Utilization of School Facilities: Implications for Effective Instructional Delivery in Technical Education Programmes in South-East Nigerian Colleges of Education

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DOI: 10.56201/ijee.v9.no7.2023.pg137.146

Abstract

The study examined the implications of utilization of school facilities for instructional delivery in technical education programmes in Colleges of Education in South-East Nigeria. One research question guided the study and two null hypothesis was tested at 0.05 alpha level. It adopted survey research design. The population of the study comprised 204 lecturers in college of education in South-East of Nigeria. The entire population was used for the study since it was not too large and was manageable. Hence, the study did not adopt any sampling technique. A 17 – item structured questionnaire was used as instrument for data collection for the study. Three experts validated the instrument. Cronbach's Alpha method was used to establish the reliability of the instrument in a pilot test; which yielded a reliability coefficient of 0.82. The instrument for data collection was sent to respondents through research assistants. Data related to the research questions were analyzed using mean and standard deviation. The t-test statistics was used to test the hypothesis at 0.05 level of significance. Findings from the study revealed that utilization of school facilities enhances effective instructional delivery in technical education programmes in Colleges of Education to a great extent. The study recommended among others that, government through National Commission for Colleges of Education should help to ensure that school facilities are in good condition to serve the purposes they are meant for.

Keywords: *School Facilities, Technical Education, Instructional Delivery, Colleges of Education*

Introduction

Education is a veritable machinery for the development of any country. It seeks to develop the minds and character of future citizens, their abilities, skills and potentials in order to equip them for contemporary society. This is obvious because of the roles played by educated people in the development of science, socio-economic and political structure to improve the individual, families in making the society a better place to live. In the light of these values, education today must prepare children to function effectively as adults. Education either formal or traditional exists in every society. It is universally recognized as an instrument for social, political, scientific and

technological development. This is the reason why no society can afford to toy with the education; more especially technical education, as this could result in a snail speed development.

Technical education is an aspect of Technical and Vocational Education (TVE) programmes offered in colleges education and other tertiary institutions. According to Onjewu (2009) Technical Education is the aspect of education which prepares people academically to be engaged in the acquisition and application of science and modern technology by focusing both on the theoretical and pratical application od basic scientific principles. Federal Government of Nigeria (2013) defined Technical Education as that aspect of education which leads to the acquisition of practical and applied skills as well as basic scientific knowledge. Undoubtedly, the educational development of any nation depends largely on the availability and utilization of school facilities.

Utilization is the act of making use of tangible and intangible materials. Conceptually Van Tassel and Dehaan (2013) posited that utilization is synonymously referred to as application and use. In agreement Ezenwafor, Onokpauna and Nwadiuko (2017) asserted that utilization entails effective usage of assets, inputs and raw resources to achieve desirable outcomes. Furthermore, Okolocha and Nwadiani (2015) defined utilization as that art of putting things or resources that are tangible, or intangible into proper use. To utilize is to find a practical use of something (Hornby, 2004). In business areas and in other contexts, utilization is simply referred to as use. In the context of this study, utilization refers to the extent to which lecturers and students use school facilities for effective instructional delivery. Utilization of facilities is of various degrees depending on the extent to which an item has been put into effective use (Adeboyeji, 2000). This includes non-utilization, underutilization, and over utilization. Non utilization occurs when a facility is not put into use at all. When a facility is not used to its fullest capacity, underutilization occurs. There is over-utilization when a facility is used more than its capacity can carry. When there is overutilization of an equipment, the pressure will be so much and could lead to breakdown of such item of equipment.

Utilization of different relevant facilities improves the quality of teaching and makes learning content clearer and meaningful to students. According to Ihiegbulem (2016) resource materials utilization during practices inculcates in the students the spirit of careful observation, manipulative skills, respective thinking and creativity in the learners, Lewin (2010) however reported that science facilities are only important when they are used. One of the major problems facing the teaching and learning of science is connected with the management of available resources (Oguleye, 2013). The lecturers require to be resourceful, creative and careful in handling and using available facilities especially the fragile ones and students cautious in using them.

This is necessary because once the facilities are misused, their functionality will be affected, they cannot offer effected services. All these require ingenuity of the lecturers in charge to balance the usage and maintenance of the available facilities for optimum benefits. In the context of this study, utilization refers to the frequency and length of time a particular facility is put to use in the process of instructional delivery by technical educational lecturers.

The history of school facilities could be traced to the era of formal system of education. It equally changes with the system of education, even though, such other facilities like money and human resources are required. School facilities form integral part of the educational system and observed

as potent factor to qualitative and quantitative education. The importance of teaching and learning on the provision, utilization and maintenance of adequate institutional facilities for effective instructional delivery cannot be over-emphasized. According to Afigbo (2016), Learning can occur through one's interaction with one's environment. Environment here refers to facilities that are available to facilitate students learning outcome. It includes books, audio-visual, software and hardware of educational technology; size of classroom, sitting position and arrangement, availability of tables, size of classroom, siting position and arrangement, availability of tables, chairs, chalkboards, shelves on which instruments for practical are arranged (Farombi, 2018). Farombi further stated that the wealth of a nation or society could determine the level of education in that land; emphasizing that a society that is wealthy will establish good quality lecturers, learning infrastructures, student learn with ease, thus bringing about effective instructional delivering. Anameze (2011) submitted that no effective technical education programme can exist without facilities for learning. This is because facilities enable the learner to develop problem – solving skills and scientific attitudes.

The NCCE (2013), also placed priority on provision of fund for plant maintenance for approving any new college of Education whether public or private. Equally, Okoro (2018) averred that adequate provision of facilities, which should be effectively utilized and maintained as and when due has remained a condition for accrediting any courses in colleges of education in Nigeria.

The disciplines in the school of technical in colleges of education includes:

- Mechanical /metal work technology
- Building technology
- Electrical/electronics technology and
- Wood work technology

These departments need facilities like classrooms, laboratories (physics, chemistry, biology) and workshops (Electrical, mechanical, woodwork and automobile), tools, equipments and consumables for effective instructional delivery. Hallak (2019) stated that unattractive school buildings and overcrowded classrooms among others contribute to poor instructional delivery. School facilities include those acquired specifically for the programme and those generally owned by the school like space, library, buildings and other things that contribute to effective instructional delivery in different fields of study.

Effective school facility or responsive to the changing programs of educational delivery, at minimum, should provide a physical environment that is comfortable, safe, secure, accessible, well illuminated, well ventilated and aesthetically pleasing. School facilities form an integral part of the educational system and are observed as a potent factor to qualitative and quantitative education. Such facilities present a learning environment with a tremendous impact on the comfort, safety, performance of the learner and overall Instructional delivery.

According to Anita & Charles (2012), instructional delivery is a systematic and effective methodology for teaching academic knowledge and skills. Anita et al further explained that it is an unambiguous and direct approach to teaching that includes both design and delivery procedures. Instructional delivery is characterized by a series of support or scaffolds whereby students are guided through the learning process with clear statements about the purpose and rationale for the

new knowledge and skills followed by clear explanation and demonstration of the instructional target and supported practice with feedback until independent mastery has been achieved effectively.

Effective instructional delivery in Technical education cannot be guaranteed where school facilities are not adequately provided, utilized and maintained in colleges of education. Yakubu (2016) noted that lack of funds has affected the provision of some essential facilities needed in the implementation of the programme in most of the colleges of education. It is now a common sight to find students of Technical Education sharing tables, seats, and other facilities. Yakubu also observed that standards often tend to decline after the accreditation visits rather than being maintained or improved upon as expected. The author also alleged that some institutions and departments sometimes stage manage their facilities and even personnel, all of which disappear to the rightful owners as soon as accreditation is over. This might lead to production of poorly trained technical teachers. The assertion is in line with the observation made by Eze and Olaitan (2015), that teachers recruited into teaching position in schools do not meet the quality required for effective instructional delivery due to poor utilization and maintenance of schools facilities. The success or failure of any Technical Education programme in the college of education depends on utilization of available facilities for effective instructional delivery.

Geographical location of schools also has effect on the extent of utilization and maintenance of school facilities for effective instructional delivery in technical education. Information and Communication Technology (ICT)resources like Computers and relevant software are part of facilities provided for instructional delivery in different schools irrespective of ownership and location.

However, according to Ololube(2017), there are disparities between the urban and rural schools in terms of availability, utilization and maintenance of educational facilities. Ololube further stated that with regard to almost every conceivable relevant educational facilities, urban schools seems to fare better than rural schools. Hence, the study also sought to investigate the influence of location on the utilization of school facilities for effective instructional delivery.

Statement of the Problem

The need for adequate provision and utilization of facilities to create favourable environment for learning prompted the National Commission for Colleges of Education (NCCE, 2013) to set out criteria for determining adequacy of facilities. For instance, a standard chemistry laboratory is meant to serve 50 students at a time and would be considered inadequate when utilized by more than 50 students. However, availability of facilities in Colleges of education does not guarantee their effective utilization which is very essential for effective instructional delivery.

The problem is that despite the mandate of the NCCE to colleges, instructional delivery in Technical Education in the colleges appears to be suffering a set back possibly due to inadequate utilization of reliable school facilities. This worrisome situation if not urgently reversed will deny the zone the benefits of good quality Technical Education graduates who would engage in self-employment and create jobs for others for enhanced development. This is why it is imperative to conduct this study, on the utilization and of school facilities for effective instructional delivery in

Technical Education in Colleges of Education in South East Nigeria in order to ascertain the reality on ground and proffer workable solutions.

Purpose of the Study

The main purpose of the study was to determine the extent of utilization of school facilities for effective instructional delivery in Technical education in South-East Nigerian colleges of education. Specifically the study seeks to determine the extent at which School facilities are utilized by lecturers for effective instructional delivery in colleges of education in South East Nigeria.

Research Question

The following research question guided the study:

To what extent do technical education lecturers utilize school facilities for effective instructional delivery in Colleges of Education in South -East Nigeria?

Hypotheses

The following null hypotheses will be tested at 0.05 level of significance

1. Technical education lecturers do not differ significantly in their mean ratings on the extent they utilize school facilities for effective instructional delivery in federal and state Colleges of Education in South East Nigeria.

2. Location of urban and rural does not significantly influence respondents' mean ratings on the extent utilization of school facilities for effective instructional delivery in Technical Education in Colleges of Education in South-East Nigeria.

Method

This study will adopt the descriptive survey research design. The population of the study will comprise all 204 Technical Education Lecturers in the four public colleges of education in the South- East that offer Technical Education courses. This comprises of 103 lecturers from federal, 101 lecturers from state, 94 in urban and 110 in rural respectively. The entire population of 204 lecturers in Technical Education departments in Colleges of Education in South- East Nigeria will be used for the study because the size is not too large. The instrument for data collection for this study will be a structural questionnaire developed by the researcher titled "Utilization of School Facilities Questionnaires(USFQ). The instrument has two main sections; A and B. Section A contains two items on demographic data of respondents while section B contains 17 items It has a five point scale of Very High Extent (VHE), High Extent (HE), Moderate Extent (ME), Small Extent (SE) and Very Small Extent (VSE). To ascertain the validity of the research instrument, the researcher submitted draft copies of the instrument alongside with research topics, purpose of the study, research questions and hypotheses to two experts in Vocational and Technical Education from the Department of Technology and Vocational Education in Nnamdi Azikiwe University Awka and Alvan Ikoku College of Education Owerri, and one other expert in measurement and

evaluation from the Department of Educational Foundation from faculty of Education, Nnamdi Azikiwe University, Awka. Their inputs were used in modifying the items to acceptance standard; thereby making it appropriate for data collection. To determine the reliability of the instrument, Cronbach Alpha method was used to analyzed a pilot study with 20 lecturers from federal college of education (Technical) Asaba, Delta State which is outside the study area. The reliability Coefficient value 0.82 was obtained. The researcher through the help of research assistants administered 204 copies questionnaire to the respondents; out of which, 197 copies were retrieved after two weeks for data analysis. Descriptive statistics of mean and the standard deviation was used to answer the research questions and determine the closeness of the respondents' views. Decision on the questionnaire items and research questions were based on mean rating of 3.50 points. Therefore, items with mean ratings of 3.50 points and above were regarded to have influenced technology education to a great extent while items with mean ratings below 2.50 points were regarded to have influenced it to a small extent. The t-test statistical tool was used to test the null hypothesis at 0.05 level of significance. A null hypothesis was rejected where the calculated p-value was less than the 0.05 level of significance; it meant that there was a significant difference between mean responses. Conversely, where the calculated p-value was greater than or equal to the level of significance 0.05; it meant that there was no significant difference and the hypothesis was accepted.

Results

Data analyzed for research question and hypotheses were presented in tables 1 to 3.

Research Question 1

To what extent do Technical Education lecturers utilize school facilities for effective instructional delivery in Colleges of Education in South Eastern Nigeria?

Data collected in respect of research question 1 were analyzed and presented in Table 1.

Table 1.

Mean Ratings and Standard Deviation on utilization of school facilities.

S/N	School facilities	Mean	SD	Decision
1	Functional projectors	4.00	.45	Great Extent
2	Chalk/white pencil boards	4.30	.46	Great Extent
3	Hand tools	4.30	.78	Great Extent
4	Work benches	3.80	.40	Great Extent
5	Tripod stands	4.10	.54	Great Extent
6	Oscilloscope	4.20	.40.	Great Extent
7	Wire cutters, clippers and nippers	4.30	.64	Great Extent
8	Soldering iron	4.20	.87	Great Extent
9	Screw drivers	3.80	.75.	Great Extent
10	Spanners and Allen keys	4.10	.54	Great Extent
11	Test tube shakers	4.00	.45	Great Extent
12	Magnetic stirrers and Mixers	4.00	.45	Great Extent
13	Time control timer	4.30	.46.	Great Extent

14	Safety goggles and safety equipment	4.30	.78	Great Extent
15	Beakers and Conical flasks	3.80	.40	Great Extent
16	Test tubes, tongs and racks	4.10	.54	Great Extent
17	Funnels and crucibles	4.20	.40	Great Extent
	Cluster Mean	4.10		Great Extent

Table 1 shows that all the items have mean ratings ranging from 3.80 to 4.30 meaning that all the items were utilized to a great extent. The cluster mean score of 4.10 indicate that, in the opinion of the respondents, technical education lecturers utilized school facilities for effective instructional delivery in Colleges of Education in South Eastern Nigeria to a great extent. The standard deviations of 0.40 to 0.87 show that the respondents are homogenous in their responses.

Hypothesis 1: Technical education lecturers do not differ significantly in their mean ratings on the extent of utilization school facilities for effective instructional delivery in federal and state Colleges of Education in South East Nigeria.

Data obtained in respect of hypothesis 1 were analyzed and presented in Table 2.

Table 2:
Summary of t-test comparison of the mean ratings of technical education lecturers on the extent of utilization of school facilities

Lecturers	N	X	SD	α	df	t-cal	p-value	Decision
Federal	115	3.49	.11					
				0.05	195	.041	.061	Not significant
State	82	3. 51	.12					

Data in Table 2 show that respondents do not differ significantly in their mean ratings on the extent they utilize school facilities for effective instructional delivery in federal and state college with mean scores of 3.49 and 3. 51 while the corresponding standard deviations are .11 and .12. The Table indicated a t-value of 0.41, at degree of freedom of 195 and a p-value of .061. Testing at alpha level of 0.05, the p-value is not significant, since the p-value is greater than the alpha value (0.05). Therefore, the null hypothesis is not rejected; hence, technical education lecturers do not differ significantly in their mean ratings on the extent they utilize school facilities for effective instructional delivery in federal and state colleges of education in South-East Nigeria. Therefore the hypothesis was not rejected.

Hypothesis 2: Location of urban and rural does not significantly influence respondents' mean ratings on the extent they utilize school facilities for effective instructional delivery in Technical Education in Colleges of Education in South-East Nigeria.

Data obtained in respect of hypothesis 2 were analyzed and presented in Table 3.

Table 3:
Summary of t-test comparison of the mean ratings of technical education lecturers on the extent of utilization of school facilities

Lecturers	N	X	SD	α	df	t-cal	p-value	Decision
Urban	107	3. 58	.51					
				0.05	195	0.39	.071	Not significant
Rural	90	3. 54	.52					

Data in Table 3 shows that location does not significantly influence respondents' mean ratings on the extent they utilize school facilities for effective instructional delivery in technical education in colleges of educationwith mean scores of 3.58 and 3.54 while the corresponding standard deviation is .51 and .52. The Table indicated a t-value of 0.39, at degree of freedom of 195 and a p-value of .071. Testing at alpha level of 0.05, the p-value is not significant, since the p-value is greater than the alpha value (0.05). Therefore, the null hypothesis is not rejected; hence location of urban and rural does not significantly influence respondents' mean ratings on the extent they utilize school facilities for effective instructional delivery in technical education in colleges of education.

Discussion

The findings of the study showed that technical education lecturers to a great extent utilize available school facilities for effective instructional delivery in Colleges of education in south-East Nigeria. The facilities include projectors, chalk/white pencil boards, work benches, tripod stands, oscilloscope, wire cutters, clippers and nippers, soldering iron, screw drivers, spanners and allen keys, test tube shakers, magnetic stirrers and mixers, time control timer, safety goggles and safety equipment, beakers and conical flasks, test tubes, tongs and racks, hand tools and funnels and crucibles.

This confirms the assertion of Michael (2012), that lecturers successfully utilize available facilities to increase the quality of the school teaching and learning. The findings is in line with Whitzman (2019) who observed that tertiary institutions in Nigeria often utilize the available facilities in schools. Samuel (2010) also observed that most of the available educational facilities in tertiary institutions of Nigeria are excessively utilized than the lower level of education. School facilities are mandatory in order to make the school a pleasant, safe and comfortable centre that will increase student's attendance, motivation and willingness to participate adequately in both curricula and Co-curricular activities (Adebojeji 2010).

This contradicts Gamoran (2019) which hold a contrary view that lecturers do not utilize the available facilities; that school facilities, books in the library and the presence of science laboratory had little impact on instructional delivery once students' background variable had been taken into account. This is in agreement with Usoro (2012) whose study revealed that majority of the tools and equipment that should be used for the training of industrial technical teachers were not utilized leading to poor academic performance.

The finding of the study also revealed that technical education lecturers do not differ significantly in their mean ratings on the extent they utilize school facilities for effective instructional delivery in federal and state Colleges of Education in South East Nigeria. Also location of urban and rural does not significantly influence respondents' mean ratings on the extent they utilize school facilities for effective instructional delivery in Technical Education in Colleges of Education in South-East Nigeria. This is in agreement with James (2015) who revealed that utilization of activity based instructional facilities enhances teaching and learning irrespective of the school location. The quality of educational output to a large extent depends not only on the availability of facilities such as laboratory, workshops, libraries, books, and teaching aids but how best they are being put to use, vi-a-vis the resultant outcomes from the students as inputs for tertiary education.

Conclusion

Based on the findings of the study, it was concluded that both public colleges of education in urban and rural areas often utilized the available school facilities to a extent; for effective instructional delivery in technical education programmes. **Recommendations**

Based on the findings of this study and the conclusion reached, the following recommendations were made:

1. Lecturers should be trained and / or retrained on the use of school facilities to ensure their adequacy in using them, particularly those sophisticated ones.
2. Technical education lecturers in college of education should be encourage to go for in-service training, workshops, seminars and conference to update their knowledge in the use of this facilities and equipment
3. Government through National Commission for Colleges of Education should help to ensure that school facilities are in good condition to serve the purposes they are meant for.

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