

TEACHING STAFF REQUIREMENTS FOR QUALITY INSTRUCTIONAL DELIVERY IN GOVERNMENT TECHNICAL COLLEGES IN NIGERIA.

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Abstract- This study investigated teaching staff requirements for quality instructional delivery in government technical colleges in Nigeria. Five research questions and three hypotheses guided this study. This study adopted the descriptive survey design and the population consisted of four Government Technical Colleges in Rivers State with 68 teachers handling technical education subjects. A sample size of 68 male and female teachers was drawn using purposive random sampling technique. The instruments for this study included document analysis and questionnaire tagged "Teaching Staff Requirements for Quality Instructional Delivery Questionnaire (TSRQIDQ)". The instruments were validated, and the reliability carried out with test-retest method, which the results were calculated using Pearson Product Moment Correlation and this yielded an index of 0.79. The research questions were answered using mean, standard deviation and rank order statistics, while the null hypotheses were tested using z-test at an alpha significant level of 0.05. The findings revealed among others that, the extent to which adequate teaching staff availability for technical subjects enhance students' productivity in Government Technical Colleges in Rivers State include: increasing the chance of students' success in internal and external examinations; enhancing the pre-requisite knowledge/ needed competency for employment after school; giving students the confidence in starting their own business after school; promoting hard-work/competition among students for personal development; creating greater chance of continuing success in students' achievement; promoting clear communication ability among students; and helping to promote skills, knowledge, understanding and good working relationships among students. Based on the findings, the researchers recommended that, government should make laboratories for technical subjects functional through adequate provision of needed technical facilities so that staff and students would be very functional in teaching and learning.

Index Terms- Teaching Staff, Staff Requirements, Quality Instruction, Instructional Delivery, Government Technical Colleges, Nigeria.

1. INTRODUCTION

Manpower is the key input in the process of development. Manpower constitutes the life-wire of every organization. It is the human agents that participate in the day to day activities and functions of the organization. Manpower requirements in educational institutions entail the needed qualifications and status of staff in the system. Manpower requirements for quality delivery of technical education include: staff qualification, training and development. Manpower of any organization needs to be qualified with good grades, involve in staff training and continual updates for instructional competitiveness.

Thus, manpower training is an arrangement that is intended to assist the workforce of an organization to acquire relevant, desirable and expertise knowledge, ideas, skills and competencies that enables them perform effectively and efficiently in achieving the goals of that organization. The training and development make them to be of value in life of that organization, and at the same time permit them in meeting both organizational and individual needs.

Adequacy of manpower resources for technical education programmes involves the acquisition of human resources required to sustain the effective delivery of technical education in Secondary Schools. The manpower under focus therefore, is technical education teachers that can facilitate technical education subjects. Adequacy of human resources therefore, refers to adequate quality and quantity of teaching or instructional staff. Quality staff approximates to appropriate caliber of teaching staff. In this regard, the policy stipulates for the minimum qualification for entry into the teaching profession in Nigeria, as the Nigeria Certificate in Education (NCE) in the relevant areas for technical education in secondary schools (FRN, 2014). Other qualifications include University Degrees in Education, or Post Graduate Degrees in Education, Higher National Diploma (HND) with Educational background in the relevant areas. The quantity of teachers needed is generally determined by stipulations regarding

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Teacher-Pupil Ratio (TPR), which is usually 1:35. Thus, in the course of this study the TPR will be used to determine the adequacy of quantity of teachers. Instructional resources are the necessary aids that facilitate teaching and learning.

Technical education refers to systematic learning experiences designed to fit the child for gainful employment as semi-skilled or skilled workers, technicians or even professionals in their chosen occupations. It prepares learners for jobs that are oriented towards manual or practical activities, which are related to specific trades, occupations or vocations. According to Federal Republic of Nigeria (2014), technical education is an integral part of general education. This prepares individual for gainful employment that would help in building up the individuals for personal and societal development.

The Federal Republic of Nigeria (2014, p.29) in National Policy on Education clearly shows the scope of occupational areas that technical education must provide include: Business Education, Home Economics Education, Health Education, technical drawing, Introductory technology, integrated science, computer studies and Agricultural Education. Technical education prepares students for occupational positions in the public and private industrial endeavours. The areas of specialization in technical education are bookkeeping (Accounting), secretarial practice (shorthand, typing and the use of the computer), science and technology. Technical education prepares students for vocational positions in private and public establishments. However, at the secondary school level, the technical education programmes generally are designed to provide basic knowledge and skills that cut across the areas of specialization.

Instructional resources add impetus to programme implementation and sustenance. Key instructional resources needed in technical education include; classrooms, chalkboard, textbooks, libraries, computers, printers, photocopier, laboratories, workshops, Agricultural farms, such as poultry farms and fish ponds, etc.

Manpower training and development are known to increase organizational productivity. It enables the workers to effectively manipulate material resources to achieve organizational objectives. Manpower training and development furnish staff members with current ideas and methodologies to make the school system more attractive. According to Nwabueze and Onyenandu (2015), manpower training and development engages the participants with valued forms of knowledge position the teacher to scaffold learning, promote active engagement of the learner by

the teacher; and then foster both individual and social processes and outcomes. In other words, organizational members receive training and development so as to be effective in their private life and that of the organization in which they find themselves.

The knowledge and skill acquired in technical education help in reducing poverty in the country. The skills acquired through technical education programmes are relevant to the changing environment.

2. LITERATURE REVIEW

2.1 Concept of Technical Education:

The Longman Dictionary of Contemporary English (2009) defines technical education as the training that teaches the skills needed to do a particular work. Adiele (2008) defines it as the special ability to do a particular job or activity, especially one that renders service to other people. What is fundamental in technical education is the acquisition of skill for occupational preparation. It is a training given to learners in a chosen occupational field.

Consequently, technical education is a very important part of our education system. Nwanna-Nzewunwa (2008) maintains that, although technical education was the first type of education to be introduced into the country by the missionaries, it has not achieved much due to poor status accorded to the subject. Many definitions have emerged to explain this branch of education. For instance, Uche, Nwabueze and Ememe (2009) define technical education as utilitarian value and outcome that enable the younger ones to succeed in life. This showed that not only the individual prospect or incumbent worker but also, the society at large to benefit from the programme. From another angle, Okoro (1999) gives a broader definition of technical education, which includes all preparations for skilled employment provided for productivity.

According to Osuala (1981), technical education helps an individual acquire skills which will earn him a job. This suggests that technical education is skill oriented and is capable of giving recognition to an individual who acquires such skills. It also suggests that the individuals could be self-employed having acquired needed skills. Okechukwu in Okwu (1989) observes that technical education provides students with the skills to become productive entrepreneurs.

Okwu (1989) further states that technical education concerns knowledge, skills and attitude that fit the individual wholly or in part for definite occupation or vocation, the pursuit of which equips one for successful living. Thus, technical education prepares learners for jobs that are oriented towards manual or practical activities which are related to

specific trades, occupations, or vocations. Technical education is the kind of training pertaining to characteristics of a particular art, science, or occupation. The Federal Republic of Nigeria (2014) in National Policy on Education states that, technical education is an integral part of general education; it is a means to preparing individuals to become useful in the society.

2.2 The Concept of Manpower:

Manpower is the key input in the process of development. Manpower constitutes the life-wire of every organization. It is the human agents that participate in the day to day activities and functions of the organization. Manpower requirements in educational institutions entail the needed qualifications and status of staff in the system. Manpower requirements for quality delivery of technical education include: staff qualification, training and development. Manpower of any organization needs to be qualified with good grades, involve in staff training and continual updates for instructional competitiveness.

Adiele (2008) states that manpower development involves the provision made to educate and improve the performance of staff from initial employment to retirement. That is, it is a long-term educational process which managerial personnel learn conceptual and intellectual knowledge for general purpose.

Thus, manpower development is aimed at equipping the teacher on the school system to be able to discharge his professional responsibility effectively and efficiency in ascertaining quality education. In other word, training is a short-term educational engagement, although, it is still aimed at providing knowledge and skills (both conceptual and intellectual) to staff members for organization effectiveness. Nwanna-Nzewunwa (2008) affirms that, manpower training and development improves their trainees' prospect of funding and retaining a job; improves on the productivity at work, their income earning capacity and their living standard.

2.3 Relevance of Technical Skills Offered in Schools

Technical education is undoubtedly a very important aspect of the Nigerian educational system. It develops occupational competence and teaches those skills which enable an individual earn a living as cited by Ebong (2006). The Federal Republic of Nigeria (2014) in National Policy on Education defines technical education as that aspect of education which leads to the acquisition of practical and applied skills as well as basic scientific knowledge.

Okonkwo in Nwogu (2009) declares technical education as viable industries and a prerequisite to new world technological order and therefore requires adequate support of human and material resources. The development of human capital requires necessarily, skilled personnel that have appropriate skills, right attitude and good knowledge of how to retrieve, process and utilize natural resources for the benefit of humanity. Development of human capital that has appropriate skills, right attitude and good knowledge of how to retrieve, process and utilize national resources come within the preview of vocational, technical education and training for national development.

Technical education gives individuals the skills to live, learn and work as a productive citizens in a global society. Technical education has many prospects. It can be used as a catalyst for creating employment opportunities. Technical education and job training has been an integral part of national development strategies in many societies because of the impact on human resources development, productivity and economic growth (Dike, 2007). According to Ibeneme (2007), Nigerians do not seem to accord technical education the attention it deserves despite its proven contributions in other nations.

2.4 Availability of Manpower Resources:

Adequacy of human (manpower) resources refers to adequate quality and quantity of technical/vocational education teachers. Igwe and Oragwu (2014) are of the view that projects fail when educational planners often seem to invest heavily in hardware and software, but minimally in training competent people, thus the project without expert support and guidance. As was earlier pointed out by Olaitan (1996), the person who teaches mat making should be a master of that skill.

According to Uche, Nwabueze and Ememe (2009), it is vital to have sufficient and adequate human resources in terms of teacher quality for the teaching of all subjects in the school curriculum. She said that without the teachers as implementing factors, the goals of education can never be achieved. In order to achieve a just and egalitarian society as spelt out in the Nigerian National Policy of Education (1981) revised (2004), schools should be properly and uniformly equipped to promote sound and effective teaching. Suitable textbooks, qualified teachers, libraries which are adequate should also be provided for schools..

Jordan (2009) emphasizes that development programme is a factor that ensures adequacy of human (manpower) resources. The manpower used in an organization needs to be given the appropriate

professional training and retraining in order to build its capacity to surmount any challenges emerging from its working environment. It is also required in order to follow the trends of the emerging changes. By this, Jordan seems to imply that, for the school system to maintain adequate manpower (teachers) for effective teaching and learning, such a school system has to upgrade the current quality of its teachers through development programmes. This is because a teacher whose knowledge, skills and confidence are built through development programmes will likely not abandon his teaching profession because of enthusiasm and confidence the programmes have provided. In furtherance of his explanation, Jordan (2009) adds that the correlation between adequacy of manpower and development programmes could be illustrated, for instance, an organization is not said to have adequate manpower when such manpower is out of touch with the contemporary knowledge and skills to operate freely and effectively for the actualization of the set objective of the organization.

3. STATEMENT OF THE PROBLEM

There is widespread lack of understanding on manpower requirements of teachers to usher in the expected standard in education, more especially, technical subjects. The effectiveness of training and development approaches is very important in the development of individuals for perfect delivery of technical education. There is a general doubt about the manpower requirements for the delivery of technical subjects. The minimum requirement for teaching of technical subjects in secondary schools is the Nigeria Certificate in Education (NCE). It seems to be difficult to see teachers that can handle these subjects confidently. This could be as a result of low involvement of individuals in such subjects. Sometimes, teachers who handle other subject areas are given the subject to teach; and they do not participate efficiently in teaching the subjects. These issues constitute major obstacles against the advancement of technical education in Nigeria.

Nigeria sees technical education as a means of empowering youths through education to acquire knowledge and skills for occupational areas in order to make them self-reliant. This national quest for technical education aimed at empowering youth by equipping them to be self-reliant in the country. Added to all these, the poor performance of technical education students in such examination as: National Business and Technical Education Board (NABTEB), and Trade Tests are often a source of concern to stakeholders of technical education. As a result of these, the research

problem borders on whether or not the level of teacher preparedness to execute their declared intention by providing effective technical educational programmes that will meet the objectives of education is intact. Such level of preparedness is predicated on the capacity of the educational resources provided to sustain successful technical education programmes. Thus, without matching resource capacity to such good intentions, the actualization of technical educational goals will hardly be achieved.

Therefore, this study seeks to investigate the manpower requirements for the delivery of technical education in government technical colleges in Nigeria, with major focus on availability of manpower resources in terms of number for effective delivery of technical education subjects; adequacy of manpower resources in terms of qualifications for effective delivery of technical education subjects. The study will also look at the influence of adequate manpower availability for technical subjects on students' productivity; challenges inhibiting effective teaching of technical education subjects; and strategies for enhancing effective teaching of technical subjects in government technical colleges in Nigeria.

4. AIM AND OBJECTIVES OF THE STUDY

The aim of this study is to investigate the manpower requirements for the delivery of technical education in government technical colleges in Nigeria. Specifically, the objectives of the study are to:

1. identify the availability of manpower resources in terms of number for the delivery of technical education subjects in government technical colleges.
2. ascertain the adequacy of manpower resources in terms of qualifications for the delivery of technical education subjects in government technical colleges.
3. determine the extent to which adequate manpower availability of technical subjects enhances students' productivity in government technical colleges.
4. find out the challenges inhibiting proper teaching of technical subjects in government technical colleges.
5. examine the strategies of improving manpower requirements for proper teaching of technical education subjects in government technical colleges.

5. RESEARCH QUESTIONS

The following research questions guided the study.

1. How available are the manpower resources in terms of number for the delivery of technical education subjects in government technical colleges?
2. How adequate are manpower resources in terms of qualifications for the delivery of technical education subjects in government technical colleges?
3. What is the extent to which adequate manpower availability for technical subjects enhance students' productivity in government technical colleges?
4. What are the challenges inhibiting proper teaching of technical subjects in government technical colleges?
5. What are the strategies of improving manpower requirements for proper teaching of technical education subjects in government technical colleges?

6. HYPOTHESES

The following hypotheses guided the study:

1. There is no significant difference between the mean score ratings of male and female teachers on the extent to which adequate manpower availability for technical subjects enhances students' productivity in government technical colleges.
 2. There is no significant difference between the mean score ratings of male and female teachers on the challenges inhibiting proper teaching of technical subjects in government technical colleges.
- There is no significant difference between the mean score ratings of male and female teachers on the strategies of improving manpower requirements for proper teaching of technical education subjects in government technical colleges.

7. METHODOLOGY

7.1 Research design: This study adopted the descriptive survey design. Research design is the framework or plan used to guide the collection and analysis of data prepared for a particular study.

7.2 Population: The population for this study consisted of the 4 Government Technical College in Rivers State, Nigeria with 68 technical teachers handling technical education subjects. This included 40 male staff and 28 female staff. The Government Technical Colleges are located in Trans-Amadi, Tombia, Ahoada and Ele-ogu

towns.

7.3 Sample and Sampling Technique: As the population is not large, purposive random sampling technique was used to draw a sample size of 68 technical teaching staff representing 100% of the population. This included the 40 male and 28 female staff.

7.4 Instrument for Data Collection: The instruments for this study included document analysis and questionnaire tagged "Manpower Requirements for the Delivery of technical Education Questionnaire (MRDTEQ) developed by the researcher. The questionnaire had two sections: sections A & B. Section A was demographic data containing information such as sex, status of staff and school location. Section B contained questionnaire items structured based on the major variables of the study. The instrument was designed to elicit data on the variables of the study. The document analysis was used to gather information on the availability, quality and quantity of technical studies teachers in the four Government Technical College in Rivers State, Nigeria.

7.5 Validity of Instrument: The instrument was facially and contently validated.

7.6 Reliability of the Instrument: In order to ascertain the reliability of the questionnaire, test re-test method was adopted. By so doing, 15 copies of the instrument were administered to 15 teaching staff not included in the sample of study; and after two weeks, another 15 copies of the same instrument were re-administered to the same number of teaching staff. Thereafter, the results of the tests were correlated using Pearson Product Moment Correlation to determine the coefficient that yielded an index of 0.79.

7.7 Method of data analysis: The research questions were answered using numbers, bar charts, mean scores and standard deviation. Since a four point Likert type scale was used in data collection, a criterion mean of 2.5 was calculated to agree or disagree with the items.

8. RESULTS

8.1 Answers to Research Questions

Research Question One: How available are the manpower resources for the delivery of technical education subjects in Government Technical Colleges?

Table 1: Document Analysis on Availability of Manpower Resources for Technical Education Subjects

S/N	Technical Subjects	No. of Teachers Available	No. of NYSC Members Available
1.	Computer	2	5
2.	Radio Television	2	1
3.	Building Technology	4	1
4.	Electrical Electronics	2	2
5.	Mechanical Craft Practice	4	-
6.	Welding Fabrication	2	1
7.	Motor Vehicle Mechanic	3	1
8.	Furniture	2	1
9.	Business Education	4	5

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Thus, $(4+3+2+1 = 10/4 = 2.5)$. Mean scores from 2.5 and above were agreed upon while mean scores below 2.5 were disagreed upon. The null hypotheses were tested using z-test at alpha significant level of 0.05. A table value of ± 1.96 was used as the critical value for acceptance or rejection of any null hypothesis. Hence, the acceptance or rejection of the null hypothesis depends on the z-calculated value and z-tabulated value.

Table 1 and Figure 1 presented data from the list of technical education teachers handling technical subjects obtained from secondary education board, Rivers State. The table indicates that, 7 teachers and corps members teach computer studies, 3 teach radio television, 5 teach building technology, 4 teach electrical electronics, 4 teach mechanical craft practice, 3 teach welding

Research Question Two: How adequate are manpower resources for technical education subjects in Government Technical Colleges?

Table 2: Document Analysis on the Adequacy of manpower resources for technical education subjects

S/N	Technical Subjects	No. of Manpower Available	%
14.	Computer	7	10
15.	Radio Television	3	5
16.	Building Technology	5	7
17.	Electrical Electronics	4	6
18.	Mechanical Craft Practice	4	6
19.	Welding Fabrication	3	5
20.	Motor Vehicle Mechanic	4	6
21.	Furniture	3	5
22.	Business Education	9	13
23.	Painting & Decoration	5	7
24.	Agric Mechanic	4	6
25.	Catering	7	10
26.	Science	10	15

fabrication, 4 teach motor vehicle mechanics, 3 teach furniture, 9 teach business education, 5 teach painting & decoration, 4 teach agric mechanic, 7 teach catering, and 10 teach sciences. Based on the data in the table, the availability of manpower resources in terms of number for the delivery of technical education subjects in Government Technical College in Rivers State, Nigeria is adequate.

Table 2 and Figure 2 presented the document analysis on manpower resources in terms of qualifications for the delivery of technical education subjects the number of technical education teachers and their qualifications.

Research Question Three: What is the extent to which adequate subjects enhance students' productivity in Government Technical College in Rivers State, Nigeria?

Table 3: Mean scores of male and female staff on the extent to which subjects enhance students' productivity

S/N	Items	Mean Score
27.	Adequate manpower availability for technical subjects increases the chance of students' success in external examinations	3.1
28.	It enhances the pre-requisite knowledge/needed competency for employment after school	3.2
29.	It gives students the confidence in starting their own business after school	3.3
30.	It promotes hard-work/competition among students	3.2
31.	It creates greater chance of continuing success in students' achievement	3.0
32.	It promotes clear communication ability among students	3.0
33.	It helps to promote skills, knowledge, understanding/ good working relationships among students	3.1
Aggregate Mean		3.1

Data in Table 3 showed that male and female teachers all agreed on the items in the table with mean scores greater than the mean criterion of 2.50. The aggregate mean scores of 3.17 for male staff and 3.15 for female staff showed that, they accepted the items in the table as the extent to which adequate manpower availability for technical subjects enhance students' productivity in Government Technical Colleges in Rivers State, Nigeria.

From the table, the qualifications of teachers handling computer studies, radio television, building technology, electrical electronics, mechanical craft practice, welding fabrication, motor vehicle mechanics, furniture, business education, painting & decoration, agric mechanics, catering, and sciences are adequate.

Therefore, they include: increasing the chance of students' success in external examinations; enhancing the pre-requisite knowledge/needed competency for employment after school; giving students the confidence in starting their own business after school; promoting hard-work/competition among students; creating greater chance of continuing success in students' achievement; promoting clear communication ability among students; and helping to promote skills, knowledge, understanding/good working relationships among students.

Research Question Four: What are the challenges inhibiting proper teaching of technical subjects in Government Technical Colleges in Rivers State?

Table 4: Mean score ratings on the challenges inhibiting proper teaching of technical subjects in Government Technical Colleges in Rivers State

S/N	Items	Mean Score
34.	Poor finance to procure the needed technical facilities	3.0
35.	Lack of laboratories/workshops	3.0
36.	Shortage of power supply in the school premises	3.0
37.	Diversion of educational resources needed for the enhancement technical instructions to private use	3.0
38.	Lack of technical skills/knowledge to use facilities meant for technical instructions among staff	3.0
39.	Inadequate provision of laboratory equipments for technical subjects	3.0
40.	Non-involvement of technical subjects' staff in professional development programmes	3.0
41.	Poor supervision of technical subjects' staff/classroom activities	2.0
42.	Poor involvement of students in vocational subjects	2.0
43.	Poor working conditions/salaries of technical subjects' teachers	3.0
44.	Shortage of technical education staff in the school system	3.0
Aggregate Mean		3.0

Data in Table 4 showed that male and female teachers agreed on items 8-14 and 16-18 in the table with mean scores greater than the mean criterion of 2.50. They disagreed on item 15 with low mean score of 2.04. The aggregate mean scores of 3.08 for male teachers and 3.07 for female teachers showed that, the challenges inhibiting proper teaching of technical subjects in Government Technical Colleges in Rivers

State include: poor finance to procure the needed technical facilities, lack of laboratories/workshops,

teachers, and shortage of technical education staff in the school system.

Research Question Five What are the strategies of improving technical subjects in Government Technical Colleges?

Table 5: Mean score ratings of male and female staff on the strate

S/N	Items	M
45	Employment of qualified staff to facilitate effective teaching of technical education subjects	3.
46	Involvement of staff in professional development programmes	3.
47	Quality supervision of staff/classroom activities	3.
48	Enhancing proper management of workforce skills	3.
49	Improving the working conditions of staff	3.
50	Regular payment of staff salaries	3.
51	Provision of adequate teaching facilities for vocational subjects	3.
52	Adequate provision of laboratory equipments for technical subjects	3.
53	Proper involvement of students in vocational subjects	3.
Aggregate Mean		3.

Data in Table 5 showed that male and female teachers agreed on all the items in the table with mean scores greater than the mean criterion of 2.50. The aggregate mean scores of 3.30 for male teachers and 3.27 for female teachers showed that, the strategies for enhancing proper teaching of technical subjects in Government Technical Colleges in Rivers State include: employment of qualified staff to facilitate effective teaching of technical education subjects, involvement of staff in professional development programmes, quality supervision of staff/classroom activities, enhancing proper management of workforce skills,

shortage of power supply in the school premises, diversion of educational resources needed for the enhancement technical instructions to private use, lack of technical skills/knowledge to use facilities meant for technical instructions among staff, inadequate provision of laboratory equipments for technical subjects, non-involvement of technical subjects' staff in professional development programmes, poor involvement of students in technical subjects, poor working conditions/salaries of technical subjects'

Table 6: z-test difference between the mean score ratings of manpower availability for technical subjects on students' produ

Status	N	Mean	St.D	d
Male	40	3.17	0.340	6
Female	28	3.15	0.356	

improving the working conditions of staff, regular payment of staff salaries, provision of adequate teaching facilities for vocational subjects, adequate provision of laboratory equipments for technical subjects, and proper involvement of students in vocational subjects.

Test of Hypotheses

Hypothesis One: There is no significant difference between the mean score ratings of male and female teachers on the influence of adequate manpower availability for technical subjects on students' productivity in Government Technical Colleges.

Hypothesis Two: There is no significant difference between the mean score ratings of male and female teachers on the challenges inhibiting proper teaching of technical subjects in Government Technical Colleges.

Table 7: z-test difference between the mean score ratings of male and female teachers on the challenges inhibiting proper teaching of technical subjects

Status	N	Mean	St.D	z
Male	40	3.08	0.354	0.865
Female	28	3.07	0.356	0.865

The result from table 7 showed the summary of z-test. The z-value of 0.865 is less than the z-critical value of ± 1.96 at 0.05 alpha significance level. Therefore, there is no significant difference between the mean score ratings of male and female teachers on the challenges inhibiting proper teaching of technical subjects in Government Technical Colleges.

Hypothesis Three: There is no significant difference between the mean score ratings of male and female teachers on the strategies of improving manpower requirements for proper teaching of technical subjects in Government Technical Colleges.

Table 8: z-test difference between the mean score ratings of male and female teachers on the strategies of improving manpower requirements for proper teaching of technical subjects

Status	N	Mean	St.D	z
Male	40	3.30	0.281	1.021
Female	28	3.27	0.298	1.021

The result from table 8 showed the summary of z-test. The z-value of 1.021 is less than the z-critical value of ± 1.96 at 0.05 alpha significance level. Therefore, there is no significant difference between the mean score ratings of male and female teachers on the strategies for enhancing proper teaching of technical subjects in Government Technical Colleges.

9. DISCUSSION OF FINDINGS

Availability of Manpower Resources:

The findings of this study revealed that, the availability of manpower resources in terms of number for the delivery of technical education subjects in Government Technical College in Rivers State, Nigeria is moderately available. The manpower resources available are teachers and corps members teaching computer studies, radio television, building

technology, electrical electronics, mechanical craft practice, welding fabrication, motor vehicle mechanics, furniture, business education, painting & decoration, agric mechanic, catering, and sciences. This was equally represented on a bar chart for clearer representation. Technical education has many prospects in the school system. It can be used as a catalyst for creating employment opportunities. Thus, it is a panacea for achieving the Millennium

subjects for students to acquire the skills needed for individual and societal development.

Qualifications of Teachers Handling Technical Education Subjects:

The findings equally revealed that, the qualifications of teachers handling computer studies, radio television, building technology, electrical electronics, mechanical craft practice, welding fabrication, motor vehicle mechanics, furniture, business education, painting & decoration, agric mechanics, catering, and sciences are adequate. This was equally represented on a pie chart for clearer explanation. Ebong (2006) strongly holds that, quality without quantity in education is tantamount to effort in futility. Adequacy of human (manpower) resources refers to adequate quality and quantity of technical/vocational education teachers. Igwe and Oragwu (2014) are of the view that, projects fail when educational planners often seem to invest heavily in hardware and software, but minimally in training competent people, thus the project without expert support and guidance. There is the need for the school system to maintain adequate manpower (teachers) for effective teaching and learning, such a school system has to upgrade the current quality of its teachers through development programmes. This is because, a teacher whose knowledge, skills and confidence are built through development programmes will likely not abandon his teaching profession because of enthusiasm and confidence the programmes have provided.

Extent to which adequate manpower availability for technical subjects enhance students' productivity:

The findings also revealed that, the extent to which adequate manpower availability for technical subjects enhance students' productivity in Government Technical Colleges in Rivers State, Nigeria include: increasing the chance of students' success in external examinations; enhancing the pre-requisite knowledge/needed competency for employment after school; giving students the confidence in starting their own business after school; promoting hard-work/competition among students; creating greater chance of continuing success in students' achievement; promoting clear communication ability among students; and helping to promote skills, knowledge, understanding/ good working relationships among students. The test of hypothesis one showed that, there is no significant difference between the mean score ratings of male and female teachers on the influence of adequate manpower availability for technical subjects on students' productivity in Government Technical

Development Goals (MDGs). In line with the findings, Uche, Nwabueze and Ememe (2009) stated that, it is vital to have sufficient and adequate human resources in terms of teacher quality for the teaching of all subjects in the school curriculum. She said that without the teachers as implementing factors, the goals of education can never be achieved. However, there is need for proper implementation of technical education

Colleges in Rivers State. This shows that the quality of teaching staff in the system will determine the level of productivity in the school. In line with the findings, Caroline and Charles in Okereke and Igbokwe (2011) state that, manpower development involves activities that enable staff to comfortably and conveniently perform organizational tasks for quality service delivery. Job performance, on the other hand, is more than a narrow economic measure as it connotes how well a group performs its required tasks to satisfy its customers inside and outside the organization, which suggests effectiveness and efficiency of the employees (Cohen, 1995). An institution providing technical education is an institution in which students are taught the skills needed to perform series of jobs in different mode. Traditionally, technical schools have not existed to further education in the sense of liberal arts, but rather to teach only job-specific skills and as such, have been better considered to be institutions devoted for training.

Challenges inhibiting proper teaching of technical subjects:

The findings also revealed that, challenges inhibiting proper teaching of technical subjects in Government Technical Colleges in Rivers State, Nigeria include: poor finance to procure the needed technical facilities, lack of laboratories/workshops, shortage of power supply in the school premises, diversion of educational resources needed for the enhancement technical instructions to private use, lack of technical skills/knowledge to use facilities meant for technical instructions among staff, inadequate provision of laboratory equipments for technical subjects, non-involvement of technical subjects' staff in professional development programmes, poor involvement of students in vocational subjects, poor working conditions/salaries of technical subjects' teachers, and shortage of technical education staff in the school system.

The test of hypothesis two showed that, there is no significant difference between the mean score ratings of male and female teachers on the challenges inhibiting proper teaching of technical subjects in Government Technical Colleges in Rivers State. However, the Federal Government of Nigerian has not come to appreciate the contribution of Vocational and Technical Education programme to national economic development even though it is a tool to combat unemployment and poverty in our societies. This is because successful governments have not found. It is necessary to adequately finance both the planning and implementation of standard and sustainable vocational

and technical education programme in Nigerian universities. In support of this statement, Okorie (2001) says that insufficient finance is a realistic and practical factor inhibiting the implementation of vocational and technical education programme in Nigeria. Study by Hinchliffe (2002), Adiele (2008) have shown that budgetary allocations to vocational education also suffers set back from the general lack of fund that characterize the education sector generally their study reveals that capital expenditure on vocational education when compared to other levels and types of education, is not to write home about as vocational education had always received the least financial attention.

Strategies of improving manpower requirements for proper teaching of technical subjects:

The findings finally revealed that, the strategies of improving manpower requirements for proper teaching of technical subjects in Government Technical Colleges in Rivers State include: employment of qualified staff to facilitate effective teaching of technical education subjects, involvement of staff in professional development programmes, quality supervision of staff/classroom activities, enhancing proper management of workforce skills, improving the working conditions of staff, regular payment of staff salaries, provision of adequate teaching facilities for vocational subjects, adequate provision of laboratory equipments for technical subjects, and proper involvement of students in vocational subjects.

The test of hypothesis three showed that, there is no significant difference between the mean score ratings of male and female teachers on the strategies of improving manpower requirements for proper teaching of technical subjects in Government Technical Colleges in Rivers State. However, there is need for improved working conditions of staff as well as regular payment of staff salaries, and provision of adequate teaching facilities for vocational subjects. Babalola (2004) seems to have followed up with these views by stating that quality in education refers to the worth of education with reference to its inputs, the teaching learning processes, the output (outcome) as well as the environment. The quality of inputs refers to the worth of teachers, textbooks, and the technology of vocational education teacher in the areas of mastery of subject matter, planning of lessons, delivery methods, control, work experience management, teacher-student interaction, students' participation and the acquisition of practical skills.

10. CONCLUSION

Based on the findings, the researchers concluded that, ways of promoting effective teaching of technical subjects in Government Technical Colleges in Rivers State include: proper provision of finance to procure the needed technical facilities, laboratories/workshops, and proper enhancement of power supply in the school premises. Enhanced technical skills/knowledge to use facilities meant for technical instructions among staff promotes students' productivity and school development. Hence, the involvement of technical subjects' staff in professional development programmes equips them with new knowledge and prerequisite skills to handle the subjects for improved academic performance among students. For efficient performance of staff, the working conditions/salaries of technical teachers should be regularly updated to motivate them.

11. RECOMMENDATIONS

Based on the findings of this study, the following recommendations were made:

1. Government should make adequate provision of manpower resources in schools that can properly handle technical subjects in Government Technical Colleges in Rivers State.
2. Technical subject teachers should regularly upgrade their qualifications by involving themselves in postgraduate programmes for knowledge building and skill acquisitions.
3. Government should constantly make provision for fund to procure the needed technical facilities in Government Technical Colleges in Rivers State for effective teaching and learning among staff and students.
4. Government should make laboratories for technical subjects functional so that staff and students would be very functional in teaching and learning transactions and instructional enhancements.
5. School administrators should make constant provision for alternative source of generating electrical power in their schools other than the supply from Nigerian power holding company. This would help schools to make proper use of technical facilities needed for the study of technical subjects in the school premises.

6. Government should make adequate provision of laboratory equipments for technical subjects to make teaching and learning worthwhile.

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