

Assessment of Training Facilities of Electrical/Electronic Trade at National Directorate of Employment's Skills Acquisition Centres, For Job Creation in Adamawa State, Nigeria

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Abstract

The study Assessed Training Facilities of Electrical/Electronic Trade at National Directorate of Employment's Skills Acquisition Centres in Adamawa State, relating to their availability and adequacy. The study area was three (3) NDE skills acquisition centres which are located in Michika, Mayo Belwa and Yola South Local Government Areas in Adamawa State. The study employed descriptive survey design, data are collected with checklist of 100 items, for 3 respondents, the centre managers. Three experts validated the questionnaire and the questionnaire was trial tested using test-retest method of estimating reliability, its reliability coefficient was found to be 0.84. Count of items and percentage was used to answer research question 1 and Discriminate analysis and percentage was used to answer research question 2. The findings of the study revealed that the training facilities are not available as required by NDE minimum standard at NDE skills acquisition centres in Adamawa State, the available ones are not adequate they are in short supply. It was recommended among others that all the skills acquisition centres in the area of study should be adequately equipped with the needed training facilities. These facilities should be up-to-date in both quality and quantity for effective training to take place

Keywords: National Directorate, Assessment, Training facilities, Electrical/Electronics, skill acquisition, Job creation

1.0 Introduction

Technical and vocational education and training (TVET) is the comprehensive term used to describe the integration of the formal and non-formal sectors of vocational and technical education. The non-formal, as well as the formal sectors has specific skills, competencies and attitudes that the learners should acquire in order to survive the occupational trend in the society. Furthermore, it was view in National policy on education, Federal Republic of Nigeria [(FRN), (2013)] stated that vocational education provides the skills, knowledge and attitudes necessary for effective employment in specific occupations.

Vocational education is designed for the acquisition of occupational skills. It gives individuals the skills to live, learn and work as a productive citizen in a global society (Dike, 2009). Afeti (2009) enumerated three major objectives of technical and vocational education as:

1. The acquisition of relevant knowledge, practical skills and attitudes for gainful employment in a particular trade or occupational area.
2. Flexibility, adaptability and life-long learning, and
3. Developing technical and vocational education as a vehicle for rapid industrialization, as well as economic empowerment and social mobility of the individual.

Unemployment and poverty, especially among school leavers and graduates of tertiary institutions, has remained one of the fundamental challenges threatening the economic development of Nigeria [Industrial Training Fund, (ITF) 2007]. In order to curb the problem of unemployment in Nigeria, the Federal Government of Nigeria made several attempts, with the introduction of some intervention programmes to help youths, both graduates and non-graduates to acquire necessary skills for survival. One of such programmes established by the government is the National Directorate of Employment (NDE). According to Adebisi and Oni (2012) and also, NDE (2013) Annual report, NDE was established through a committee, which was under the auspices of the Federal Ministry of Labour and Productivity, on 26th March, 1986. The recommendations of the committee led to the establishment of NDE on 22nd November, 1986. The scheme was officially launched on 30th January, 1987.

The objectives of the NDE include the following: -

1. To design and implement programmes to combat mass unemployment.
2. To articulate policies aimed at developing work programmes with labour intensive potentials.
3. To obtain and maintain a data bank on vacancies and employment agencies; and
4. To implement any other policies as may be laid down from time to time, by the Directorate.

Electrical/electronic trade is one of the vocational trade programme which according to training manual of National Directorate of Employment, NDE (2013) provides training that leads to the production of skilled personal like artisans or craftsmen who could either secure employment at the end of their training or set up their own businesses. This study intends to assess the training facilities at these centres.

1.1 Statement of the Problem

The number of unemployment is on increase upon all the effort made by Government to curb this menace. This is worrisome, coupled with the fact that NDE skill acquisition programmes is fast declining, especially in the area of training facilities required for skill acquisition programmes as observed by Omofunwa & Chukuedu (2013) that one of the major problem facing NDE skill acquisition programme in Edo state is that most of their training facilities are inadequate, obsolete and some are not even provided by Government, especially that of Electrical/electronic trade to cater for class size 20 trainees as required by NDE programmes. The problem may be the same with NDE Skills Acquisition Centres in Adamawa state, because the NDE programmes are centrally control from cooperate headquarter in Abuja. Lack of required training facilities at NDE skills acquisition centres of course may have consequence effect on the product of the institution in term of acquiring employable skills to reduce unemployment in the society. It is against the above reason that this study attempted to assess the training facilities of Electrical/Electronic trade at National Directorate of Employment's skill acquisition centres in Adamawa state. Specifically, the study seeks to:

1. Determine the availability of Electrical/electronic trade training facilities at NDE skills acquisition centres in Adamawa State for class size of 20 trainees.
2. Determine the adequacy of Electrical/electronic trade training facilities at NDE skills acquisition centres in Adamawa State for class size of 20 trainees.

1.2 Research Questions

The following research questions are posed to guide the study:

1. What training facilities are available for Electrical/Electronic trade at NDE skills acquisition centres in Adamawa State for class size of 20 trainees?
2. How adequate are the available training facilities for Electrical/Electronic Trade at NDE Skills Acquisition Centres in Adamawa State for class size of 20 trainees?

2.0 Methodology

The design for this study was descriptive survey research design, the study covered the three National Directorate of Employment's skill acquisition centres in Adamawa state of Nigeria, and the Skills acquisition centres are located in the following local government area namely: Mayobelwa, Michika and Yola south. The population of the study included all Administrators (The centre managers), This made population of three (3) respondents. The instruments used for data collection was Checklist which was developed by the researcher using the literature and NDE minimum standard, it was called Instrument for Assessing Training Facilities of Electrical Installation Trade at National Directorate of Employment's Skill acquisition centres (IATFE). The instrument was validated by 3 specialists in Electrical installation works. Two staff from the Department of Technology Education, Modibbo Adama University of Technology Yola, and one staff from Federal College of Education (Technical), Gombe.

To obtain reliability of instrument the validated copy was trial tested, using test-retest method of estimating reliability, from two NDE's skill acquisition centres at Gombe state. These two skill acquisition centres did not form part of the study area. The reliability coefficient of the instrument was found to be 0.84, and it was found to be reliable, this is because, according to Iheamacho (1997) a reliability coefficient of 0.70 and above is reliable for a study. The data collected was analyzed thus: frequency count and percentage was used to answer research question 1 and Discriminate analysis were used to answer research question 2. To effect decision for research question one, available items ranging from one and above was considered available while zero was consider not available; for research question two shortfalls of items was used, any item that is the same or more than minimum required was considered adequate and any item less than the minimum required was considered inadequate.

3.0 Results

3.1 Research Question One:

What training facilities are available for Electrical/electronic trade at NDE skills acquisition centres in Adamawa state for class size of 20 trainees?

Table 1: Count of Available Training Facilities at NDE Skills Acquisition Centres

<i>S/N</i>	<i>Description of items</i>	<i>MayoBelwa Centre</i>	<i>Remark</i>	<i>Michika Centre</i>	<i>Remark</i>	<i>Yola south Centre</i>	<i>Remark</i>
1	Work bench	10	Available	8	Available	8	Available
2	Crowbar	-	Not available	-	Not available	-	Not available
3	Conduit bending machine	1	Available	-	Not available	2	Available
4	Stock & Dies	-	Not available	-	Not available	-	Not available
5	Conduit Vice	-	Not available	-	Not available	-	Not available
6	Clamp	-	Not available	-	Not available	-	Not available
7	Wiring Board	28	Available	30	Available	30	Available
8	Ladder	1	Available	1	Available	1	Available
9	Scaffolding	-	Not available	-	Not available	-	Not available
10	Blow Lamp	-	Not available	-	Not available	-	Not available
11	Pot and Ladle	-	Not available	-	Not available	-	Not available
12	Goggle	35	Available	40	Available	40	Available
13	Soldering Iron	24	Available	25	Available	30	Available
14	Soldering bit	15	Available	10	Available	20	Available
15	Hand glove	30	Available	30	Available	25	Available
16	Welding/brazing equip.	-	Not available	-	Not available	-	Not available
17	First aid Box	1	Available	-	Not available	1	Available
18	Heater	-	Not available	-	Not available	-	Not available
19	Boots	-	Not available	-	Not available	-	Not available
20	Helmet	-	Not available	-	Not available	-	Not available
21	Safety Belt	-	Not available	-	Not available	-	Not available

22	Overall Uniform	25	Available	25	Available	22	Available
23	Hydro meter	5	Available	5	Available	5	Available
24	Ammeter	6	Available	5	Available	5	Available
25	Tacho meter	10	Available	8	Available	5	Available
26	Energy meter	-	Not available	-	Not available	-	Not available
27	Steel rule	5	Available	5	Available	3	Available
28	Ohm meter	5	Available	5	Available	5	Available
29	Sprit level	5	Available	5	Available	5	Available
30	Micro Meter	-	Not available	-	Not available	-	Not available
31	Growler	22	Available	20	Available	20	Available
32	Measuring Tape	25	Available	25	Available	20	Available
33	Megger tester	-	Not available	-	Not available	-	Not available
34	Voltage tester	30	Available	25	Available	30	Available
35	Screw driver	3 sets	Available	4 sets	Available	5 sets	Available
36	Allen Keys	4 sets	Available	3 sets	Available	3 sets	Available
37	Stripers	-	Not available	-	Not available	-	Not available
38	Pliers	30	Available	30	Available	20	Available
39	Cutters	5 sets	Available	5 sets	Available	5	Available
40	Hacksaw	10	Available	30	Available	25	Available
41	Rubber Mallet	8	Available	8	Available	5	Available
42	Centre Punch	10	Available	10	Available	10	Available
43	Files	-	Not available	-	Not available	-	Not available
44	Chisel	10	Available	8	Available	10	Available
45	Spanners (flat & Ring)	2 sets	Available	2 sets	Available	3 sets	Available
46	Drills (electric & manual)	5	Available	5	Available	5	Available
47	Extractor	-	Not available	-	Not available	-	Not available
48	Reamer	-	Not available	-	Not available	-	Not available
49	Knives	2	Available	-	Not available	3	Available
50	Hammer	35	Available	35	Available	40	Available

Table 1: The results of the analysis of research question 1 was presented in Table 1, which showed that in Mayo Belwa Centre 62% of Electrical/Electronic training facilities are available, while 38% are not available. In Michika Centre 56% of Electrical/Electronic training facilities are available while 44% are not available and in Yola South centre 62% of Electrical/electronic training facilities are available while 38% are not available. In summary information from Table 1 shows that 60% of the Electrical/electronic trade training facilities are available at NDE skills acquisition centres in Adamawa state, while 40% are not available. This implies that the available Electrical/Electronic trade training facilities at NDE Skills Acquisition Centres in Adamawa State did not meet NDE minimum requirement of 70%.

3.2 Research Question Two:

How adequate are the available training facilities for Electrical/Electronic trade at NDE Skills Acquisition Centres in Adamawa state for class size of 20 trainees?

Table 2: Discriminate analysis of Training Facilities at Mayo Belwa Centre

<i>S/N</i>	<i>Description of Items</i>	<i>Minimum Required By NDE</i>	<i>Available in Number</i>	<i>Shortfall</i>	<i>Remark</i>
51	Work bench	5	10	+5	Adequate
52	Crowbar	5	-	-5	Inadequate
53	Conduit bending machine	5	1	-4	Inadequate
54	Stock & Dies	5	-	-5	Inadequate
55	Conduit Vice	20	-	-20	Inadequate
56	Clamp	20	-	-20	Inadequate
57	Wiring Board	20	28	+8	Adequate
58	Ladder	2	1	-1	Inadequate
59	Scaffolding	2	-	-2	Inadequate
60	Blow Lamp	5	-	-5	Inadequate
61	Pot and Ladle	5	-	-5	Inadequate
62	Goggle	20	35	+15	Adequate
63	Soldering Iron	20	24	+4	Adequate
64	Soldering bit	10	15	+5	Adequate
65	Hand glove	20	30	+10	Adequate
66	Welding/brazing equip.	20	-	-20	Inadequate
67	First aid Box	2	1	-1	Inadequate
68	Heater	20	-	-20	Inadequate
69	Boots	20	-	-20	Inadequate
70	Helmet	20	-	-20	Inadequate
71	Safety Belt	20	-	-20	Inadequate
72	Overall Uniform	20	25	+5	Adequate
73	Hydrometer	5	5	0	Adequate
74	Ammeter	5	6	+1	Adequate
75	Tacho meter	20	10	-10	Inadequate
76	Energy meter	2	-	-2	Inadequate
77	Steel rule	5	5	0	Adequate
78	Ohm meter	5	5	0	Adequate
79	Sprit level	5	5	0	Adequate
80	Micro Meter	5	-	-5	Inadequate
81	Growler	20	22	+2	Adequate
82	Measuring Tape	20	25	+5	Adequate
83	Megger tester	5	-	-5	Inadequate
84	Voltage tester	20	30	+10	Adequate
85	Screw driver	5 sets	3 sets	-2	Inadequate
86	Allen Keys	5 sets	4 sets	-1	Inadequate
87	Stripers	20	-	-20	Inadequate
88	Pliers	20	30	+10	Adequate
89	Cutters	5 sets	5 sets	0	Adequate
90	Hacksaw	20	10	-10	Inadequate
91	Rubber Mallet	20	8	-12	Inadequate
92	Centre Punch	10	10	0	Adequate
93	Files	20	-	-20	Inadequate
94	Chisel	5	10	+5	Adequate
95	Spanners (flat & Ring)	3 sets	2 sets	-1	Inadequate
96	Drills (electric & manual)	5	5	0	Adequate
97	Extractor	20	-	-20	Inadequate
98	Reamer	5	-	-5	Inadequate
99	Knives	5	2	-3	Inadequate
100	Hammer	20	35	+15	Adequate

Table 3: Discriminate analysis of Training Facilities at Michika Centre

<i>S/N</i>	<i>Description of Items</i>	<i>Minimum Required By NDE</i>	<i>Available in Number</i>	<i>Shortfall</i>	<i>Remark</i>
51	Work bench	5	8	+3	Adequate
52	Crowbar	5	-	-5	Inadequate
53	Conduit bending machine	5	-	-5	Inadequate
54	Stock & Dies	5	-	-5	Inadequate
55	Conduit Vice	20	-	-20	Inadequate
56	Clamp	20	-	-20	Inadequate
57	Wiring Board	20	30	+10	Adequate
58	Ladder	2	1	-1	Inadequate
59	Scaffolding	2	-	-2	Inadequate
60	Blow Lamp	5	-	-5	Inadequate
61	Pot and Ladle	5	-	-5	Inadequate
62	Goggle	20	40	+20	Adequate
63	Soldering Iron	20	25	+5	Adequate
64	Soldering bit	10	10	0	Adequate
65	Hand glove	20	30	+10	Adequate
66	Welding/brazing equip.	20	-	-20	Inadequate
67	First aid Box	2	-	-2	Inadequate
68	Heater	20	-	-20	Inadequate
69	Boots	20	-	-20	Inadequate
70	Helmet	20	-	-20	Inadequate
71	Safety Belt	20	-	-20	Inadequate
72	Overall Uniform	20	25	+5	Adequate
73	Hydrometer	5	5	0	Adequate
74	Ammeter	5	5	0	Adequate
75	Tacho meter	20	8	-12	Inadequate
76	Energy meter	2	-	-2	Inadequate
77	Steel rule	5	5	0	Adequate
78	Ohm meter	5	5	0	Adequate
79	Sprit level	5	5	0	Adequate
80	Micro Meter	5	-	-5	Inadequate
81	Growler	20	20	0	Adequate
82	Measuring Tape	20	25	+5	Adequate
83	Megger tester	5	-	-5	Inadequate
84	Voltage tester	20	25	+5	Adequate
85	Screw driver	5 sets	4 sets	-1	Inadequate
86	Allen Keys	5 sets	3 sets	-2	Inadequate
87	Stripers	20	-	-20	Inadequate
88	Pliers	20	30	+10	Adequate
89	Cutters	5 sets	5 sets	0	Adequate
90	Hacksaw	20	30	+10	Adequate
91	Rubber Mallet	20	8	-12	Inadequate
92	Centre Punch	10	10	0	Adequate
93	Files	20	-	-20	Inadequate
94	Chisel	5	8	+3	Adequate
95	Spanners (flat & Ring)	3 sets	2 sets	-1	Inadequate
96	Drills (electric & manual)	5	5	0	Adequate
97	Extractor	20	-	-20	Inadequate
98	Reamer	5	-	-5	Inadequate
99	Knives	5	-	-5	Inadequate
100	Hammer	20	35	+15	Adequate

Table 4: Discriminate analysis of Training Facilities at Yola South Centre

<i>S/N</i>	<i>Description of Items</i>	<i>Minimum Required By NDE</i>	<i>Available in Number</i>	<i>Shortfall</i>	<i>Remark</i>
51	Work bench	5	8	+3	Adequate
52	Crowbar	5	-	-5	Inadequate
53	Conduit bending machine	5	2	-3	Inadequate
54	Stock & Dies	5	-	-5	Inadequate
55	Conduit Vice	20	-	-20	Inadequate
56	Clamp	20	-	-20	Inadequate
57	Wiring Board	20	30	+10	Adequate
58	Ladder	2	1	-1	Inadequate
59	Scaffolding	2	-	-2	Inadequate
60	Blow Lamp	5	-	-5	Inadequate
61	Pot and Ladle	5	-	-5	Inadequate
62	Goggle	20	40	+20	Adequate
63	Soldering Iron	20	30	+10	Adequate
64	Soldering bit	10	20	+10	Adequate
65	Hand glove	20	25	+5	Adequate
66	Welding/brazing equip.	20	-	-20	Inadequate
67	First aid Box	2	1	-1	Inadequate
68	Heater	20	-	-20	Inadequate
69	Boots	20	-	-20	Inadequate
70	Helmet	20	-	-20	Inadequate
71	Safety Belt	20	-	-20	Inadequate
72	Overall Uniform	20	22	+2	Adequate
73	Hydrometer	5	5	0	Adequate
74	Ammeter	5	5	0	Adequate
75	Tacho meter	20	5	-15	Inadequate
76	Energy meter	2	-	-2	Inadequate
77	Steel rule	5	3	-2	Inadequate
78	Ohm meter	5	5	0	Adequate
79	Sprit level	5	5	0	Adequate
80	Micro Meter	5	-	-5	Inadequate
81	Growler	20	20	0	Adequate
82	Measuring Tape	20	20	0	Adequate
83	Megger tester	5	-	-5	Inadequate
84	Voltage tester	20	30	+10	Adequate
85	Screw driver	5 sets	5 sets	0	Adequate
86	Allen Keys	5 sets	3 sets	-2	Inadequate
87	Stripers	20	-	-20	Inadequate
88	Pliers	20	20	0	Adequate
89	Cutters	5 sets	5	0	Adequate
90	Hacksaw	20	25	+5	Adequate
91	Rubber Mallet	20	5	-15	Inadequate
92	Centre Punch	10	10	0	Adequate
93	Files	20	-	-20	Inadequate
94	Chisel	5	10	+5	Adequate
95	Spanners (flat & Ring)	3 sets	3 sets	0	Adequate
96	Drills (electric & manual)	5	5	0	Adequate
97	Extractor	20	-	-20	Inadequate
98	Reamer	5	-	-5	Inadequate
99	Knives	5	3	-2	Inadequate
100	Hammer	20	40	+20	Adequate

Tables 2, 3 and 4 present the results of the analysis of research question 2. The results of data analysis on Table 2, revealed that based on NDE standard requirements, 42% of the training facilities in Electrical/Electronic trade are adequate, while 58% are inadequate. This implies that the Electrical/Electronic Training Facilities at National Directorate of Employment Skills Acquisition Centre Mayo Belwa are inadequate as required by the Directorate.

The data in Table 3 revealed that based on NDE standard requirement, 44% of the training facilities in Electrical/electronic Trade are adequate, while 56% are inadequate. This implies that the Electrical/electronic Trade training facilities at NDE skill Acquisition Centre Michika are inadequate. The data in Table 4, revealed that based on National directorate of employment standard requirement, 46% of the Electrical/electronic training facilities are adequate, while 54% are inadequate. This implies that the Electrical/electronic training facilities at NDE skills acquisition centre Yola South are inadequate. In summary, data from Tables 2, 3 and 4 indicated that, only 44% of the Electrical/Electronic trade training facilities at NDE Skills Acquisition Centres in Adamawa state are adequate, while 56% are inadequate. This implies that the Electrical/Electronic trade training facilities in Adamawa state are not adequate as required by the Directorate.

4.0 Findings of the Study

The findings of the study are presented below based on the research questions that guided the study.

- i. Electrical/Electronic training facilities at NDE Skills Acquisition Centres in Adamawa State are not available as required by NDE, only 59% of the training facilities were found to be available as required by the NDE minimum standard.
- ii. The Electrical/electronic training facilities at NDE Skills Acquisition Centres in Adamawa State that are available are not adequate, only 44 % of the training facilities were found to be adequate as required by NDE minimum standard.

5.0 Discussion

Table 1 shows that some training facilities such as crowbar, stock and die, conduit vice, ladder, Energy meter etc. are not available and this is supported by work of Omofonmwan and chukwuedu (2013) who found that, there is no availability of training facilities to run NDE's National Open Apprentice Scheme in Edo state. The findings are in agreement with findings of Yaduma and Moses (2005) who concluded that vocational training centres and technical colleges in Bauchi state lack training facilities. The findings of the research question one was further supported by the work of Manabete (2010) who opined that training facilities are moderately available in technical colleges in North East. The findings are also, in agreement with that of Adebisi and Oni (2012) who revealed that the training facilities of NDE skills acquisition programmes in South-Western Nigeria are not available as required.

The findings of research question two in Tables 2, 3 and 4 shows that certain training facilities such as conduit vice, ladder, scaffolding, blow lamp, file among others were found to be inadequate for teaching. The finding is supported by the work of Bello and Shuaibu (2013) who discovered that majority of technical colleges in North Central Nigeria did not have adequate training facilities. The finding is in agreement with the findings of Shittu (2014) who discovered that facilities in the Electrical/Electronics laboratories in Kaduna state technical colleges are not adequate. It will require an extra effort to attain conditions specified by Adebisi and Oni (2012) that for any skills acquisition programmes to succeed there must be adequate supply of equipment and teaching materials.

6.0 Conclusion

The desire to produce competent Electrical/Electronic graduates in NDE can be achieved when the training facilities in the skills acquisition centres are available and adequate, for NDE skills acquisition programme to succeed as demanded by the Directorate. The findings of the study form the basis for drawing the following conclusions: First, training facilities for Electrical/electronic trade at NDE skills acquisition centres in Adamawa State are not available as required. Secondly, the available ones are not adequate.

7.0 Recommendations

The following recommendation are proffered based on the findings of the study:

1. Federal, State and Local Government should ensure prompt provision of adequate training facilities to match the need of trainees in NDE skills acquisition centres.
2. All the skills acquisition centres in the area of the study should be adequately equipped with the needed training facilities. These facilities should be up-to-date in both quantity and quality for effective training to take place.

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