AN ASSESSMENT OF THE FACILITIES AND EQUIPMENT AVAILABLE IN VOCATIONAL AND TECHNICAL EDUCATION IN RIVERS STATE, NIGERIA

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Abstract
This study examined assessment of the facilities and equipment available in Vocational and Technical Education in Rivers State, Nigeria. It is an analytical survey research to determine facilities, safety availability, personnel, and challenges in these schools. Two research questions and two null hypotheses were formulated to guide the study. The total population of the study was 254 teachers with a sample size of 150 teachers selected via disproportionate stratified sampling technique. The researcher used a check list to determine the availability of tools/equipment, machineries and infrastructural facilities and a staff records questionnaire titled "Vocational and Technical Education Programme Instrument (VOTEPI)" for staff records. The face and content validity of the instrument was established and a Cronbach Alpha method was used to determine the reliability of the instrument with a reliability coefficient of 0.92 obtained. Data was collected by the researcher and two research assistants. Mean, and standard deviation, number and percentage count were used to answer the research questions, while hypotheses was analysed using one way ANOVA and Chi Square. The findings of this study revealed that availability of qualified teachers to teach is significantly independent of the three programmes in the schools. based on the finding, it was recommended among others that government should ensure that qualified teachers are employed to teach these programmes (Electrical Installation work, Metal Work Construction and Automobile Technology) in a Vocational and Technical Education Schools. moreso, teachers should be trained and re-trained.

Keywords: *Facilities and Equipment Assessment, Vocational and Technical Education*

Introduction

Historically, Vocational and Technical Education has been known as "education for work", it has focused on providing learners with the skills and knowledge needed to successfully transit to the workplace. Vocational and Technical Education has been a source of economic growth and national development of nations. Thus, it is generally believed that one of the major parameters for measuring a country's economic growth, development and self-reliance is the extent of the country's development in Vocational and Technical Education (VTE). This is so because the society needs competent auto mechanics, carpenters, plumbers, electricians, welders and accountant to mention but a few. Vocational and Technical Education is used as a comprehensive term in the educational process involving in addition to general education, the study of technologies and related sciences for the acquisition of practical skills, attitude, understanding and knowledge relating to

occupations in various sectors of economic and social life (FGN, 2004). Okoro (1993) quoted in Agapu and Andural (2007) as a form of education whose primary purpose is to prepare persons for employment in recognized occupation. In the same vein he defines Technical Education as a postsecondary Vocational training programme which the major purpose is the production of technicians:

The terms Vocational Education and Technical Education are often used interchangeably, but they are separate and distinct terms. Vocational Education refers to skill based programmes, which are designed for skill acquisition at lower level of education. Technical Education in the other hand provides general technical knowledge. This type of education prepares people for entry into recognized occupation at a higher level, but usually lower than the first degree.

According to Uwaifor (2009), Technical Education is the training of technically oriented personnel who are to be the initiators, facilitators and implementers of technologically development of a nation. All over the world, Vocational and Technical Education has been an integral part of national development strategies because of its impact on productivity and economic development. But despite all the glaring contributions, Vocational and Technical Education has not been given the desired attention needed. This is one of the major reasons for the rising unemployment, poverty and unabated crimes in the society today.

Although various government policies and programmes such as skill on wheel, open Apprentice scheme, skill Acquisition, school to land, directorate for food, road and rural infrastructure (DiFFRI), Operation Feed the Nation etc have been introduced to check and bring down unemployment and poverty, for the purposes of wealth creation and self-reliance, unfortunately, none of these provisions had seemed attractive to the youths and the jobless ones that consequently resulted to a situation where unemployment in Nigeria reached a catastrophic proportions (Obi, 2010;11-12). For a better living condition, Technical Education strives to solve these perilous problems. Technical Education can be seen as the training of engineers and technicians for work in the Industry, Construction, Transportation, Communications, Agriculture, and Forestry. The term "Technical Education" is also understood to include the theoretical and practical scientific knowledge and skills that permit a person receiving such education to solve production engineering and economic problems in his area of specialty. Technical Education, provides opportunities for skill acquisition or for the youths to be entrepreneurial i.e to get involved in making conscious effort geared towards the education and development of entrepreneurial knowledge and skills for effective performance of entrepreneurial functions (Use, Jeremiah & Iniobong, 2012).

Technical Education is a programme designed to assist students to acquire industrial technical knowledge and skills through creative and problem solving learning experiences that involves such activities as experimenting, planning, constructing, evaluating and the use of

tools, machines, materials and processes. These instructional and workshop experiences that are offered helps students to make wise educational career choices (Usoro & Edu, 2006:3-4).

At Pro-Vocational Technical Schools, students are taught such Vocational subjects like Business Studies, Building Construction, Electrical Installation and wiring, Agricultural Science, Introductory Technology, Plumbing and Home Economics. Subjects like Accounting are taught at Vocational Technical Schools. Scholars had written on the importance of Technical Education to humanity. Onyilofor, (2014) described Technical Education as a means of fueling the economic growth and development of people all over the globe. They noted that high per capital of any nation generally depends on her productivity and the required productivity cannot be easily achieved without the necessary skills. The Federal Government of Nigeria (2004), UNESCO in ILO (2002) and Ibeneme, (2010) noted that Technical Education is a skill based programme designed for sub-professional levels of education and based on specific vocation.

In the thinking of Ibeneme (2010), graduates of Technical Education function in various capacities, but specifically, any one trained in the area of metal work technology can take up teaching job or engage in metallurgical works of different kinds of the industries including welding works. Some undertake roofing of buildings using iron roofing metal pans, operate private metal workshop to construct and produce iron gates, windows and doors, metal chairs, metal lockers, pupils/students metal writing desk, tables, cutlasses, hoes, wheelbarrows, make iron pillars for building constructions, window and door protectors, manufacture hinges, stables, nails, etc. some of them teach in schools while some others work in automobile manufacturing companies, carrying out metal constructions of car bodies, chassis, etc. in other to earn a living. Graduates of wood technology work in several places. For instance, in the industries as builders. They roof houses and engage in various wood work related jobs. Some others teach in schools or undertake drainage jobs with road construction companies, carry out private carpentry and joinery jobs to produce wooden chairs, doors, tables, school writing desk, television stands, door and window frames, computer equipment stands, roofing of buildings for people, sawmill jobs, manufacture of wood, produce picture frames, carry out ceiling jobs, furniture and fixtures etc.

Graduates of electrical/electrical take up teaching jobs or serve as an operator of electrical machines in factories and industries. Others undertake electrification projects and installations for individuals and companies, work in communication industries such as satellite companies, communication link, rooms in oil and gas industries, radio and television broadcasting corporations including electrical maintenance jobs. Some in the area of electronics. They operate private radio/television shops and repair and maintain radio equipment, CD/DVD players, television, home theatre; manufacture watches and clocks to make money with which to feed the family. Others open electrical or electronic shops and sell electrical and electronic products.

Graduates of Automobile Technology can function in motor vehicle mechanic workshops and carry out repairs and general maintenance of motor vehicles. Some of them teach in schools, others work in motor vehicle manufacturing companies or plagiary departments in oil and gas industries or operate commercial transporting services for economic benefits. Some are contractors, directors of works, car dealers or own shops for the sales of motor vehicle and motorcycle parts. He can be a consultant. Graduates of Business Education can function in the bank, teach business studies in schools, serve as accountants or auditors in firms or companies or any other organization. They can undertake entrepreneurial ventures for economic benefits, etc.

Graduates of Agricultural Education can operate commercial farms or teach in schools, supply animal feeds, among other things.

Because there is a neglect in this aspect of education, the society lacks skilled technicians: bricklayers, carpenters, painters and auto mechanics; laboratory and pharmacy technicians, electrical/ electronic technicians and skilled vocational nurses, etc. The hospitals are no longer a place where people go to get their aliments treated, but a place they go and die. Tales abound of how people die during surgeries and out of minor ailments. And the half-baked roadside mechanics in the society cause more harm to vehicles when contracted to service vehicles, and because of poor training some of the commercial drivers have sent many people to their early death. The shabby performance of Nigeria's house builders (mason/ bricklayers, etc) is no longer news. For that individuals with important projects now use competent technicians from neighbouring countries. This is not to mention the havoc the poorly trained technicians have caused in the power sector. Nigeria's spotty electricity supply is the greatest bottleneck to national development.

The neglect of technical education is socially and economically injurious because it is robbing the nation the contributions the graduates would make on national development. For that, Nigeria is today wearing the toga of a poor state. Although technical education seem deficient in 'citizenship or leadership training' (Friedman 1982) it provides students with "life skills" (Alwasilah, February 11, 2002) to become productive entrepreneurs as it engenders creative and innovative ideas, enlarge the economic pie, and increase personal freedom. Most of the so-called "expatriate engineers" who are being paid millions of dollars to build-Nigeria's roads and bridges are graduates of technical and vocational colleges. Yet the leaders do not take technical institutions seriously. Nigeria's current preoccupation with university education reduces economic opportunities of house who are more oriented toward work than academic. Not everyone needs a university education. Awarding licenses to greedy organizations and individuals to establish private universities that are not even as equipped as some of the technical and vocational school in the United States and other advanced nations cannot develop the society. Because of the sorry state of the nation's tertiary institutions many of the graduates lack "employability" skills, which would easily be acquired from

technical and vocational colleges. But who would employ them if everyone is a university graduate?

Statement of the Problem

Section seven of the National Policy on Education (NPE) has as its sole objective the training of students in technologies and related sciences for the acquisition of practical skills, attitude, understanding and knowledge relating to occupations in various sectors of economic and social life. Despite several years of implementation of the Vocational and Technical Education (VTE) programmes, youths unemployment continued to be on the increase. Could the status of vocational and technical education secondary schools be the problem? This is the question this study addressed.

Aim and Objectives of the Study

The main aim of this study is to ascertain the Status of Vocational and Technical Education in Secondary Schools in Rivers State- Nigeria.

1. Determine the availability of qualified personnel for teaching the three programmes in the schools.
2. Find out the extent of challenges encountered by teachers who teach those programmes in the Vocational and Technical Education Schools.

Research Questions

The following research questions guided this study:

1. How qualified are the personnel available for teaching the three programmes in the school?
2. What is the extent of challenges that are encountered by teachers who teach these programmes in Vocational and Technical Education?

Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance.

1. There is no significant difference in the availability of qualified teachers to teach the three programmes.
2. There is no significant difference in the extent of challenges encountered by teachers who teach these programmes across the Vocational and Technical Schools.

Methodology

This study adopted a descriptive survey design. A population of 254 teachers in all the five (5) schools was used for the study. A total of 150 teachers are used and drawn from the five (5) schools in equal proportion. A researcher-made questionnaire "titled Vocational and Technical Education programme Instrument" (VOTEPI) was used and consisting of two sections: section A is on socio-demographic in formation of respondents. Section B has 3 parts (A, B and C). Part A, is titled Facilities and Resources Inventory (FARI) for teaching each programme. Part B, is titled Safety Equipment Inventory (SEI). It is a check list of Safety Equipment available for teaching each chosen programme. Part C, is titled: Challenges in Teaching Questionnaire (CITQ). The face and content validity were ensured. The reliability of the instrument was determined using Crombach Alfa technique and a reliability coefficient index of 0.92 was obtained. Each of the sub-sections was tested for internal

consistency and the following Facilities and Resources Inventory (FARI) was 0.92, Safety Equipment Inventory (SEI) was 0.88 and the challenges in teaching questionnaire 0.75. The research questions were answered using mean, standard deviation, number and percentage count while the hypotheses were tested using one-way ANOVA.

Result and Discussions

Research Questions 1: What are the qualifications of the personnel available for teaching the three programmes in the schools?

			Qualification				
			SSCE/OND n 2yrs p+exp	BSC + More than 2yrs p+exp	BSC + More than 5yrs p+exp	BSC + More than 10yrs p+exp	Total
PROGRAMME	Electrical	Count/Response	1	8	40	1	50
		Percentage%	2.0%	16.0%	80.0%	2.0%	100.0%
	Metal works	Count/Response	8	3	24	15	50
		Percentage%	16.0%	6.0%	48.0%	30.0%	100.0%
	Automobile	Count/Response	8	10	23	9	50
		Percentage%	16.0%	20.0%	46.0%	18.0%	100.0%
Total		Count/Response	17	21	87	25	150
		Percentage%	11.3%	14.0%	58.0%	16.7%	100.0%

The table 1 shows the count and response of the qualification of the teachers teaching in the Electrical Installation Work, Metal Work Construction and Automobile Technology in the schools. It shows a count of 1 representing (2.0%) as the qualification available for teachers having SSCE/OND educational qualification and 2 years' experience who are teaching electrical, a count of 8 representing (16.0%) representing the qualification of teachers in electrical with BSC educational qualification and 2 years' experience as the qualification, a count of 40 representing (80%) representing the qualification of teachers in electrical with BSC plus More than 5yrs experience as the qualification and a count of 1 representing (2.0%) representing the qualification of teachers in electrical with BSC plus More than 10yrs experience as the qualification.

Also, for metal works the table shows a count of 8 representing (16%) as the qualification available for teachers having SSCE/OND educational qualification and 2 years' experience who are teaching Metal works, a count of 3 representing (6%) representing the qualification of teachers in Metal works with BSC educational qualification and 2 years' experience as their qualification, a count of 24 representing (48%) representing the qualification of teachers in electrical with BSC plus More than 5yrs experience as the

qualification and a count of 15 representing (30%) representing the qualification of teachers in electrical with BSC plus More than 10yrs experience as the qualification

While for Automobile Technology, the table shows a count of 8 representing (16%) as the qualification available for teachers having SSCE/OND educational qualification and 2 years' experience who are teaching Automobile Technology, a count of 10 representing (20%) representing the qualification of teachers in Automobile Technology with BSC educational qualification and 2 years' experience as their qualification, a count of 23 representing (46%) representing the qualification of teachers in electrical with BSC plus More than 5yrs experience as the qualification and a count of 9 representing (18%) representing the qualification of teachers in electrical with BSC plus More than 10yrs experience as the qualification. In all for the three programmes as seen by their total, teachers in the three educational programmes had BSC plus More than 5yrs experience as the qualification as their qualification more, followed by teachers who had BSC plus More than 10yrs experience as the qualification, then with BSC educational qualification and 2 years' experience and lastly with teachers with SSCE/OND educational qualification and 2 years' experience.

Research Question 2: How serious are the challenges encountered by teachers who teach these programmes in the Vocational and Technical Schools?

Table 2: Mean and Standard Deviation showing the extent of seriousness of the challenges encountered by teachers who teaches Electrical Installation work, Metal Work Construction and Automobile Technology in the vocational and technical schools

School Programmes.	N	Serious of Challenges Extent	Mean	SD
Electrical	50	Very Serious	9.44	11.79
		Serious	16.74	7.68
		Not very Serious	11.74	10.19
Metal Works	50	Very Serious	3.980	6.52
		Serious	17.08	10.9
		Not very Serious	15.55	10.03
Automobile	50	Very Serious	7.280	14.7
		Serious	15.44	8.82
		Not very Serious	15.14	6.21

The table 2 shows the extent of seriousness of the challenges encountered by teachers in the three different programmes. It reveals that for Electrical Installation programme, under the extent of seriousness of the challenges encountered, teachers who saw the challenges *as very serious* had a mean of 9.44 and SD of 11.79 which was the lowest mean, under *Serious* had a mean of 16.74 and an SD of

7.68 which was the highest and thus shows the extent of challenges encountered is serious. While under *Not very serious*, shows a mean of 11.74 and an SD of 10.19. The table also reveals for Metal Works Construction programme, under the extent of seriousness of the challenges encountered, teachers who saw the challenges *as very serious* had a mean of 3.98 and SD of 6.52 which was the lowest mean, under *Serious* had a mean of 17.98 and an SD of 10.9 which was the highest and thus shows the extent of challenges encountered is serious. Furthermore, the table indicates that for Automobile Technology programme, under the extent of under the extent of seriousness of the challenges encountered, teachers who saw the challenges *as very serious* had a mean of 7.28 and SD of 4.7 which was the lowest mean, under *Serious* had a mean of 15.44 and an SD of 8.82 which was the highest and thus shows the extent of challenges encountered is serious. While under *Not very serious*, shows a mean of 15.14 and an SD of 6.21. From the fore going, it implies that teachers in the three programmes encounters the following challenges of negative attitude of students, lack of very much facilities, inadequate teaching time, poor attendance by students, teachers not motivated, overcrowded classes, poor funding, lack of professional training, students lack of interest and motivation in learning , lack of power and noncompliance with information and communication technologies seriously.

Test of Hypotheses

Hypothesis 1: The availability of qualified teachers to teach is significantly independent of the three programmes in the school.

Table 1: Chi Square analysis showing the significant independence of qualified teachers on three programmes in the schools

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	27.595[a]	6	.000
Likelihood Ratio	32.510	6	.000
Linear-by-Linear Association	.883	1	.347
N of Valid Cases	150		

To test the null hypothesis, table 4.6 shows the Chi square $\chi 2$ value of 27.59 (6) $p < 0.5$, i.e. $p = .000$ is less than 0.05 and this is statistically significant at the chosen alpha level of 0.05 for the groups. The null hypothesis is therefore rejected and the alternate accepted. This implies that availability of qualified teachers to teach is

significantly independent of the three programmes in the schools.

Hypothesis 2: There is no significant difference in the extent of seriousness of challenges encountered by teachers who teach these programmes across the vocational and technical education schools.

Table 2: One way ANOVA, showing the no significant difference in the extent of seriousness of challenges encountered by teachers who teach these programmes (Electrical Installation Work, Metal Work Construction and Automobile Technology) across the vocational and Technical Education schools the schools.

	Sum of squares	Df	Mean square	F	Sig
Between Groups	70.453	2	35.227	.532	.588
Within Groups	9728.140	147	66.178		
Total	9798.593	149			

The table 4 shows that the computed F (2, 147) = .532 P <.05, i.e. p = .588 is statistically not significant at the chosen alpha level of 0.05. Therefore, there is no significant difference in the extent of seriousness of challenges encountered by teachers who teach Electrical Installation Work, Metal Work Construction and Automobile Technology in the vocational and technical Education Schools as F (2, 147) = .532 P <.05, i.e. p = .588. The null hypothesis of no significant difference extent of seriousness of challenges encountered by teachers Electrical Installation Work, Metal Work Construction and Automobile Technology is accepted and the alternate rejected, this implies that the difference that exists between these three programmes (Electrical Installation Work, Metal Work Construction and Automobile Technology) in terms of seriousness of challenges encountered by teachers is not statistically significant

Recommendations

Based on the findings of the study, the following recommendations are made;

1. The facilities for effective teaching of Electrical installation work, Metal Work Construction, and Automobile Technology in the schools should be made available.
2. Government should ensure that qualified teachers are employed to teach these programmes (Electrical Installation work, Metal Work Construction and Automobile Technology) in a Vocational and Technical Education Schools. Teachers should be trained and re-trained. Seminars and workshops as well as motivation should be encouraged amongst the staff
3. Safety Equipment should be made available in a Vocational and Technical Education Schools for the purposes of Protecting the staff, facilities, materials and machineries from harm and danger. There should also be constant power supply to test the equipment and machines for the

purposes of functionality and standard.

4. Government should ensure that the challenges encountered by the teachers to teach these programmes in a Vocational and Technical Education Schools are reduced to the barest minimum by making funds available to build and maintain workshops, laboratories and also to remunerate the personnel.

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