



Assessment Of Availability And Adequacy Of Workshop Facilities For Practical Skills Acquisition In Technical Colleges In The North East Geopolitical Zone, Nigeria

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ABSTRACT

This study Assessed Workshop Facilities for Practical Skills Acquisition in Technical Colleges in the North East geopolitical zone, Nigeria. The study has two purposes. It was guided by two research questions. The research adopted two theories based on their applicability to the study, these are the Scientific theory of Management and the Process Habit theory. The study adopted descriptive survey research design. The area of the study is North East geopolitical zone, Nigeria. The targeted population of the study is 222 respondents which comprise 157 Electrical Installation and Maintenance Works/Electronic Works trade Teachers and 65 workshop attendants of Government Science and Technical Colleges. Purposive sampling technique was adopted to select three states out of six states in the North East. The sample comprises 107 respondents which comprises 75 teachers and 32 workshop attendant. Check list was used as the instrument for data collection. The instrument was subjected to validation by three experts: two Lecturers from the Department of Electrical Technology Education Modibbo Adama University, Yola and one Lecturer from Federal College of Education (Technical) Gombe. The instrument was trial tested on five (5) Electrical Installation and Maintenance Work/Electronic Work Trade teachers and three (3) workshop attendants in Government Technical College Bukuru in Plateau state. Data collected from the trial test was analyzed using Cronbach Alpha and a reliability coefficient of 0.90 was obtained. Percentage was used to answer the research questions. The result of the findings showed 61% of equipment are available, 69% of tools are available and 75% of consumable materials are available. Generally, 70% of the whole items found available. Maintenance programme carried on electrical installation and maintenance/ electronic work equipment and tools was agreed by the respondent among others. The following recommendations among others were made based on the findings of the study, the government should ensure the availability of workshop facilities as it is crucial to invest in and provide essential equipment, tools and consumable materials that is currently lacking in the EIMW/ELW workshop. The schools should establish a comprehensive maintenance program for both equipment and tools. This should include regular servicing of equipment, immediate cleaning of used tools, and daily workshop cleanup.

Keywords: Practical Skills Acquisition, Workshop Facilities, Electrical Installation

INTRODUCTION

Technical College is an organized Secondary Education where specialized type of education aimed at providing skills and knowledge required for employment in an occupation is conducted. One of the major aims of technical education as a programmed offered in technical colleges is the acquisition of appropriate skills for the individual to live and contribute to the development of the society (Federal Republic of Nigeria, 2013). To achieve the aims of technical education, it therefore means that an individual will pass through a formal training programmed in any of the technical institutions where technical trade related programmes in Electrical Installation and Maintenance work, Welding and fabrication; Building Construction, Radio, Television and Electronic work, Motor Mechanic Work, and Carpentry and Joinery are offered Usman, Kareem and Akimpande, (2021).

In order to achieve this, technical institutions are expected to focus on workshop practices in addition to classroom lectures with adequate practical demonstration which is generally considered to be the key for concrete learning (Mbaga, Sambo and Aminu, 2018). Assessment according to Abdulkadir and Ma'aji (2014) is the systematic process of generating data about traits, performances, projects, activities e.t.c. for the purpose of making evaluative judgments. Therefore, assessment in the context of this study is a systematic process of generating data about Availability and effectiveness of workshop facilities for the purpose of making evaluative judgments. Technical colleges are mainly established for the training of students to acquired practical skills, knowledge and attitude. However, the major goals of technical college education is to produced efficient and relevant craftsmen and women that will promote an industrial development in the area of maintenance, goods production and general services. The goal of technical college education is to develop saleable skills in youths in order to make them useful to themselves, society and also become labor assets in the industries (Abdulkadir and Ma'aji, 2014). Technical Colleges in Nigeria are established to produce craftsmen at the craft level and master craftsmen at the advance craft level Federal Republic of Nigeria (FRN, 2013). Deebom and Obolor (2018) defined technical colleges as institutions where specific knowledge and practical skills required for specific trade, employment or professional craftsmen, and master craftsman or similar level in business and industry are imparted or taught. Federal Republic of Nigeria (FRN, 2013) stated the aim of technical colleges' curriculum is to give training and impart the necessary skills leading to the production of craftsmen, and master craftsmen who will be enterprising and self-reliant. Technical colleges enroll students who must not be less than 14 years of age and should have successfully completed three years of junior secondary education or its equivalent.

Practical Skills acquisition is the process by which individuals are expected to learn and continuously practice a particular task till they becomes proficient in the operation and can perform them when required. Skills are acquired when procedural instructions are matched with performance activities. For skills to be acquired, there must be opportunities for participation and practice of such skills under real life situation. Skill acquisition is very necessary at this stage of Nigeria's economic and technological development. Acquisition of skills prepares students for vocational occupation and progressive development in it. Skill acquisition remains the major goal of vocational technical education and this helps to satisfy the personal work needs of both the individual and the society. To acquire skills in vocational technical education programmed at Technical colleges, opportunities must be provided for students to practice the skills they are taught in an environment that is relevant to the job. Such opportunities that should be provided may improve practical skill acquisition of Electrical installation/Electronic works technology students include, allocation of more time for practical work, and, provision of work shop facilities (Richard, 2011).

Adequacy is a state of being sufficient or satisfying requirement. Educational facilities are expected to be adequately provided to create favorable environment for the management of technical colleges (Jessa, 2017). He further stated that adequacy is the extent to which available educational facilities are sufficient in quantity in technical colleges in the North East. Adequacy of these facilities however, will only be meaningful if they are well utilize. Inadequate facilities for teaching/learning technical trades have been observed as a barrier in instructional processes especially in Technical Colleges where teaching is more

practically demonstrated than theory, while others lamented on the gross inadequacy, unavailability, non-utilization and nonfunctional state of the facilities (Bello and Shuaibu, 2013).

Statement of the Problem

One of the major aims of technical education is the acquisition of appropriate skills by individuals to live and as well contribute meaningfully to the development of the society. These aims can only be achieved in a conducive learning environment where training facilities are available. According to Deebom and Puyate (2021) technical college environment should be such that it can arouse and motivate the learners' curiosity towards learning; these could be achievable if the facilities provided are utilized and maintained from time to time especially as regards to electrical installation and maintenance work/electronic work trade (EIMW/ELW), therefore without the availability and utilization of facilities teaching and learning of EIMW/ELW in Technical Colleges will be abstract, thereby making knowledge impartation and acquisition of skills a mirage. They also stress that, Over the years, both federal and state governments has been clamoring on how to promote and developed Technical Education such that teachers can impart the necessary skills needed by the learners without much difficulty, these efforts have being crippled, abandoned and proved abortive due to lack of necessary courage on the part of the leadership to back up words with action; Technical College that are supposed to prepared students to become self-reliant are only operating using, obsolete tools, equipment, machineries and dilapidated facilities coupled with inadequate qualified teachers as a result of low level of availability and poor maintenance culture of facilities (Deebom and Puyate, 2021). Therefore, the graduates cannot perform up to expectation, consequently there is high rate of unemployment among electrical installation and maintenance/electronics works graduates of the technical colleges, especially in North Eastern States where graduates are roaming the streets. For this reason therefore, this study aimed at assessing workshop facilities for practical skills acquisition in Technical collages in the North East geopolitical zone, Nigeria.

Purpose of the Study

The purpose of this study was to Assess Electrical Installation and Maintenance work (EIMW)/Electronic Work (ELW) workshop facilities for practical skills acquisition in Technical colleges in the North East. Specifically, the study:

1. Determine the availability of equipment, tools, and consumable materials in EIMW/ELW workshop for practical skills acquisition in Technical colleges in the North East.
2. Determined the adequacy of EIMW/ELW workshop facilities for practical skills acquisition in Technical colleges in the North East.

Research Questions

The study was guided by the following research questions:

1. What are the available equipment, tools, and consumable materials in EIMW/ELW workshop for practical skills acquisition in Technical colleges in the North East geopolitical zone, Nigeria?
2. What are the adequacy of EIMW/ELW workshop facilities for practical skills acquisition in technical colleges in the North East geopolitical zone, Nigeria?

METHODOLOGY

The study adopts descriptive survey research design. The area of the study is North Eastern State of Nigeria. The targeted population of this study comprises of Two hundred and twenty two 222 respondent which comprises one hundred and fifty seven (157) Electrical Installation and Maintenance Work Trade/Electronic Work Teachers and sixty five (65) workshop attendants of Government Science and Technical Colleges that offers electrical installation and maintenance work trade/Electronic work in Adamawa, Bauchi, Gombe, Taraba, Borno and Yobe State from the North East. Purposive sampling was adopted for selecting three States, hence Adamawa, Bauchi, and Gombe state were selected. The sample comprises 107 respondents which comprise 75 teachers and 32 workshop attendant. Checklist of Electrical Installation/ Electronic Works facilities was constructed to collect data based on National Board for Technical Education (NBTE) minimum standard for Technical Colleges. To ensure face and content validity of the instrument, the instrument was subjected to validation by three experts, two Lecturers from

Department of Electrical Technology Education Modibbo Adama University, Yola and one Lecturer from Federal College of Education (Technical) Gombe, Department of Electrical Technology Education. To determine the internal consistency of the instrument, the instrument was trial tested on five Electrical Installation and Maintenance Work/Electronic Work Trade teachers and three workshop attendant in Government Technical College Bukuru in Plateau state which is outside the area of the study. Data collected from the trial test was analyzed using Cronbach Alpha and a reliability coefficient of 0.90 was obtained. The researcher administers the instrument to the respondents at technical colleges with the help of two trained research assistant at each states in the North East. Mean and standard deviation were used to answer research questions.

RESULT AND DISCUSSION

Research Question 1: *What are the available equipment, tools, and consumable materials in Electrical Installation and Maintenance work (EIMW)/Electronic Work (ELW) workshop for practical skills acquisition in Technical colleges in the North East geopolitical zone, Nigeria?*

Table 1: Percentage of Respondents on Availability of Equipment, Tools, and Consumable materials in Electrical Installation and maintenance works/ Electronic Works

S/N	Items	NR	NO.A	% AVAIL.	RMK
Electrical Installation and Maintenance					
Equipment					
1.	Electric winding machine with accessories	1	0	0	NA
2.	Manuel winding machine with accessories	1	0	0	NA
3.	Battery charger	1	1	100	AV
4.	Wattmeter	1	1	100	AV
5.	Tachometer	2	1	50	AV
6.	Energy meter	1	0	0	NA
7.	Oscilloscope	1	0	0	NA
8.	Bridge megger	1	1	100	AV
9.	Earth loop tester	1	0	0	NA
Tools					
10.	Compressing tool	6	0	0	NA
11.	Ringing tool	6	0	0	NA
12.	Tin snips	7	0	0	NA
13.	Growler	3	0	0	NA
14.	Wiring board 1m x 1m for individual Work	10	29	290	AV
15.	Electrical horns with accessories	1	0	0	NA
16.	Pot and ladle	1	0	0	NA
17.	Hydrometer	6	0	0	NA
18.	Rawl plugs	10 pkts	0	0	NA
19.	Philips (star) screw driver set	1	6	600	AV
20.	Strippers	4	5	125	AV
21.	Hacksaw blade	1 pkts	2 pkts	200	AV
22.	Files (flat) smooth	5	4	80	AV
23.	Files (flat) rough	5	6	120	AV
24.	Files (triangular) smooth	5	5	100	AV
25.	Files (triangular) rough	5	1	20	AV
26.	Files (square) smooth	5	1	20	AV
27.	Files (square) rough	5	1	20	AV
28.	Files (round) smooth	5	2	40	AV
29.	Warden files	5	0	0	NA
30.	Electrician's knives	4	2	50	AV

31.	Centre punch	4	2	50	AV
32.	Scribers	10	3	30	AV
33.	Gimlet	4	5	125	AV
34.	Screw extractors	5	0	0	NA
35.	First aid box	1	1	100	AV
Consumable material:					
36.	Plugs – assorted	5	2	40	AV
37.	Adaptors – assorted	4	2	50	AV
38.	Circuit breakers	14	4	29	AV
39.	Fire extinguisher	4	0	0	NA
40.	Conduit pipes (galvanized steel)	1 bundle	0	0	NA
41.	Bell and battery set	6	2	33	AV
42.	GBKs (Heavy duty) with Crocodile clips (for charging)	As necessary	0	0	NA

Table 1 continue

43.	Copper coils (assorted gauges)	Need more	0	0	NA
44.	Sulphuric acid	2 litres	0	0	NA
45.	Sand bucket	2	2	100	AV
46.	Water hose or bucket	1	1	100	AV

Radio, Television and Electronic Work

Equipment

47.	Digital multi-meter	4	7	175	AV
48.	Analog multi-meter	3	3	100	AV
49.	Panel ammeters	11	4	36	AV
50.	Panel voltmeters	10	4	40	AV
51.	Measuring tape	3	4	133	AV
52.	Computer power pack (scrap)	1	1	100	AV
53.	Computer circuit board (scrap)	1	0	0	NA
54.	Computer	1	2	200	AV
55.	Potentiometer resistor	100	4	4	AV
56.	Blower	2	0	0	NA
57.	Radio receiver	2	1	50	AV
58.	Television	2	0	0	NA
59.	CCTV	2	0	0	NA
60.	15v, 12v and 6v transformer	19	10	53	AV

Tools

61.	Soldering iron	18	12	67	AV
62.	Combination pliers	7	6	86	AV
63.	Screw drivers testers	16	15	94	AV
64.	Wooden boards	14	4	29	AV
65.	Hammer	4	5	125	AV
66.	Computer repair kits	4	1	25	AV

Consumable materials

67.	Soldering lead	4	3	75	AV
68.	Vero board	36	22	61	AV
69.	Bread board	43	25	58	AV
70.	Batteries (9v)	90	13	14	AV
71.	Resistors	115	68	59	AV
72.	Brushes	6	5	83	AV
73.	Integrated circuit	88	6	7	AV

74.	Cut out fuses	9 sets	4	44	AV
75.	Switches	21	16	76	AV
76.	Mechanical switch	11	3	27	AV
77.	Relays	37	4	11	AV
78.	Diodes	70	86	123	AV
79.	Light dependent resistor	21	7	33	AV
80.	Power diode	80	47	59	AV
81.	PNP general type	40	18	45	AV
82.	NPN general type	40	14	35	AV
83.	555 Timer ICs	40	10	25	AV
84.	Dual D-flip flop	40	8	20	AV
85.	Quad-2-input NAND Gate IC	40	10	25	AV
86.	Decade counter IC	40	0	0	NA
87.	PNP power transistor	40	0	0	NA
88.	NPN power transistor	40	13	33	AV
Table 1 continue					
89.	LED Different colours Red, Yellow, Green	70	61	87	AV
90.	Ceramic capacitors	50	20	40	AV
91.	Electrolytic capacitors	55	30	55	AV
92.	Microcontroller	50	0	0	NA
93.	Header connector	100	0	0	NA
94.	Liquid Crystal Display (LCD)	50	10	20	AV
95.	7-segment display decade counter	50	5	10	AV
96.	BCD to 7-segment decoder/LCD driver	50	7	14	AV
97.	16 x 2 Alphanumeric LCD	50	0	0	NA
98.	32 x 2 Alphanumeric LCD	50	0	0	NA
99.	Voltage regulator ICs	70	15	21	AV
100.	Battery (12v/ 7ah, 12v/200ah)	5	7	140	AV
101.	Arduino IDE	50	0	0	NA
102.	Extension cables	3	2	67	AV
103.	Tool box	2	2	100	AV

Source: NBTE checklist (2014)

Key: NR – Number Required (NBTE Standard), NO.A – Number Available, AV– Available, NA – Not Available

Table 1 presents the percentage of the available equipment, tools, and consumable materials in Electrical Installation and maintenance work/Electronic work workshops for practical skills acquisition in Technical Colleges in the North East geopolitical zone, Nigeria. Items in both Electrical Installation and maintenance work/Electronic work workshops showed 61% of equipment are available, 69% of tools are available and 75% of consumable materials are available. Generally, 70% of the whole items found available.

Research Question 2: *What are the adequacy of EIMW/ELW workshop facilities for practical skills acquisition in technical colleges in the North East geopolitical zone, Nigeria?*

Table 2: Percentage of Respondents on Adequacy of Equipment, Tools, and Consumable Materials in Electrical Installation and Maintenance Works/Electronic Works

S/N	Items	NR	NO.A	% AVAIL.	RMK
Electrical Installation and Maintenance:					
Equipment					
1.	Electric winding machine with accessories	1	0	0	NAD
2.	Manuel winding machine with accessories	1	0	0	NAD
3.	Battery charger	1	1	100	AD
4.	Wattmeter	1	1	100	AD
5.	Tachometer	2	1	50	AD
6.	Energy meter	1	0	0	NAD
7.	Oscilloscope	1	0	0	NAD
8.	Bridge megger	1	1	100	AD
9.	Earth loop tester	1	0	0	NAD
Tools					
10.	Compressing tool	6	0	0	NAD
11.	Ringing tool	6	0	0	NAD
12.	Tin snips	7	0	0	NAD
13.	Growler	3	0	0	NAD
14.	Wiring board 1m x 1m for individual Work	10	29	290	AD
15.	Electrical horns with accessories	1	0	0	NAD
16.	Pot and ladle	1	0	0	NAD
17.	Hydrometer	6	0	0	NAD
18.	Rawl plugs	10 pkts	0	0	NAD
19.	Philips (star) screw driver set	1	6	600	AD
20.	Strippers	4	5	125	AD
21.	Hacksaw blade	1 pkts	2 pkts	200	AD
22.	Files (flat) smooth	5	4	80	AD
23.	Files (flat) rough	5	6	120	AD
24.	Files (triangular) smooth	5	5	100	AD
25.	Files (triangular) rough	5	1	20	NAD
26.	Files (square) smooth	5	1	20	NAD
27.	Files (square) rough	5	1	20	NAD
28.	Files (round) smooth	5	2	40	NAD
29.	Warden files	5	0	0	NAD
30.	Electrician's knives	4	2	50	AD
31.	Centre punch	4	2	50	AD
32.	Scribers	10	3	30	NAD
33.	Gimlet	4	5	125	AD
34.	Screw extractors	5	0	0	NAD
35.	First aid box	1	1	100	AD
Consumable material:					
36.	Plugs – assorted	5	2	40	NAD
37.	Adaptors – assorted	4	2	50	AD
38.	Circuit breakers	14	4	29	NAD
39.	Fire extinguisher	4	0	0	NAD
40.	Conduit pipes (galvanized steel)	1 bundle	0	0	NAD
41.	Bell and battery set	6	2	33	NAD
42.	GBKs (Heavy duty) with Crocodile clips (for charging)	As necessary	0	0	NAD

43.	Copper coils (assorted gauges)	Need more	0	0	NAD
Table 2 continue					
44.	Sand bucket	2	2	100	AD
45.	Water hose or bucket	1	1	100	AD
Radio, Television and Electronic Work					
Equipment					
46.	Digital multi-meter	4	7	175	AD
47.	Analog multi-meter	3	3	100	AD
48.	Panel ammeters	11	4	36	NAD
49.	Panel voltmeters	10	4	40	NAD
50.	Measuring tape	3	4	133	AD
51.	Computer power pack (scrap)	1	1	100	AD
52.	Computer circuit board (scrap)	1	0	0	NAD
53.	Computer	1	2	200	AD
54.	Potentiometer resistor	100	4	4	NAD
55.	Blower	2	0	0	NAD
56.	Radio receiver	2	1	50	AD
57.	Television	2	0	0	NAD
58.	CCTV	2	0	0	NAD
59.	15v, 12v and 6v transformer	19	10	53	AD
Tools					
60.	Soldering iron	18	12	67	AD
61.	Combination pliers	7	6	86	AD
62.	Screw drivers testers	16	15	94	AD
63.	Wooden boards	14	4	29	NAD
64.	Hammer	4	5	125	AD
65.	Computer repair kits	4	1	25	NAD
Consumable materials					
66.	Soldering lead	4	3	75	AD
67.	Vero board	36	22	61	AD
68.	Bread board	43	25	58	AD
69.	Batteries (9v)	90	13	14	NAD
70.	Resistors	115	68	59	AD
71.	Brushes	6	5	83	AD
72.	Integrated circuit	88	6	7	NAD
73.	Cut out fuses	9 sets	4	44	NAD
74.	Switches	21	16	76	AD
75.	Mechanical switch	11	3	27	NAD
76.	Relays	37	4	11	NAD
77.	Diodes	70	86	123	AD
78.	Light dependent resistor	21	7	33	NAD
79.	Power diode	80	47	59	AD
80.	PNP general type	40	18	45	NAD
81.	NPN general type	40	14	35	NAD
82.	555 Timer ICs	40	10	25	NAD
83.	Dual D-flip flop	40	8	20	NAD
84.	Quad-2-input NAND Gate IC	40	10	25	NAD
85.	Decade counter IC	40	0	0	NAD
86.	PNP power transistor	40	0	0	NAD
87.	NPN power transistor	40	13	33	NAD

88.	LED Different colours Red, Yellow, Green	70	61	87	AD
89.	Ceramic capacitors	50	20	40	NAD
Table 2 continue					
90.	Microcontroller	50	0	0	NAD
91.	Header connector	100	0	0	NAD
92.	Liquid Crystal Display (LCD)	50	10	20	NAD
93.	7-segment display decade counter	50	5	10	NAD
94.	BCD to 7-segment decoder/LCD driver	50	7	14	NAD
95.	16 x 2 Alphanumeric LCD	50	0	0	NAD
96.	32 x 2 Alphanumeric LCD	50	0	0	NAD
97.	Voltage regulator ICs	70	15	21	NAD
98.	Battery (12v/ 7ah, 12v/200ah)	5	7	140	AD
99.	Arduino IDE	50	0	0	NAD
100.	Extension cables	3	2	67	AD
101.	Tool box	2	2	100	AD

Source: NBTE checklist (2014)

Key: NR – Number Required (NBTE Standard), NO.A – Number Available, AD – Adequate, NAD – Not Adequate

Table 2 presents the adequacy of equipment, tools, and consumable materials in Electrical Installation and maintenance work (EIMW)/Electronic work (ELW) workshops for practical skills acquisition in Technical Colleges in the North Eastern Nigeria. Result in both Electrical Installation and maintenance work (EIMW)/Electronic work (ELW) workshops showed 48% of equipment are adequate, 47% of tools are adequate and only 31% of consumable materials are adequate. For the whole items the results shows only 42% of items are found Adequate.

DISCUSSION OF FINDINGS

The findings of the study with regards to research question one reveals that in the electrical installation and maintenance work/Electronic Work trade, the result showed 61% of equipment are available, 69% of tools are available and 75% of consumable materials are available. Generally, 70% of the whole items found available. The findings are in agreement with the findings of Ifeanyichukwu, et al. (2018) who submitted that only 11 out of 40 tools in electrical/electronic workshop are available, representing only 27% of the tools available. Also Obuanya et al. (2017) stated that work experience can only be achieve where the training jobs are carried on in the same way with the same operations, the same tools and the same machines as in occupation itself. The finding also is in support of Industrial Training Fund, (2007), which stated that a well-equipped workshop and training materials is a pre-requisite for effective skill acquisition in Technical Colleges.

The findings which relates to research question two revealed that in the electrical installation and maintenance work/Electronic Work trade, the result showed 48% of equipment are adequate, 47% of tools are adequate and only 31% of consumable materials are adequate. For the whole items the results shows only 42% of items are found Adequate. The finding supported by Ifeanyichuku, et al. (2018) who reported that greater percentage of workshop facilities are not adequately provided in electrical/electronic workshop, that only ammeter found adequately provided in electrical/electronic workshop. The finding is supported by Obuanya et al. (2017) who find that there was inadequate supply of training equipment/facilities in both electrical and electronics section of the technical colleges. The findings have revealed that out of the twenty-eight items listed, only two were available and adequately supplied while twenty-six items listed were inadequate. They stress that, there is the need for adequacy of facilities in vocational training, adequate training facilities enable the learners to actively participate in the learning process and that it has the effect of reducing abstractions to the concrete there by making learning more meaningful to the learners. Also they emphasized that industrial Arts education requires a workshop setting with adequate training facilities as a unique learning situation in which the learner may

experiment, test, construct, assemble, repair, design, create, imagine and study. They stressed that, active workshop experiences are essential to the study of industrial arts education. The findings is in agreement with the view of Owoeye and Yara, (2011) who posited that, the Facilities and equipment constitute a strategic factor in organizational functioning and determine to a very large extent the smooth functioning of any social organization or system including education. They further stated that availability and adequacy of facilities promote effective teaching and learning activities in schools while their inadequacy may affect the academic performance of the learner negatively.

CONCLUSION

In conclusion, this study provides valuable insights into the state of technical colleges workshops in Electrical Installation and Maintenance (EIMW) and Electronic Work (ELW) workshop within the Northeastern zone of Nigeria. The findings reveal higher percentage in facilities availability and generally both equipment, tool, and consumable materials are not adequately provided in Electrical Installation and Maintenance (EIMW) and Electronic Work (ELW) in Technical Colleges within the North Eastern zone of Nigeria.

RECOMMENDATIONS

1. Government should ensure the availability of workshop facilities as it is crucial to invest in and provide essential equipment, tools and consumable materials that are currently lacking in the EIMW workshop, and ELW workshop.
2. Adequate workshop facilities should be procured to various Technical colleges. Government should equip the workshops with a complete set of equipment, tools and consumable materials required for practical skills acquisition.

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