International Journal of Education and Social Science Research

ISSN 2581-5148

Vol. 4, No. 03; May-June 2021

COMPARATIVE ANALYSIS OF BUILDING FINISHING AND SERVICES SKILLS ACQUIRED BY NATIONAL CERTIFICATE OF EDUCATION STUDENTS IN COLLEGES OF EDUCATION AND POLYTECHNICS IN NORTHWEST, NIGERIA

Ibrahim Hassan Gwarzo[1] & Tukur Tafida[2]

[1]Department of Technical Education, Sa'adatu Rimi College of Education Kano State.
Ihg19751975@gmail.com +2348038349976

[2]Technology Education Department, Modibbo Adama University of Technology, Yola.

DOI: http://dx.doi.org/10.37500/IJESSR.2021.4335

ABSTRACT

This study compared the building finishes and services skills acquired by the NCE III Building students in Colleges of Education and Polytechnics institutions awarding NCE in Northwest, Nigeria. The study determined the building finishes and services skills acquired by the NCE III Building Technology Students of Polytechnics and Colleges of education in northwest Nigeria. A survey research design was used for the study in which the population of the study consisted of 154 NCE III building technology students. The study was carried out in Polytechnics and Colleges of education in northwest Nigeria. Two research questions were raised and answered and two hypotheses were formulated and tested at 0.05 level of significance. A structured questionnaire of 74 items validated by three experts was used as an instrument for Data collection, Cronbach alpha method was used to determine the reliability coefficient in the instrument which yielded 0.87. The research questions were analyzed using mean and standard deviation while z- test statistics were used in testing the Hypotheses of no significant difference at 0.05 level of significance. The study revealed that there is no significant difference between the building finishes skills acquired by Building Technology students of Polytechnics and Colleges of Education North West, Nigeria. The study revealed that there is no significant difference between the building services skills acquired by Building Technology students of Polytechnics and Colleges of Education North West, Nigeria. Based on the results the following recommendations among others were made; The building technology teachers in polytechnics and colleges of education in North West, Nigeria should be encouraged to maintain the standard in teaching the required skills, where facilities are not available the government and stakeholders should provide. The students of building technology in polytechnics and colleges of education in North West, Nigeria should be made to adhere with the minimum standard of the National Board for Technical Education (NBTE) and National Commission for Colleges of Education (NCCE) to ensure their ability to building services skills. The building technology teachers in polytechnics and colleges of education in North West, Nigeria should be given more training on building finishes skills for them to be highly skillful and self-reliant citizens.

ISSN 2581-5148

Vol. 4, No. 03; May-June 2021

1. INTRODUCTION

Building technology in Colleges of Education and Polytechnics covers within the curriculum contents; setting out, foundation, bricklaying/block laying and concreting, building finishes and building services. Accordingly, UNESCO (2011) stated that technical and vocational Education and training is a prerequisite for sustaining the complex structure of modern civilization and economic and social development. According to Onyemaechi, Nnennaya and Anyatonwu (2014) Technical and Vocational Education and Training (TVET) is "a comprehensive term referring to those aspects of the Educational process involving, in addition to general Education, the study of technologies and related sciences, and the acquisition of knowledge, practical skills, and attitude relating to occupations in various sectors of economic and social life" These programs are designed to prepare skilled human resources for various positions in industry and the informal sector. The offering of the TVET subjects is at the Technical Training Institutes, Polytechnics, Institutes of Science and Technology, and Universities. Polytechnics in Nigeria offer diplomas, higher national diplomas and certificate in TVET (Ferej, Kitainge, Ooko, 2012). TVET is understood to be:

i. an aspect of lifelong learning and preparation of responsible citizenry;
ii. an avenue to prepare for occupational fields for participation in the world of work;
an important part of Education Technical, Vocational Education and Training (TVET), has been used by several developed countries as an instrument of development.

Polytechnic Education according to Dogara (2011) is a form of Vocational and Technical Education aimed at training and imparting the necessary skills for the production of technicians, technologists and other skilled personnel who will be enterprising and self-reliant. According to Sa'idu (2017) the functions of each polytechnic shall be;

a. to provide full-time or part-time courses and training;
i) in technology, applied science, commerce and management
ii) in such other fields of applied learning relevant to the needs of the development of Nigeria in the areas of industrial and agricultural production and distribution and for research in the development and adaptation of techniques as the Council may from time to time determine;

b. to arrange conferences, seminars and study groups relative to the fields of learning specified in paragraph (a) above may serve to promote the objectives of the Polytechnic's perform such other functions as in the opinion of the National Commission for Colleges of Education (NCCE). However, the building technology among other technology courses such as; Electrical, Carpentry and Joinery, plumbing, metalwork and technical drawing, were introduced into accredited Polytechnics by (NCCE) so that the available facilities within the environment could be utilized toward running the programme. By training teachers that will be teaching technology courses in senior secondary, junior secondary, technical and primary schools.

ISSN 2581-5148

Vol. 4, No. 03; May-June 2021

According to Oritsebemigho (2014) Colleges of Education in Nigeria are the 'train-the-trainers' Colleges as they are responsible for the production of teachers at the primary and junior secondary levels. The Colleges as stated in the Federal Colleges of Education Act (1986, No. 4) are to perform the following functions:

a. to provide full-time courses in teaching, instruction and training in:
i. technology, applied science, humanities and management
ii. Such other fields of applied learning relevant to the development of Nigeria

b. to conduct courses in Education for qualified teachers
c. to arrange conferences, seminars and workshops relative to the fields of learning specified in paragraph (a) of this section.

To perform other functions as in the opinion of the National Commission for Colleges of Education (NCCE) may serve to promote the objectives of the college. Moreover, the building technology programme among other technology courses such as Electrical, Carpentry and Joinery, plumbing, metalwork and technical drawing, were introduced into accredited Colleges of Education by (NCCE) so that the available facilities within the environment could be utilized toward running the programme by training teachers that will be teaching technology courses in senior secondary, junior secondary, technical and primary schools.

Skills acquisition according to Richard (2011) is the process by which individuals are expected to learn and continue to practice in a given task till the learner becomes proficient in the operation and can perform them when required. Skills are the familiar knowledge of any art or science, couple with readiness and dexterity in its execution or performance, or the application of the art or science to practical purposes. These skills training present great challenges to the learner on the integration of both at the practical work and theoretical fields, common sense, a good power of observation and courage (Rislkat, 2009). This means that skills acquisition involves practical experience with real equipment and job. According to Ezeji (2012), skills acquisition is practical and theoretical in nature for self-reliance. Acquired skills are a means of increasing the productive power of a nation (Okorie, 2010).

Building services according to Rockford (2018) are the systems installed in buildings to make them comfortable, functional, efficient and safe. Building services might include: Energy distribution, Energy supply (gas, electricity and renewable sources such as solar, wind, geothermal and biomass), Escalators and lifts, Facade engineering (such as building shading requirements), Carbon monoxide detectors, Fire safety, detection and protection, Heating, ventilation and air conditioning (HVAC), Information and communications technology (ICT) networks, Lighting (natural and artificial), Lightning protection, Refrigeration, Security and alarm systems, Water, drainage and plumbing (including sustainable urban drainage systems (SUDS).

ISSN 2581-5148

Vol. 4, No. 03; May-June 2021

Building Finishes refers to an activity which is commonly carried in accomplishing of the building work for ease of use and aesthetic purposes. It comprises finishing in walls floors, ceilings and roof finishes. Floor is a horizontal structure which carries imposed and live loads in a building and divides a building into stores. The most common materials used for the construction of floors that will meet the requirements of building regulations and local bye-laws are concrete and wood. Wall finishing include plastering and rendering. Plastering is the process of application of mortar materials on the surface of a wall to provide a smooth surface and good appearance to the wall. Ceiling refers to a building finishing material which serves primarily as a thermal insulator of heat coming from the roof of a building.

Floor finishing

A floor is a horizontal structure which carries imposed and live loads in a building and divides a building into stores. The most common materials used for the construction of floors that will meet the requirements of building regulations and local bye-laws are concrete and wood. Ezeji and Onah (2008) stated that the major purpose of floors is to support the substrates of a building together with their belongings. He further explained that if the building has one storey only, it is possible to support the floor upon the ground but a basement is required if the building is more than a storey. In the same vein he classified floors into: basement floors, ground floors and upper floors.

Wall Finishes

Plastering is the process of application of mortar materials on the surface of a wall to provide a smooth surface and good appearance to the wall. Plaster according to Patel and Raiyani (2018) can be done manually or by the use of machine.

Patel and Raiyani (2018) itemized Manual Plastering Process as follows: -

i. Cleaning

ii. Formation of plain surface

iii. Finishing the surface

The first step in plastering is cleaning. After the masonry wall is prepared it is first cleaned properly with brushes and trowels. This step in cleaning the wall is taken so that there are no irregularities on the surface of the wall. It is an important step since it provides the wall to be smooth. After that scaffold are prepared. Scaffolds are a structure that is used by the workers to plaster the walls which are at more height. Scaffold is provided to the labor for him to stand and perform the plastering process effectively and safely. The materials required for the plastering process is transported to the performing site as soon as possible. This process is to be done before the plastering process starts. Next step is preparing the cement mortar. The ratio specified for the mortar mix is 1:4. That is 1-unit volume of cement and 4-unit volume of sand is mixed properly. That is the best mortar mix.

ISSN 2581-5148

Vol. 4, No. 03; May-June 2021

Ceiling Finishes

Ceiling refers to a building finishing material which serves primarily as a thermal insulator of heat coming from the roof of a building. It provides aesthetic interior of the building and accommodates some electrical and mechanical services. Ceiling according to Suman and Srivastava (2009) is the thermal insulation building material essentially to reduce incoming heat flux, since major heat transfer (>60%) occurs through roof in composite climate.

1.2 Statement of the Problem

Building technology programme at NCE level in Colleges of Educations and Polytechnic is aimed at training of students to acquire skills that will enable them to be employed in building construction industries or be self-reliant and to produce teachers for teaching primary, junior and senior secondary school levels.

There have been many complaints about the quality of building skills acquired by Students of Colleges of Education and Polytechnics in North West, Nigeria. Gimba (2011) observed that there is a growing concern among industrialists, that students of Colleges of Education and Polytechnics in North West, Nigeria do not have adequate physical skills including building services and finishing skills necessary for employment in industries. Industries and the world of work are among the employers of building technology graduate, thus, building technology programs should be geared toward satisfying the needs of these industries.

Oranu (2010) also observed that many factors contributed to the ever-rising demand for skills in the labor market which include technological and organizational change, trade, deregulation of key industries and the decline of unions. The inadequacy of skills seemingly acquired by NCE Students of Colleges of Education and Polytechnic has led to an expensive venture of opening training schools in many industries where fresh graduates are being re-trained. This inadequacy in skills also leads to low productivity, poor quality product, and high cost of production and unemployment of the building technology Students into construction industries. Moreover, it leads to the lack of qualified teacher to teach practical skills in technical schools after graduation. It also affects the economy of the nation in general. It is against this background, that the researcher intends to carry out a study comparative analysis of building technology building services and finishing skills acquired by NCE Students in Colleges of Education and Polytechnics in the northwest, Nigeria.

1.3 Purpose of the Study

The purpose of the study was to conduct a comparative assessment of the skills acquired by NCE Students of Building Technology in Colleges of Education and those in the Polytechnics in Northwest, Nigeria. Specifically, the study sought to:

ISSN 2581-5148

Vol. 4, No. 03; May-June 2021

1. Determine and Compare the level of skills acquired by the NCE Students of Building Technology in Colleges of Education and Polytechnics in the skills component of Building Finishes with in the Northwest region of Nigeria
2. Determine and Compare the level of skills acquired by the NCE Students of Building Technology in Colleges of Education and Polytechnics in the skills component of Building Services within the Northwest region of Nigeria

1.4 Research Questions

The following research questions in line with the objectives were raised to guide the study.

1. What is the difference in the level of skills acquired in Building Services by NCE Building Technology students in the Colleges of Education and those in the Polytechnics within North West, Nigeria?
2. What is the difference in the level of skills acquired in Building Finishes by NCE Building Technology students in the Colleges of Education and those in the Polytechnics within North West, Nigeria?

1.5 Hypothesis

HO_1. There is no significant difference in the level of skills acquired in the area of Building Finishes between NCE Building Technology Students of Colleges of Education and those in the Polytechnics within the Northwest region of Nigeria.

HO_2. There is no significant difference in the level of skills acquired in the area of Building Services between NCE Building Technology Students of Colleges of Education and those in the Polytechnics within the Northwest region of Nigeria.

1.6 METHODOLOGY

The descriptive survey research design was adopted to elicit information on the level of skills acquired by these set of students in their various institutions. This method was adopted in this study to collect direct data from the NCE Building Technology students in the Colleges of Education and the Polytechnics in Northwest, Nigeria on skills acquired in Building Technology practice. This researcher believes that a survey research design is suitable for a study such as this research because according to Ali (2006) a descriptive study uses a sample of the population to investigation, document, describe and explain what is in existence or non-existence on the present status of the phenomena being investigated. He further stated that in a survey study, views and facts are collected through questionnaires, interviews, among others, analyzed and used for answering research questions. Therefore, the survey research design is considered suitable for this study since data was collected through questionnaires from Building Technology Students on the assessment of building technology skills acquired by NCE Students in Colleges of Education and Polytechnics in the Northwest, Nigeria. The study was carried out in the North-West, Nigeria, namely: Kaduna, Kano, Kebbi, Katsina, Jigawa, Sokoto and Zamfara States. According to Aliyu & Kwabe (2019), the area lies within the latitude and longitude of 100-140 N and 30-70 E of the country. The North-West States of Nigeria shares

ISSN 2581-5148

Vol. 4, No. 03; May-June 2021

boundaries with Bauchi and Yobe states by the east, its shares boundaries with Plateau, Nasarawa, Niger and FCT by the south and with the Republic of Benin, while by the north, it shares boundaries with Niger republic respectively.

The population of the study is made up of 154 NCE III students. This comprised of 84 students from Polytechnics and 70 students from Colleges of Education that offer NCE Building Technology in North-West Nigeria. These were drawn from the State and Federal Colleges of Education and State and Federal Polytechnics in Northwest states.

Purposive sampling technique was used for the study to select only the NCE III Building Technology Students from both the Colleges of Education and Polytechnics programmes in the North West States who have almost covered the curriculum for their building technology programme, and have spent more than two years within their schools. In this way a total of 154 students offering Building Technology at NCE III level from the various schools comprised the sample population.

A structured questionnaire developed by the researcher was used as an instrument for data collection. The questionnaire comprised of personal data of the respondents in section A, which includes the type of institution (Polytechnics/Colleges of Education) and the status of the respondents (student). While section B was on building finishes and services. The structured questionnaire was used to investigate Research Questions 1-2, based on a 5-point Likert scale with the following response categories:

Excellently Acquired (EA) = 5points;
Highly Acquired (HA) = 4points:
Moderately Acquired (MA) = 3points,
Poorly Acquired (PA) = 2points,
Very Poorly Acquired (VPA) = 1point.

All the questionnaire items were responded to by the NCE III Building Students respectively.
The instrument for data collection was subjected to face and content validation by three lecturers from the Department of Technology Education MAUTECH. The Lecturers were given copies of the questionnaire. They scrutinized each item of the questionnaire for clarity of statements. They also examined the appropriateness and suitability of all items of the questionnaire. Their suggestions and corrections were used in modifying the instrument accordingly. The validated instrument was then used for data collection.

The instrument was administered to the Students of Ramat Polytechnic in Borno State and College of Education Hong in Adamawa state which are both out of the researcher's study area but having similar characteristics with those in the study area. The results obtained from the reliability test were analyzed using Cronbach alpha formula and the reliability coefficient of 0.85 was obtained.

ISSN 2581-5148

Vol. 4, No. 03; May-June 2021

The researcher administered the instrument to the respondents with the help of three research assistants. The research assistants were trained on how to administer the questionnaire. The copies of the questionnaire were re-collected by the research assistants as soon as the respondents finished responding to the questionnaire items.

The data collected for the study were analyzed using mean, standard deviation and Z-test. Mean and the standard deviation was used to answer the research questions 1 to 5 while Z-test was used to test the hypotheses at 0.05 level of significance.

Decision Rule: For answering research questions, the decision was any item with a mean response of 4.5 to 5.0 were considered Excellently Acquired while items with a mean response of 3.50 to 4.49 were considered Highly Acquired, item with a mean response of 2.50 to 3.49 were considered Moderately Acquired, item with a mean response of 1.50 to 2.49 were considered poorly Acquired finally, item with a mean response 0.5 to 1.49 were considered very poorly Acquired. For testing the null hypothesis, if the calculated Z- value is equal or less than the Z– critical the null hypothesis was rejected. While, if the calculated Z-value is greater than the Z-table (Z-critical), the null hypothesis was accepted.

1.7 RESULTS

The results of the study in line with the research questions and hypotheses that guided the study

Research Question One: What is the difference in the level of skills acquired in Building Services by NCE Building Technology students in the Colleges of Education and those in the Polytechnics within North West, Nigeria?

A total of twelve (12) Building Services skill items were raised from the NCCE Minimum Standards document for NCE Building Technology students to determine the level of difference in the skills acquired by the two groups of students under study. The results as presented on this Table 4 clearly shows a higher level of skills acquired by both groups over their performance under the Block laying, Bricklaying and Concreting skills studied under Research Question 3.From the data on this Table 4 it is also clear that while the NCE Building Technology students continues to show some measure of better skills acquisition than their counterparts from the Polytechnics, there is also a clear indication of better skills acquisition from the NCE students in the Polytechnics.

Table: 1.0 Differences in the Mean Rating of Building Services Skills Acquire by NCE Building Technology Students in the COE and Polytechnics within Northwest Nigeria

ISSN 2581-5148

Vol. 4, No. 03; May-June 2021

S/N	ITEMS	$\bar{X}_1$	$\bar{X}_2$	$\bar{X}_G$	σ	Remarks
1	Ability to install Carbon monoxide detectors	3.23	3.59	3.41	1.21	MA
2	Ability to install Fire safety, detection and protection equipment	3.46	3.47	3.47	1.20	MA
3	Ability to install air conditioning appliances (HVAC)	3.69	3.51	3.60	1.15	HA
4	Ability to install Information and communications technology (ICT) networks equipment.	3.67	3.31	3.49	1.17	MA
5	Ability to use lifting appliances	3.48	3.47	3.48	1.15	MA
6	Ability to lay/install a plumbing piping work.	3.58	3.29	3.44	1.20	MA
7	Ability to carry out electrical piping work.	3.56	3.47	3.52	1.21	HA
8	Ability to have a Strong technical drawing skill	3.68	3.43	3.56	1.14	HA
9	Ability to install the plumbing fittings	3.40	3.69	3.55	1.14	HA
10	Ability to install the electrical fittings	3.70	3.26	3.48	1.17	MA
11	Ability to make an observation for detail and good design	3.49	3.44	3.47	1.23	MA
12	Ability to have an excellent on building services	3.06	3.34	3.20	1.34	MA
	Grand Mean	**3.50**	**3.44**	**3.47**	**1.19**	

Key: $\bar{X}_1$=mean rating of COE Students,$\bar{X}_2$ =mean rating of Polytechnics Students,$\bar{X}_G$ =Grand mean of items, σ =standard deviation

The data presented on this Table 1 shows that the NCE Building Technology students from the COEs rated highly in six (6) out of the twelve (12) skills items presented and also made very high mean scores between of 3.50 and 3.44Mean even in the skills they moderately acquired. On the other hand the NCE Building Students from the Polytechnics scored highly in three (3) out of the twelve (12) skills items presented. The data also show some improvement even in the items the Polytechnics students showed moderate skills acquisition with their mean scores ranging between 3.50 and 3.44 mean scores.

At this point of the analysis the researcher feels safe to conclude that the Building Technology students from the Colleges of Education did better than those from the Polytechnics in Building Services skills they acquired. However, the level of significance of this difference would be determined under Hypothesis analysis.

Research Question Two: What is the difference in the level of skills acquired in Building Finishes by NCE Building Technology students in the Colleges of Education and those in the Polytechnics within North West, Nigeria?

Research Question 5 was design to study the level of differences in skills acquired by NCE Building Technology students and those also offering NCE Building Technology in the Polytechnics within the North Eastern part of Nigeria. Six (6) Building Finishes skills related Items were presented to the students under this research question and the data collected therefrom was analyzed using Mean and

ISSN 2581-5148

Vol. 4, No. 03; May-June 2021

Standard Deviation statistics. The result of this data analysis is presented in Table 5.0. Generally, the data on this table shows that the two groups of students performed highly in the skills they acquired.

Table: 2.0 Rating of Mean Differences in Building Finishes Skills Acquire by NCE Building Technology Students in the COE and Polytechnics within Northwest Nigeria

S/N	ITEMS	$\bar{X}_1$	$\bar{X}_2$	$\bar{X}_G$	σ	Remarks
1	Ability to apply plaster to the walls	3.70	3.79	3.75	1.19	HA
2	Finishing the surface in order to meet the given tolerances	3.70	3.66	3.68	1.12	HA
3	Ability to fix different types of suspended ceilings	3.62	3.63	3.63	1.05	HA
4	Ability to fix different types of dropped ceilings	3.64	3.80	3.72	1.15	HA
5	Ability to apply emulsion/ texture paints on building surfaces.	3.87	3.44	3.66	1.20	HA
6	Ability to apply gloss paints on building surfaces.	3.52	3.63	3.58	1.14	HA
	Grand Mean	**3.69**	**3.66**	**3.67**	**1.14**	**HA**

Key: $\bar{X}_1$=mean rating of COE Students,$\bar{X}_2$ =mean rating of PolytechnicsStudents,$\bar{X}_G$ =Grand mean of items, σ =standard deviation

The summary of the students' performance as presented in this Table 2.0 shows that there is only a very slim measurable difference between the COE and the polytechnics NCE Building Technology students. The data on the last row of this Table 5.0 shows that while the COEs students scored 3.69 on the Grand Mean (i.e. 0.02 above the pulled mean of 3.67 for the two groups), the students from the Polytechnics scored a Grand Mean of 3.66 (i.e. 0.01 below the pulled group Mean of 3.67). It is therefore safe to conclude that there is slight measurable difference in the level of skills acquired under Building Finishes in favour of the students from the Colleges of Education.

***Hypothesis One**: **HO$_1$**. There is no significant difference between the level of skills acquired in Building Finishes by Building Technology Students of Colleges of Education and that acquired by Building Technology Students in the Polytechnics within North West, Nigeria.*

The data generated under Research Question 4 on skills acquired by students in Building Services was once again subjected to a z-test to determine whether the difference under this research was significant or a chance error. The result of the z-test of these data is presented in Table 3.0

ISSN 2581-5148

Vol. 4, No. 03; May-June 2021

Table 3.0: Z-test Analysis of Difference in level of Building Services Skills Acquired by Building Technology students in the COEs and students from the Polytechnics

Respondents	N	$\bar{X}$	S^2	z-cal	Sig.	Decision
COE Students	84	42.01	6.09			
				0.33	0.05	Accepted
Poly Students	70	41.24	3.49			

Key: N=numbers of respondents, x mean, S^2=standard deviation, z-calculated value, z- critical value.

The result of the z-test analysis presented in Table 3.0 shows that that the z-calculated is 0.33 which is 0.28 greater than0.05 the critical value. Therefore, the null hypothesis is accepted indicating that there was no significant difference between the mean responses of COE and Polytechnic Students based on the Building Finishes skills they acquired in North-Western states of Nigeria.

Hypothesis Two: HO_2. *There is no significant difference between the level of skills acquired in Building Services by Building Technology Students of Colleges of Education and that acquired by Building Technology Students in the Polytechnics within North West, Nigeria.*

Table 4: Z-Test Analysis of Difference between the Level of Skills Acquired by COE students and Polytechnic Students on the Building Services Skills Acquired

Respondents	N	$\bar{X}$	S^2	z-cal	Sig.	Decision
COE Students	84	22.15	4.13			
				0.75	0.05	Accepted
Poly Students	70	21.94	4.09			

Key: N=numbers of respondents, x mean, S^2=standard deviation, z-calculated value, z- critical value.

The z-test analysis result presented in Table 4.0shows that the z-calculated returned a value of 0.75 which is greater than the z-critical at 0.05 level of significance. Hence, the null hypothesis was accepted indicating that there was no significant difference between the mean responses of COE and Polytechnics Students based on the building services skills acquired in Northwest states.

1.8 FINDINGS

Based on the analysis of the data collected for this study under the research questions and hypothesis testing, this study has revealed that:

1. The level of skills in Building Finishing as acquired by the NCE Building Technology students in the Polytechnics and Colleges of Education in North West, Nigeria showed a comfortably high improvement for the students from the COEs at 3.50 Mean and moderately high acquisition by the Polytechnics students at 3.44 Mean.

ISSN 2581-5148

Vol. 4, No. 03; May-June 2021

2. There is seemingly clear difference in the level of skills acquired by the NCE Building Technology students from the Colleges of Education and those from the Polytechnics in North West Nigeria in the area of Building Finishing. Those NCE students from the Colleges of Education scored a mean of 3.50, while those from the Polytechnics had a mean of 3.44. On further testing under the Hypothesis 4 it was established that the differences in their means was not significant for the two groups of NCE Building Technology students.

3. The level of skills in Building Services as acquired by the NCE Building Technology students in the Polytechnics and Colleges of Education in North West, Nigeria showed a a continued improvement for both the students from the COEs (3.69mean) and also high for the Polytechnics students at 3.66 mean.

4. There is a measurable difference in the level of skills acquired by the NCE Building Technology students from the Colleges of Education and those from the Polytechnics in North West Nigeria in the area of Building Services. Those NCE students from the Colleges of Education scored a mean of 3.69, while those from the Polytechnics had a mean of 3.66. This difference was once again tested under the Hypothesis 5 this difference was insignificant for the two groups of NCE Building Technology students.

1.9 DISCUSSION OF FINDINGS

The finding of the study in research question 1 revealed that the Students of Building Technology in Polytechnics and Colleges of Education in North West, Nigeria have acquired the skills in Building services. This finding corroborates with the findings of Rechart (2011) who found that the building Students acquired the finishing skills required in technical Colleges in Ebonyi state.

Finally, the findings relating to hypothesis in table 4 revealed that z-calculated is 0.75 which is greater than 0.05 level of significance. Hence, the null hypothesis was accepted indicating that, there was no significant difference between the mean responses of COE and Polytechnics Students based on the building services skills acquired in Northwest states. The present study is in contrast with the finding of Chedi (2015) who found that there is a significant in the mean response of the BBC Students in Technical Drawing/ Graphics Skills Acquired for Teaching and Learning and Challenges in Technology Education.

1.9.1 Summary

Among the aims of building technology programme at NCE level in Colleges of Educations and Polytechnics is to train the students toward acquiring skills that will enable them to be employed in building construction industries or be self-reliant.

There have been several complaints about the quality of building skills acquired by Students of Colleges of Education and Polytechnics in North West, Nigeria. Gimba (2011) observed that there is

ISSN 2581-5148

Vol. 4, No. 03; May-June 2021

a growing concern among industrialists, that Students of Colleges of Education and Polytechnics in North West, Nigeria do not fully possess adequate work skills necessary for employment in industries. Oranu (2010) also observed that many factors have contributed to the ever-rising demand for skills in the labour market which include technological and organizational change, trade, deregulation of key industries and the decline of the economy. Richard (2011) also observed that there is unemployment among youths appear to be shooting up the sky. This may be due to little or no skill acquired by the students during training in Technical Colleges

The study compared the skills acquired by Building Technology Students in Polytechnics and Colleges of Education in North West, Nigeria. Specifically, it determined the level of skills acquired in Building services and the skills acquired in Building finishing by the Students of Building Technology in Polytechnics and Colleges of Education in North West, Nigeria.

The descriptive survey research design was used for the study. The study was carried out in Northwest Polytechnics and Colleges of Education in Nigeria with a population of 154 NCE III building Students and 20 building teachers while the Purposive sampling technique was used. A structured questionnaire based on a 5-point Likert scale was also used. Mean, standard deviation and Z-test were used for the data analysis.

1.9.2 Conclusion

Conclusively, the Students did not highly acquire the skills in Building finishing were Highly Acquired by the Students of Building Technology in Polytechnics and Colleges of Education in North West, Nigeria. The Students of Building Technology in Polytechnics and Colleges of Education in North West, Nigeria require more training on Building services skills.

1.9.3 Recommendation

Based on the findings of the study, the following recommendations were made:

1. The building technology teachers in Polytechnics and Colleges of Education in North West, Nigeria should be given more training on building finishes skills for them to be highly skillful and self-reliant citizens.
2. The building teachers and Students of Polytechnics and Colleges of Education in Northwest, Nigeria should be advised to strongly emphasized building services practical work during the teaching and learning session.

REFERENCES

1. Dogara, G. (2011). Employability Skills Required by Polytechnics of Graduates Building Technology in Nigeria. Unpublished M. Ed thesis, Department of Vocational Teacher Education (VTE), Faculty of Education, University of Nigeria. Nsukka. 56 – 58.

2. Ezeji, C. (2012). Adequacy of Instructional Materials for Teaching Technical Subject in Technical Colleges of Anambra and Enugu State. Unpublished M.Ed. Thesis, Department of Vocational Teacher Education, University of Nigeria, Nsukka. 37 – 38.

3. Ferej, A., Kitainge, K. & Ooko, Z. (2012). Reform of TVET Teacher Education in Kenya: *Overcoming the Challenges of Quality and Relevance*: Triennale on Education and Training in Africa (Ouagadougou, Burkina Faso, February 12-17.

4. Okorie, J. U. (2010). Developing Nigerian's Workforce. Calabar Environs press.

5. Onyemaechi, K. E., Nnennaya S. O.,.and Anyatonwu N. (2014). Technical and Vocational Education and Training (TVET) For Sustainable Future in Nigeria. *Journal Resourcefulness and Distinction, 8* (1) 2-3.

6. Oritsebemigho, T. O. (2014). An Appraisal of the Revised Nigeria Certificate in Education Minimum Standards (English language curriculum). *European Scientific Journal 6* (7) 167 -168.

7. Richard, O. (2011). Strategies for Improving Skills Acquired of Building Technology. Unpublished Master's Thesis Department of Vocational Teacher Education University of Nigeria Nsukka 34 – 35.

8. Rislkat, k. A. (2009). Assessment of the Adequacy and Utilization of Woodwork Equipment for Skills Acquired in Technical Colleges in Lagos and Ogun States. Unpublished Master's Thesis Department of Vocational Teacher Education University of Nigeria Nsukka 55 – 56.

9. Rockford, I. L. (2018). Purified Drinking Water: 10 Stage Water Purification Process HomeenvironmentCenterhttps://www.google.com/ 8.

10. Sa'idu, I. J. (2017). The Roles and Contributions of Nigerian Polytechnics in the Development of Surveying and Geo-Informatics Education, Issues, Prospects and Challenges: A Global Perspective.6.

11. UNESCO (2011). Technical and vocational Education and training. *http://www.unesco.org/new/en/Education/themes/Education-building-bl*.Retrieved on 16/06/2019.

12. Uwaifo, V.O. (2009). "Technical Education and its Challenges in Nigeria in the 21st Century. *International NGO Journal 5*(2) 40-44.