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## Availability of Resources in Technical and Vocational Education for Economic Development in Secondary Schools in South-South Nigeria

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By

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### Abstract

*The paper investigated the availability of resources for technical and vocational education in secondary schools in the south south region of Nigeria. The purposive sampling technique was used in drawing 721 Technical and Vocational Education teachers. Data was collected using a Resources Availability in Technical and Vocational Education Questionnaire (RATVEQ) developed by the researchers. The instrument was 4-point Likert scaled with a reliability coefficient of 0.75 using the Cronbach Alpha technique. Four research questions and one hypothesis were answered and tested respectively. Resources related to personnel, workshop, library and electricity supply were investigated. The grand means revealed that there were no adequate resources for Technical and Vocational Education in secondary schools in the south south region of Nigeria. The result of the hypothesis revealed that male and female teachers had no difference in their mean ratings as a t-calculated value of 1.91 was obtained. It was therefore recommended that government should collaborate effectively with relevant*

*stakeholders to adequately provide resource both quantitatively and qualitatively in secondary schools in the south south region of Nigeria.*

**Keywords:** Availability of Resources, Technical and Vocational Education , Economic Development, Secondary Schools and South-South Nigeria

The rising level of poverty and unemployment around the world, the relative lack of skilled workforce in most countries, and the changing nature of the global economy have increasingly challenged nations in making reasonable adjustments in their educational systems to accommodate Technical and Vocational Education (TVE) subjects in school curricular at all levels of educational pursuits. Research increasingly show that the production of an educated, skilled and motivated workforce is key to the survival of individuals and nations in the emerging world economic order. Technical and vocational education has become key in developing survival skill, habit, attitudes and competencies that could sustain any modern economy (Atsumbe, Emmanuel, Igwe & Atsumbe, 2012).

Historically, the 1960 Ashby Commission was mandated to review some aspects of the Nigeria educational system. The challenge of technological change was stressed and recommendation made that technical and vocational education be made available to a substantially greater proportion of young people to support economic growth. According to Atsumbe et al (2012), the Ashby report emphasized that the industrial and technological growth of Nigeria as a nation was hinged on the quality of Technical and Vocational Educational Institutions and the training received there from.

In response, the Federal Government of Nigeria (2004) adopted education as an instrument for national integration, socio- economic development and technological growth. Several measures were put in place to address this well articulated and structured philosophy from different fronts. The introduction of technical and vocational education into the secondary school curricula attested to this fact. Technical and vocational education according to the Federal Government of Nigeria (2004) is that aspect of the educational process involving in addition to general education the study of technologies and related sciences and acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of the economy and social life. Tilak (2002) believes the quality of technical and vocational education if well implemented could provide the needed skilled manpower to champion technological advancements, create employment and business opportunities and help in the development of a “skilled culture” where theory blends appropriately with practice. The objectives of technical and vocational education as outlined in the National policy of education (2004) include:

- i. To provide trained manpower in applied science, technology and business particularly at the craft, advanced craft and technical level.
- ii. To give training and impart the necessary skills to individuals who shall be self-reliant economically.
- iii. The production of skilled, self-reliant and enterprising craftsmen and technicians who can apply their technical Knowledge and vocational skills necessary for solving industrial, agricultural and economic problems of the nation.

For these objectives to be successfully implemented, a wide range of fundamental needs must be adequately provided. Osarenren–Osaghae & Irabor (2012) holds that quality resources must be made available both in humans and materials. They rightly pointed out that it is one thing to make sound policies and another to implement such policies efficiently and effectively to meet stated objectives.

For more than two decades of the introduction of technical and vocational education subjects in to secondary schools in south-south Nigeria, the seeming overt lack of technical and vocational skills among youths call for genuine regrets. Youths inability to gain employment in technical areas and their failure to innovatively create business opportunities and manage business ventures attest to the fact. Rather youths within the south-south go restive most at times. Their involvement in criminal and anti-social behaviours such as gun violence, robbery, drug addition, prostitution, kidnapping, confrontations with crude oil producing companies and so on clearly show their determination in cutting corners to earn a living. These activities of youths call for urgent inquiries into the likely causal factors of these criminal and anti-social behaviours.

Several research findings including Nwachukwu (2007) have questioned the implementation of the well structured National Policy on Education which has a comprehensive content in imparting students. The lack of basic infrastructure, specialist personnel, funding, materials, electricity supply etc, have variously been identified as causal factors for failures in meeting expected learning outcomes. According to Ozoro (2007), despite the fact that technical and vocational education is a core area that could stimulate self –reliance and economic prosperity it has continued to be inadequate, unplanned, uncoordinated and to some extent implementation made irrelevant to the needs of individuals and development aspirations of the nation. Students hardly acquire the appropriate skills for employment, innovative thinking, creation of business opportunities and management of business ventures which could make them self-reliant and solve socio-economic problems of unemployment and poverty thereby contribute to economic development.

Dufourd (2001) ably recognized and reported that the issue of school facilities have continued to receive considerable attention both from public domain as well as educators for several centuries around the world. Research increasingly show a strong positive correlation between school facilities and student learning outcomes. In a study on the availability of human and materials resources in technical and vocational education in secondary schools in south eastern Nigeria, Edobor (2007) reported that both human (teaching and support staff) and material resources were found to be inadequate both in quality and quantity for effective teaching and learning of technical and vocational education subjects. Bane (2007) carried out a study on the teaching of skill - based subjects and lamented the worrisome trend in Nigerian schools. The study pointed out that the teaching of skills-based subjects required more from the teacher, and noted that the non availability and adequacy of qualified teachers and materials would consequently impact negatively on learners who may not acquire the desire outcomes.

Since the key purpose of technical and vocational education is geared to wards the development of skilled manpower for self reliance and economic development, it becomes mandatory for teachers to be provided with all necessary material resources to be effective. Workshops need to be adequately equipped with functional tools, machines in their right quality and quantity and also competent teachers and workshop attendants must be provided. According to Anthony (2005) a higher level of teachers commitments could be recorded when the required facilities are made available for his work. This rightly enables a proper blend between theory and practice where students stand to gain more. Fajemirokan (1999) conducted a study on the relationship between academic performance of students and materials resources. The results revealed a strong positive correlation between the two. Students could learn better in skills-based subjects when they interact practically with learning materials.

From the foregoing, it expressly means that if schools must succeed in their skills – based technical and vocational education objectives, deliberate and conscious school environments must be created to support teaching and learning that would positively influence students outcomes. The right quality and quantity of teachers and other support staff must be provided and used in addition to well equipped workshops, studios, laboratories with up-to-date materials, adequate tools machines, equipment and so on. The findings of Ozoro (2006), Ojimba (2012) and Osarenren-Osaghae & Irabor (2012) were all in agreement on the issue of lack of adequate resources both human and material for the effective teaching and learning of technical and vocational education subjects in schools.

For Nigeria to rise and become a world class economy, technical and vocational education must be repositioned and adequate resources provided for appropriate

acquisition of skills, attitudes, habits, capabilities and competences. This would launch the nation in to the world of technological and industrial economies. It is against this background that this study was carried out to evaluate the extent of resource availability in technical and vocational education for economic development among secondary schools in south-south Nigeria from the perception of teachers.

### **Statement of Problem**

One key element in enhancing economic productivity is technical and vocational skills, and the economic competitiveness of individuals and nations depend on work place skills which also depends on the quality of education and training systems.. Advocates of the social efficiency theory such as Min (1995), Finch (1993) and Labaree (1997) all agree that it is the responsibility of schools to prepare and supply future workers with appropriate skills and knowledge that would promote economic growth hence the need for appropriate facilities. For more than two decades, technical and vocational education subjects have been taught in secondary schools in south-south Nigeria but have not risen to grant solutions to the problem of unemployment and poverty. The condition of facilities have raised serious concerns about the learning safety of students as thee exist a nexius between resource availability and students outcomes.

Nwachukwu (2007) lamented that the inability of government to provide secondary schools with adequate and appropriate resources for teaching and learning amounts to criminal neglect. The likelihood that most youths who graduate from secondary schools are idle and unemployable point to the fact that they may not have acquired self-reliance and work place skills. The prevalence of anti-social behaviours such as youth restiveness, robbery, gun violence, cultism, drug addictions, prostitution, kidnapping etc. among youths in south-south Nigeria could be the direct result of the lack of technical and vocational education skills. Therefore the problem of this study stated in a question is “to what extent are resources made available for the teaching and learning of technical and vocational education skills in secondary schools in south south Nigeria?”

### **Purpose of the Study**

Generally, the purpose of the study was to find out whether there are adequate resources for technical and vocational education in secondary schools in south-south Nigeria. But specifically the study was carried out to:

- i. Determine the adequacy of personnel for technical and vocational education in secondary schools south-south Nigeria

- ii. Determine the adequacy of workshops in technical and vocational education in secondary schools in south-south Nigeria.
- iii. Determine the adequacy of libraries in technical and vocational education in secondary schools in south-south Nigeria.
- iv. Determine the adequacy of electricity supply for technical and vocational education in secondary schools in south-south Nigeria

### **Research Questions**

The following research questions were posed to guide the study:

- i. Are there adequate personnel for technical and vocational education as perceived by male and female teachers in secondary schools in south-south Nigeria?
- ii. Are there adequate workshops for technical and vocational education in secondary schools as perceived by male and female teachers in south-south Nigeria?
- iii. Are there adequate libraries for technical and vocational education in secondary schools as perceived by male and female teachers in south-south Nigeria?
- iv. Is there adequate electricity supply for technical and vocational education in secondary schools as perceived by male and female teachers in south-south Nigeria?

### **Hypothesis**

A single hypothesis was tested at .05 level of statistical significance.

**HO<sub>1</sub>.** There is no significant difference in the mean rating of male and female teachers in the availability of resources in technical and vocational education in secondary schools in south-south Nigeria.

### **Methodology**

The study adopted the descriptive research design. Four research questions and one hypothesis were answered and tested respectively. A study sample of 921 Technical and Vocational Education teachers were selected using the purposive sampling technique from secondary schools in south south Nigeria. The researchers developed and used a structured instrument named “Resource Availability in Technical and Vocational Education Questionnaire (RATVEQ)” for data collection. The

instrument was a 4-point Likert type. The validity of the instrument was determined by experts in measurement and evaluation and Technical and Vocational Education both in the Faculty of Education, Niger Delta University of Bayelsa state. The Cronbach Alpha method was used to determine a reliability coefficient of .75 for the instrument and considered reliable. Data was analyzed using the item mean. The criterion mean of 2.50 was the basis for considering adequate or inadequate of available resources. The t-test was used for testing the single hypothesis for the study.

**Results**

**Research Question 1**

Are there adequate personnel for technical and vocational education as perceived by male and female teachers in secondary schools in south- south Nigeria?

**Table 1: Mean and Standard Deviation of Male and Female Teachers on Adequate Personnel**

S/N	Items	Male			Female		
		$\bar{x}$	SD	Decision	$\bar{x}$	SD	Decision
1	There are adequate teachers for technical and vocational education	3.01	0.69	Adequate	2.90	0.71	Adequate
2	There are adequate workshop attendants for vocation and technical education	1.70	0.59	Not adequate	1.50	0.69	Not adequate
3	There are adequate library assistants for vocational and technical education	1.40	0.60	Not adequate	2.01	0.62	Not adequate
4	There are adequate plant operate for vocational and technical education	2.01	0.71	Not adequate	1.41	0.72	Not adequate
	<b>Grand mean</b>	<b>2.03</b>	<b>0.65</b>	<b>Not adequate</b>	<b>1.96</b>	<b>0.69</b>	<b>Not adequate</b>

Table 1, indicated that the item mean of item 1, (there are adequate number of teachers), was accepted by male and female teachers to be adequate as the item mean were 3.01 and 2.90 respectively for male and female teachers which were above the

criterion mean of 2.50 while the remaining three items, items 2, 3 and 4 had item means which were lower than the criterion mean. Therefore, it was considered that there were inadequate workshop attendants, library assistants and plant operators in south-south Nigerian secondary schools. The grand mean of 2.03 and 1.96 respectively for both groups revealed that there were inadequate personnel for technical and vocational education.

**Research Question 2**

Are there adequate workshops for technical and vocational education in secondary schools as perceived by male and female teachers in south-south Nigeria?

**Table 2: Mean and standard deviation of Male and Female teachers on adequate workshops**

S/N	Items	Male			Female		
		$\bar{x}$	SD	Decision	$\bar{x}$	SD	Decision
5	There are adequate work spaces in your workshop	2.30	0.78	Not adequate	2.40	0.75	Not adequate
6	You have the necessary equipment in your workshop	2.21	0.71	Not adequate	2.11	0.69	Not adequate
7	Your workshop is well ventilated	2.10	0.79	Not adequate	2.90	0.71	Adequate
8	There are fire extinguishers in your workshop	2.11	0.72	Not adequate	1.91	0.72	Not adequate
	<b>Grand mean</b>	<b>2.18</b>	<b>0.75</b>	<b>Not adequate</b>	<b>2.33</b>	<b>0.72</b>	<b>Not adequate</b>

Table 2, indicated that the entire item means as rated by the male teachers were below the criterion mean of 2.50. This simply implies that there were no adequate workshops. However the female teachers mean rating for item 7 (your workshop is well ventilated)



was 2.90, therefore item 7 was considered adequate since female teachers item mean was above the criterion mean of 2.50, while the remaining items (5, 6 and 8) were considered inadequate as their mean ratings were less than the criterion mean of 2.50. The table also showed the grand mean for both male and female teachers as 2.18 and 2.33 respectively, implying that there were inadequate workshops for vocational and technical education in south-south Nigerian secondary schools.

**Research Question 3**

Are there adequate libraries for technical and vocational education in secondary schools as perceived by male and female teachers in south-south Nigeria?

**Table 3: Mean and standard deviation of male and female teachers on adequate libraries**

S/N	Items	Male			Female		
		$\bar{x}$	SD	Decision	$\bar{x}$	SD	Decision
9	The required books are in your libraries	2.40	0.71	Not adequate	2.54	0.69	Adequate
10	There are necessary no-book materials in your library	1.71	0.79	Not adequate	1.52	0.69	Not adequate
11	The books are properly arranged according to subjects	3.00	0.71	Adequate	2.11	0.68	Not adequate
12	There are sections for e-materials in your library	1.51		Not adequate	1.50	0.72	Not adequate
	<b>Grand mean</b>	<b>2.16</b>	<b>0.73</b>	<b>Not adequate</b>	<b>1.92</b>	<b>0.70</b>	<b>Not adequate</b>

Table 3 revealed that item 11 (books are properly shelved according to subjects) was considered adequate by male teachers as the item mean rating was 3.00, which was higher than the criterion mean of 2.50. The remaining items (Items 9, 10, 12) were not adequate as male teachers mean ratings were less than the criterion mean of 2.50. The female teachers considered adequate books in the libraries as their mean rating of item

9 was up to 2.50, which was the criterion mean. However, the grand means of 2.16 and 1.92 were revealed for male and female teachers respectively, implying that there were not adequate libraries for vocational and technical education in south-south secondary schools in Nigeria.

**Research Question 4**

Is there adequate electricity supply for technical and vocational education in secondary schools as perceived by male and female teachers in south-south Nigeria?

**Table 4: Mean and Standard Deviation of Male and Female Teachers on Adequate Electricity**

S/N	Items	Male			Female		
		$\bar{x}$	SD	Decision	$\bar{x}$	SD	Decision
13	Your school is connected power holding company of Nigeria	3.01	0.69	Adequate	2,94	0.59	Adequate
14	Your school receive steady supply of electricity	2.00	0.79	Not adequate	2.14	0.58	Not adequate
15	Your school depends largely on generator	2.21	0.71	Not adequate	2.21	0.70	Note adequate
16	Power generated is capable of powering your equipment	2.30	0.70	Not adequate	1.51	0.79	Not adequate
	<b>Grand mean</b>	<b>2.38</b>	<b>0.72</b>	<b>Not adequate</b>	<b>2.20</b>	<b>0.69</b>	<b>Not adequate</b>

Table 4 revealed that both male and female teachers considered item 1 adequate (is your school connected to Power Holding Company of Nigeria) as their mean ratings were 3.01 and 2.94 respectively. The remaining items (items 14, 15, 16) were considered not adequate by both male and female teachers as their mean scores were less than the criterion mean of 2.50. The grand means of 2.38 and 2.20 for male and female teachers respectively revealed that there was no adequate electricity supply for technical and vocational education in south-south Nigerian secondary schools.

**Hypothesis:** A single hypothesis was tested at 0.05 level of statistical significance in the study.

**HO<sub>1</sub>:** There is no significant difference in the mean rating of male and female teachers on the availability of resources for technical and vocational education in secondary schools in south-south Nigeria.

**Tables 5: t-test Analysis of Male and Female Teachers' on the Availability of Resources for Technical and Vocational Education**

<b>Respondents</b>	<b>No. of Respondents</b>	$\bar{X}$	<b>SD</b>	<b>Df</b>	<b>t-cal</b>	<b>t-crit</b>
Male	400	2.19	0.71	719	1.72	1.96
Female	321	2.10	0.69			

Table 5 showed that when the mean ratings of male and female teachers on availability of resources for technical and vocational education in secondary schools in south-south Nigeria were subjected to a t-test analysis, a t-calculated value of 1.72 was obtained which was less than the critical t-value (1.96). Therefore the null hypothesis of no significant difference in the mean ratings of male and female teachers on availability of resources for technical and vocational education was accepted.

## **Discussion**

The findings in table 1 concerning the adequacy of personnel reveal that there are inadequate teachers and attendants for effective teaching and learning of technical and vocational education in south south secondary schools. As a result, learners are very much likely not to acquired the needed skills that would stimulate the creation of business opportunities and also the abilities to startup and manage ventures. This finding agrees with those of Nwachukwu (2007), Ozoro (2007) and Edobor (2007). They held that there are inadequate resources both human and materials for effective teaching and learning of technical and vocational education.

The result presented in table 2 showed that there were no adequate workshops for the teaching and learning of technical and vocational education in secondary schools in south-south Nigeria. Technical and vocational education subjects are skill-based requiring practical experiences. In situations where students are not exposed to explore under the leadership of their teachers make the loose the grip of what was taught in class. Theory must blend appropriately with practice to create needed outcomes. This agreed with the assertions of Nwachukwu (2007) that the inability to provide learning facilities for effective learning experiences amounts to criminal neglect on the part of government. Fajemirokan (1999), Anthony (2005), Ozoro (2006),

and Osarenren-Osaghae & Irabor (2012) were all in support that there is an overt lack of resources for teaching and learning technical and vocational education. The result in table 3 showed the inadequate and not up-to date library materials for the teaching and learning of technical and vocational education. The effect of their inadequate would be that students cannot effectively study on their own and even complete homework. Osarenren-Osaghae & Irabor (2012) in their study found that libraries for use in technical and vocational education are inadequate. This finding agreed with their result on the inadequacy of libraries.

Result on table 4 concerning the provision of electricity revealed that the power supply was not adequate. Since most technical and vocational education equipment are electrically powered, it becomes impossible to use such in these circumstances. Osarenren-Osaghae & Irabor (2012) agreed with this view of inadequacy of resources for technical and vocational education in schools. Finally, table 5 revealed that both male and female teachers were of the same opinion that there were no adequate resources for the teaching and learning of technical and vocational education as there was no significant difference in their mean rating. Generally, the lack of resources both human and materials in technical and vocational education would continually create situations where students and the youths population fail in contributing to economic development. This is because no appropriate skills for self-reliance and economic prosperity were acquired. This could imply that youth involvement in anti-social and criminal behaviours would continue to rise in south-south and by extension Nigeria.

### **Conclusion**

The study was carried out to determine the extent to which resources were made available in the teaching and learning of technical and vocational Education in secondary schools in south-south Nigeria, using the teachers' perspective. The findings revealed the following.

- i. There exist an inadequate supply of the right quality and quantity of human and materials resources for vocational and technical education in secondary schools in south-south Nigeria.
- ii. The workshops for technical and vocational education were grossly inadequate in secondary schools in south-south Nigeria
- iii. There are inadequate up-to-date libraries for technical and vocation educational in secondary schools in south-south Nigeria.
- iv. Electricity supply to power technical and vocational education facilities was grossly under supplied.

From the above results, it could be rightly concluded that the practical acquisition of appropriate skills by learners in technical and vocational education remains an illusion in the present circumstances. This could likely be part of the reasons why youths in south south Nigeria cannot adequately involve themselves in productive ventures that would address the problems of unemployment and poverty.

### **Recommendations**

Based on the findings, the following recommendations were made to improve on the situation and stimulate active youth involvement in economic activities

1. Government, the organized private sector multinationals and public spirited individuals should effectively collaborate and provide the required quality and quantity of materials for the teaching –learning of technical and vocational education subjects.
2. Adequate quantity and quality of teachers and support staff should be trained and retained by government to be competent in the practice of their technical and vocational education subjects.
3. School libraries should be adequately stocked with current books and non book materials for effective technical and vocational education.
4. Most modern technical and vocational education learning equipment and materials are powered electrically. Government should adequately supply schools with electrical power either from the national grid or dependable power plants and should be responsible also for their regular maintenance.

### **References**

- Atsumbe, B.N, Emmanuel, R. Igwe, C.O. & Atsumbe, J.A. (2012). Repositioning vocational and technical education for effective manpower production in Nigeria. *IOSR Journal of Mechanical and Civil Engineering (IOSRJMCE)* 1 (4). 01-06. [www.iosrjournals.org](http://www.iosrjournals.org)
- Aina: O. (2009). *Three decades of technical and Vocational Education and training in Nigeria*. Ile-Ife: Obafemi Awolowo University Press.
- Anthony, A. (2005). Facilities and commitments of teachings in secondary schools. *Journal of Educational Management*. 25.45-54.
- Bane, N.P (2007) Teaching skill related subject. *Education Review* 5.28-3

- Dufourd, B. (2001). *The Learning environment: Reflections on the function of facilities*. PEB Exchange Programme on Educational Building. 16, OECD Publishing. Doi:10.1787/767526546174.
- Edobor, R.I.O. (2007). An overview of factors that militate against science and technology programmes in secondary institutions in south eastern part of Nigeria. *Journal of Research in Education* 4.45-57.
- Fajemirokan, S.O. (1999). The relationship between academic performance of students and material resources. *Journal of Educational Psychology*. 52.23-36.
- Federal Government of Nigeria. (2004) *National policy on education*. NERDC Press.
- Finch, C. (1993). The high performance workplace and the evolving nature of vocational education research. *Journal of Vocational Education Research* 18 (2) 1-19.
- Finch, C. (1993). The high performance workplace and the evolving nature of vocational education research. *Journal of Vocational Education Research* 18 (2) 1-19.
- Labaree, D.F. (1997). Public goods, private goods: The American straggle over educational goals. *American Educational Research Journal*. 34(1). 39-81
- Lewis, T. (1991). The global economy and education for work in the United States. *Journal of Vocational Education Research*. 16 (2). 1-32
- Min, W. (1995). Vocational education and productivity. In M. Carnoy (eds). *International encyclopedia of economics of education*. Oxford: Pergamon.
- Nwachukwu. D. N. (2007). *Education and humanity: Nigerian renaissance and millennium Pedagogical shift in paradigms*, 39<sup>th</sup> Inaugural Lecture of the University of Calabar, Calabar: University of Calabar Press.
- Ojimba, D. P. (2012) Vocational and technical education in Nigeria: Issues, *problems and prospects dimensions (IPP)*. *Journal of Educational and Social Research*. 2 (9) 23-30 doi:10.5901/jesr.2012.v2n9p23

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- Osarenren – Osaghae, R.I. & Irabor, Q.O. (2012). Availability and adequacy of human and material resources for teaching and learning of skill-based courses in Nigeria public universities. *Journal of Sociology and Anthropology*. 3 (1):15-27
- Ozoro P.A. (2007). *Vocational education in Nigeria: Issuers and analysis*. Obosi: Nigeria Pacific Publishers.
- Tilak, J.B.G. (2002). *Vocational education and training in Asia: Handbook on Educational research in the Asia: Pacific region* (eds)-J.P. Kee ves & R. Watanabe : Academic Publishers.