

## THE ACCESSIBILITY OF THE EDUCATIONAL FACILITIES /LABORATORY RESOURCES IN ACHIEVING HIGH-QUALITY UNIVERSITY / TERTIARY EDUCATION IN ENUGU STATE.

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### **Abstract:**

In order to attain a top-notch university education in Enugu State, the study looked at how accessible the educational facilities and e-lab resources are. To achieve the study's goals, the inquiry was guided by two research questions, and two hypotheses were evaluated at the significance level of 0.05. For the inquiry, a descriptive survey research methodology was adopted. Academic personnel from the University of Nigeria, Nsukka (UNN), and Enugu State University of Science and Technology (ESUT) were randomly selected for this survey, with 150 academic staff members and 120 academic staff members from each university participating. The Accessibility of Educational Facilities/Lab Resources in achieving High Quality University Education Questionnaire (AEFAHQEQ)" was a researcher-structured questionnaire that was used to gather data. The reliability of the study's instrument was confirmed by three specialists. Two of them came from the Department of Educational Management and one from the Department of Mathematics and Computer Education at Enugu State University of Science and Technology. In order to assess the internal consistency of the instrument, the researcher computed the Cronbach alpha coefficient. The computed values were 0.79, 0.82, 0.80, and 0.79 for clusters 1, 2, and 3. The device was used for data collection because it was rated reliable with an overall dependability grade of 0.80. Mean scores and standard deviations were used to answer the two research questions, while the t-test statistic was used to evaluate the null hypotheses at the 0.05 level of significance. The significance level of alpha was set at 0.05. The study's findings revealed that e-laboratory facilities are available but underutilized for offering quality university education in Enugu State. Enugu State faces challenges in delivering a top-notch university education because of insufficient access to and utilization of educational resources. Enugu State lacks the infrastructure required to offer top-notch university education. Despite the wealth of building amenities, they are rarely used to enhance the provision of high-quality university education. The study's findings prompted the researcher to make many suggestions. One of these suggestions is for the government, educational authorities, and regulatory bodies to ensure that university students have access to electronic laboratory facilities so they may engage in worthwhile learning activities. Furthermore, professors and technologists of faculties may help to preserve physical infrastructure and e-library equipment at universities by developing a maintenance culture.

**Keywords:** educational facilities, e-resources, university education, quality teaching and learning.

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## I. Introduction

Having an education is necessary to have a happy life. According to Mlozi (2013), education is the driving force behind the transition towards sustainable development because it provides individuals with the skills they need to make their ideas a reality. Alumode claims in Aja-Okorie and Usulor (2016) that since education creates the next generation of economic managers, it is the way for a nation to advance swiftly

Around the world and throughout history, education has been viewed as a powerful tool for the advancement of both individuals and countries. Primarily, as university education represents the pinnacle of education, it is imperative to integrate certain policies and infrastructure to provide a significant amount of high-quality instruction. Ensuring quality teaching is a worldwide aim of tertiary institutions, and this can only be achieved through the adoption of workable regulations and enhancements to educational infrastructure. Thus, educational facilities are essential components of curriculum design that help an educational system achieve high-quality instruction.

Efficient resource management is critical to accomplishing stated goals in any type of organization, including business, educational, religious, and familial settings. The inputs that guarantee an organization's efficient operation are referred to as resources. They may be direct or indirect resources or facilities (Emetrom, 2004). Emetrom also listed "direct" facilities, such as hardware, software, textbooks, student records, writing supplies, whiteboards, instructional aids, and so on. These educational tools not only support teaching and learning, but also improve student performance. All of the aforementioned make it clear how important learning materials are to attaining the objectives of education, especially at the postsecondary level. As a source of inspiration for educators and learners alike,

Huston and Dipietro (2007) and Ambrose, Bridges, Dipietro, Lovett, and Norman (2010) contend that a supportive learning environment is essential. Conversely, an unfavorable learning environment lowers teachers' and students' enthusiasm to engage in productive teaching and learning activities. It is based on the very vital role that learning resources play in promoting the accessibility of educational facilities and e-learning resources in tertiary institutions in Enugu State, Nigeria. School plants are used in educational buildings to help with effective teaching and learning. Tertiary education should instill in pupils a passion for self-improvement, excellence, and essential skills to contribute to the national economy. School buildings with physical structures that house instructional activities are known as educational facilities.

Educational facilities are those tools (hardware or software) and resources other than human labor that are employed in the teaching and learning processes in the school system, according to Ajibola (2010). They are essential to maintaining the caliber of instruction in the educational system. Within the framework of the school system, educational amenities comprise all kinds of structures used for both academic and recreational purposes, spaces for sports and recreation, lawns, gardens, and farms, together with roadways. Additional features include restrooms, acoustics, lighting, storage spaces, parking lots, security, cleaning supplies, food services/cafés, equipment, classroom and administrative spaces, furniture, educational resources, ICT, libraries, lab supplies, and special accommodations for people with physical disabilities. These amenities are essential to achieving the school's physical and mental demands throughout the teaching and learning process, which helps to realize the aims and objectives of education. Quality education relies on a variety of criteria at the school and classroom levels, but the most crucial factor is the quality of educational facilities.

Globally, educational facilities are an essential component of any educational system. Accreditation of programs and courses, admittance of students, and quality of teaching rely heavily on the supply, availability, and optimal usage of educational infrastructure. Khan and Iqbal (2012) assumed that sufficient and high-quality school facilities are essential components for high-quality education and the accomplishment of the program's stated objectives. Khan and Iqbal emphasize that learning is a complex activity that requires motivation from both students and teachers, alongside adequate school facilities, instructional materials, and equipment to support a child's development. The provision of adequate school facilities for teaching and learning is a prerequisite for providing pupils with high-quality instruction.

Ijiga (2009) makes a contribution by stating that multi-media is the presentation of instructional content to learners through the use of text, graphics, animation, video, and sound. Najjar (2006) highlights a widely held belief when he states that individuals typically retain 10% of what they read, 20% of what they hear, 30% of what they see, and 50% of both. There are good reasons why learning is improved by multi-media training. They consist of the following, among others:

- Multimedia instruction offers a number of advantages. It leads to a more fulfilling and intellectually stimulating learning environment and increases students' drive to study.
- It draws learners of all ability levels and offers them a novel and diversified learning environment.
- Multimedia gives pupils the required reinforcement, broadens their experiences, and promotes active engagement.

➤ It offers a variety of teaching techniques that can accommodate unique learning preferences and styles that might not be well served by a single medium or conventional teaching methods (Ogunmilade, 2004).

According to Mohammed and Gbenu (2007), university education plays a crucial role in economic, technological, and scientific advancement. Therefore, modern school environments should prioritize improved educational facilities, including spacious classrooms, workshops and laboratories, computers, reliable water supply, toilet facilities, functional libraries, transportation, and communication systems. It is necessary to have all of these amenities in the right amounts and levels.

In the meantime, it's thought that a key factor in high-quality university instruction is the accessibility and use of educational facilities. However, as seen by the regularity of industrial strikes in the education sector, the government's facilities for carrying out education initiatives in Nigeria are insufficient and irregular. The importance of having facilities, tools, and supplies on hand for a school's physical education program has been highlighted in the literature on several occasions, claims Mgbor (2015). The accessibility of equipment and facilities is crucial to the success of tertiary institution programs, since they serve as the central core.

According to Longman (2013), accessibility refers to something that is readily available for use. Otherwise, they are the resources that may be committed or put to use as needed to carry out a certain task. According to Owoeye (2011), school facility accessibility has a significant impact on both the quality and quantity of instruction. It is indisputable, according to Owoeye, that having instructional facilities available for teaching and learning is crucial for the education sector. Afework (2014) pointed out that having sufficient space and tools is essential for teaching physical education. Education aims to permanently embed learning. Utilizing instructional resources in the classroom is a certain technique to accomplish this goal, claim Cecilia & Obi (2019). Using real things or their representations in teaching allows students to interact with the materials. Students who interact with their learning materials are more likely to remember what they have learned.

According to Olagunju and Abiona (2018), resource utilization refers to the management and organization of resources. Olagunju and Abiona noted that in a school, existing resources should be used in such a way that objectives may be met. Wanjiku (2013) emphasized that using accessible resources is more essential than quantity. One of the reasons why fewer instructors in the school use the available resources is because they lack the expertise to use them effectively. The value of resource materials is determined by the teacher's use of them. School personnel and community members have a thorough understanding of how school facilities work and their potential uses. A number of factors of higher education, including accessibility, financial aid, tuition costs, the caliber of research, and results, are heavily emphasized by government programs. The measure of a teacher's instruction's quality is how well they are able to impart a wealth of information and competence to their pupils. Obasi and Akuchie (2010) draw attention to a current debate on the deterioration in the quality of instruction in Nigeria's public university system. The fall in enrollment in higher education has been attributed to the priority of expanding enrollment without enough technical developments. According to Blackmore (2009), this circumstance has put pressure on educational institutions to live up to the expectations of staff, employers, and students, raising questions about the caliber of instruction. It is worth noting that the lack of improvements to educational infrastructure in Nigeria's higher institutions may impede the acquisition and delivery of excellent education. In this sense, a number of important variables function as indicators, including:

1. Instructors who are regularly present and on time for their classes.
2. Effective communication techniques used by instructors to promote greater understanding in the classroom.
3. Availability of current instructional resources.
4. Enough time spent by instructors covering the course content in the allocated amount of time.
5. Giving out suitable practical, hands-on training.
6. Using a carefully constructed questionnaire to do arbitrary evaluations of instruction quality

The aforementioned list highlights the essential elements that guarantee high-quality education in Nigeria's post-secondary institutions through the enhancement of educational infrastructure. Improving educational infrastructure at universities in Enugu State, Nigeria, aims to produce excellent teaching and build a workforce for the future of Nigerian education. The current state of educational facilities in Nigeria poses a threat to the country's education system, potentially leading to a collapse due to the insufficient supply of higher education. Additionally, it has been noted that not much research has been done on high-quality instruction in this region of the world. This is the context in which this investigation is conducted.

The aim of this research is to identify the presence and utilization of the following physical amenities: athletic facilities, instructional facilities, infrastructural facilities, and laboratory facilities. The educational facility is another type of physical infrastructure.

Anyadiegwu (2018) defines educational facilities as a variety of educational resources that teachers and students may use to enhance understanding of concepts, skills, and competencies during the teaching and learning process. Another aspect of physical infrastructure is educational facilities. Throughout the teaching and learning process, instructors and students may enhance their understanding of ideas, skills, and competencies by utilizing a variety of educational materials. These materials are referred to as instructional facilities by

Anyadiiegwu (2018). The researcher is concerned since a sizable percentage of Enugu State's university students do poorly on both internal and external exams.

In contrast, lecturers attribute the lack of necessary physical resources provided by the government as a hindrance to fulfilling their responsibilities as educators. Conversely, the government places blame on lecturers for their perceived lack of commitment to their profession. As a result, it remains essential for the researcher to investigate how access to physical infrastructure, educational resources, and electronic tools can be improved. This is imperative in order to ensure the delivery of high-quality university education in Enugu State.

This study is important for all stakeholders, including the government, educational planners and administrators, policymakers, education authorities like the Unified Tertiary Matriculation Examination (UTMB), National University Commission (NUC), and Vice Chancellors of Universities. The issue of inadequate and overstretched state educational facilities poses a challenge to achieving quality teaching in education. This is due to the growing demand for education from students transitioning from secondary schools, which requires adequate and high-quality facilities.

### **Purpose of the study**

The main purpose of the study was to ascertain the accessibility and use of physical. educational resources for high-quality university education delivery in Enugu State. In particular, the study ascertained the following:

1. extent of accessibility and utilization of ieducational facilities for quality delivery of university education in Enugu State
2. extent of accessibility and utilization of infrastructural facilities for quality delivery of university education in Enugu State.

### **Hypothesis**

Tests were run using the following null hypotheses at the.05 level of significance.

**HO<sub>2</sub>:** There is no significant difference between the mean rating of lecturers and technologist on the extent to which educational facilities are available and utilized for quality delivery of university education in Enugu State.

**HO<sub>3</sub>:** There is no significant difference between the mean rating of lecturers and technologist on the extent to which infrastructural facilities are available and utilized for quality delivery of secondary education in Enugu State.

## **II. Methodology**

### **Research Design**

Survey research design was adopted for the study conducted in institutions of higher learning in Enugu State. The following include some of the institutions of higher learning in Enugu State: Enugu State University of Science and Technology (ESUT) Agbani; University of Nigeria Nsukka (UNN); Institute of Management and Technology (IMT); Enugu State College of Education (Technical), (ESCET); Enugu State College of Agriculture, Iwolo; Federal Cooperative College, Oji River; Enugu State School of Health Technology, Inyi; Federal School of Dental Technology, Enugu and Federal School of Social Works, Emene, Enugu. 100 male and female lecturers were randomly drawn from each of ESUT, UNN, IMT and ESCET. These are government owned institutions of higher learning, and were chosen to represent higher education in Enugu State because of their size and high level manpower they produce for all sectors of the national economy. The instrument used in data collection was a researcher developed questionnaire; The "Accessibility of Educational Facilities/Lab Resources in achieving High Quality University/Tertiary Education Questionnaire (AEFAHQEQ). The instrument was designed based on the 4 points likert type scale of; Very Great Extent (VGE), 4 points; Great Extent (GE), 3 points; Little Extent (LE), 2points; and Very Little Extent (VLE), 1 point.

### **Validation of the Instrument**

The instrument was verified by three experts: two from the Educational Foundations (Management) department at ESUT and one from the Measurement and Evaluation section.

### **Reliability of the Instrument**

At Ebonyi State University (EBSU) and Ebonyi State College of Education (ESCE) Ikwo, a trial test was administered. Forty academic staff members participated in the trial; twenty came from EBSU and twenty from ESCE. To evaluate the instrument's dependability, the Cronbach Alpha coefficient was computed. The alpha value of 0.71 that was achieved suggests a good degree of instrument dependability.

### **Method of data Collection**

Three research assistants assisted the researcher in gathering study data. The three research assistants handled the three other institutions—UNN, IMT, and ESCET—while the researcher attended to ESUT. They attended a consultation meeting where the researcher briefed them on the procedures for gathering data.

### Method of Data Analysis

To answer the study questions, mean and grand mean ratings were used to analyze the gathered data. A t-test statistic with a significance threshold of 0.05 was used to assess the hypotheses. With respect to the study questions, a score of 2.50 or more was deemed to be of great extent, whilst a score of less than 2.50 was deemed to be of small extent. If the computed t-value at a significance level of 0.05 was greater than the crucial value of 1.96, the hypothesis would be rejected. On the other hand, the hypothesis would not be rejected if the computed t-value was smaller than the crucial value of 1.96 at a significance level of 0.05.

## III. Result

**Research Question 1:** To what extent are instructional facilities available and utilized for quality delivery of secondary education in Enugu State?

**Table 1: Mean scores and standard deviation of lecturers and technologist on the extent to which instructional facilities are available and utilized for quality delivery of university/tertiary education in Enugu State**

S/N	ITEMS	Technologist 286		Lecturers 802		Overall 1088		
		$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	Dec
1	audio-visuals.	2.41	.83	2.38	.80	2.40	.82	LE
2	school radio.	2.08	.80	2.00	.80	2.04	.80	LE
3	computers.	2.27	.83	2.21	.82	2.24	.83	LE
4	photocopying machine.	2.16	.84	2.18	.81	2.17	.83	LE
5	chalkboards.	2.58	.82	2.52	.84	2.55	.83	GE
6	teacher made notes.	2.67	.85	2.63	.83	2.65	.84	GE
7	pictures.	2.54	.83	2.54	.83	2.54	.83	GE
8	textbooks.	2.58	.85	2.57	.85	2.58	.85	GE
9	crafts.	2.50	.83	2.49	.82	2.50	.83	GE
10	film projectors.	1.47	.82	1.43	.83	1.45	.83	VLE
11	technical equipment.	2.54	.82	2.53	.84	2.54	.83	GE
12	specimens.	2.51	.83	2.50	.81	2.51	.82	GE
13	interactive board.	1.49	.89	1.48	.89	1.49	.89	VLE
	Cluster Mean/SD	<b>2.29</b>	<b>.83</b>	<b>2.27</b>	<b>.83</b>	<b>2.28</b>	<b>.83</b>	<b>LE</b>

The data analysis in Table 1 above displays the mean evaluations of technologist and lecturers about the accessibility and use of educational facilities for university delivery that is of high-quality. The mean for technologist and lecturers in the preceding table varied from 1.47 to 2.67 and 1.43 to 2.63, respectively. Technologist and lecturers had cluster means of 2.29 and 2.27, respectively, with standard deviations of .83 and .83. Their cluster mean was 2.28, standard deviation was .83, and overall mean varied from 1.45 to 2.65. The study's conclusion shows that excellent university education is only partially provided by accessible and underutilized instructional resources in Enugu State.

**Research Question 2:** To what extent are infrastructural facilities available and utilized for quality delivery of secondary education in Enugu State?

S/N	ITEMS	Technologist 86		Lecturers 802		Overall 1088		
		$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	Dec
14	teachers' offices.	2.53	.88	2.51	.82	2.52	.85	GE
15	principal's offices.	2.54	.83	2.56	.84	2.55	.84	GE
16	teachers' desks.	2.57	.85	2.51	.82	2.54	.84	GE
17	fans.	2.46	.82	2.47	.84	2.47	.83	LE
18	staff rooms.	2.58	.83	2.51	.82	2.55	.83	GE
19	assembly halls.	2.37	.89	2.35	.86	2.36	.88	LE

20	toilet facilities.	2.24	.85	2.23	.84	2.24	.85	LE
21	libraries.	2.48	.83	2.47	.81	2.48	.82	LE
22	classrooms.	2.60	.82	2.58	.84	2.59	.83	GE
23	teachers' tables.	2.47	.83	2.43	.85	2.45	.84	LE
24	workshops.	2.34	.85	2.36	.83	2.35	.84	LE
25	consumables.	2.37	.86	2.33	.80	2.35	.83	LE
26	storage space.	2.48	.85	2.48	.84	2.48	.85	LE
27	school hostels.	1.21	.80	1.14	.82	1.18	.81	VL E
28	ICT rooms.	1.49	.82	1.54	.80	1.52	.81	LE
	Cluster Mean/SD	2.32	.84	2.30	.83	2.31	.84	LE

The mean evaluations of technologist and lecturers about the accessibility and utilization of infrastructure for high-quality university delivery are displayed in Table 2 above. The mean for technologist and lecturers in the preceding table varied from 1.21 to 2.60 and 1.14 to 2.58, respectively. Principals and instructors had cluster means of 2.32 and 2.30, respectively, with standard deviations of .84 and .83. Their cluster mean was 2.31, standard deviation was .84, and overall mean varied from 1.18 to 2.59. The study's conclusion shows that Enugu State has limited access to and use of its infrastructure for the provision of high-quality university/tertiary education.

**HO<sub>1</sub>:** There is no significant difference between the mean ratings of technologist and lecturers on the extent to which instructional facilities are available and utilized for quality delivery of university/tertiary education in Enugu State.

**Table 3: Summary of t-test analysis of the mean ratings of principals and teachers on the extent to which instructional facilities are available and utilized for quality delivery of secondary education in Enugu State**

Group	n	$\bar{x}$	SD	df	p-value	Decision
Technologist	286	2.29	.83	1086	.063	H <sub>02</sub> not rejected
Lecturers	802	2.27	.83			

Data in Table 3 for technologist and lecturers on the extent to which instructional facilities are available and utilized for quality delivery of university education in Enugu State show that at 1086 degree of freedom, the p-value was .063. The outcome of the p-value is greater than 0.05 level of significance set for this study. This implies that the null hypothesis was not rejected and, therefore, there was no significant difference between the mean ratings of technologist and lecturers on the extent to which instructional facilities are available and utilized for quality delivery of secondary education in Enugu State.

**HO<sub>2</sub>:** There is no significant difference between the mean ratings of technologist and lecturers on the extent to which infrastructural facilities are available and utilized for quality delivery of university/tertiary education in Enugu State.

**Table 4: Summary of t-test analysis of the mean ratings of principals and teachers on the extent to which infrastructural facilities are available and utilized for quality delivery of secondary education in Enugu State**

Group	n	$\bar{x}$	SD	df	p-value	Decision
Technologist	286	2.32	.84	1086	.109	H <sub>03</sub> not rejected
Lecturers	802	2.30	.83			

Data in Table 4 for technologist and lecturers on the extent to which infrastructural facilities are available and utilized for quality delivery of university education in Enugu State show that at 1086 degree of freedom, the p-value was .109. The outcome of the p-value is greater than 0.05 level of significance set for this study. This reveals that the null hypothesis was not rejected and, therefore, there was no significant difference between the mean ratings of technologist and lecturers on the extent to which infrastructural facilities are available and utilized for quality delivery of university/tertiary education in Enugu State.

#### IV. Discussion Of Findings

As to the study, Enugu State's laboratory, instructional, infrastructural, and sports resources are not significantly utilized for providing high-quality university education. There is no discernible difference between

the means of technology experts' and lecturers' assessments about the accessibility of these resources. Furthermore, there is no statistically significant variation in the average evaluations of the usage of educational facilities made by technologists and lecturers. The accessibility and utilization of these facilities generally don't differ all that much. The expansion and advancement of an organization mostly depend on the accessibility and efficient administration of essential resources, both direct and indirect. The study discovered limited availability and usage of direct and indirect learning resources in Enugu State's higher institutions. This is a troubling issue. As they emphasize the value of learning materials, Najjar (2006) and Ogunmilade (2004) claim that multimedia institutions improve learning through:

- Multimedia instruction offers a number of advantages. It leads to a more fulfilling and intellectually stimulating learning environment and increases students' drive to study.
- It draws learners of all ability levels and offers them a novel and diversified learning environment.
- Multimedia gives pupils the required reinforcement, broadens their experiences, and promotes active engagement.
- It offers a variety of teaching techniques that can accommodate unique learning preferences and styles that might not be well served by a single medium or conventional teaching methods (Ogunmilade, 2004). Thus, it is evident that educational resources are essential to reaching the objectives of education at all levels.

According to Chukwu (2008), adequate structures, well-stocked libraries, and labs are among the learning resources, as are well-spaced classrooms. According to him, these kinds of materials are very helpful in boosting learner and instructor motivation, which improves learning results. According to Chukwu (2010), the current nine-year basic education program in Nigeria, including Enugu State, lacks fundamental learning materials. This issue is consistent across all levels of education encompassing higher education. Naturally, this is bad news for the advancement of civilization, as the most powerful tool for constructive social change is a well-educated populace.

## **V. Conclusion**

Ensuring a high-quality education holds the promise of liberating individuals from the confines of poverty, illness, and a lack of knowledge. By offering excellent education through various learning resources, both directly and indirectly, Enugu State and Nigeria as a whole stand to benefit. Therefore, it is imperative to provide these resources to our universities in order for them to maintain their relevance in the competitive landscape of the 21st century and produce skilled professionals who can contribute to the progress and well-being of our society.

## **VI. Recommendations**

- ❖ Enugu State's higher schools require enough learning resources, both direct and indirect, to provide excellent education for students and improve teacher performance.
- ❖ To guarantee that the learning resources are always available, these institutions should implement efficient maintenance and administration practices.
- ❖ Plan frequent conferences, workshops, and seminars for teachers and lecturers in these institutions to improve their resource management skills.