



Assessment of Level of Utilizations of Resources for Effective Skills Acquisition in Electrical Installation and Maintenance Work Trade In Science And Technical Colleges Of Yobe State

Ibrahim Mohammed Dawasa & Abba Zakar Ibrahim

**Federal College of Education (Technical) Potiskum, Yobe State, Nigeria
dandawasa1974@gmail.com**

ABSTRACT

This study assessed the level of utilization of resources for effective skills acquisition in electrical installation and maintenance work trade in Science Technical Colleges of Yobe state. Survey research design was adopted. The population of the study comprised of the NTC III electrical installation and maintenance work trade students across the eight Science and Technical Colleges of Yobe state. The entire population was used in the study hence; there was no sample and sampling technique. The data that answered research question were collected using a structured questionnaire drawn from NBTE minimum standard. The findings of the study revealed that most of the resources are not utilize in the Science and Technical Colleges of Yobe State for effective skills acquisition in electrical installation and maintenance work. Therefore, the study recommends that, the available equipment, tools instrument should be frequently utilize by the students during practical hours and The National Board for Technical Education (NBTE) should regularly supervise the Technical Colleges to ensure that its stipulated standards are maintained.

Keywords: Level of utilization, Skills acquisition and Technical Colleges

INTRODUCTION

Skills acquisition is as old as the existence of man. In every human endeavour there are skills acquisition relating to the needs of a particular society. However, the emphasis on skills acquisition in Technical and Vocational Education and Training (TVET) cannot be overemphasized. Technical and Vocational Education aims at producing individuals who can be self-reliant or be employable in one industrial sector or the other (Omofonwan, 2016). Skill acquisition by students can only be achieved where the training institutions are adequately funded, equipped with adequate facilities and have competent and experienced manpower (Teachers and Workshop Technologist) that adopt effective and efficient instructional methods. When an institution has such it would facilitate and improve student's skills acquisition as asserted by Bassey and Inyang (2011). The acquisition of skill involves imitation, repetition and occupational participation. According to Idi (cited in Lawan, 2018), acquisition of skill cut across the three domains of educational objectives, namely: affective, cognitive and psychomotor. However, skill acquisition in formal school set-up such as technical colleges cannot be effective without adequate resources for teaching and learning.

Assessment is view as a process to determine the importance, size or value of something, while (Nwoye, 2012) view assessment as the process of documenting usually in measurable terms, knowledge, skills, attitudes and belief. In order to promote skills acquisition in technical college's assessment is conducted to ascertain the adequacy and the level of utilization of the available resources on the ground. Therefore, it is seen as an integral part of the curriculum, learning and teaching and feedback cycle. Assessment being a practice of collecting evidence of student learning, should be so designed to assess the adequacy and level of utilization of resources for skill acquisition in science and technical colleges of Yobe State.

Resources constitute a major strategic factor in organizational functioning. Resources in an organization are as important as the achievement of goals and objectives of the organization. Resources according to Umeh (2016), means something that can be used to enhance or improve educational programmes and promote skills acquisition.

The main purpose of the utilization of material resources is to improve the quality of teaching and learning, thereby helping to actualize the objectives of the Technical Education curriculum. Ajayi (2012) opined that resources utilization in technical colleges posed serious challenges because there are instances where some resources are available but the teachers are not able to utilize them in teaching and learning process as a result of lack of skills. Also in some technical colleges, some modern equipment being provided for teaching and learning of skills are not being utilized by teachers for skills acquisition which resulted to less or no skill acquisition by the students. Hence this called for the utilization of the available resources for skills acquisition in technical colleges.

Research Question

The study provided answers to this research question.

1. What is the level of utilization of the available Equipment of electrical installation and maintenance work trade in Science and Technical Colleges of Yobe State?

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

The theoretical framework of this study was based on system theory of Bertalanffy, which was developed in 1915. The theory is stated as “all system have different parts performing different functions but in such a way that each part interacts and is interdependent with other parts and with other system (Benham in Yakubu, 2013).

Utilization of a wide variety of instructional resources can stimulate the interest and active engagement of learners to acquire the required skills. According to Oxford Advanced Learner’s dictionary, the word utilization comes from the root word utilize which is defined as using something especially for a practical purpose. Utilization in this context refers to using available resources for skills acquisition in various trades in technical education at technical colleges. Miller (2017) opined that effective utilization of resources in technical colleges makes teaching and learning of electrical installation and maintenance work trade more interesting and to enables the students to participate fully in the actual work or task to be performed during practical work. The teachers are therefore expected to give considerable attention to the use of appropriate instructional resources to stimulate student’s interest for skills acquisition. Utilization of resources in technical colleges is as important as the achievement of goals and objective of the program. Students learning outcome is not likely to be known or observed without utilizing the appropriate resources effectively and appropriately (Ibukun, 2011)

Effective utilization of instructional facilities will enhance learning activities, while non-utilization will only create negative feeling in the students (Haruna, 2017). It has thus, become inevitable to show concern with the utilization of resources (both human and material) being made available to the vocational and technical education sector (Salami in Haruna 2017). Continuous non- utilization of available resources lead only to materials wastage. According to Raw (2003) appropriate utilization of resources in schools controls dropout rates, maintains student discipline and makes students remain motivated for longer a period.

RESEARCH METHODOLOGY

In effort to assess the level of utilization of the available resources for effective skills acquisition in Electrical Installation and Maintenance Work Trade the study employed descriptive survey research design. According to Uzoagulu (2011), a survey research is a type of descriptive research in which data are usually collected, organized and described as they exist without interfering with the data. The area of this study comprised all the eight (8) science and Technical Colleges within Three educational zones of Yobe State. The Instrument for Data collection for this study was a four-point Likert scale questionnaire drawn from NBTE Minimum standard. The instrument was validated by three experts. Data collected were analysis using statistical package for social sciences (SPSS) 2.50 was used as point of acceptance. This implies that items that score a mean response of 2.50 and above were regarded as utilized, while items that score mean response below 2.50 were regarded as not utilized.

RESULT AND DISCUSSION

Table 1: Mean and Standard Deviation Responses of NTC III Electrical Installation and Maintenance Work Trade Students on the Level of Utilization of Available Equipment for Skill Acquisition in Science and Technical Colleges of Yobe State

S/N	Items	\bar{X}	S.D	Remarks
1.	Work Bench	3.01	0.59	Utilized
2.	Crowbar	2.12	0.75	Not Utilized
3.	Conduit bending m/c	2.34	1.21	Not Utilized
4.	Stock & Dies	1.56	0.76	Not Utilized
5.	Conduit Vice	2.60	0.88	Utilized
6.	Clamp	3.16	0.74	Utilized
7.	Winding Machine	1.81	0.95	Not Utilized
8.	Battery Charger	1.56	0.86	Not Utilized
9.	Grease Gun	1.56	0.80	Not Utilized
10.	Wiring Board's	3.37	0.77	Utilized
11.	Oil Can	1.67	0.82	Not Utilized
12.	Ladder	3.07	0.97	Utilized
13.	Scaffolding	1.83	0.91	Not Utilized
14.	Blow Lamp	2.39	0.88	Not Utilized
15.	Pot and Ladle	1.59	0.83	Not Utilized
16.	Google	3.15	1.07	Utilized
17.	Soldering Iron	2.96	1.16	Utilized
18.	Soldering Bit	3.29	0.83	Utilized
19.	Welding & Brazing Equip.	1.59	0.72	Not Utilized
20.	First Aid Box	3.22	0.78	Utilized
21.	Heater	2.63	1.08	Utilized
22.	Boots	1.59	0.75	Not Utilized
23.	Helmet	2.05	0.97	Not Utilized
24.	Safety Belt	1.73	0.84	Not Utilized
25.	Overall Uniform	3.44	0.80	Utilized
26.	AC and DC Ammeter	3.33	0.81	Utilized
27.	AC and DC Voltmeter	3.36	0.79	Utilized
28.	Ac and DC Avometer	3.47	0.66	Utilized

Table 9 Cont'd.

S/N	Items	\bar{X}	S.D	Remarks
29.	Wattmeter	3.07	0.81	Utilized
30.	Megger	1.57	0.79	Not Utilized
31.	Technometer	1.52	0.76	Not Utilized
32.	Neon Tester, Voltage Tester	3.22	0,89	Utilized
33.	Steel Rule	3.36	0.78	Utilized
34.	Oscilloscope	1.69	0.85	Not Utilized
35.	Hydrometer	1.63	0.83	Not Utilized
36.	Ohmmeter	3.16	0.84	Utilized
37.	Spirit Level	1.81	1.11	Not Utilized
38.	Micrometer	2.95	0.91	Utilized
39.	Growler	1.63	0.73	Not Utilized
40.	Bridge Megger	1.67	0.79	Not Utilized
41.	Signal Generator	1.45	0.85	Not Utilized
42.	Screw Driver Set (small, medium & large)	3.39	0.74	Utilized
43.	Allen Keys	3.53	0.71	Utilized
44.	Strippers	2.36	0.69	Not Utilized
45.	Hammers	3.38	0.60	Utilized
46.	Pliers (long nose & combination)	3.21	0.75	Utilized
47.	Cutters	3.19	0.78	Utilized
48.	Hacksaws	3.16	0.81	Utilized
49.	Mallets (rubber, raw hide & wooden)	3.11	0.73	Utilized
50.	Spanners (flat, ring & socket)	3.46	0.67	Utilized
51.	Files (hand & flat)	1.63	0.74	Not Utilized
52.	Chisels	1.80	0.93	Not Utilized
53.	Taps, Dies	2.84	1.25	Utilized
54.	Drills (Manual/electric)	2.72	073	Utilized
55.	Hand & Machine Reamers	1.77	0.85	Not Utilized
56.	Extractor	1.67	0.81	Not Utilized
57.	Electrician's Knives	2.80	0.82	Utilized
58.	Rawl Plug	1.52	0.72	Not Utilized
59.	Pipe Wrenches	1.70	0.92	Not Utilized
60.	Gimlet	1.71	0.81	Not Utilized
61.	Centre Punch	3.06	0.78	Utilized
62.	Bell and Battery Set	3.12	0.75	Utilized
63.	Compressing Tool	2.37	0.93	Not Utilized
64.	Ringing Tools	1.57	0.78	Not Utilized
65.	Crimping Tools	1.65	0.88	Not Utilized

The finding relating to the research question in the table revealed that only thirty one (work bench, conduit vice, clamp, wiring boards ,ladder, goggle, soldering iron, soldering bit, first aid box, heater, overall uniform, AC & DC Ammeter, AC & DC Voltmeter, AC & DC Avometer, wattmeter, neon tester, voltage tester, steel rule, ohmmeter, micrometer, screw driver set, allen keys, hammer, plier, , hacksaw, mallets, spanners tap& die, drills, extractor, centre punch and bell battery) out of the sixty five (65) list of equipment, tools and instrument specified by NBTE for skill acquisition in electrical installation and maintenance work trade in Science and Technical Colleges of Yobe State are being utilize by the students. This result is in agreement with the finding of Dolor (2011) who noted that most of teachers of technical trade in Technical Colleges have little or no knowledge of manipulating the modern machines and equipment. This could be as a result of lack of those modern machines and equipment in the school. In a similar finding by Moresola (2015) on the state of utilization of instructional resources in Nigerian technical colleges revealed that utilization of tools and equipment will stimulate students senses and generate greater interest in the learning, system and assist in the retention of ideas.

CONCLUSION AND RECOMMENDATIONS

Resources utilization are necessary ingredients for the attainment of the objectives of Technical College education, but this study has found out that, most of these resources are not utilize in the Science and Technical Colleges of Yobe State. On the basis of these findings therefore, it could be concluded that students of electrical installation and maintenance work trade in these Science and Technical colleges are learning without utilizing the required resources for skills acquisition and this may have affected the preparation and performance of the students over the years. Therefore, the study recommends that, the available equipment, tools instrument should be frequently utilize by the students during practical hours and The National Board for Technical Education (NBTE) should regularly supervise the Technical Colleges to ensure that its stipulated standards are maintained.

REFERENCES

- Ajayi, M. A. (2012). Industrialising the Nigerian Society through creative skills acquisition in vocational and technical education programme. *Journal of education foundation*, 4(27), 153-158.
- Bassey, S U, &Inyang, H I (2011). Instructional Materials and Students Skill Development Efforts in Junior Secondary Business Studies in Selected Schools in Akwa Ibom State of Nigeria, *Nig. J. Voc. Educ.*
- Haruna, H.M (2017). Assessment of the adequacy and utilization of electrical/electronic workshop equipment in technical colleges in Kaduna state. Unpublished *master's theses*, University of Nigeria Nsukka.
- Ibukun, W. O. (2011): Funding of Primary Education in Nigeria. *Journal of the Department of Educational Foundations and Management*. University of Ado-Ekiti, Nigeria. 1: 136
- Lawan, A.B (2018). Assessment of instructional resources in Kano State Technical Colleges. Unpublished *Master's Thesis*, Abubakar Tafawa Balewa University, Bauchi Nigeria.
- National Board for Technical Education, (1992). Standard and Criteria for institutional and programme accreditation in Technical Colleges and Similar Technical Institutions in Nigeria, Kaduna, Nigeria. Government press.
- Nwoye, A. N. (2012). Assessment of Resources and Level of Entrepreneurials Skills Acquired by Secondary Schools Physics Student's in Anambra State. Unpublished *Master's Thesis* Nnamdi Azikiwe University, Awka.
- Umeh, E .M (2016) Teaching strategies and students' skill acquisition in goat husbandry in UyoLocal Government Area. *Unpublished Master's Dissertation*, University of Uyo, Uyo.
- Dolor, N. I. (2011). Infusing Educational Technology into Main Stream Educational Computing. *International Journal of Instructional Media*, 16(11), 21-32
- Miller, A. (2017). Technical Colleges Teachers in Nigeria Issues, Problems and Challenges. *Mediterranean journal of social science*. 2(7), 201-205.
- Moresola, J. N. (2001). Vocational and Technical Education in Nigerias; Issues and Analysis. Onitsha: Noble Graphics Press.

- Omofonwan, G.O (2018). Availability and adequacy of resources for skill acquisition in digital electronics repairs in national open Apprenticeship scheme in Edo State, Nigeria. *International journal of vocational technical education*. Vol5 (6) pp110-116.
- Raw, V. K. (2005). *Quality teaching*. New Delhi. APH Publishing Corporation
- Uzoagulu, A. E. (2011). *Practical Guide to Writing Research Report in Tertiary institution*. Enugu: Cheston Limited Publishers.
- Wikipedia (2013). *System theory: Wikipedia, the free dictionary*: Retrieved 11th February 2013 from <http://en.wikipedia.org/wiki/sysemstheory>..
- Yakubu, E. G. (2013). Relationship between Pre-service Technical Teacher Training in Colleges of Education and Job Performance of Technical Teachers in North-Eastern Nigeria. *Unpublished Doctoral thesis*, Modibbo Adama University of Technology Yola.