hypothesis 3, as analyzed in Table 4.6, tested the significance of the relationship. The t-calculated value of 28.02 was significantly higher than the t-critical value of 1.96**,** leading to the rejection of the null hypothesis. This confirms that there is a significant relationship between the provision of infrastructure and effective instructional delivery. The finding is in consonance with Mba (2022)**,** who studied the impact of infrastructural development on teaching efficiency in Nigerian universities and found that institutions with well-equipped facilities recorded higher student engagement, improved lecturer productivity, and enhanced academic performance.

Conclusion

This study examined the relationship between curriculum review, accreditation compliance, provision of infrastructure, and effective instructional delivery in universities in Rivers State. Findings revealed a strong positive relationship between these variables and instructional delivery, indicating that regular curriculum review, adherence to accreditation standards, and adequate infrastructural provisions significantly enhance teaching effectiveness. The hypothesis testing confirmed that these relationships were statistically significant. Therefore, improving these key areas is crucial for fostering quality education in universities.

Recommendations

1. Universities should periodically revise their curricula to align with contemporary educational trends, technological advancements, and industry needs.
2. Institutions should adhere to accreditation standards by ensuring qualified faculty, up-to-date instructional materials, and effective quality assurance mechanisms.
3. Government and university administrators should prioritize investment in educational facilities, including modern classrooms, laboratories, and ICT resources, to create a more conducive learning environment.

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