

**IMPACT OF VOCATIONAL FACILITIES IN THE TEACHING AND LEARNING  
OF VOCATIONAL AND TECHNICAL SUBJECTS IN VOCATIONAL  
INSTITUTIONS IN BAYELSA STATE, NIGERIA**

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**Citation: Poripo, J.** (2024). Impact of Vocational facilities in the teaching and learning of vocational and technical subjects in vocational institutions in Bayelsa State, Nigeria. *International Journal of Tourism and Technology (IJTT)*, 2(1), 1-9

**Abstract**

This study examined the impact of instructional facility adequacy in vocational and technical education (VTE) within vocational institutions in Bayelsa State. A descriptive survey research design was adopted, with a population comprising 75 lecturers and 40 instructors, totaling 115 respondents. Two research questions were addressed, and two null hypotheses were tested at a 0.05 significance level. Mean analysis was used to answer the research questions, while a t-test statistic was applied to test the hypotheses. Data collection was conducted using a structured questionnaire containing 39 items. The study focused on vocational and technical education programs in colleges of education in the South-South region of Nigeria. Findings revealed that these institutions lack essential instructional facilities, including hand tools, portable power tools, relevant textbooks, and machines. Additionally, effective teaching methods and techniques—such as project-based learning, discussions, feedback mechanisms, and student reinforcement—should be emphasized to enhance learning outcomes. Based on these findings, the study recommends incorporating various instructional strategies and addressing management and social factors to improve the effectiveness of VTE teaching and learning.

**Keywords;** *Instructional facilities, vocational and technical education (VTE), instructional facility*

**Introduction**

The impact of technological advancement and the subsequent emphasis on vocational and technical education in Nigeria led to the establishment of the National Board for Technical Education (NBTE), vocational institutions, Federal Colleges of Education (Technical), and Technical Education Departments in Nigerian tertiary institutions. These institutions are under the control of the NBTE and the National Commission for Colleges of Education (NCCE). The aims and objectives of the NCCE and vocational and technical education in the Nigeria Certificate of Education (NCE) program are geared toward producing qualified vocational and technical teachers, as well as practitioners capable of teaching technical subjects in secondary schools and technical colleges, while inculcating scientific and technological attitudes in the lives of citizens (Poripo, 2023).

The quality of education and vocational training provided to youths depends greatly on the ability of institutions to adjust their educational content to the changing skill requirements of the nation. Institutional training should aim to equip students with useful skills and improve their knowledge and capabilities in their chosen fields (Umunadi, 2001). Vocational and technical education is one of the courses taught in colleges of education (Technical) and

Technical Education Departments in some colleges of education. These institutions provide training for skilled workers and technical teachers to have general knowledge of vocational and technical occupation areas while specializing in one area. The vocational and technical areas available in these colleges of education include Agricultural Science Education, Business Education, Computer Science Education, Home Economics Education, and Industrial Technical Education (Okoro, 2004).

Vocational and Technical Education (VTE) aims to provide individuals with skills that enable them to function effectively, contribute meaningfully to societal growth, and become self-reliant (Poripo, 2011). The realization of the aims and objectives of vocational and technical education programs and their ability to improve student achievement depend on various factors. These include the availability of facilities (equipment, tools, and machines), an adequate supply of technical teachers, and the proper implementation of instructional facilities (Umunadi, 2004). Uwaifo (2009) described instructional facilities in vocational and technical education as essential concrete features that enable instructors to teach effectively in VTE workshops and classrooms. According to Okoro (2004), Larson (2007), and Oranu (1994), instructional facilities used in vocational and technical education include buildings, machines, workbenches, equipment, tools, and materials. These facilities form major resources that teachers and instructors manipulate to facilitate learning. This implies that instructional facilities encompass any items that teachers use as aids to teach lessons effectively (Poripo, 2012).

Instructional facilities play a crucial role in the implementation of vocational and technical education, the attainment of VTE goals, and the overall effectiveness of VTE programs in vocational institutions in Bayelsa State. The effective implementation of the NCE (Technical) curriculum to achieve planned objectives depends on the technical teacher's ability to manipulate, operate, and use equipment, tools, and machines to help learners grasp the curriculum's content (Ogwo & Oranu, 2005). For effective implementation, assessment is a necessity. Assessment systematically evaluates or estimates the nature, value, worth, or quality of instructional facilities. It serves as an objective means of monitoring progress and provides insights into the strengths and weaknesses of a program (Poripo, 2012).

To maintain vocational and technical education, vocational institutions must be adequately equipped with appropriate vocational and instructional facilities to enhance effective teaching. This will ensure the production of qualified vocational and technical skilled workers, teachers, instructors, and technologists. Ebong and Adiele (2005) observed that Nigeria's economy lacks a trained labor force with requisite industrial skills for economic growth and self-reliance. This is evident in the increasing number of unemployed individuals who possess academic certificates but lack practical skills.

Scholars agree that vocational and technical education is a viable solution to the shortage of skilled workers and a remedy for unemployment problems. If vocational institutions are to produce qualified skilled workers and instill scientific and technological attitudes in society, then a proper assessment of infrastructural and training facilities used for VTE in vocational institutions in Bayelsa State should be conducted (Poripo, 2023). This assessment will determine the worth and value of these facilities and guide decisions on necessary improvements. Okoro (2000) observed that the state of VTE in Nigeria has been hampered by

inadequate assessment, making it necessary to evaluate the impact of instructional facilities in vocational institutions in Bayelsa State.

### **Purpose of the Study**

The purpose of this study is to find the impact of vocational facilities used for vocational and technical education vocational institutions in Bayelsa State. Specifically, the study sought to determine:

1. The adequacy of vocational facilities used for VTE in vocational institutions in Bayelsa State
2. The appropriate of instructional methods and techniques used for VTE in vocational institutions in Bayelsa State

### **Significance of the Study**

The findings of this study will be highly beneficial to the National Board for Technical Education (NBTE), the National Commission for Colleges of Education (NCCE), faculty deans, department heads, lecturers, instructors, and students of vocational and technical education. The study will identify the adequacy of instructional facilities, recommend appropriate instructional methods, and highlight management and social factors that can enhance the teaching and learning of VTE in colleges of education in South-South Nigeria.

The accreditation panel of the NCCE can utilize the study's findings to determine areas where improvements are needed in colleges of education. Faculty deans and department heads may also apply the results to suggest enhancements in instructional facilities and teaching techniques for VTE programs.

Furthermore, vocational and technical education lecturers and instructors will benefit from the study's findings and recommendations, as they will be equipped with effective instructional techniques that can improve their teaching efficiency and instructional effectiveness.

### **Research Questions:**

The following research questions guided the study.

1. How adequate are the instructional facilities use for VTE in colleges of education in south- south, Nigeria, for productivity?
2. How effective are the instructional techniques/methods used for teaching and learning of VTE in colleges of education in south-south, Nigeria.

### **Hypothesis**

The following null hypothesis were formulated and tested at 0.05 level of significance.

H01: There is no significant different in the mean responses of lecturers and instructors on adequacy of instructional facilities used for VTE in vocational institutions in Bayelsa State.

### **Methodology**

This study employed a descriptive survey research design. A structured questionnaire was used as the primary instrument for data collection. The study was conducted in South-South Nigeria, covering Isaac Jasper Boro College of Education, Sagbama, Bayelsa State, and the Federal College of Education (Technical), Omoku, Rivers State. The study population comprised 115 respondents, including 75 lecturers and 40 instructors. No sampling was conducted, as the entire population was studied. Data were analyzed using the mean score method, where items with a mean score of 3.50 and above were considered adequate, effective, and accepted, while those below 3.50 were regarded as inadequate, ineffective, and

not accepted. The null hypotheses were tested using the T-test statistic at a 0.05 level of significance.

**Results**

The results for the study were obtained from the research questions and hypothesis answered through data collected and analyzed.

**Research Questions 1**

How adequate are the instructional facilities used for VTE in vocational institutions in Bayelsa State?

***Table 1:** Mean and Standard deviation of responses of lecturers and instructors on the adequacy of instructional facilities used for teaching and learning of VTE in vocational institutions in Bayelsa State. N – 115*

S/No	Facilities required for teaching and learning of VTE	Mean	SD	Remark
1.	Availability of workshop space for workshop practice	3.59	0.67	Adequate
2.	Provision of consumable materials for teaching	2.46	0.68	Inadequate
3.	Availability of electronic learning materials for teaching	2.28	0.79	Inadequate
4.	Provision of hostel facilities	2.44	0.56	Inadequate
5.	Provision of transport facility	2.27	0.94	Inadequate
6.	Availability of portable power tools	3.50	0.57	Adequate
7.	Availability of consumable materials for use in making students projects	2.37	0.61	Inadequate
8.	Availability of relevant drawing materials	2.23	0.91	Inadequate
9.	Provision of electricity in workshops	4.34	0.69	Adequate
10.	Provision of standby generating set	2.11	0.12	Inadequate
11.	Availability of utilization of machines	3.50	0.76	Adequate
12.	Availability of library and resource materials	1.92	0.76	Inadequate
13.	Availability of staff quarters	3.69	0.46	Adequate
14.	Student’s ratio of work stations in workshops.	3.70	0.66	Adequate
15.	Provision of internet service	2.27	0.61	Inadequate
16.	Provision of functional health clinic/hospital	2,37	0.61	Inadequate

An analysis of the data presented in Table 1 indicates that lecturers and instructors generally perceive instructional facilities for vocational and technical education as inadequate. Out of the 16 facilities assessed, only six were found to be sufficient, while the remaining ten were deemed insufficient. Key deficiencies include the unavailability of relevant materials, consumable supplies, library resources, electronic learning tools, standby generators, portable power machines, drawing materials, and internet services. This suggests that essential instructional resources, such as machines, tools, and equipment, are insufficient to effectively support vocational and technical education in institutions within Bayelsa State. Therefore, there is an urgent need to provide the necessary instructional facilities to enhance the teaching and learning experience in VTE programs.

**Research Questions 2**

How effective are the instructional techniques and methods that are used for the teaching and learning of VTE in vocational institutions in Bayelsa State?

**Table 2:** Mean and standard deviation of responses on instructional techniques that are used for teaching and learning of VTE in vocational institutions in Bayelsa State.

**N = 115**

<b>S/No</b>	<b>Effectiveness of Instructional Techniques</b>	<b>Mean</b>	<b>SD</b>	<b>Remark</b>
17.	The discussion method is used encourage student’s participation in VTE.	3.71	0.82	Effective
18.	Excursion technique enable students to visit industries where practical take place.	3.89	0.77	Effective
19.	Good projects by VTE students are kept and use as instructional model	3.67	0.70	Effective
20.	Seminars, workshop and current talk are used to exposed students to modern world of work.	3.68	0.46	Effective
21.	Feedback and adequate reinforcement were given to motivate students	3.71	0.45	Effective
22.	Team teaching encourages students to learn as they serve as mentor, supervisor and coaches.	3.77	0.61	Effective
23.	Discovery method is used to develop problem solving skills.	3.89	0.77	Effective
24.	Utilize task instruction sheets as a mode of instruction.	3.89	0.31	Effective
25.	Project method is used to stimulate, hold interest and motivate students toward learning VTE.	3.69	0.46	Effective
26.	Computer aided instruction is used in transmitting information	3.80	0.61	Effective
27.	Simulation method is used to encourage students to have a feel for and manipulate equipment and machine	3.58	0.61	Effective
28.	Emphasizing both process as well as product of learning method	3.65	0.68	Effective

The data presented in Table 2 highlights the perspectives of lecturers and instructors on the instructional techniques used in teaching and learning VTE in vocational institutions in Bayelsa State. The findings indicate that all 12 instructional techniques listed were considered effective. These include discussion/lecture methods, discovery learning, simulation, team teaching, project-based learning, and demonstration methods. This suggests that these instructional approaches significantly enhance the teaching and learning process in VTE programs across vocational institutions in Bayelsa State. Consequently, the consistent and appropriate application of these effective instructional techniques is essential for achieving the objectives of NBTE and vocational institutions in the state.

**Hypothesis**

**Ho<sub>1</sub>:** There is no significant difference in the mean score of lecturers and instructors on the adequacy of instructional facilities used for VTE in vocational institutions in Bayelsa State.

**Table 3:** *t*-test analysis of the mean responses of lecturers and instructor on the adequacy of instructional facilities used for VTE in vocational institutions in Bayelsa State.

N = 115

S/No	Adequacy of Instructional Facilities	Lecturers N <sub>1</sub>		Instructors N <sub>2</sub>		t-cal	Decisions 2-tailed
		$\bar{X}$	SD	$\bar{X}$	SD		
1.	Availability of workshop space for workshop practice	3.50	0.50	3.50	0.50	0.25	NS
2.	Provision of consumable materials for teaching and learning	3.96	0.83	3.89	0.79	0.06	NS
3.	Availability of electronic learning materials for teaching and learning	4.22	0.96	4.27	0.91	-0.35	NS
4.	Provision of hostel facilities	3.90	0.82	3.93	0.81	0.28	NS
5.	Provision of transport facilities	3.69	0.46	3.68	0.46	0.31	NS
6.	Availability of portable power tools	3.86	0.59	3.75	0.63	1.26	NS
7.	Availability of consumable materials for use in making students projects	3.81	0.86	3.89	0.84	0.65	NS
8.	Availability of relevant drawing materials	3.52	0.67	3.51	0.68	0.18	NS
9.	Provision of electricity in workshops.	3.58	0.49	3.59	0.49	0.63	NS
10.	Provision of standby generating set	3.51	0.50	3.50	0.50	0.03	NS
11.	Availability & utilization of machines	1.89	0.77	1.98	0.77	0.89	NS
12.	Availability of library & resource materials .	3.52	0.51	3.51	0.50	0.07	NS
13.	Availability of staff quarters	3.71	0.45	3.69	0.46	0.18	NS
14.	Students ratio of work station in the workshop	3.79	0.40	3.79	0.40	0.30	NS
15.	Provision of internet services	3.67	0.66	3.66	0.68	0.09	NS
16.	Provision of functional health clinic/hospital	3.59	0.66	3.57	0.68	0.16	NS

**Key Note:** N<sub>1</sub> = 75, N<sub>2</sub> = 40, Df = N<sub>1</sub> + N<sub>2</sub> - 2 = 113, t<sub>113</sub> (0.05) = 1.96, NS = Not significant.

The data in Table 3 presents the respondents' perspectives on the adequacy of instructional facilities used for VTE in vocational institutions in Bayelsa State. The findings indicate that respondents held similar views across all 16 items. Consequently, the null hypothesis is retained (accepted) since the calculated t-values were all lower than the critical t-value (1.96) at a 0.05 level of significance and 113 degrees of freedom. This suggests that there is no significant difference between the mean responses of lecturers and instructors regarding the adequacy of instructional facilities in vocational institutions in Bayelsa State, Nigeria.

### **Discussion of Findings**

The findings revealed that most of the instructional facilities necessary for effective teaching and learning of VTE are insufficient. Data from Table 1 highlighted the inadequacy of essential resources such as consumable materials, electronic learning materials, library facilities, portable power machines, standby generators, internet services, drawing materials, and other instructional tools.

This suggests that vocational and technical training institutions in South-South Nigeria lack adequate instructional facilities. These findings align with Olabiyi (2005), who noted that students' poor attitude toward learning vocational and technical education stems from insufficient training resources, leading to poor academic performance. Similarly, Olaitam et al. (1999) emphasized that due to a lack of adequate training materials and equipment, vocational and technical instructors often focus on theoretical instruction rather than practical skill development, limiting students' ability to acquire necessary competencies. Additionally, Poripo (2012) supported this assertion, highlighting that the unavailability and inadequacy of instructional resources in VTE programs at tertiary institutions in South-South Nigeria have contributed to the rising number of unemployed graduates who possess academic credentials but lack relevant job skills.

The data in Table 2 indicated that various instructional strategies, including feedback and reinforcement to motivate students, seminars, workshops, discussions, simulations, demonstrations, and project-based learning, are effective in teaching VTE in vocational institutions in Bayelsa State. This finding aligns with Oranu (2006), who emphasized that effective instructional techniques involve employing diverse teaching styles to facilitate learning and enhance instructional delivery.

Regarding the t-test analysis of the adequacy of instructional facilities for VTE, as shown in Table 3, the findings indicated no significant difference between the mean responses of lecturers and instructors. This confirms a widespread shortage of essential instructional resources in colleges of education, as both categories of respondents acknowledged the inadequacy. This finding is consistent with Aina (1999), who observed that some colleges not only lack functional workshops but, where workshops exist, they are often poorly equipped with insufficient tools and machinery for effective instruction.

### **Conclusion**

The goal of producing competent graduates from vocational and technical colleges can be achieved when workshop facilities are relevant and sufficient to meet curriculum demands, coupled with the effective use of instructional techniques for program delivery. This study has demonstrated that the facilities available for teaching VTE are inadequate, while identifying key management and social factors that can enhance VTE instruction. Therefore, the immediate implementation of these factors is essential to achieving the goals of VTE in vocational institutions as outlined by the NBTE and NCCE.

### **Recommendations**

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

1. The government should ensure the provision of adequate vocational and instructional facilities for vocational and technical institutions.

2. Industries should be engaged as partners in progress to assist in providing necessary facilities.
3. The National Board for Technical Education should enforce the minimum standard requirements for facilities before accrediting any vocational institution to offer vocational and technical education programs.
4. Lecturers of VTE should identify and implement instructional strategies suitable for delivering VTE programs, ensuring proper internalization of knowledge, values, and skills through a structured breakdown of educational objectives across cognitive, affective, and psychomotor domains.

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