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FACILITIES AVAILABILITY TO SUPPORT TEACHING AND LEARNING PROCESS AND PUBLIC REACTIONS TOWARD TECHNICAL EDUCATION

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ABSTRACT

This study adopted a descriptive survey research design. The population for this study comprised members of the top management team, all teachers, non-teaching staff, and students (hereby referred to as stakeholders) in the 12 technical schools across the three federal constituencies in Osun State. We used a multi-stage sampling procedure to group the schools in the three senatorial districts of Osun State. For the study, we purposefully selected one local government area (LGA) with a technical college from each state senatorial district. We selected one technical college in each LGA for the study using a simple random sampling technique. We used the total enumeration sampling technique in each school to select all the top management teams, resulting in a total of 15 teams, each consisting of five members. We also used the convenience sampling technique to select 150 stakeholders from technical schools, with each senatorial district hosting 50 participants. The study employed two self-designed research instruments, the Facilities Availability Questionnaire (FA-Q) and the Stakeholders' Perception Questionnaire (SP-Q). We used the mean and standard deviation of descriptive statistics for data analysis. Findings from the study revealed that there were facilities available to support teaching and learning processes in technical schools in Osun State; however, facilities such as internet access and functioning air conditioning were not available. The study concluded that the availability of facilities to support the teaching and learning process is essential for the effective delivery of technical education in Osun State.

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1. INTRODUCTION

Technical and vocational education has a lengthy history dating back to ancient times. One could link this to the period of the Industrial Revolution (1750–1830). In those days, the apprenticeship program and homes were the primary places to receive vocational education. Societies gradually modified this system in response to the loss of manual labor and the specialization of occupational activities to create vocational

education institutions (Tūtlys & Spöttl, 2022). It is believed that manual training, which includes basic instruction in the use of hand tools, originated in Scandinavia around 1866. In 1880, vocational and technical education gained widespread acceptance at the elementary school level in the United States of America. It subsequently evolved into courses of study for industrial training, bookkeeping, stenography, and skilled commercial work in both public and private educational institutions.

According to Amoor (2009), the Dutch educational system prioritizes "high requirements for math, broad vocational education for students 16 and older, and vocational education for one-third of all students between the ages of 14 and 16". The United States of America is not the only society that values skills obtained through vocational and technical education. In many other developing countries, secondary education (high school) includes vocational centres that provide both general academic courses and lifetime trade training. For example, without significant investments in technical education, India and the "Asian Tiger" would not have become what they are today. However, many technical and vocational institutions have moved their focus to computer and information technology training due to recent developments in the global economy (Amoor, 2009). In many societies, technical and vocational education has flourished, but in Nigeria, this area of education has received little attention. When it came to technology education in Nigeria, school dropout rates and other social and political developments within the country, as well as individual growth, were considered more important than national or economic development. There is a connection between technology education and human resource development, and this influence extends beyond economic progress to encompass the broader growth of individuals and civilizations (Piwowar-Sulej, 2021; Zhang & Chen, 2024). According to Nelson (2013), technical and vocational education can boost any nation's economy by empowering individuals technically in different fields of study.

Relevant Prior Contributions

Ozoemena (2013) opined that education involves experiences that start with career exploration, foster fundamental life and academic skills, and enable attaining high academic standards, leadership, industry preparation, and continuing education programs. Globally, people view technical education as a crucial tool for enhancing human resources, and Nigeria is not an exception. However, Nigeria appears to be neglecting technical and vocational education.

We can conceptualize technical education as the acquisition of knowledge and skills that equip individuals to meet the demands of a knowledge-based economy, particularly in fields such as craft, trade, engineering, accounting, nursing, medicine, architecture, pharmacy, or law, whether they are technical or professional, and other professions that necessitate technical expertise. On the other hand, craft professions are typically non-academic and focused on manual or practical labour associated with a particular trade, occupation, or vocation. In most cases, technical education could be considered vocational education that required trainees to directly build proficiency in a certain set of methods (López et al., 2023).

Technical education is the preparation of individuals with a technical concentration who are in charge of initiating, facilitating, and implementing a country's technological progress (Haviland & Robbins, 2021). Self-reliance and sustainability would eventually result from this instruction from its inhabitants on the necessity of becoming technologically educated (Uwaifo, 2012). In addition, he noted that of all professions, technical education has the most direct impact on the country's growth. The founding of institutions known as technical colleges aimed to educate technical laborers, encompassing those with medium, high, and low skill levels. Both pre-vocational and vocational programmes currently accept students. Technical colleges accept junior secondary school dropouts (Universal Basic Education, Graduates, or UBE) into vocational level one programs by the national education strategy. In Nigeria, technical colleges serve as the primary educational institutions, providing a variety of technical skills to pre-vocational, vocational, and semiskilled laborers.

The primary goal of technical education is to equip its graduates with the skills necessary to find employment in any recognised field (Pambudi & Harjanto, 2020). The area of education known as technical education produces both practical and applied skills and a foundational understanding of science. This suggests that the purpose of technical education is to educate people for productive employment without regard to their sexual orientation. The primary goal of technical institutions is to equip students with employable skills, regardless of gender or socioeconomic background (Alam, 2021). Vocational and technical education aids in decreasing the number of people relying on government employment and mitigating unemployment. Youths and adults can become self-sufficient in a variety of fields, including agriculture, computer engineering, plumbing, electrical, vulcanizing, and cloth weaving, by receiving vocational or technical training (Khatete & Chepkoech, 2018). This promotes the flow of money throughout the economy. The main objective of vocational and technical education is to allow individuals to improve their general proficiency, especially in their present or potential field of employment.

According to Akpotohwo & Ehimen (2014), the Federal Government has directed the National Board for Technical Education (NBTE) to develop guidelines for technical colleges and supervise the operation of technical education to achieve the ambitious goals of technical education. This makes the NBTE responsible for supervision, coordination, and oversight of technical education. According to Ojimba (2013), the National Board for Technical Education (NBTE), the entity in charge, should spearhead efforts to enhance funding and infrastructure for vocational education, while also enhancing public perception of the sector. This suggests that the National Board for Technical Education (NBTE) should play a major role in implementing appropriate and necessary policies to guide the attainment of goals in technical education. roles of NBTE. NBTE plays an important role in school leavers' skill acquisition. In the meantime, the establishment of technical colleges and vocational training aimed to promote both occupational development and skill acquisition (Puyate, 2011). Undoubtedly, vocational-technical education has had a significant influence on Nigerian society, particularly on the graduates of the training programs who are equitably

contributing to the country's economic growth through a variety of industrial facilities (Kennedy, 2011).

Regretfully, Nigeria continues to fail to prioritize technical and vocational education, despite the obvious benefits these fields have brought to our country. This is a primary cause of the increased rates of unemployment, poverty, and unchecked criminal activity in today's society. According to Ayonmike (2014), we still largely disregard technical and vocational education when it comes to proper funding, staffing, modern facilities, and employee motivation. According to Momoh (2012), technical education in Nigeria has suffered from a lack of government support and inadequate finance.

According to Achieng (2012), the availability of resources facilitates the development of skills. Textbooks are among these resources, as are actual vocational training programs and modern equipment that allows students to receive hands-on instruction. Achieng (2012) asserts that a lack or inadequate supply of instructional resources hinders the efficiency of non-formal training. Therefore, providing equipment for practicing vocational skills is crucial, as it enhances both the trainers' ability to teach the skills and the learners' ability to learn them. Additionally, Achieng (2012) asserted that professional development is necessary for teachers to be effective. In his absence, his ability to explain the subject's concepts and guide students ideas will suffer. Therefore, vocational teachers must receive the necessary training to ensure that pupils comprehend the lessons they are teaching. A significant barrier to putting strategies for vocational training into practice effectively and in curricula. The unfavorable attitude that many Nigerians have towards vocational training (Azubuike, 2011). Another obstacle to vocational education's ability to promote sustainable development in Nigeria is the general public's negative perception of and indifference to it.

Technical education in Nigeria provides some facilities and resources to support the teaching and learning process. These include classrooms, laboratories, workshops, libraries, and information technology facilities. The school equipped the classrooms with furniture, whiteboards, and various learning materials. The school equipped the laboratories and workshops with tools, equipment, and materials pertinent to the vocational subjects it offered.

The libraries have a collection of books, journals, and other reference materials related to the school’s curriculum. The information technology facilities include computers, printers, and internet access. The design of these facilities supports the teaching and learning process, providing students with the necessary resources for success. In addition to physical facilities, technical schools also provide several services to support teaching and learning. These include career counseling, guidance, and mentorship services. Career counseling helps students identify their interests, strengths, and career goals. Guidance services give learners the assistance and materials they require to make informed decisions about their education and career path. Mentorship programs pair students with experienced professionals who can provide advice and support. These services aim to optimize students' time at technical schools and equip

them for their future careers. Technical schools design their facilities and services to foster a learning environment.

In contrast to observations and experiences, only 40% of technical education schools in Nigeria have spaces designated for workshops or laboratories for technical education courses. Because the other 60% lack laboratory or workshop space, the technology programs offered in our technical schools are of poor quality. He also noted the severe lack of supplies and equipment for laboratories in the few schools that have them. The scenario has contributed to the difficulty of conducting experiments for students in an effective manner, according to the findings.

Ojimba (2012) also lamented the absence of labs and workshop space, much less functioning equipment, at the majority of technical institutions in Nigeria. They have pitiful facilities; the workshops are only equipped with machinery given to the departments at their founding, much of it obsolete or grounded. These researchers have claimed that the facilities available are not sufficient as expected for teaching and learning, which could reduce the ability to acquire the necessary skills.

Statement of the Problem

The availability of facilities to support teaching and learning processes in technical education institutions is critical for the effective delivery of education and training programs (Eze et al., 2018; Bhute et al., 2021). Globally, people perceive technical education as a tool that supports rapid industrialization and long-term innovative advancement. It also aids individuals in acquiring skills, particularly the applied and fundamental logical knowledge that the information-based economy demands. Despite the obvious benefits these fields have brought to the country, Nigeria continues to fail to prioritize technical and vocational education. As a result, the provision of facilities has not received adequate priority, and the public's careless reactions have not improved the situation. The lack of facilities is a primary cause of the increased rates of unemployment, poverty, and unchecked criminal activity in today's society. There is a lack of sufficient research on the current state of facilities in technical education institutions and the impact of their availability on the quality of education provided in Osun State. Furthermore, there is a lack of research on the public's perceptions and reactions to technical education and the facilities available to support it. Understanding the public's attitudes towards technical education and the facilities provided can help inform policy decisions and resource allocation to improve the quality of technical education programs.

This study aimed to investigate the availability of facilities that support the teaching and learning process, as well as the public's reactions to technical education in Osun State. The ultimate goal is to contribute to the enhancement of technical education programs and facilities, thereby better-supporting teaching and learning processes and meeting the needs and expectations of the public.

The objectives of this study included assessing the facilities available to support teaching and learning processes in technical schools in Osun State, examining strategies for acquiring adequate facilities in technical colleges in Osun State, planning the

provision of facilities for effective implementation of school-based technical and vocational education in Osun State, and assessing public reactions towards technical education in Osun State.

The following research questions were raised to guide the study;

1. What are the facilities available to support teaching and learning processes in technical schools in Osun State?
2. What are the strategies for acquiring adequate facilities in Technical Colleges in Osun State?
3. What are the ways for planning the provision of facilities for effective implementation of school-based technical and vocational education in Osun State?
4. What is the public reaction towards technical education in Osun State?

2. METHOD

The study adopted a descriptive survey research design. The population for this study comprised members of the top management team, all teachers, non-teaching staff, and students (hereby referred to as stakeholders) in the 12 technical schools across the three federal constituencies in Osun State. We used a multi-stage sampling procedure to group the schools in the three senatorial districts of Osun State. For the study, we purposefully selected one local government area (LGA) with a technical college from each state senatorial district.

We selected one technical college in each LGA for the study using a simple random sampling technique. We used the total enumeration sampling technique in each school to choose all top management members from the selected college, resulting in a total of 15 top management team members, with five members per school. We also used the convenience sampling technique to select 150 stakeholders from technical schools, with each senatorial district hosting 50 participants. The study employed two self-designed research instruments, the Facilities Availability Questionnaire (FA-Q) and the Stakeholders' Perception Questionnaire (SP-Q). We used the mean and standard deviation of descriptive statistics for data analysis.

3. RESULTS AND DISCUSSION

Results

Research Question 1: What are the facilities available to support teaching and learning processes in technical schools in Osun State?

Table 1. Responses on the availability of facilities to support teaching and learning processes in technical schools in Osun State

S/N	Facilities	N	Mean	SD	Decision	Rank
1	Regular electricity supply	15	2.87	.339	AA	1st
2	Pipe-borne water/bore-hole	15	2.87	.339	AA	1st
3	Fire Extinguishers	15	2.13	.339	AA	3rd
4	Laboratory rooms	15	2.13	.339	AA	3rd

S/N	Facilities	N	Mean	SD	Decision	Rank
5	Functioning workshops	15	1.97	.160	PA	5th
6	School library	15	1.95	.223	PA	6th
7	Laboratory tools	15	1.90	.307	PA	7th
8	Functioning laboratory engines	15	1.87	.339	PA	8th
9	Well-ventilated departmental classrooms/ lecture rooms	15	1.87	.339	PA	8th
10	Functioning computers in the computer laboratory	15	1.87	.339	PA	8th
11	Well-ventilated typing pool	15	1.13	.160	PA	11th
12	Well-equipped Offices	15	1.13	.339	PA	11th
13	Working typewriters in the typing pool	15	1.10	.000	PA	13th
14	Computer laboratory/ studio	15	1.10	.000	PA	13th
15	Internet access	15	1.00	.000	NA	15th
16	Functioning air-conditioned	15	1.00	.270	NA	15th

Table 1 presents the responses regarding the availability of facilities to support teaching and learning processes in Osun State's technical schools. Osun State technical schools had adequate facilities, including a regular electricity supply (2.87), pipe-borne water/borehole (2.87), fire extinguishers (2.13), and laboratory rooms (2.13). The table also indicated that Osun State Technical Colleges had partially available facilities, including ventilated departmental classrooms and lecture rooms (1.87), functioning computers in the computer laboratory (1.87), a ventilated typing pool (1.13), working typewriters in the typing pool (1.10), well-equipped offices (1.13), and a computer laboratory or studio (1.10). Other school facilities that were partially available were the school library (1.95), laboratory tools (1.90), functioning laboratory engines (1.87), and functioning workshops (1.97). In contrast, internet access (1.00) and functioning air conditioning (1.00) were not available in the schools. It, therefore, concluded that facilities available in technical schools in Osun were regular electricity supply, pipe-borne water/borehole, fire extinguishers, and laboratory rooms; ventilated departmental classrooms and lecture rooms; functioning computers in the computer laboratory; a ventilated typing pool; working typewriters in the typing pool; well-equipped offices; and a computer laboratory or studio.

Research Question 2: What are the strategies for acquiring adequate facilities in Technical Colleges in Osun State?

Table 2. The strategies toward acquiring adequate facilities in Technical Colleges in Osun State

S/N	Items	N	Mean	SD	Decision
1	Encouraging Private sector to initiate and participate in provision of facilities	15	2.11	.312	Disagree
2	Strengthening linkages between schools and private sector	15	2.13	.315	Disagree
3	Forming alliance between schools and interest groups	15	2.09	.310	Disagree

S/N	Items	N	Mean	SD	Decision
4	Soliciting support from NGOs and PTAs for assistance.	15	3.13	.334	Agree
5	Contacting community-based organizations (CBOs) for help.	15	2.87	.329	Agree
6	A certain percentage of TETFund should be used for procurement facilities.	15	3.13	.334	Agree
7	A certain percentage of money realized from value-added tax (VAT) should be utilized for provision of facilities.	15	2.87	.329	Agree
8	Improvisation should be embarked upon by the school authorities.	15	2.87	.329	Agree
9	Parents should be taxed annually, and money realized used to provide facilities.	15	2.87	.329	Agree
	Average Mean	15	2.66	.339	Agree

The analysis in Table 2 reveals that six items were agreed upon as relevant strategies towards acquiring adequate facilities in technical institutions, with a mean of items ranging from 2.87 to 3.13. However, items 1, 2, and 3 disagreed with a mean score of 2.09 to 2.13. The analysis revealed that 66.7% of the items suggested as strategies towards acquiring adequate facilities were seen by respondents as relevant, while 33.3% of the items were not part of the strategies at the time of the study.

Research Question 3: What are the ways for planning the provision of facilities for effective implementation of school-based technical and vocational education in Osun State?

Table 3. Mean and standard deviation of the responses on the extent of the ways for planning the provision of facilities for effective implementation of school-based technical and vocational education in Osun state

S/N	Items	N	Mean	SD	Decision
1	Government involves technical planners in planning for construction of school building	15	2.13	.315	Disagree
2	Furniture and fittings to be provided in collaboration with technical planners	15	2.87	.329	Agree
3	Government works with educational planners and administrators in planning for provision of workshops	15	3.13	.334	Agree
4	Workshops in the technical schools are equipped according to the approved plan	15	2.87	.329	Agree
	Average Mean	15	2.66	.339	Agree

In the table above, respondents agreed to the statements in items 2, 3, and 4 with mean scores of 2.87, 3.13, and 2.87, respectively, while item 1 with a mean score of 2.13 was disagreed with by the respondents, suggesting that the government did not involve technical planners in the construction of school buildings.

Research Question 4: What is the perception of people in the society towards technical education in Osun State?

To answer research question three, 17 items questionnaire was used to elicit responses from the participants on the reaction of people in the society towards technical education in Osun State. The cut-off value of 2.50 was used to interpret the mean scores; 4+3+2+1 = 10/4 = 2.50 was the result of summing these factors. In the study, "agree" was defined as any mean score exceeding 2.50, and "disagree" was defined as any mean score falling below 2.50. The result is presented below:

Table 4. Responses on perception of people in the society towards technical education in Osun State

S/N	Items	N	Mean	Std. Deviation	Decision
1	Technical education necessary and needed	15	3.73	.644	Agree
2	Good public attitude on technical education	15	2.89	.309	Agree
3	A lot of energy is required to manipulate the equipment	15	2.06	.232	Disagree
4	Students engage in a lot of practical	15	3.73	.642	Agree
5	It brings about self-employment	15	3.73	.642	Agree
6	It brings about self-reliance	15	3.73	.642	Agree
7	There is adequate provision of training materials	15	2.06	.232	Disagree
8	Adequate practical training given to teachers affect the practical training of students	15	3.73	.642	Agree
9	Parents contribute to the purchase of additional training materials	15	1.22	.536	Disagree
10	There is adequate provision of basic workshop tools and equipment	15	2.06	.232	Disagree
11	The class size has positive effect on effective practical teaching	15	2.89	.309	Agree
12	The practical component in technical curriculum is effectively used	15	2.89	.309	Agree
13	Adequate infrastructure facilities	15	2.06	.232	Disagree
14	Adequate capacity for internal quality assessment	15	2.89	.309	Agree
15	Cordial collaboration with technical education and private sector	15	2.89	.309	Agree
16	Staff shortages in technical education	15	3.73	.642	Agree
17	Teachers develop apathy to workshop practice due to lack of motivation	15	2.06	.232	Disagree
	Average Mean	15	2.84	.422	Agree

Table 4 shows responses to the reactions of people in society towards technical education in Osun State, with 3.73 agreeing that technical education is necessary and needed. 3.73 expressed further agreement, asserting that the public has a positive attitude towards technical education. 2.89, on the other hand, believed that technical education promotes self-reliance and self-employment. Table 4 further stated that students engaged in a significant amount of practical training, with 3.73 citing this as a result of teachers providing adequate practical training, which in turn influenced their own practical training. Table 4 also showed that the practical part of the technical

curriculum was used well (2.89), that class size had a positive effect on how well practical teaching was done (2.89), and that there was enough space for internal quality assessment (2.89). However, there was a shortage of staff in technical education (3.73), as well as in other facilities. The average mean of 2.84 indicated that the reaction of the people in society towards technical education in Osun State was favourable. This implies that technical education is necessary and required, and the public has a positive attitude towards it because it promotes self-reliance and self-employment. However, there was a shortage of staff in technical education, 3.73, and other facilities.

Discussion

Findings from this study revealed that the facilities available to support teaching and learning processes in Osun State technical schools, including regular electricity supply, pipe-borne water/borehole, fire extinguishers, and laboratory rooms, were adequate. Similarly, facilities such as ventilated departmental classrooms and lecture rooms, functioning computers in the computer laboratory, a ventilated typing pool, working typewriters in the typing pool, well-equipped offices, and a computer laboratory or studio were partially available in the study locale. Other facilities that were partially available were the school library, laboratory tools, functioning laboratory engines, and functioning workshops. On the other hand, in Osun State Technical Education, facilities such as internet access and functioning air conditioning were not available. All these are in line with the findings of Onoselease & Ejodamen (2018), who discovered that the government had not purchased facilities, provided studio instruments, materials, or adequate classrooms. Additionally, the school libraries lacked good technical drawing textbooks and did not expose students to practical technical drawing. Resource persons in technical education were also unavailable for talks, seminars, or workshops. The research findings were in line with those of Ayonmike (2014), who discovered that inadequate funding, dilapidated infrastructure, and a lack of sufficient teaching materials are impeding the implementation of the TVET curriculum in technical colleges in southern Nigeria.

Furthermore, the research revealed that schools should form alliances with interest groups, seek assistance from NGOs and PTAs, reach out to community-based organizations (CBOs) for support, allocate a specific portion of the TETFund for facility procurement, allocate a portion of the value-added tax (VAT) revenue for facility provision, engage in improvisation, and impose an annual tax on parents to fund facility provision. In Osun State, the government did not involve technical planners in the construction of school buildings, but instead collaborated with them to provide furniture and fittings for the effective implementation of school-based technical and vocational education. The government collaborated with educational planners and administrators to plan the workshop provision, and they equipped the workshops in the technical schools under the approved plan.

The study also elucidated the perspectives of stakeholders regarding technical education in Osun State. The results showed that the public has a positive attitude towards schools because they foster self-reliance and self-employment. It is believed

that the students participated in numerous practicals due to the teachers' adequate practical training, which had a significant impact on their practical skills. The results agreed with Nelson (2013) study, which stated that technical and vocational education can boost any nation's economy by empowering individuals technically in different fields of study. The results also corroborated the findings of Ozoemena's (2013) study, which defined education as experiences that start with career exploration, foster fundamental life and academic skills, and enable attaining high academic standards, leadership, industry preparation, and continuing education programs. Contrarily, the people reacted by saying that there was a shortage of staff in the technical education school, along with some other facilities.

Furthermore, the study revealed that technical education programs cater to the needs of all students by preparing them for a job, thereby fostering self-reliance and self-employment. Technical education provided good career opportunities and equipped students with managerial skills that could lead to well-paid jobs. The results concurred with the study of Uwaifo (2010), who stated that technical education could be considered vocational education that required trainees to develop expertise directly in a particular group of techniques. The research broadly agreed with Abrassart & Wolter (2020); Ahlström (2022) study, which outlined the primary goal of technical education as preparing students for employment in any recognized occupation.

4. CONCLUSION

The availability of facilities to support the teaching and learning process is critical for the effective delivery of technical education in Osun State, Nigeria. Adequate facilities such as classrooms, laboratories, workshops, and equipment are crucial for providing hands-on training and practical experience to students. Additionally, public perception and reactions toward technical education play a significant role in shaping the success and growth of technical education programs in the state. No doubt, technical education programs provide all students with good career opportunities, equip them with managerial skills, and prepare them for a job that results in self-reliance and self-employment. However, most of the facilities to support teaching and learning processes in technical schools in Osun State were partially available.

We propose the following recommendations to enhance facility availability and public attitudes towards technical education in Osun State, based on the study's findings: Invest in infrastructure development. Enhance public awareness and perception. Collaborate with industry partners. Provide professional development for teachers and engage with the community. By implementing these recommendations, Osun State can improve facility availability to support the teaching and learning process in technical education and foster positive public reactions toward technical education programs. This will ultimately contribute to the growth and development of technical education in the state, preparing students for successful careers in technical fields.

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