

AVAILABILITY AND CONDITION OF FACILITIES FOR EFFECTIVE IMPLEMENTATION OF TECHNICAL AND VOCATIONAL EDUCATION PROGRAMMES IN RIVERS STATE, NIGERIA

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ABSTRACT

This study examines the availability and condition of facilities required for the effective implementation of technical and vocational education programmes in Rivers State. Technical and vocational education depends primarily on functional workshops, laboratories and equipment that support hands-on learning, but many institutions across the state struggle with inadequate or obsolete facilities. A descriptive survey design was used to investigate teachers' and students' experiences in four Government Technical Colleges and seven Government Craft Development Centres. A sample of 532 respondents was selected using proportional stratified random sampling. Data were collected through observational checklists, document reviews, interviews and a structured questionnaire, and were analysed using percentages and mean scores with a decision benchmark of 2.50. Findings showed that most facilities required for effective programme delivery were either unavailable or insufficient in quantity. Only a few areas such as automobile, electrical, woodwork and some mechanical workshops had basic equipment, while essential facilities for home management, introductory technology, business studies and agricultural education were largely absent. The condition of the available facilities was also poor, with most equipment classified as bad, obsolete or unsuitable for practical instruction. These deficiencies limit both teaching quality and students' opportunities for skill acquisition. The results highlight a significant gap between policy expectations and actual infrastructural realities. Improving the state of facilities is therefore necessary for strengthening technical and vocational education and producing graduates with employable and entrepreneurial competencies.

Keywords: Technical Education, Vocational Education, Training Facilities, Infrastructure, Rivers State.

INTRODUCTION

Education plays a central role in individual and societal development, extending beyond basic literacy to include skills, knowledge, and attitudes that enable productive engagement in the economy (UNESCO, 2012). Technical and vocational education (TVE) specifically focuses on equipping learners with practical skills and competencies required for employment and self-reliance, thereby contributing to national development (Federal Republic of Nigeria, 2004). For TVE to achieve its objectives, the availability and condition of learning facilities are critical. Functional workshops, laboratories, and instructional

tools provide students with opportunities for hands-on learning and skills acquisition, which are essential for economic productivity and entrepreneurial competence (Okorie, 2014).

In recognition of the importance of technical and vocational education, the Rivers State Government established: Government Technical College, Port Harcourt; Government Technical College Ahoada; Government Technical College, Tombia; Government Technical College, Eleogu in addition to several Craft Development Centres and Industrial Unit across the various local Governemnt Areas of the State. Despite the recognized importance of such

facilities, many technical and vocational institutions in Rivers State face challenges, including insufficient equipment, poorly maintained machinery, and inadequate access to modern technology. These limitations restrict students' ability to acquire practical competencies and negatively affect the overall quality of TVE programmes (Okojie, 2013).

The lack of adequate facilities also affects teachers' ability to deliver practical lessons effectively. Without proper tools and resources, instructors are limited in the range of skills they can teach, which diminishes students' learning outcomes and undermines the objectives of TVE policies (Adebayo, 2015). Addressing the availability and condition of facilities is therefore essential for ensuring the effectiveness of TVE programmes in Rivers State. Understanding these gaps will enable policymakers, school administrators, and stakeholders to take targeted actions to improve infrastructure, teaching resources, and ultimately students' employability and productivity.

Statement of the Problem

Many technical and vocational institutions in Rivers State lack adequate facilities or have resources that are outdated or poorly maintained, which limits students' practical learning experiences and reduces the effectiveness of TVE programmes. Consequently, graduates often leave these institutions without the skills required to compete in the labor market or start viable businesses.

This study therefore aims to examine the availability and condition of facilities in technical and vocational colleges in Rivers State to identify gaps and provide recommendations for improving infrastructure and learning resources. Such improvements are essential to enhance the quality and impact of TVE on students' skill development and employability.

Objectives of the Study

The following are the objectives of the study;

1. Ascertain the available facilities for the implementation of technical and vocational education programmes in Rivers State.
2. Examine the condition of facilities available for the implementation of technical and vocational education programmes in Rivers State.

Research Question

The following research questions were raised to guide the study:

1. What are the available facilities for the implementation of technical and vocational education programmes in Rivers State?
2. What conditions are the available facilities for the implementation of technical and vocational education programmes in Rivers State?

Literature Review

Technical and vocational education (TVE) is designed to equip learners with practical skills, applied knowledge, and competencies necessary for employment and self-reliance (Federal Republic of Nigeria, 2004). Technical education focuses on areas such as engineering, electrical/electronic, and mechanical trades, while vocational education emphasizes occupations such as agriculture, business, and home economics (Aghenta, 1984; Abimbade, 2002). The effectiveness of TVE is directly influenced by the availability and quality of learning facilities, including workshops, laboratories, and instructional tools (Okorie, 2014). Inadequate provision of these essential resources significantly hinders the acquisition of crucial skills, often leading to the production of under-skilled and unemployable graduates. This issue is particularly pronounced in developing nations, where budgetary constraints frequently impede the acquisition and maintenance of

modern equipment and infrastructure crucial for technical and vocational training. Without adequate provision of these facilities, the implementation of TVE curricula suffers, resulting in a workforce ill-prepared for industry demands. Furthermore, the obsolescence of existing facilities and the insufficiency of instructional materials directly compromise the efficacy of TVET curriculum implementation (Ayonmike, 2014).

The condition of these facilities is equally important. Functional and well-maintained resources ensure that students can gain hands-on experience, apply theoretical knowledge in practice, and develop competencies aligned with labor market demands (Okojie, 2013). Inadequate or poorly maintained facilities, on the other hand, limit students' practical learning and reduce the overall effectiveness of TVE programmes (Adebayo, 2015). This often leads to a situation where graduates lack the necessary job skills, contributing to unemployment challenges (Kayode & Adeyemi, 2016). The pervasive inadequacy of instructional resources in many developing nations, including Nigeria, profoundly undermines the teaching and learning processes within TVET programs, hindering students' ability to acquire essential skills. For instance, the lack of sufficient funding, outdated facilities, and inadequate provision of instructional materials are prevalent issues in Nigerian technical and vocational education and training ("Facilities Provision and Maintenance: Necessity for Effective Teaching and Learning in Technical Vocational Education.," 2013; Ngor & Tambari, 2017). Specifically, many TVET institutions often lack an adequate supply of hand tools and functional workshops, which further impedes effective teaching and practical skill acquisition for a growing student population (Edokpolor & Owenvbiugie, 2017). This problem is exacerbated by logistical challenges, such as a shortage of classrooms and essential materials, including ICT resources, alongside a lack of adequate

administrative support and professional development opportunities for instructors.

These deficiencies collectively diminish the quality of technical education and perpetuate a cycle of underdevelopment by producing graduates who are ill-equipped for the demands of modern industries (Ofojebe & Ezugoh, 2010). Moreover, many TVET departments in Nigerian universities operate without dedicated laboratories or workshop spaces, often relying on obsolete equipment from their initial establishment, which severely impacts the practical instruction of technical concepts in the 21st century. Such deficiencies significantly compromise the pedagogical effectiveness and overall learning outcomes for students, hindering their preparedness for industry (Çil & Çepni, 2016).

Theoretical Review

The Goal Theory of Organizational Effectiveness by Hoy and Miskel (1982) underpins this study. The theory asserts that an organization is effective when its outcomes meet or exceed set goals. In the context of TVE, the goals include producing skilled graduates capable of employment or entrepreneurship, and the availability of facilities is a measurable factor affecting the achievement of these goals.

The Top-Down Model of Policy Implementation also provides insight, emphasizing that policies and programme objectives require clear directives, adequate resources, and skilled personnel for effective execution (Matland, 1995). Without well-maintained facilities and resources, the policy goals of TVE cannot be realized, highlighting the importance of infrastructural readiness in programme implementation.

Methodology

This study adopted a descriptive survey research design to examine the availability and condition of facilities for effective implementation of technical and vocational education programmes in Rivers State. The population included all teaching

staff and students from four Government Technical Colleges and seven Government Craft Development Centres, totaling 5,324 respondents. A representative sample of 532 respondents, drawn using proportional stratified random sampling, included 351 respondents from Technical Colleges and 181 from Vocational Centres. Stratification ensured that teachers and students were proportionally represented according to their institution.

Data were collected through observational charts, document analysis, interview schedules, and a structured questionnaire (TAVEPITS). The observational chart assessed the availability and condition of facilities and equipment, while the questionnaire contained items on demographic information and specific questions on facilities. Interviews with principals, teachers, and students provided further qualitative insights into

infrastructural adequacy and functionality. Validity was established through expert review and alignment of each instrument item with the research objectives. Reliability was confirmed using Cronbach Alpha, which showed high internal consistency across sections.

Questionnaires and interviews were administered face-to-face, achieving a 94% response rate with 500 completed copies retrieved. Data were analyzed using percentages and mean scores for research questions. A mean score of 2.50 or above indicated that facilities were available and in good condition for programme implementation.

Results

Research Question 1: What are the available facilities for the implementation of technical and vocational education programme in Rivers State?

Table 1: Showing the facilities available in the technical colleges and vocational centres in Rivers State

S/N	Technical and vocational Education Facilities/ Equipments	Technical Colleges					Vocational Centres				
		Availability					Availability				
		Available	Percentage	Not available	Percentage	Remark	Available	Percentage	Not available	Percentage	Remark
1	Mechanical Engineering	2	50	2	50	A/NA	1	25	3	75	NA
2	Home Management equipment		0	4	100	NA		0	4	100	NA
3	Building/ construction equipment	1	25	3	75	NA	1	25	3	75	NA
4	Automobile Engineering equipment	4	100		0	A	1	25	3	75	NA
5	Electrical Equipment	3	75	1	25	A	1	25	3	75	NA
6	Agricultural equipments		0	4	100	NA		0	4	100	NA
7.	Introductory Technology		0	4	100	NA		0	4	100	NA
8.	Business Studies	1	25	3	75	NA		0	4	100	NA
9.	Clothing and Textile		0	4	100	NA	2	50	2	50	Equal
10	Food and Nutrition		0	4	100	NA	2	50	2	50	Equal
11	Woodwork	3	75	1	25	A	1	25	3	75	NA
12	Technical Drawing	2	50	2	50	A/NA	1	25	3	75	NA
13	Basic Electronics	1	25	3	75	NA	1	25	3	75	NA
14	Auto-mechanics	2	50	2	50	A/NA		0	4	100	NA
	Aggregate	19	34	37	66	NA	11	20	45	80	NA

Data in table 1 showed that the facilities available for the implementation of technical and vocational education

programmes in the state included: Automobile, electrical, woodwork and mechanical equipment amongst others.

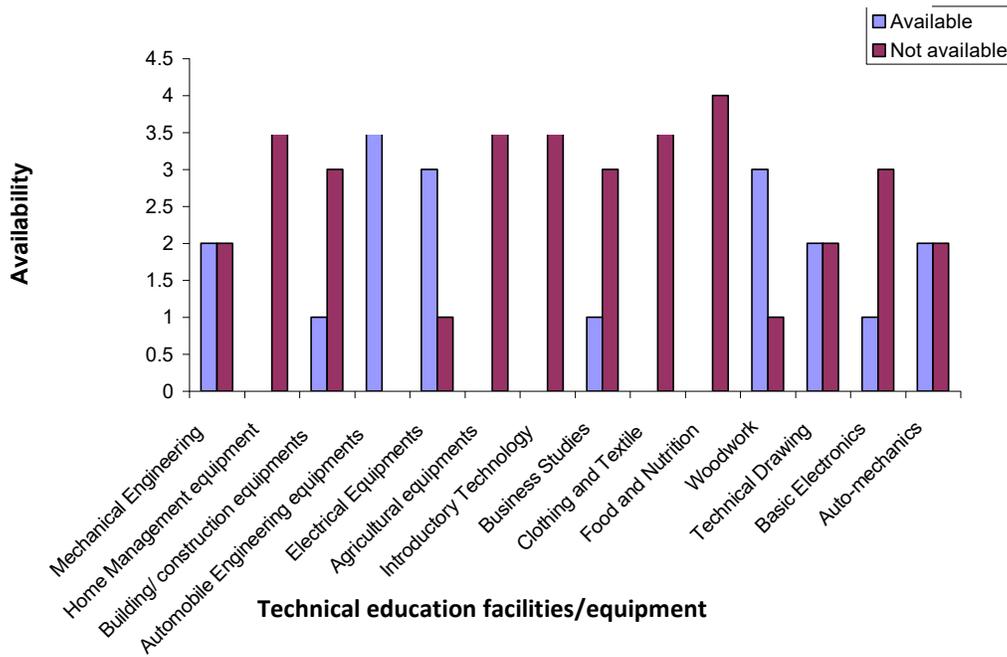


Fig. 1: An Observational Chart showing the available facilities in the technical colleges

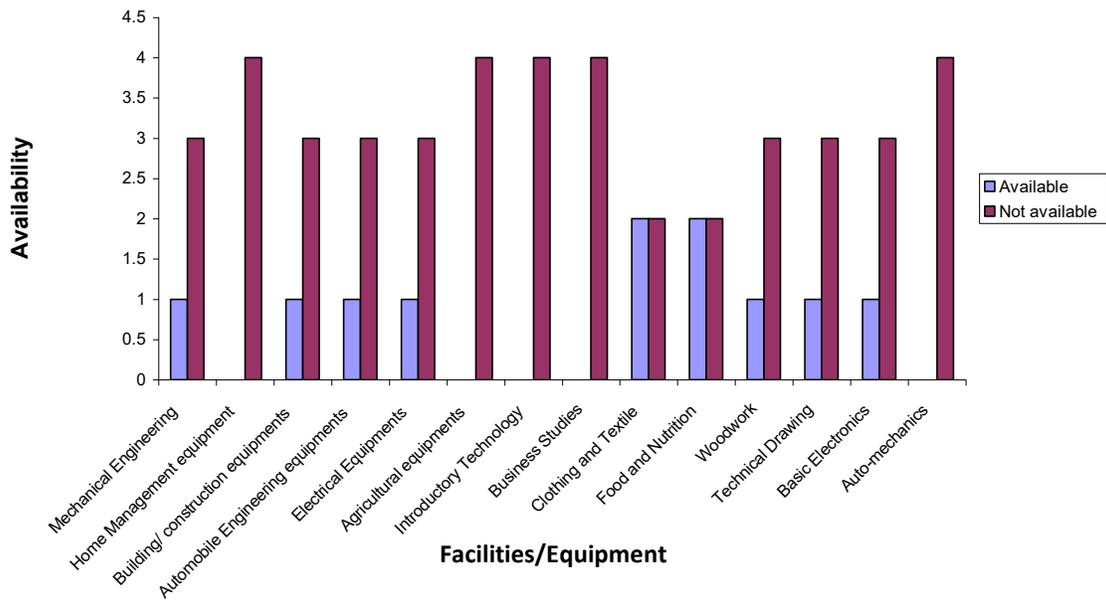


Fig. 2: An Observational Chart showing the available facilities in the Vocational centres

Research Question 2: What conditions are the available facilities for the implementation of technical and vocational education programme in Rivers State?

Table 2: Showing the condition of available facilities in the technical colleges and vocational centres

S/N	Techno-vocational Education Facilities/ Equipments	Technical Colleges		Vocational Centres	
		Condition Good	Bad	Condition Good	Bad
1	Mechanical Engineering		2	1	
2	Home Management equipment				
3	Building/ construction equipments			1	
4	Automobile Engineering equipments	1			1
5	Electrical Equipments	1	3		1
6	Agricultural equipments	2	2		
7.	Introductory Technology				
8.	Business Studies				
9.	Clothing and Textile		1		
10	Food and Nutrition				2
11	Woodwork				2
12	Technical Drawing		3		1
13	Basic Electronics		2	1	
14	Auto-mechanics		1		1
	Percentage (%)	22.22%	77.78%	27.27%	72.73%

Data in Table 2 showed that the condition of equipment in most of the technical colleges and vocational centres under study were either bad or obsolete.

Discussion of Findings

The findings of the study show that the facilities available for the implementation of technical and vocational education programmes in Rivers State were largely inadequate. The observational data revealed that only a few facilities such as automobile, electrical, woodwork and some mechanical equipment were available in the technical colleges and vocational centres. Even in those areas where facilities were available, the quantity was insufficient for effective practical training. This aligns with the work of Okorie and Ezeani (2017), who reported that most technical schools in Nigeria operate with inadequate tools and machines, which limits students' practical exposure and competence.

The results further indicate that several important facilities, including home management equipment, introductory technology tools, agricultural equipment and business studies materials, were completely absent in most of the institutions surveyed. The lack of workshop tools and machines in core subject areas supports the findings of Ndomi (2017), who observed that the absence of critical training equipment remains a major setback for technical and vocational education programmes across the country. This pattern suggests a systemic problem with investment in practical resources needed for skill acquisition.

The study also shows that even among the few available facilities, most were either obsolete or in very poor condition. Classroom blocks and workshops were found to be dilapidated, with structures unsuitable for effective teaching and learning. This outcome is consistent with the findings of Ayonmike, Okwelle and Okeke (2015), who

noted that many technical education institutions in Nigeria operate with outdated machines and deteriorating infrastructure, resulting in low instructional efficiency.

A closer look at workshop activities revealed that only departments that relied on basic, manually operated tools were able to carry out practical training with some level of continuity. Workshops that depended on electricity or modern machines experienced significant disruption due to equipment breakdown, non-functionality or complete absence of operational tools. This agrees with the observation of Abdullahi and Umar (2010), who argued that practical training becomes ineffective when schools lack functioning machines that reflect technological realities in industry.

Overall, the findings clearly show that technical and vocational education facilities in Rivers State are inadequate in availability, grossly outdated in condition, and incapable of supporting effective programme delivery. The pattern reinforces earlier studies such as those by Njoku (2017) and Olaitan (2017), which concluded that the weak state of facilities in technical institutions remains one of the most critical barriers to producing skilled graduates who can meet labour market demands.

Conclusion

Technical and vocational education depends heavily on the availability and condition of functional facilities, and the findings of this study make it clear that the current state of workshops, tools, and instructional resources in Rivers State falls far below what is required for effective skill training. Most institutions lack essential equipment, and many of the few available resources are obsolete or unusable. This creates a learning environment where practical instruction is limited, teachers struggle to deliver competency based lessons, and students graduate without the

level of hands-on experience expected by employers or needed for self-employment. The mismatch between programme goals and infrastructural realities weakens the overall impact of technical and vocational education and undermines the investment made in policies designed to promote skill acquisition, productivity, and economic growth.

Improving technical and vocational education facilities is therefore not simply a matter of upgrading equipment; it is central to revitalizing the entire skills development system. When institutions are equipped with modern tools, properly maintained workshops, and adequate instructional materials, teachers can deliver higher quality lessons and students can develop practical abilities that align with labour market expectations. Strengthening facilities will also enhance programme relevance, student motivation, and long term employability outcomes. Addressing these gaps requires sustained investment, strategic planning, effective maintenance systems, and collaboration with industry partners. Without these interventions, the transformative potential of technical and vocational education in Rivers State will remain unrealized.

Recommendations

1. The state government should increase funding for technical and vocational institutions so that functional workshops, laboratories, and updated instructional facilities can be provided to meet programme requirements.
2. Regular maintenance schedules should be established and enforced by school management to ensure that existing facilities and equipment remain functional and safe for practical training.

3. The Rivers State Government should procure modern tools, machines, and digital equipment should be supplied to technical colleges and vocational centres so students can acquire skills that match current industry standards.
4. Principals and technical instructors should receive periodic training on the management, utilization, and preservation of facilities to minimize wastage and prolong equipment lifespan.
5. Public private partnerships should be strengthened to support the provision, rehabilitation, and upgrading of workshops, machines, and instructional materials in technical and vocational schools.
6. Continuous monitoring and evaluation mechanisms should be put in place by the monitoring and evaluation unit of the State Ministry of Education to ensure that facilities are used effectively, properly maintained, and aligned with programme goals.
7. New TVE facilities should be distributed equitably across technical colleges and vocational centres to reduce the wide disparities in equipment availability and learning opportunities.

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