



## Quantitative Analysis of Human and Material Resources in the Implementation of Vocational and Technical Education in Rivers State, Nigeria

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### Abstract

This study examines the implementation of vocational and technical education programmes in Rivers State, Nigeria. A socio-technical system approach supported by human capital theory provided the framework for the study. A descriptive survey design was adopted and used for this study in which the population was comprised of five public technical colleges in Rivers State. A sample of 144 academic staff was selected using a stratified random sampling technique. This sample responded to a 30 item Vocational and Technical Education Programme Implementation Assessment Questionnaire (VATEPIAQ) designed by the researcher and based on a modified Likert-type model. Descriptive statistics were used for data analysis. This study found that the quality of teaching staff in vocational and technical schools is moderately high, but relatively inadequate. The facilities available in vocational and technical schools in Rivers State for programme implementation are grossly inadequate and in poor condition. It is recommended by this study that only professionally qualified technical and science teachers be recruited into the system. Those without professional qualification who are already in the system should be encouraged to undergo post-graduate diploma courses in education.

**Keywords:** Quantitative Analysis, Human and Material Resources, Implementation, Vocational and Technical Education, Nigeria.

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### INTRODUCTION

With the onset of colonialism and the introduction of Western education in Nigeria, science and technical education have long been treated as relatively insignificant aspects of the country's education system. This has created a situation whereby the majority of Nigerian youth, especially prior to the last decade, were trained for clerical and/or white collar jobs and so failed to develop a number of practical skills. The early pre and post-independence education policies aimed at sustaining the new and independent political structure and administration thus led to high rates of unemployment, and increases in crime rate and juvenile delinquency. In other words, the marginalization of practical education indirectly fed the creation of new social problems that Nigeria continues to contend with (Fafunwa in Nwosu, 2005). It is increasingly important that schools not only develop the mental, moral and physical capabilities of the

students, but also enable them to acquire skills in technology, including computer literacy, so that they might participate effectively in contemporary economic activities. In other words it is the role of the education system to ensure that the population is reproduced culturally and socially, and that the children, in particular imbibe the values and skills they need to function as mature adults.

The political, economic and cultural changes brought about by the country's independence highlighted the need for total reform of the education system in Nigeria. In 1969 a national curriculum conference was held in Lagos in response to this need. Its greatest result was a new philosophy for Nigerian education that later gave birth to the National Policy on Education first published in 1977 and later revised several times (1981, 1989, 2004). The National Policy on Education became the first document to streamline education concepts and goals and to prescribe uniform operation of the country's educational system, thereby giving vocational and technical education programmes in Nigeria a scheme of place.

Vocational and technical education, according to Yusuf (2006), is a form of education that seeks to prepare persons for employment in recognized occupations. This type of education provides the skills, knowledge and attitudes necessary for effective employment. Odogwu (2005) describes vocational education as a type of education that emphasises preparation and participation in an occupation of social value. Contrasted with general education, vocational education is skill-oriented and trains both the head and the hands (Oranu, 2009). The Federal Republic of Nigeria (2004) further describes vocational education as that aspect of education that leads to the acquisition of practical skills as well as applied scientific knowledge.

This type of education was underemphasised in the early Nigerian education. Jacob (2006) lamented that in the early Nigerian education system, little focus was placed on vocational and technical training that could produce persons adequately skilled, confident and properly oriented towards eventual self-employment and self-reliance. This phenomenon, he concludes, accounts for the large scale unemployment of youth still today. This neglect does not in the least suggest that there were no attempts by the government in those early days to implement skill acquisition and training. To the contrary, Nworise (2006) reports that attempts were made to introduce vocational and technical education into the school system as far back as 1847, with the recommendation of the Privy Council to the colonial office. The committee recommended among other things that Nigerian schools should:

- a) Provide a means of improving on the conditions of the peasantry by teaching them how health may be preserved by proper diet, cleanliness, ventilation and clothing.
- b) Give practical training in household economy and in the cultivation of the cottage garden as well as those common hand crafts by which a labourer may improve his domestic comfort.
- c) Provide an improved agriculture to replace the system of exhausting the virgin soil and living to natural influence alone the work of reparation.

In the traditional period, vocational programmes included: metal smelting, weaving (cloth and mat), dyeing, pottery, leather work, bead making, wood carving and canoe carving, artistry, agricultural activities, singing, dancing, music, hair styling, tattoo or body art, and hunting. The modern vocational curriculum, which has been enlarged, includes: carpentry and joinery, furniture making, baking, shoe making and repairing, dress making, sign writing, photography, metal work, hairdressing, fashion design, fabrication, motor mechanic work, electronic servicing, mechanical engineering, building, home economics, advanced agriculture, and secretarial and accounting work. Today it is referred to as vocational and technical education to justify the application of science and technology in the training of most of the contemporary trades and crafts (FRN, 2004). The objectives of technical and vocational education in Nigeria today are such that if adequately implemented, will bring about the revolution of technological development in Nigeria thereby having a significant and positive impact on the national economy. These objectives include, among others, the training of manpower particularly at professional grades, the provision of technical knowledge and vocational skills, and providing training and skills that lead to the production of craftsmen, technicians and other skilled personnel (FRN, 2004).

The fact remains, however, that none of these will be accomplished if students in schools are improperly trained. Effective training of students cannot be accomplished in the absence of certain ingredients that create conducive environments for teaching and learning. These ingredients include the right quality and quantity of teachers, well equipped workshops and laboratories with up-to-date materials, and adequate tools and other materials. Omekwe (2009) argues that for the effective implementation of any education programme, adequate human and material resources must be made available to the schools. In particular, a large enough number of trained teachers with different types of expertise (science, language, technology, etc.) must be recruited and posted to the schools as and when required. In addition, for effective management, academic staff must be complemented by non-academic staff in proportionately adequate numbers.

The importance of vocational and technical education cannot be overemphasized. The Federal Republic of Nigeria (2004) noted that the federal government recognizes the importance of vocational and technical education

and the need to relate its programmes to the requirements of commerce and industry. The Curriculum Conference of 1969 did, in fact, give vocational and technical education its deserved position and prominence. Likewise, the Federal Republic of Nigeria (2004) has since recommended that Introductory Technology, Practical Agriculture and some pre-vocational subjects be made core subjects at junior secondary schools. At the senior secondary school level, agriculture and food and nutrition are now offered.

The Federal Republic of Nigeria (2004) stated that as part of the Nigeria Certificate in Education (NCE) and at degree levels, teacher education programmes will be expanded to cater to the requirements of vocational, technical and commercial education. Recognizing the problems with Nigeria's education system, the federal government has promised to implement the Commission's recommendations by providing physical facilities and quality staff in schools. There has also been an acknowledgment of the federal government's willingness to direct universities to work out a programme that makes it possible for suitably qualified holders of the Nigeria Certificate in Education (NCE) to complete a degree in education at universities in two (2) years instead of the presently required three (3).

Sub-section 74 states that teacher education will continue to recognize changes in methodology and curriculum and teachers will be regularly exposed to innovations in their profession. In-service training will thus be developed as an integral part of continuing teacher education. Even with all of these commitments and the programmes they have led to, however, little has been achieved as the goal for which these moderate preparations were made has not been met due to poor implementation strategies. Olorube (2009) argues that in Nigeria, as in most developing nations, the problem is not designing beautiful programmes for national development but implementing them.

The Federal Government has, for example, instituted Introductory Technology as a compulsory subject at the Junior Secondary (JSS) level with the aim of graduating students with sufficient practical skills in the areas of building technology, wood work, electricity, and electronics. To facilitate the take-off of this project, different types of equipment were imported from Europe and America. Many years after the implementation of this project, it is disheartening to observe the non-attainment of its objective. Several reasons have been given to explain this state of affairs. Some of these, according to Olalekan in Ojo (2002), include haphazard planning, inadequate supply of technical manpower to teach the courses, a dearth of indigenous textbooks, poor administrative and implementation strategies, and the absence of guidance and counseling facilities.

The importance of this type of education stretches from the individual to community and beyond to the nation at large. Olalekan (1996) notes that although the individual is the primary beneficiary of vocational and technical education, the community or nation is always the better for it. He contends that vocational and technical education reduce drop-out and unemployment rates by providing training opportunities to persons who are not too far removed from the realities of the world of work. Experts have observed that Nigeria, and Rivers State in particular, has an unprecedentedly high unemployment rate because of a lack of skills among youth and few job opportunities. Consequently, it appears that Nigerians are educated but unemployed because of the forms of general education they receive.

The history of formal vocational education in Rivers State coincides with the localization of the oil and service industries in Port Harcourt and area. Over the last three decades, vocational and technical education has improved tremendously and expanded considerably across the state (Nworise, 2006). This is demonstrated by the number and types of vocational and technical colleges in operation today. Before national enforcement of vocational courses in secondary schools in Nigeria in 1982, vocational programmes were offered in the following institutions in Rivers State: Comprehensive Secondary School, Private Commercial Institutes (unaided), Trade Centres (now Technical Colleges), Penal Institutions (Prisons) and Craft Development Centres. In addition to these skills acquisition centres, the Skills Acquisition Authority at Port Harcourt, and local government industrial units in the local government areas were established and functioning (Wordu, 1989).

Contrary to expectations, vocational and technical education programmes have not been effectively and efficiently carried out over the years, despite a number of good vocational and technical education policies. It seems likely that these policies were either poorly implemented or not implemented at all. According to Onwuchekwa (2002), the vocational teacher education workshop at the University of Nigeria, Nsukka (UNN) resembled the junkyard of the Nigeria Railway Co-operation. The machines in this workshop were supplied by the Ford Foundation in 1960 and have not been supplemented with more modern machines despite the fact that the workshop turns out hundreds of vocational-technical educators every year. As with other disciplines, developing nations like Nigeria often exert great effort to fashion relevant education systems, the greatest barrier to which is implementation.

Some of the current challenges faced by vocational and technical education derive from the fact that administrators and chief executive officers of educational institutions tend to be general educators not specialists in vocational or technical education (Oranu, 2009). These general educators often direct funds meant for vocational technical education equipment and facilities to other sectors more in line with their interests. Oranu (2009) thus

recommends, that policies concerning vocational and technical education programmes be left to those in the field of vocational and technical education to formulate and implement.

Given all of the above, there is a need to investigate the issues and challenges facing the implementation of vocational and technical education programmes at technical schools in Rivers State and make recommendations for improvement. Such research will help to redirect these programmes towards achieving their objectives for a sustainable democratic society.

### **Statement of Problem**

Before the introduction of formal education in Nigeria, young people were trained for specific occupations and careers through an apprenticeship scheme or on-the-job training. The introduction of reading, writing, and arithmetic, and colonial academic education in general, become associated with white collar jobs which were seen as an instrument for upward mobility in the social classes. In an attempt to address this problem, the Federal Government built vocational and technical education programmes into its National Policy on Education, and as a strategy for effective implementation of the programmes, made science education compulsory at the primary school level. The purpose of this policy was to give children in technical schools different subject options upon which they could build a career. The policy identified several types of vocational and technical education programmes, including pre-vocational and vocational programmes offered at the junior and senior secondary schools and technical colleges, at the secondary level, and polytechnics and colleges of education (technical) at the post-secondary level. Others programmes include open and private apprenticeship schemes, skills acquisition (NGOs), and on-and-off the job training schemes (non-formal).

As laudable as the policy was, issues have been raised regarding the implementation of its programmes, especially in terms of staffing, facilities, and funding in Rivers State. The result of this ineffective implementation has been the production of misleading or unreliable plan projections, forecasts and targets against predetermined goals. This situation calls for proper identification of factors that inhibit the effective implementation of the programmes via an assessment of the shortcomings that have plagued the policy since the inception. This study thus seeks to investigate the issues and challenges around the implementation of vocational and technical education programmes at the technical school level in Rivers State.

### **Purpose of the Study**

The main purpose of this study is to investigate the implementation of vocational and technical education programmes in Rivers State. Specifically, this study seeks to:

- Determine the quality of teaching staff recruited for vocational and technical education programmes in Rivers State.
- Assess the facilities put in place for the implementation of vocational and technical education programmes in Rivers State.

### **Research Questions**

Based on the aforementioned purposes, the following research questions, guided this study:

- What quality of teaching staff have been recruited for vocational and technical education programmes in Rivers State?
- What facilities have been put in place for vocational and technical education programmes in Rivers State?

## **LITERATURE REVIEW**

### **Quality of Teaching Staff**

According to Bacchus cited in Ololube (2009) "quality in education" often means raising the level of academic performance of pupils, usually as measured in test scores, in the various subjects which form part of their school curriculum. Continuing, he asserts that teachers are a vital force in educational effectiveness at the classroom instructional level. Teachers are regarded as prime movers in the improvement of quality in education. Based on this, experts often call for the employment of quality teachers in the school system to reduce waste and improve the

overall quality of students and schools. McCormick (1996) asserts that quality teachers are the ones who inspire students to compete against themselves, to take on tasks that seem to exceed their grasp, and to discover and develop their real mettle as thinkers. He went on to identify three features of an excellent teacher:

- High quality teachers have a passion in their lives and a deep regard for their students.
- High quality teachers lead challenging and demanding lives that set high standards and inspire their students. In other words they are prophetic.
- High quality teachers are always fully engaged in the mysteries of life with heart and minds full of wonder and awe, open to learning new things and understanding new realities. Quality teachers are lifelong students.

On a similar note, Peterside (2010) asserts that it can be highly embarrassing if teachers who are hired to inculcate problem solving skills and processes in students lack these same skills. He went on to note that adequate student training cannot take place without competent teachers because no education system can rise above the quality of its teachers. He argues that the potential and quality of manpower depends on the quality of teachers, and teachers, as much as possible, should be qualified, suitable and interested in the teaching profession. Given the above evidence, it seems clear that a nation's education system at all levels is, to a great extent, improved upon or marred by the quality of its teaching staff. A quality teacher is a facilitator of learning, and therefore must be resourceful, improvisational, well-trained and dedicated.

The most acute problem of vocational and technical education in Nigeria today is the shortage of qualified teachers. Worst still, most serving technical teachers do not have the required industrial experience. Adiele and Abraham as cited by Okwe (2006) note that in an effort to secure highly motivated, conscientious and efficient classroom teachers, the existing policy on teacher quality stipulates that all teachers in Nigerian educational institutions will be professionally trained, and that the Nigeria Certificate in Education (N.C.E.) will be the minimum qualification for entry into the teaching profession. They reveal that at the secondary school level, while a majority of teachers possess teaching qualifications a good number of those recruited to teach at that level are without professional certificates. Based on this, they asserted that teachers in the school system are indeed willing to improve on their professional skills but are constrained due to the high cost of in-service programmes and the inability of government to provide the required assistance for the programmes as stipulated in the National Policy on Education. Subsequently, Omekwe (2009) noted that government policy so far, has not favoured the recruitment and training of more teachers to meet the challenges posed by various newly introduced educational programmes such as Universal Basic Education (UBE). He added that the problem is even more evident in technical and vocational education, despite claims of the adequate provision of quality teachers.

The practice of putting all technical courses together as one subject called Introductory Technology, and associated implementation problems, has attracted the attention of experts who feel that it is misnomer because unlike in integrated science, there is no relationship amongst so many of the subjects. As a result, the teacher often chooses to teach the component subject in which he or she is conversant and prepared. Given this integrated approach, both NCE Technical teachers and B.Sc. Technical Introductory Technology teachers often don't do well in many of the subjects relevant to their areas of study or have only shallow knowledge of the course contents. According to Olaitan (1992), however, an awareness of the importance of teacher calibre has since led the Federal Government to encourage polytechnics and universities to establish departments of technical teacher education. A register of qualified but unemployed technical teachers has also been compiled with a view to engaging them as needed. Despite these efforts, reports of acute shortages of technical teachers all over the country continue to come in.

Okwe (2006), citing Avan, draws attention to the fact that introductory technology equipment installed in various schools is not being used because there are no, or very few, trained introductory technology teachers. He emphasised the need for technical teachers to have industrial experience, or the necessary orientation in the operations of relevant and imported technical equipment immediately after engagement. Otherwise both the learning process and student performance suffer. Olaitan, in turn, observed that because of inadequately skilled and experienced manpower, the economic and social development of most African countries including Nigeria has been slowed.

The range of qualifications permitted for teachers at the post-primary school level in Nigeria include:

- Teachers holding the Nigeria Certificate in Education (NCE) that is those teachers with three years of studies in academic and professional subjects from colleges of education after obtaining their senior secondary school certificate (WAEC or NECO)
- Teachers holding a National Diploma (ND) or Higher National Diploma (HND) without professional

qualifications in education

- Teachers holding a Bachelor of Arts degree (BA), Bachelor of Science degree (B.Sc.), Master of Arts degree (MA), or Master of Science degree (M.Sc.)
- Teachers holding a Bachelor of Arts in Education (B.A. Ed), Bachelor of Science Education degree (B.Sc., Ed), Bachelor of Education degree (B. Ed), Master of Education degree (M. Ed), Master of Arts Education degree (M.A Ed), or Master of Science Education degree (M.Sc. Ed)
- Teachers holding a B.A, B.Sc., M.A, M.Sc., or certificates and postgraduate diploma certificates in education after one or two years of studies in Education at a University.

It is interesting to note at this point that the Federal Government of Nigeria in the National Policy on Education (FRN, 2004) has emphasized that the NCE certificate will ultimately become the minimum basic qualification for entry into the teaching profession.

### **School Facilities and Vocational Education Programmes**

Most often, planners do not relate school facilities to the learning process and expect learning to take place in the absence of books, seats, and writing materials; any decline in standard of performance is blamed on teachers and students. Aghenta (2009) asserts that achievement in education depends on the optimum performance of all school administrative elements, which include the technical, the managerial, and the institutional subsystems. Mkpa (2009) is likewise of the view that the availability of requisite facilities is important for the effective implementation of any predetermined objective. He contends that the qualifications and background of a teacher can only be considered fully effective when adequate and appropriate instructional facilities are provided for optimal teaching and learning. He reiterates that there must be a variety of equipment made available to students to enable them to explore the new areas they are exposed to.

In Nigeria, vocational education practical and field courses are said to be “board or desk-bound” to the detriment of the students. Based on this, in 1984/85, the Federal Government entered into self-loan agreements with Bulgaria, Hungary and Czechoslovakia for the supply of pre-vocational workshop tools and equipment to all secondary schools in the country. The supplies were sent and mostly installed. Some, unfortunately, have degenerate into scraps in school corridors because of the non-availability of workshop buildings, thereby rendering them useless (Nworise, 2006).

Although most leaders over time have meant well in terms of education development and reform, the resources allocated to the education sector were historically meagre and often not properly utilized as a result of poor planning. Today, the number and size of workshops required for a standard technical school continues to be ignored. Similarly, Ogushi (2008) asserts that the 6-3-3-4 education policy which does emphasize technical education has run into serious complications because more than 50% of the approved multibillion dollar equipment is lying idle all over the country, due to the lack of a relatively small amount of money needed to this equipment and build technical workshops.

Much like technical workshops, school libraries in Nigeria, where available, are inadequately equipped resulting in what Omekwe (2009) describes as a book drought with disastrous consequences. In schools today many teachers avoid certain practical lessons because they know the technical or library resources are non-existent or not functional. This does not bode well for the effective implementation of vocational and technical education programmes. Iyalla (2005) opines that government has failed in its responsibility to equip school libraries and laboratories, and argues that this lack of facilities has been proven to be one of the main hindrances to successful vocational education programmes. Edem, as cited in Obulor (2006), reiterates that it is the duty of the Ministry of Education to provide equipment and expendable materials to schools, and that their inadequacy constitutes a source of frustration and disillusionment among students and teachers.

## **METHOD/PROCEDURES**

### **Research Design**

This study represents descriptive survey research, aimed at investigating the implementation of vocational and technical education programmes in Rivers State. This research collects data and describes it in a systematic manner. Data is collected as is, analysed and reported without manipulation or distortion of any of the variables. Ololube (2009) defined this approach as research designed to gather systematic descriptions of existing phenomena in order to describe or explain what is going on. The choice of a descriptive survey method is borne out of the fact this method focuses on people and their attributes which will help the researcher to understand and explain the way

in which vocational programmes can be effectively implemented. To achieve this, the researcher has used a survey questionnaire, observation schedule and document analysis.

### **Population**

The population for this study is comprised of all the five (5) government-owned technical colleges involved in developing and providing vocational education in Rivers State. These five (5), which include GTC Ahoada, FSTC Ahoada, GTC Port Harcourt, GTC Tombia and GTC Elogu, have 241 academic staff comprised of eleven (11) principals (six in senior and five in junior sections) and 230 technical and science teachers.

### **Sample and Sampling Technique**

The sample for the study consisted of one hundred and forty-four (144) respondents, (8 principals and 136 technical and science teachers) across all five (5) technical colleges in Rivers State. A stratified random sampling technique was used to select the one hundred and forty-four (144) academic staff, representing 59% of the population.

### **Instrumentation**

The instruments for the study included an observation schedule, document analysis, and a thirty-five (35) item-survey questionnaire (Vocational and Technical Education Programme Implementation Assessment Questionnaire - VATEPIAQ) that used a modified Likert-type scale with four response options. The questionnaire was divided into two sections. The first section was made up of five (5) items used to gather demographic information about the respondents, while the second section was made up of thirty (30) items used to elicit information from respondents on their assessment of and strategies for the implementation of vocational and technical education programmes. The observation schedule included items used to collect concrete evidence on the availability, quantity and conditions of existing facilities and equipment in the assessed schools, while document analysis was used to obtain information on the availability, quality, experience and teaching relevance of academic staff in the technical colleges.

### **Validity**

After developing the instrument, its face and content validity were established by subjecting it to a critical assessment by the researcher's supervisor and two other experts in educational measurement and evaluation from the Faculty of Education at the University of Port Harcourt. They helped to ascertain that the contents of the instrument were in line with the purpose of the study, research questions and hypotheses.

### **Reliability**

To ascertain that the instrument was reliable, i.e. able to consistently elicit the same information from the respondents, the researcher adopted the test re-test technique. Twenty five (25) copies of the questionnaire were administered to twenty five (25) academic staff, (3 principals and 22 technical teachers) not participating in the study. The instrument was re-administered to the same respondents within an interval of two weeks. The responses (results) of the first and second instrument were collated and subjected to a reliability test using the Pearson Product Moment Correlation Analysis. The result obtained yielded a reliability index of 0.957, indicating high reliability of the research instruments.

### **Administration of Instrument**

The instrument was administered by the researcher in person, with the support of a well-informed research assistant to ensure a one hundred (100) per cent return of completed questionnaires. The researcher administered the questionnaire and collected them after an interval of four days. On arriving at the schools, the researcher explained to the respondents the purpose of the study to allay their fears and reduce misinterpretation of the items. The researcher also engaged in a discussion with the head of each school to obtain access to documents (nominal roll and attendance register) and to allow observation of the equipment and facilities therein. Finally, the researcher assured confidentiality of all information provided. One hundred and forty four (144) copies of the questionnaire were printed, distributed and retrieved, representing a one hundred (100) per cent return.

## Method of Data Analysis

In preparing the data for analysis, the researcher developed keys for coding the information contained in the research. Descriptive statistics was used to analyse the data collected and to obtain the mean assessment for each scale item. Responses to the Section B questionnaire items were weighted across a four point Likert-type scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). The deductions from the document analysis were weighted based on availability, quantity, qualification, relevance and experience. The data gathered from the observation schedule was weighted based on availability, quantity, condition, and adequacy. A percentage scale of the responses to each item was analysed and used to answer the research questions. The research hypotheses for this study were tested using *z*-test statistics to establish the significant differences between the variables in the study. There was a  $p < 0.05$  level of significance for all of the hypotheses, while the acceptance or rejection of null hypotheses was based on the calculated value of the *t*-test analysis.

## RESULTS

The data presented in this chapter was gathered using three sets of instruments. The first was document analysis, which gathered data on the availability of teachers, their quality, experience, and subject relevance. The second instrument was an observation schedule (chart) used to gather information on the availability, quantity, condition and adequacy of facilities and equipment in vocational and technical colleges in Rivers State. The third was a 35-item vocational and technical education programme implementation assessment questionnaire (VATEPIAQ), which elicited information on funding strategies adopted by government, and challenges and strategies for improving the implementation of vocational and technical education programmes in Rivers State.

### Research Question One

What quality of teaching staff have been recruited for vocational and technical education programmes in Rivers State?

Table 1 and Figure 1 show that at GTC Ahoada, there are 53 teachers of which 45 (84.9%) have qualifications ranging from NCE, National Diplomas and Degrees in Science and Technical Education, and are therefore qualified. Eight (8) (15.9%) did not possess these qualifications and so are not qualified. At FSTC Ahoada, there are 47 teachers, 35 (74.4%) of whom also had qualifications ranging from NCE, National Diplomas and Degrees in Science and Technical Education and are qualified, while 12 (25.5%) did not possess these qualifications and are not qualified. Of the 107 teachers at GTC Port Harcourt, 82 (76.6%) have qualifications ranging from NCE, National Diplomas and Degrees in Science and Technical Education and are qualified, while 25 (23.4%) did not have these qualifications and are not qualified. Of the 17 teachers at GTC Tombia, 12 (70.6%) are deemed to be qualified based on their educational attainments, while 5 (29.4%) are not qualified in that they are working with less than standard qualifications. GTC Elo-ogu has a similar number of teachers and qualified/unqualified teachers as GTC Tombia.

These results shows that larger percentage of the teachers in existing vocational and technical education programmes are qualified and moderately experienced and have met the teaching requirements as required by the National Policy on Education (FRN 2004). It became clear, however, in interviews with the principals that such teachers are not sufficiently provided for by the government.

Table 1: Analysis of respondents perceptions towards the quality of teaching staff

S/N	Schools	No. of Teachers	No. of Qualified Teachers	% of Teachers Qualified	No. of Unqualified Teachers	% of Teachers not Qualified
1	GTC Ahoada	53	45	84.9	8	15.9
2	FSTC Ahoada	47	35	74.5	12	25.5
3	GTC PH	107	82	76.6	25	23.4
4	GTC Tombia	17	12	70.6	5	29.4
5	GTC Elo-Ogu	17	12	70.6	5	29.4
<b>TOTAL</b>		<b>241</b>	<b>186</b>		<b>55</b>	



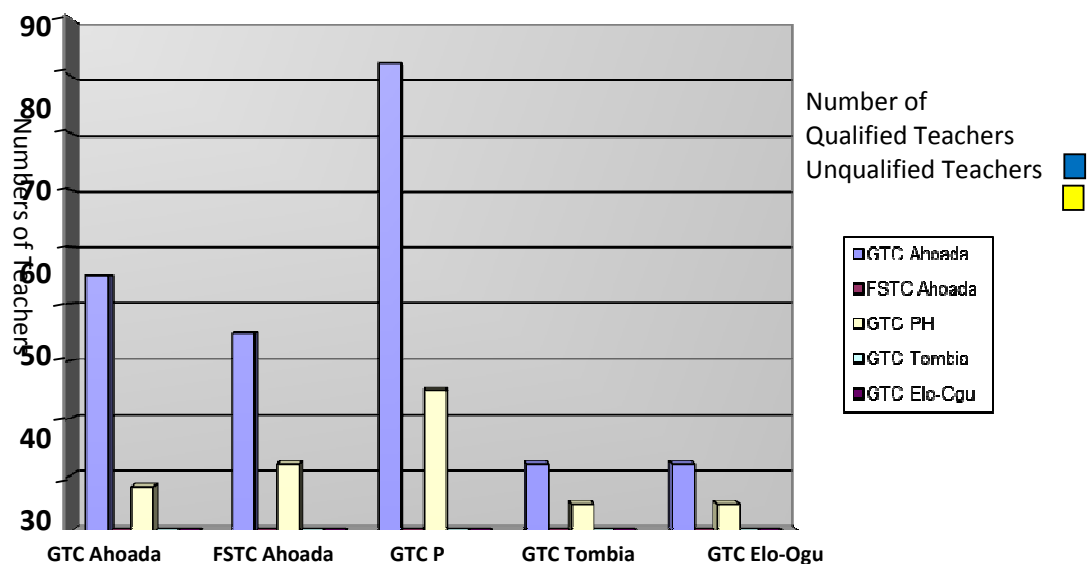


Figure 1: Labour force quality for implementation of vocational and technical education programmes in Rivers State

### Research Question Two:

What facilities have been put in place for vocational and technical education programmes in Rivers State?

Table 2 shows that items with serial numbers 1, 7, 9, 15 and 16, 18, 20, 22 (8 items in total) are deemed to be 66.7, 66.7, 80, 80 and 80 per cent adequate and so are sufficient for the implementation of vocational and technical education in Rivers State. The remaining, 2, 6, 8, 10-14, 17, 19 and 21 (14 items in total) were deemed to be less than 50% adequate and so fail to meet the needs of vocational and technical education programmes in Rivers State.

Table 2: Analysis of respondents' perceptions of facilities and equipment in technical schools

s/n	ITEMS	ADEQUACY		
		% Adequate	% Inadequate	Status
1.	Classroom Blocks	66.7	33.3	Adequate
2.	Electrical Workshop	20	80	Inadequate
3.	Welding Workshop	25	75	Inadequate
4.	Automobile Workshop	25	75	Inadequate
5.	Assembly /Exam Hall	40	60	Inadequate
6.	Wood Work Workshop	33.3	66.7	Inadequate
7.	Painting and Decoration Workshop	66.7	33.3	Adequate
8.	Building Workshop	33.3	66.7	Inadequate
9.	Home Economics Lab	80	20	Adequate
10.	Computer and Secretarial Studies Lab	20	80	Inadequate
11.	Photography Equipment	14.3	85.7	Inadequate
12.	Air-Conditioning and Refrigeration Equipment	20	80	Inadequate
13.	Welding and Fabrication Equipment	25	75	Inadequate
14.	Electrical and Electronics Workshop	20	80	Inadequate
15.	Electrical Installations and Maintenance Equipment	80	20	Adequate
16.	Radio, Television Repair Equipment	80	20	Adequate
17.	General Study Classes	40	60	Inadequate
18.	Wood trade Equipment	75	25	Adequate
19.	Printing Workshop	40	60	Inadequate
20.	Textile Workshop	66.7	33.3	Adequate
21.	Library	40	60	Inadequate
22.	Integrated Science Lab	80	20	Adequate

## **DISCUSSION**

### **Quality of Teaching Staff**

This study had revealed that the quality of academic staff in vocational and technical colleges in Rivers State is moderately high but relatively inadequate, and that some staff are far less experienced. It is also evident from this study that some teachers do not have the requisite teaching qualifications even though they hold high degrees in the trade that they teach. Further investigation revealed that some qualified teachers are working only on a part-time basis (on casual appointment) and so embargo employment. Oranu (2009) upheld that teachers play an indispensable role in any educational system and should be adequately equipped with relevant qualifications since the ability of the teacher to perform their functions is dependent on the learning they have done.

Earlier studies by Ogushi (2008) found that the problems faced by education administrators in the implementation of vocational education programmes in Nigeria include, among other things, incompetent technology teachers. The present findings are consistent with the earlier findings of Omekwe (2009) which revealed that teachers in some of the core subjects, including physics, chemistry and biology, were not qualified and so degraded the quality of the education provided. The present findings also corroborate the United Nations Education and Children's Organization (UNICEF) 1976 Report that found that poor quality of teaching staff is responsible for the poor quality of skill acquisition in vocational schools.

This study, and its predecessors, makes a strong case for quality teaching staff as a pre-requisite for quality vocational programme implementation. In line with Ololube (2006), the engagement of unqualified teaching staff in Nigerian schools including technical colleges has an undoubtedly negative and unpleasant effect on student performance in technical school examinations.

### **Facilities**

This study also revealed shortages in equipment and other facilities needed for successful vocational skills acquisition training. The present findings support earlier findings by Yusuf (2006) that facilities in vocational and technical schools were scarcely available, grossly inadequate and most of them in poor condition. In a similar study by Putsoa (2005), the foremost factors affecting the effective implementation of technical education objectives were also inadequate instructional equipment and the lack of up-to-date school plants.

The present study discovered that some of the available facilities are not functional and/or in deplorable conditions. It is true that a few new structures and or repaired/renovated structures are slowly springing up in some schools as a result of the establishment of the government's Educational Trust Fund (ETF) and interventions by other government commissions (NDCC). The fact remains, however, that the pace of these developments is too slow. Government must act quickly, realizing that the establishment of vocational schools is capital-intensive, to source the funds needed for purchasing relevant equipment and facilities as the availability of these materials in schools accounts for the quality of their graduates. Obulor (2006) concurs and notes that vocational schools must produce people with broad knowledge and skills to fill existing gaps in the workforce and fulfil the nation's aspirations in the world of technology.

Adesina (1982) likewise asserts that the quality of education that our children receive bears direct relevance to the availability or the lack of physical facilities. Discussions with the principals of the schools involved in this study reinforced the opinions of other respondents on the importance but lack of facilities for the implementation of vocational and technical education programmes in Rivers State. This situation is, in part, responsible for the poor quality of skills acquired in vocational schools as facility availability has a direct effect on the teaching and learning process.

## **CONCLUSION**

This has offered new insight into the condition and challenges of vocational and technical education programmes in Rivers State. It has created an awareness of the need to provide well equipped technical colleges in Rivers State for successful programme implementation.

The successful implementation of vocational and technical education programmes is yet to be achieved in Rivers State. The main issues of concern include a dearth of qualified vocational and technical teachers, especially in semi-urban areas, inadequate equipment and facilities, and poor funding strategies. In the current context, the desired goals of these programmes can hardly be expected to be met. In order to arrive at the effective implementation of these programmes in Rivers State, it is important to realize that successful management of any policy depends to a large extent on the support it receives, not only from the formulators (government), but also

from those expected to implement and consume it. On the strength of the results of this study, the researcher recommends the following:

- Only professionally qualified technical and science teachers should be recruited into the system. Those without professional qualifications already in the system should be encouraged to undergo post-graduate diploma courses in education.
- Policy provisions should include arrangements to attract foreign agencies and private investors to provide grants-in-aid to the vocational and technical colleges to tackle the issue of inadequate instructional materials and facilities, up-dating and improving on the conditions of existing ones.

It is important that similar studies be carried out in other states in Nigeria and that subsequent investigations cover other vocational programmes such as the skills acquisition scheme of NGOs, private and public apprenticeship schemes, and on-and-off the job training schemes as found in polytechnics and colleges of education.

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