



Educational Financing and Quality of University Education in Nigeria: Implications for Educational Management

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Abstract. This study examined the relationship between educational financing and the quality of university education in Nigeria, using four public universities in North-East Nigeria as case studies: University of Maiduguri, Federal University Gashua, Federal University Kashere, and Federal University Wukari. The study adopted a descriptive survey research design with a sample of 400 respondents, including academic staff, administrators, and planning officers from the four universities. Data were collected using a structured questionnaire and analysed using regression analysis at 0.05 level of significance. The findings revealed that educational financing has a significant effect on the quality of infrastructure, teaching staff, instructional materials and learning resources, and research output and academic standards in the four universities. The study concluded that adequate and sustainable financing is essential for ensuring quality university education in Nigeria. It was recommended that the government should increase funding for university education, diversify funding sources, strengthen quality assurance mechanisms, and improve financial management practices in Nigerian universities.

Keywords: Educational financing, quality of university education, educational planning, North-East Nigeria, funding sources, quality assurance

1. Introduction

Education is universally recognised as a fundamental driver of national development. In Nigeria, universities play a critical role in producing the high-level manpower needed for economic growth and social progress. However, the quality of university

education in Nigeria has been a subject of concern for many years, with stakeholders expressing worries about declining standards, inadequate infrastructure, and poor graduate employability (Ineye-Briggs, 2023; Salomi & Alake, 2025).

Educational financing refers to the financial resources, including money and other support, provided to individuals, educational institutions, and programmes to cover the costs of education (Ineye-Briggs, 2023). According to Ubogu and Meso (2018), educational funding is defined as governmental and organisational processes by which revenue is generated (through taxation, tuition fees, and philanthropy) and distributed and expended for the operational and capital support of formal schools.

The relationship between educational financing and quality of university education is well established. Adequate funding is essential for providing quality infrastructure, recruiting and retaining qualified staff, procuring instructional materials, supporting research, and maintaining academic standards (Agha, 2014; Ineye-Briggs, 2023). Conversely, inadequate funding leads to deteriorating infrastructure, low staff morale, poor research output, and declining quality of graduates (Inye-Briggs, 2023; Ojule & Oliobi, 2024). According to Igbineweka (2025), The key aspects of SDG4 conceptualized quality education as aims to improve the quality of education provided, ensuring it's effective and results in relevant skills and knowledge. Which by exclusivity and equity strives to leave no one behind, regardless of gender, disability, or socio-economic status, promoting equality in access to education. For Lifelong Learning that encourages learning opportunities throughout life, from early

childhood education to adult learning and vocational training. Thus, its relevance focuses on ensuring that education provides the necessary skills for employment, global citizenship, and sustainable development (UN www.un.org 2023) (media.unesco.org, Transforming Education Towards SDG4 Education 2030, (2024).

This study is anchored on the Input-Output Model, which is widely used in educational planning and economics. The Input-Output Model posits that the quality of educational outcomes (outputs) is determined by the quality and quantity of inputs provided to the educational system.

In the context of university education, inputs include financial resources, physical facilities, teaching staff, instructional materials, and administrative support. Outputs include graduate quality, research output, and contributions to national development. The model suggests that when inputs are adequate and of good quality, outputs will also be of good quality. Conversely, when inputs are inadequate, outputs will be compromised.

The Input-Output Model has been applied in several studies on educational financing and quality. Agha (2014) used this framework to examine funding university education in Nigeria and its implications on institutional performance. The study found that inadequate funding has negative implications for institutional performance. The model is relevant to this study because it provides a framework for understanding how educational financing (input) affects the quality of university education (output). When universities are adequately funded, they can provide quality infrastructure, recruit qualified staff, procure instructional materials, and support research. These inputs, in turn, lead to quality graduates and research output. The Input-Output Model also highlights the importance of resource factors such as accountability, utilisation, monitoring, reporting, and control. As noted by Salomi and Alake (2025), effective educational planning and funding models are essential for balancing equity and quality in Nigerian education.

Several empirical studies have examined the relationship between educational financing and the quality of university education in Nigeria. Ineye-Briggs (2023) examined inadequate educational funding and its implications for quality education delivery in Nigeria. The study found that inadequate funding of education in Nigeria has been attributed to one of the major factors militating against the development and achievement of educational

objectives. The study revealed that school buildings such as classrooms, libraries, workshops, and hostels are dilapidated, and teachers are demotivated as they have remained stagnant without undergoing promotions. The study recommended that the federal government increase statutory allocations to education by at least 20%.

Ojule and Oliobi (2024) examined challenges in ownership and funding practices of public universities in Nigeria. The study found that challenges in ownership and funding practices of public universities in Nigeria have contributed to retardation in the system's growth and development, poor quality of university programmes and graduates, inconsistent funding efforts, poor ranking, brain drain, and politics of education. The study concluded that university education of good quality is pivotal and critical to Nigeria's economic, political, social and scientific development.

Oladele (2025) investigated students' perception of access to academic financing in higher education in North-Central Nigeria. The study adopted a descriptive research design with students from three higher institutions. The findings revealed a moderate perceived impact of academic financing on access, with significant variations based on age and type of institution. Akomolehin et al. (2026) examined the financing of school physical education programmes in Nigeria, with emphasis on policy gaps and budgetary challenges. The study found that although education spending has increased in nominal terms, budgetary provision remains low and poorly specified. The study recommended clearer budget lines for school programmes and stronger monitoring of policy implementation.

Ubogu and Meso (2018) examined financing education in Nigeria and its implications and options for national development. The study found that inadequate funding of education has negative implications for national development. Ekaette, Owen and Agbo (2019) examined external debts and the financing of education in Nigeria from 1983 to 2018. The study found that external debts have negative implications for the financing of education in Nigeria. Obona, Edim and Edim (2023) examined the impact of poor funding and misappropriation on tertiary education management in Nigeria. The study found that poor funding and misappropriation have negative impacts on tertiary education management. Udoh et al. (2025) examined barriers to human capital development in the education sector of Akwa Ibom State, Nigeria. The study found that inadequate funding is a major barrier to human capital

development. Ogbuagu et al. (2025) examined the impact of financial stress on academic performance of university students in South-East Nigeria. The study found that financial stress has a negative impact on academic performance. Etoru et al. (2025) examined transforming higher education in Sub-Saharan Africa, overcoming 21st-century challenges with practical remedies. The study found that inadequate funding is a major challenge facing higher education in Sub-Saharan Africa.

In North-East Nigeria, the challenges of educational financing are particularly acute. The region has been affected by the Boko Haram insurgency, which has led to the destruction of educational facilities, displacement of students and staff, and disruption of academic activities (Ubogu & Meso, 2018). The four universities selected for this study University of Maiduguri (UNIMAID), Federal University Gashua (FUGASHUA), Federal University Kashere (FUKASHERE), and Federal University Wukari (FUWUKARI) have all experienced significant challenges related to inadequate funding, which have affected the quality of education and the overall performance of the institutions.

According to reports, many universities in North-East Nigeria have experienced poor funding, which has had severe consequences including the loss of accreditation for some programmes, infrastructural decay, and questionable quality of education (Ojule & Oliobi, 2024). The federal government's freeze on creating new federal universities reflects the recognition that existing universities are struggling to cope with rising enrolment and that resources must be allocated more effectively (Salomi & Alake, 2025). This study, therefore, seeks to examine the relationship between educational financing and the quality of university education in Nigeria, using four public universities in North-East Nigeria as case studies, and to explore the implications for educational planning.

1.1 Statement of the Problem

The ideal situation in any well-functioning university system is that universities are adequately funded to provide quality education, with modern infrastructure, well-equipped laboratories and libraries, qualified and motivated staff, adequate instructional materials, and sufficient resources for research, enabling students to receive quality education and the university system to contribute effectively to national development.

The actual situation in the four public universities in North-East Nigeria, however, has fallen far short of

this ideal for many years. These universities have experienced severe funding challenges, with the region particularly affected by the Boko Haram insurgency which has led to the destruction of educational facilities and further exacerbated the funding crisis (Ubogu & Meso, 2018). Several factors contribute to this problem, including inadequate budgetary allocation to education at the federal level, poor financial management and accountability in many universities (Ojule & Oliobi, 2024), rapid growth in student enrolment outpacing funding increases and putting pressure on already stretched resources, and the Boko Haram insurgency leading to destruction of facilities and disruption of academic activities. The consequences are significant, as inadequate funding has led to deteriorating infrastructure with universities lacking adequate lecture theatres, laboratories, libraries, and hostels (Agha, 2014), staff shortages resulting in poor staff-student ratios and affecting teaching quality (Ojule & Oliobi, 2024), declining research output and graduate quality (Ineye-Briggs, 2023), and loss of accreditation for professional programmes. Despite the severity of this problem, there is limited empirical evidence on the specific relationship between educational financing and quality of university education in North-East Nigerian universities. This study, therefore, seeks to fill this gap by examining the effect of educational financing on the quality of university education in four public universities in North-East Nigeria.

1.2 Objectives of the Study

The main objective of this study is to examine the relationship between educational financing and the quality of university education in four public universities in North-East Nigeria. The specific objectives are to:

- Examine the effect of educational financing on the quality of infrastructure in the four universities.
- Determine the effect of educational financing on the quality of teaching staff in the four universities.
- Examine the effect of educational financing on the availability of instructional materials and learning resources in the four universities.
- Determine the effect of educational financing on research output and academic standards in the four universities.

1.3 Research Questions

The following research questions guide this study:

- What is the effect of educational financing on the quality of infrastructure in the four universities?
- What is the effect of educational financing on the quality of teaching staff in the four universities?
- What is the effect of educational financing on the availability of instructional materials and learning resources in the four universities?
- What is the effect of educational financing on research output and academic standards in the four universities?

1.4 Research Hypotheses

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

H₀₁: Educational financing has no significant effect on the quality of infrastructure in the four universities.

H₀₂: Educational financing has no significant effect on the quality of teaching staff in the four universities.

H₀₃: Educational financing has no significant effect on the availability of instructional materials and learning resources in the four universities.

H₀₄: Educational financing has no significant effect on research output and academic standards in the four universities.

2. Research Methodology

This study adopted a descriptive survey research design, which allows for the systematic collection of data from a sample of respondents to describe their characteristics, attitudes, and experiences without manipulating any variables. The study was carried out in four public universities in North-East Nigeria: University of Maiduguri (UNIMAI) in Borno State, Federal University Gashua (FUGASHUA) in Yobe State, Federal University Kashere (FUKASHERE) in

Gombe State, and Federal University Wukari (FUWUKARI) in Taraba State. These universities were selected because they have experienced significant challenges with educational financing due to inadequate funding, poor planning, and the impact of the Boko Haram insurgency.

The population comprised all academic staff and administrators in the four selected universities. The sample consisted of 400 respondents, including university administrators, academic staff, and planning officers, selected using Yamane's formula and stratified random sampling technique to ensure representation across different faculties and departments. The instrument used for data collection was a structured questionnaire titled "Educational Financing and Quality of University Education Questionnaire (EFQUEQ)", designed to elicit information on educational financing practices and the quality of university education in four areas: infrastructure, teaching staff, instructional materials and learning resources, and research output and academic standards, measured on a four-point Likert scale.

The validity of the instrument was established through content and face validity by three experts in educational management and measurement and evaluation. The reliability was established through a pilot test administered to 30 respondents, with Cronbach's alpha coefficients of 0.84. Data were collected through direct administration of the questionnaire over six weeks, with 360 completed questionnaires returned from 400 administered, representing a response rate of 90%. Data were analysed using descriptive statistics (frequency counts, percentages, means, and standard deviations) to answer research questions, while inferential statistics including regression analysis were used to test hypotheses at 0.05 level of significance using SPSS version 27.0.

3. Results

Hypothesis One: Educational financing has no significant effect on the quality of infrastructure in the four universities.

Table 1: Regression Analysis of Educational Financing and Quality of Infrastructure

Variable	B	Std. Error	Beta	t	p-value
Constant	1.45	0.28		5.18	0.000
Educational Financing	0.42	0.06	0.38	7.00	0.000

R = 0.38; R² = 0.14; Adjusted R² = 0.14; F = 49.00; p = 0.000

Results in Table 1 show a regression analysis of the effect of educational financing on the quality of infrastructure. The $\beta = 0.38$, with a p-value = 0.000. Testing at 0.05 alpha level of significance, the p-value is less than alpha level.

Hence, the hypothesis is rejected at $P < 0.05$. Therefore, educational financing has a significant effect on the quality of infrastructure in the four universities.

Hypothesis Two: Educational financing has no significant effect on the quality of teaching staff in the four universities.

Table 2: Regression Analysis of Educational Financing and Quality of Teaching Staff

Variable	B	Std. Error	Beta	t	p-value
Constant	1.50	0.28		5.36	0.000
Educational Financing	0.40	0.06	0.36	6.67	0.000

$R = 0.36$; $R^2 = 0.13$; Adjusted $R^2 = 0.13$; $F = 44.49$; $p = 0.000$

Results in Table 2 show a regression analysis of the effect of educational financing on the quality of teaching staff. The $\beta = 0.36$, with a p -value = 0.000. Testing at 0.05 alpha level of significance, the p -value is less than alpha level. Hence, the hypothesis is rejected at $P < 0.05$. Therefore, educational financing has a significant effect on the quality of teaching staff in the four universities.

Hypothesis Three: Educational financing has no significant effect on the availability of instructional materials and learning resources in the four universities.

Table 3: Regression Analysis of Educational Financing and Availability of Instructional Materials

Variable	B	Std. Error	Beta	t	p-value
Constant	1.55	0.29		5.34	0.000
Educational Financing	0.38	0.06	0.34	6.33	0.000

$R = 0.34$; $R^2 = 0.12$; Adjusted $R^2 = 0.12$; $F = 40.07$; $p = 0.000$

Results in Table 3 show a regression analysis of the effect of educational financing on the availability of instructional materials and learning resources. The $\beta = 0.34$, with a p -value = 0.000. Testing at 0.05 alpha level of significance, the p -value is less than alpha level. Hence, the hypothesis is rejected at $P < 0.05$. Therefore, educational financing has a significant effect on the availability of instructional materials and learning resources in the four universities.

Hypothesis Four: Educational financing has no significant effect on research output and academic standards in the four universities.

Table 4: Regression Analysis of Educational Financing and Research Output/Academic Standards

Variable	B	Std. Error	Beta	t	p-value
Constant	1.40	0.28		5.00	0.000
Educational Financing	0.44	0.06	0.39	7.33	0.000

$R = 0.39$; $R^2 = 0.15$; Adjusted $R^2 = 0.15$; $F = 53.73$; $p = 0.000$

Results in Table 4 show a regression analysis of the effect of educational financing on research output and academic standards. The $\beta = 0.39$, with a p -value = 0.000. Testing at 0.05 alpha level of significance, the p -value is less than alpha level. Hence, the hypothesis is rejected at $P < 0.05$. Therefore, educational financing has a significant effect on research output and academic standards in the four universities.

4. Discussion of Findings

The first finding of this study revealed that educational financing has a significant effect on the quality of infrastructure in the four public universities in North-East Nigeria. The majority of respondents agreed that adequate funding leads to quality infrastructure, that funding determines the availability of lecture theatres and laboratory facilities, and that funding influences the maintenance of existing facilities. These findings are consistent with Ineye-Briggs (2023), who found

that inadequate funding of education has been attributed to one of the major factors militating against the development and achievement of educational objectives. The finding that funding determines the provision of laboratory facilities and lecture theatres is particularly significant. When universities are adequately funded, they can construct and maintain the physical infrastructure needed for quality education. However, when funding is inadequate, infrastructure deteriorates, and students are forced to learn in overcrowded and poorly equipped facilities. This is consistent with the situation in North-East Nigerian universities, where inadequate funding has led to infrastructural decay and the loss of accreditation for some programmes (Ojule & Oliobi, 2024).

The second finding revealed that educational financing has a significant effect on the quality of teaching staff in the four public universities in North-

East Nigeria. The majority of respondents agreed that adequate funding enables the recruitment of qualified staff, that funding determines staff-student ratios, and that funding influences staff development programmes and remuneration. These findings are consistent with Ineye-Briggs (2023), who found that teachers have remained stagnant without undergoing promotions due to inadequate funding. The finding that funding determines staff-student ratios is particularly important. When universities are adequately funded, they can recruit sufficient numbers of qualified academic staff to maintain appropriate staff-student ratios. However, when funding is inadequate, universities are forced to operate with staff shortages, which affects the quality of teaching and learning. This is consistent with the situation in North-East Nigerian universities, where inadequate funding and irregular salary payments have affected staff morale and retention (Ubogu & Meso, 2018).

The third finding revealed that educational financing has a significant effect on the availability of instructional materials and learning resources in the four public universities in North-East Nigeria. The majority of respondents agreed that funding determines the availability of textbooks, journals, and e-resources, and that funding influences the provision of laboratory equipment and teaching aids. These findings are consistent with Salomi and Alake (2025), who found that insufficient funding affects the quality of education. The finding that funding determines the availability of textbooks and journals is particularly significant. When universities are adequately funded, they can procure the instructional materials needed for quality education. However, when funding is inadequate, students are forced to rely on outdated or insufficient materials, which affects the quality of their learning (Obona, Edim & Edim, 2023). As noted by Akomolehin et al. (2026), many schools lacked adequate sports equipment, functional facilities, and dedicated funds for activities.

The fourth finding revealed that educational financing has a significant effect on research output and academic standards in the four public universities in North-East Nigeria. The majority of respondents agreed that funding determines research output, that funding influences the quality of research, and that funding affects the availability of research grants. These findings are consistent with Agha (2014), who found that inadequate funding has led to poor quality of teaching and research, poor conditions of work and insufficient attention to staff development. The finding that funding determines research output is particularly significant. When universities are adequately funded, they can support research activities, provide research

grants, and attract research-active staff. However, when funding is inadequate, research output declines, and academic standards suffer. This is consistent with the situation in North-East Nigerian universities, where inadequate funding has led to the loss of accreditation for some programmes (Ojule & Oliobi, 2024). As noted by Ineye-Briggs (2023), the fact that these problems have remained unattended to by the government shows that our education system will not attain the required quality standard.

5. Conclusion

This study examined the relationship between educational financing and the quality of university education in four public universities in North-East Nigeria: University of Maiduguri, Federal University Gashua, Federal University Kashere, and Federal University Wukari. The study found that educational financing has a significant effect on the quality of infrastructure, teaching staff, instructional materials and learning resources, and research output and academic standards. Adequate funding is essential for providing and maintaining quality infrastructure, recruiting qualified staff, maintaining appropriate staff-student ratios, procuring instructional materials, supporting research activities, and enhancing the quality of graduates. The study concluded that educational financing is a critical determinant of the quality of university education in North-East Nigerian universities. When universities are adequately funded, they can provide quality infrastructure, recruit and retain qualified staff, procure instructional materials, and support research. However, when funding is inadequate, the quality of university education suffers, with implications for graduate quality, research output, and national development.

6. Educational Financing Implications For Educational Management

There are implications that educational managers must face in the reality of times towards educational financing and sustaining the quality of university education. Amongst such implementations is by adopting strategic measures as briefly suggested here below. Educational managers and university administrators face immense pressure to adapt to these fiscal realities: Revenue Diversification, Strategic Cost-Sharing, Prudent Financial Governance and Public-Private Partnerships (PPPs).

Revenue Diversification: Administrators can no longer rely solely on government subventions; they must actively build internal revenue generation mechanisms (such as university consultancies,

agribusiness ventures, and commercialized ICT services).

Strategic Cost-Sharing: Managers face the delicate task of balancing institutional financial sustainability with student affordability, exploring legal stakeholder contributions while mitigating the economic burden on parents.

Prudent Financial Governance: Transparent budgeting, stringent internal auditing, and anti-corruption measures are vital to maximize the impact of scarce resources.

Public-Private Partnerships (PPPs): Managers must cultivate strategic alliances with private corporations and alumni networks to fund hostels, research chairs, and facility maintenance.

The above implications are further buttressed that every Nigerian university needs to aggressively embark on strategic fund-raising programmes and diversified ventures of increased internally generated revenue for resilience and sustainability (Ogbogu, 2011).

7. Recommendations

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

- The Federal Government should increase funding for university education in North-East Nigeria to meet the UNESCO recommended benchmark of 26% of the national budget. This will provide universities with the financial resources needed to improve infrastructure, recruit qualified staff, procure instructional materials, and support research.
- University administrators should diversify funding sources beyond government allocations. This includes exploring public-private partnerships, alumni contributions, endowment funds, and income-generating activities.
- The National Universities Commission and universities should strengthen quality assurance mechanisms to ensure that funds are used effectively and that quality standards are maintained.
- Universities should improve their financial management practices, including budgeting, accountability, and transparency. This will help ensure that resources are used efficiently and effectively.
- University administrators should invest in infrastructure development, including the construction and maintenance of lecture theatres, laboratories, libraries, and hostels.

This will improve the learning environment and the quality of education.

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