STATUS OF VOCATIONAL AND TECHNICAL EDUCATION IN SECONDARY SCHOOLS IN RIVERS STATE, NIGERIA: PROSPECTS AND CHALLENGES

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Abstract
This study examined the status of vocational and technical education in secondary schools 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 there was no significant difference among the 3 programmes of Vocational and Technical Education Secondary Schools in Rivers State. Workshop equipment were found to be inadequate. Teachers were also found to be inadequate both in number and in qualifications. Facilities available for teaching Electrical Installation Work, Metal Work Construction and Automobile Technology in the schools, do not differ significantly. The extent of challenges encountered by teachers who teach these programmes across the Vocational and Technical Education Schools are not significant.

Keywords: *Vocational, Technical Education, Prospects and Challenges*

Introduction

The development of Vocational and Technical Education in secondary schools in Nigeria was, based on character training and job orientation. This Vocational training was run on apprenticeship and hand craft system by the members of traditional society. The apprenticeship system was a part of wider education process by which the members of the indigenous societies of Nigeria, passed on or transmitted their cultural heritage from one generation to another. Despite the Vocational training offered to young people through apprenticeship system, mission schools which flourished during the missionary era in Nigeria introduced farming, bricklaying, gold smiting and

building as part of the curriculum. The policy statement on education of 1925 helped to uplift the image of Vocational Education in Nigeria and government was invited to take a more active part in the provision of Technical Education which required more costly equipment as well as properly qualified staff/manpower. This resulted in the opening some trade training centres and technical institutions.

In all, Vocational and Technical Education, give learners the opportunity to become industrialists and self-reliant in particular fields which could contribute positively to the economic growth of the country. It is then 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, because the Society needs competent auto mechanics, metal constructors and welders, carpenters, plumbers, electricians and accountants to mention but a few. Vocational and Technical Education is a skill oriented programme that prepares individuals for useful living. It is the training of engineers and technicians for work in the industry, construction, transportation, communications, agriculture and forestry. Technical education provides opportunities for skill acquisition or for the youths to be entrepreneurial, that is 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). Because Vocational and Technical Education (VTE), is fundamental to the development and industrialization of nations, the skills, abilities and competencies that are needed by the nations and embedded in Vocational and Technical Education, which are central to a nations social and economic emancipation.

Vocational and Technical Education used as a twin term are geared towards occupations requiring manipulative skill application and thus (Aghenta, 1985) argued that, Vocational Education focuses on manipulative skills in non-technical occupations such as agriculture, business, home economics, painting and decoration, while technical education on the other hand is more science oriented with emphasis on the application of scientific and mathematics principles as applied in such fields as engineering, electronics, electrical and automobile trades education. Fafunwa, (1974), described Vocational and Technical Education as an important Practical skill development programme designed to equip persons of trainable qualities with skills that employers of labour want in the industries, infact, it is considered as the launching pad for the technological development, yet, it had a very slow take off in the history of education in Nigeria. Vocational and Technical Education defined by the International Labour Organization (ILO, 2002) and United Nations Educational, Scientific and Cultural Organization (UNESCO 2005) jointly as that which "is used as a comprehensive term referring to those aspects of the educational processes involving in addition to general education, the study of technologies and related sciences for the acquisition of Practical Skills, attitude, and knowledge relating to

occupations in various sectors of economic and social life.

Statement of the Problem

The federal government of Nigeria realizing the importance of vocational and technical education for national development, included in section seven of the national policy on education (NPE) with the sole objective of training 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. But after several years of implementation of the sole objectives of Vocational and Technical Education (VTE) programmes, youths unemployment continued to be the order of the day because they lack the needed competencies, practical and entrepreneurial skills that would enable them function very well in and outside the industries. Thus, a well skill-oriented and entrepreneurial programmes in Vocational and Technical Education Schools should be geared to provide the teeming unemployed youths with employment, self–reliance and hand crafts skills opportunities to be able to match up with the equal opportunities in the global job markets.

Could the status and relevant skills acquisition needed to explore the gains of Vocational and Technical Education be counted as unlimiting factors in the exploration of the benefits of Vocational and Technical Education Schools, are what a study of this magnitude tends to unravel.

Aim and Objectives of the Study

This study is aimed to ascertain the status of vocational and technical education in secondary schools in Rivers State Nigeria.

1. Identify the extent of facilities that are available for teaching electrical installation work, metal work construction and automobile technology.
2. Determine the extent of safety equipment available for each of the programmes in the schools.

Research Questions

The following research questions were raised and answered in this study.

1. To what extent are facilities available in each school for teaching electrical installation work, metal work construction and automobile technology?
2. To what extent are safety equipment available for each of the programmes in the schools?

Hypotheses

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

1. The extent of facilities available for teaching electrical installation work, metal work construction and automobile technology in the schools, do not differ significance.
2. To what extent of safety equipment availability for each of the programmes do not differ significantly across the Vocational and Technical Education Schools.

Methodology

The design for this study is a descriptive analytical survey. The total population of the study is two hundred and fifty four teachers (254), in all the five vocational and Technical Education Secondary Schools in Rivers State. The sample of this study was 150 teachers drawn from the population using disproportionate stratified random sampling technique based on the schools. A research-made questionnaires "Titled Vocational and Technical Education Programme Instrument" (VOTEPI) was used. It consists of two sections: section A is on socio-demographic information 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 Questionnaires (CITQ). Face and content validity of the questionnaire was ensured. The reliability of the instrument was determined using Crombach Alpha technique and a reliability coefficient of 0.92 was obtained. However, each of the sub-sections was tested for internal consistency and the following reliability coefficient were obtained; Facility 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 analyzed using one way ANOVA.

Result and Discussions

Research Questions 1: To what extent are facilities available in each school for teaching Electrical Installation work, Metal Work Construction and Automobile Technology?

Table 1: Mean and Standard Deviation showing the extent of availability of facilities in each school for teaching Electrical Installation work, Metal Work Construction and Automobile Technology

School Programmes	N	Facilities Availability Extent	Mean	SD
Electrical	50	Very Much Available	5.820	12.5
		Very Available	5.720	5.39
		Available	16.40	6.56
Metal Works	50	Very Much Available	10.04	1.37
		Very Available	13.92	1.43
		Available	15.74	2.73
Automobile	50	Very Much Available	8.960	11.96
		Very Available	10.90	8.172
		Available	17.70	6.322

The table 1 shows the extent and by extension, the level of availability of facilities for the three different programmes. It reveals that for Electrical Installation programme, under the extent of availability of facilities, *very much available* facilities had a mean of 5.82 and an SD of 12.6 which was the lowest mean, under *very available* had a mean of 5.72 and an SD of 5.39. While under *available,* it shows a mean of 16.40 and an SD of 6.37 which was the highest and thus shows the level of facilities available. From the fore going, it implies that the facilities for electrical work installation programme which are wire strippers, ohmmeter, ammeters, transformer, voltage regulator, drilling machine, screw drivers, bending machine, voltage tester, electrical belt, clamp meter and electrical totter are *available*. The facilities are just available and not very available or very much available as seen from their mean scores

The table also reveals the extent and by extension, the level of availability of facilities for Metal Works Construction programme, under the extent of availability of facilities, *very much available* facilities had a mean of 10.04 and an SD of 1.37 which was the lowest mean, under *very available* had a mean of 13.92 and an SD of 1.43 which was the lowest mean. While under *available,* it shows a mean of 15.74 and an SD of 2.73 which was the highest and thus shows the level of facilities available. From the fore going, it implies that the facilities for Metal Works Construction programme which are Band sour, Die grinder, metal nibbler, flit core welder, press brake, snips, chisel, hacksaw, file, pliers, hammer, screw driver, center punch, layout punch, divider, hand drill, furriest drill are *available*. The facilities are just available and not very available or very much available as seen from their mean scores

Also, the table further reveals that the level of availability of facilities for Automobile Technology programme, under the extent of availability of facilities, *very much available* facilities had a mean of 8.960 and an SD of 11.96 which was the lowest mean, under *very available* had a mean of 10.90 and an SD of 8.17 which was the lowest mean. While under *available,* it shows a mean of 17.70 and an SD of 6.32 which was the highest and thus shows the level of facilities available. From the fore going, it implies that the facilities for Automobile Technology programme which are Hoists, circlip pliers, metal lamp, air guns and lines, pipe bender, rolling oil pans and colling fluid pans, pedestal drill, air tools drill, brake lathe drill, wheel balancer, brake measuring caliper, brake drum caliper, dynanommeter, injector cleaner, wheel aligners, engine analyser, pipe bender, wrench set, are *available*. The facilities are just available and not very available or very much available as seen from their mean scores. From the table, it can be deduced that for the three programmes (Electrical Installation work, Metal Work Construction and Automobile Technology), the extent or level of facilities available are all just *available* and not very or very much available.

Research Questions 2: To what extent are safety equipment available for each of the programmes in the schools.

Table 2: Mean and Standard Deviation showing the extent of availability of Safety Equipment in each school for teaching Electrical Installation work, Metal Work Construction and Automobile Technology

School Programmes	N	Safety Equipment Availability Extent	Mean	SD
Electrical	50	Very Much Available	4.500	8.40
		Very Available	6.720	6.51
		Available	14.28	7.21
Metal Works	50	Very Much Available	4.54	6.80
		Very Available	17.22	9.52
		Available	18.30	12.5
Automobile	50	Very Much Available	3.660	7.20
		Very Available	7.080	5.65
		Available	12.10	4.90

The table 2 shows the extent and by extension, the level of availability of safety equipment for the three different programmes. It reveals that for Electrical Installation programme, under the extent of availability of safety equipment, *very much available safety equipment* had a mean of 4.50 and an SD of 8.40 which was the lowest mean, under *very available* had a mean of 6.72 and an SD of 6.51. While under *available,* it shows a mean of 14.28 and an SD of 7.21 which was the highest and thus shows the level of safety equipment available. From the fore going, it implies that the safety equipment for electrical work installation programme which are lifesaving kits, operating rods, insulated gloves, insulated ladders, rescue rods, earthling clamps fittings, helmet, goggles, safety footwear's, hearing protectors, goggles for eye protection, safety glasses, ear plugs, welding goggles, dust masks, safety shoes, are *available*. The safety equipment are just available and not very available or very much available as seen from their mean scores

The table also reveals the extent and by extension, the level of availability of safety equipment for Metal Works Construction programme, under the extent of availability of safety equipment, *very much available* safety equipment had a mean of 4.54 and an SD of 6.80 which was the lowest mean, under *very available* had a mean of 17.22 and an SD of 9.52 which was the lowest mean. While under *available,* it shows a mean of 18.30 and an SD of 12.5 which was the highest and thus shows the level of safety equipment available. From the fore going, it implies that the safety equipment for Metal Works Construction programme which are fire extinguisher, smoke. Fire, carbon monoxide detector, fire escape ladder, dust makes and respirator, cloves, safety clothing, ladders, ground fault circuit protector, protective gloves, face shield, gowns, hats, booties, protective footwear, ear plugs, hardhat, helmet, welding goggles hand and hearing protectors, reflective garments are *available*. The safety equipment are just available and not

very available or very much available as seen from their mean scores

Also, the table further reveals that the level of availability of safety equipment for Automobile Technology programme, under the extent of availability of safety equipment, *very much available* safety equipment had a mean of 3.66 and an SD of 7.08 which was the lowest mean, under *very available* had a mean of 7.20 and an SD of 5.65. While under *available,* it shows a mean of 12.10 and an SD of 4.90 which was the highest and thus shows the level of safety equipment available. From the fore going, it implies that the safety equipment for Automobile Technology programme which are electronic stability control, anti-lock brakes, tire-pressure monitoring system, side airbag, adaptive HID lightning, automated emergency brake, blind spot monitoring, night vision, safety glasses, steel capped boots, protective gloves, work overall, steel toe work boots, ear protection are *available*. The safety equipment are just available and not very available or very much available as seen from their mean scores. From the table, it can be deduced that for the three programmes (Electrical Installation work, Metal Work Construction and Automobile Technology), the extent or level of safety equipment available are all just available and not very or very much available.

Test of Hypotheses

Hypothesis 1: The extent of facilities available for teaching electrical installation work, metal work construction and automobile technology in the schools, do not differ significantly.

Table 3: One way ANOVA, showing the no significant difference in the extent of facilities available for teaching Electrical Installation Work, Metal Work Construction and Automobile Technology in the schools

	Sum of squares	Df	Mean square	F	Sig
Between Groups	368.813	2	184.407	2.984	.054
Within Groups	9084.180	147	61.797		
Total	9452.993	149			

The table 3 shows that the computed F (2, 147) = 2.984 P <.05, i.e. p = .054 is statistically not significant at the chosen alpha level of 0.05. Therefore, there is no significant difference in the facilities available for teaching Electrical Installation Work, Metal Work Construction and Automobile Technology in the schools as F (2, 147) = 2.984 P <.05, i.e. p = .054. The null hypothesis of no significant difference in the facilities available for teaching 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 the facilities available to them is not statistically significant.

Hypothesis 2: The safety equipment available for each of the programmes do not differ significance across the vocational and technical education schools.

Table 4: One way ANOVA, showing the significant difference in the extent of Safety Equipment available for teaching for each of the 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	660.173	2	330.087	5.938	.003
Within Groups	8171.160	147	55.586		
Total	8831.333	149			

The table 4 shows that the computed F (2, 147) = 5.938 P <.05, i.e. p = .003 is statistically significant at the chosen alpha level of 0.05. Therefore, there is a significant difference in the safety equipment available for teaching Electrical Installation Work, Metal Work Construction and Automobile Technology in the schools F (2, 147) = 5.938 P <.05, i.e. p = .003. The null hypothesis of no significant difference in the safety equipment available for teaching Electrical Installation Work, Metal Work Construction and Automobile Technology is rejected and the alternate accepted, this implies that the difference that exists between these three programmes (Electrical Installation Work, Metal Work Construction and Automobile Technology) in terms of the safety equipment available to them is statistically significant.

Recommendations

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

1. The facilities, equipment & machines for effective teaching of Electrical installation work, Metal Work Construction and Automobile Technology in the schools should be adequately made available and functional too.
2. Government should ensure that competent qualified teachers are employed to teach these programmes (Electrical Installation work, Metal Work Construction and Automobile Technology) in the Vocational and Technical Education Schools. Training and re-training of teachers, Seminar, workshops as well as motivation should be encouraged amongst that staff
3. Safety Equipment should be made available and considered to be very paramount in a Vocational and Technical Education Schools for the purposes of Protecting the staff, facilities, materials and machineries from harm and danger. There should 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 are reduced to the barest minimum by making funds available to build and maintain workshops, laboratories and to remunerate the personnel.

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