

**VOCATIONAL AND TECHNICAL EDUCATION IN SOCIO-ECONOMIC
DEVELOPMENT: CHALLENGES AND PROSPECTS**

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Abstract

This paper examined vocational and technical education in socio-economic development, its challenges and prospects. The population for the study comprised of academic and non-academic staff from three polytechnics in Ogun State. They include lecturers, instructors, technologists, technicians, craftsmen. A sample size of 50 respondents was used for the study. Three research questions were raised from which questionnaire was used to gather data from the respondents. Results from the data collected revealed inadequate equipment and infrastructure facilities; inadequate funding and lack of uniformity in the course contents, among others as some of the challenges facing vocational and technical education in Nigeria. The paper concluded that vocational and technical education is highly essential and vital for the development of Nigeria. It is the means by which the nation can achieve a technological breakthrough and in no distant future, join the industrialized comity of nations. It therefore among others, recommended that government at all levels should support vocational and technical programme and its graduates for socio-economic and development.

Keywords: vocational education, technical education, socio-economic development.

Introduction

Vocational and technical education is both a means and an end. It is a means of investing in people and raising quality of life. It is the ultimate goal of economic development which is aimed at making the learners more skilful and productive contributors to economic progress. However, as laudable as this prospect may seem, it is not without some challenges. In the past, vocational and technical education was so misconceived that one can hardly get a generally acceptable definition. Over the years, vocational and technical education have always been taken as an education for the less than average, mentally retarded, handicapped and maladjusted students (Oyenuga, 2006a).

Another misconception has been that, vocational and technical education does not require much academic work. This gave an impression that the programme is exclusively meant for the handicapped and also that are unable to continue with normal academic programme of the school system. But presently, vocational and technical education has greatly helped many individuals to become more employable in one group of occupation or the other. According to Oyenuga (2006b), vocational education is for people – youths and adults who are interested in preparing for and progressing in career in some type of satisfying and productive work. The implication of this definition is that vocational education ensures specialization; because programmes are selected only by those individuals who have a special interest in preparing for a particular occupation or family of occupation. In the same vein, Toby (1997) defines vocational education as part of the total process of education aimed at developing the competencies needed to function effectively in an occupation or group of occupations. On the other hand, Oyenuga (2002) sees

vocational education as a learning process that makes an individual self-reliant. He further stresses that purpose of vocational education is for individuals to make a living and to educate people in order to make life meaningful to them.

Technical education in a general sense is the kind of training pertaining to or characteristic of a particular art, science, profession or occupation. In common practice, it is composed of the theoretical and practical instructions given to those who will be employed in commerce and industry or any type of enterprise using tools and machinery for the operation, production, preservation and distribution of goods and services. Technical education is also the training given to technician. A technician is a professional that occupies the middle level manpower between the engineer and the craftsman. He assists the engineer as an estimator, craftsman, fitter and tester or as a technologist (Osho, 2003).

The main purpose of this study is to find out the role of Technical and Vocational Education in shaping the economic well-being of a nation. Contributions of vocational and technical education to Nigerian socio-economic development, the challenges facing vocational and technical education and the prospect it holds for the socio-economic development of a nation. In order to achieve the purpose of this study, the following research questions will serve as a basis for finding solutions to the challenges and prospects of vocational and technical education:

1. What are the roles of Vocational and Technical Education to socio-economic development?
2. What are the contributions of vocational and technical education to socio-economic development?
3. What are the challenges and prospect of vocational and technical education?

The population for the study was 50 respondents which comprise of lecturers, technicians, instructors, engineers and technologists from the Federal Polytechnic, Ilaro, Moshood Abiola Polytechnic, Abeokuta and Gateway Polytechnic, Itori, all in Ogun State of Nigeria. The instrument used was a structured questionnaire based on the formulated research questions. The validity of the instrument was ensured by submitting it to experts in the field of vocational and technical education and their suggestions were used to revise the instrument. Respondents were asked to choose from two options: 'Agree' or 'Disagree' as provided for each item based on their conviction. Interview was also conducted to clarify some issues from the respondents. Percentage method was used to analyze the data collected. In analyzing the data collected, a research question was accepted when majority of the respondents agreed to it and was rejected when it was the other way round. The reliability of the instrument was established using the Test-Retest method, using the Pearson Product Moment Correlation Coefficient. An overall correlation of 0.87 was obtained.

Conceptual Clarification in Vocational and Technical Education

Many situations in science, engineering, technology, and some other skill-oriented programmes worldwide, a myriad of concepts are taken to be synonymous either in theory or/and in practice. This may be correct if the individual is not conversant with the nomenclature or parlance in which such concepts are used. While some scholars agree that a few words in skill-oriented programmes can be used interchangeably, another school of thought still holds to the fact that a

good number of concept or terms are exclusively reserved and peculiar to specified field. This background leads to the conceptual clarification of some key words in skill-oriented programmes (Alade, 2013).

Technology:

At several stages and periods in man's history, technology has meant different things to different people. People tend to look at technology in relative terms rather than in absolute terms. The concept of technology could be seen as a body of knowledge, technical skills and procedures for doing things in specific and reproducible ways. Technology is a Greek word which means "a bag of doing things". Man, machines, ideas, procedures and management are organized in a working order to solve problems. In other words, technology means a systematic application of scientific knowledge and other sources of knowledge to practical tasks with a view to improving human environment. Technology applies the scientific knowledge acquired from scientific enquiries. According to Alade (2006), as science inquires into the forces and materials of the environment, technology applies the scientific knowledge acquired from inquiry. They (science and technology) both co-exist symbolically. Through technology, creativity, innovation, and invention are brought into practical reality.

Technical/Vocational Training:

Technical training implies managerial capacity in husbanding resources – man, money and material rather than the rare mechanical action of executing routine and learned responsibilities (Ubong, 2002). Technical or vocational training in this respect involves commercial and industrial skills for job success. It is a type of training given to the individual for a specific skill, but not directed to a specific job (Utoware, 2013). The trainee watches and imitates the trainer. This training is usually conducted on a private and individual basis. Technical training would capitalize on the somewhat mechanical mastery of specific skills, while technical education besides embracing technical training, implies the acquisition of commercial and industrial skills through both theoretical and practical learning situation. Technical or vocational training advocates the development of manipulative skills for employment. It is also geared towards production. On occasions, technical training could be directed to the development of skills for a specific occupation or job as found in the labour market.

Vocational Education:

Vocational education is a form of organized education that specifically prepares an individual for self-support. It concludes technical, agricultural, home economics (home making), musical and commercial arts education. Skill development in vocational education is predominantly workshop-based. In vocational education, theoretical concepts are blended with practical concepts for the education to be meaningful. Vocational education is an integral part of all aspects of education including adult education (Oni, 1999). Vocational education is concerned not only with manual skills involved in an occupation; it also covers all the competencies needed to function effectively in employment. It includes the cognitive and psychomotor skills required in the particular occupation. Vocational education, on the whole, is that part of the total experience of an individual whereby the individual learns successfully to engage in gainful employment.

Technical Education:

Technical education is the education acquired to earn a living in an occupation in which success is dependent largely on technical information and understanding of the laws of science and principles of technology as applied to modern design, production, distribution, and service. The components of technical education vary considerably, depending on the type of personnel to be prepared and the educational level. Graduates of technical education programmes usually bridge the gap between the professional engineers and the craftsmen, technicians and artisans. Vocational and technical education is a comprehensive term referring to the entire education that emphasizes the acquisition of practical skills, attitude and knowledge relating to technical trades in education institutions (Alade, 2006). Vocational and technical education as a means of preparing for an occupational field provides the foundation for productive and satisfying careers. The training is carried out in a way that it gives the trainees the productive abilities with which they can secure or create employment.

Scope of Vocational and Technical Education

According to the National Policy on Education (1998), the purpose of vocational and technical education is for the training of manpower in the applied sciences, technology and business particularly at craft and technical levels. The purpose of training individuals in vocational and technical education fields are to develop ability to use hands, tools, apprentices, instruments, machines and materials to make the trainees familiar with a wide range of engineering (mechanical, electrical/electronics, building, civil, agricultural), secretarial, catering and artistic practices as possible and to help the trainees to understand the available techniques that can be applied in practice.

The duration for vocational and technical education programmes at a Nigerian polytechnic is two years and a minimum of three months of industrial experience, leading to the award of National Diploma (ND) certificate, and also two years of Higher National Diploma (HND) certificate. At the College of Education, the duration is three years with a minimum of sixteen weeks (4 months) of industrial experience leading to the award of Nigeria Certificate in Education (NCE). At the university level, the duration is four years with a minimum of six months of industrial experience leading to the award of B.Ed/B.Sc.ED in industrial vocational education.

Accreditation of this programme at the Polytechnic level is done by the National Board for Technical Education (NBTE). That of Colleges of Education is done by the National Commission for Colleges of Education (NCCE). The accreditation of vocational and technical programme at the university level is done by the Nigeria University Commission (NUC). The accreditation of the programme (vocational and technical) is done to ensure that the standard of students' achievement and learning experience are maintained and comparable from institution to institution.

Areas of Specialization

Area of specialization is an occupational area and there are a number of areas of specialization in higher education which are usually classified under vocational teacher education. These include: Home Economics Education, Business Education, Technical Education, Agricultural Education, Health Occupations Education, Industrial Education or Trade Education, among others. Below are the major areas of specialization under vocational and technical education:

Technical Education	Business Education	Agricultural Education	Fine & Applied Arts Education	Home Economics
Automobile	Secretarial Studies	Wild Life & Fisheries Mgt	Graphics	Home Management
Metal Work	Accounting	Agronomy	Sculpture	Food & Nutrition
Building	Distribution	Forestry	Ceramics	Clothing & Textile
Wood Work	General Business Studies	Agricultural Economics	Painting	Child Development
Electrical/ Electronics		Agricultural Extension & Rural Sociology		Hospitality Management

Table 1: *A table showing the classification of the areas of vocational specialization*
 Source: Oyenuga (2002). *Understanding vocational and technical education*

Data Analysis

Research question one was used to find out the roles of Vocational and Technical Education (VTE) to the socio-economic development of a nation.

S/NO	ITEMS	AGREE		DISAGREE	
		No.	%	No.	%
1.	VTE compensate for the social needs of the society	28	70.0	12	30.0
2.	VTE provides the technical, vocational, commercial and economic development	32	80.0	8	20.0
3.	It trains people to apply scientific knowledge to the improvement and solution of environmental problems for the use and convenience of man.	36	90.0	4	10.0
4.	VTE gives training and impart the necessary skills leading to the production of craftsmen, technician and other skilled personnel who will be enterprising and self-reliant	38	95.0	2	5.0
5.	VTE enable our young men and women to have an intelligent understanding of the increasing complexity of technology	22	55.0	18	45.0
	TOTAL	156	390	44	110
	AVERAGE	31.2	78.0	8.8	22.0

Table 2: *A table showing the roles of VTE to Socio-Economic Development*
 Source: Field Survey

From the results of the data collected on this research question, it is clear that 31 out of the 40 respondents representing 78% agreed that vocational and technical education play vital roles in the socio-economic development of a nation. While nine (9) respondents representing 22% disagreed. Therefore with a high percentage of 78% in agreement, the research question is upheld. Majority of the respondents were of the opinion that VTE gives training and impart the

necessary skills leading to the production of craftsmen, technician and other skilled personnel who can become entrepreneurs and be self-reliant.

Research question two was used to gather information concerning the contributions of vocational and technical education to socio-economic development.

S/NO	ITEMS	AGREE		DISAGREE	
		No.	%	No.	%
6.	VTE increases employment generation	37	92.5	3	7.5
7.	It increases economic growth and development	22	55.0	18	45.0
8.	It increases level of development in productive and managerial skills	27	67.5	13	32.5
9.	It increases level of development in commerce, science and technology	29	72.5	11	27.5
10.	It increases human capital	28	70.0	12	30.0
11.	It increases national competitiveness	25	62.5	15	37.5
12.	It increases structural transformation	24	60.0	16	40.0
13.	VTE is capable of reducing the risk of exclusion from employment for women, jobless youths, less skilled, physically challenged persons, ethnic minorities, etc.	37	92.5	3	7.5
	TOTAL	229	572.5	91	227.5
	AVERAGE	28.63	71.56	11.37	28.44

Table 3: A table showing the contributions of VTE to Socio-Economic Development
Source: Field Survey

The results of the data collected on research question two, show that an average of 29 out of the 40 respondents representing 71.56% agreed to the contributions of vocational and technical education to socio-economic development listed above. While 11 (eleven) respondents representing 28% disagreed. With a high percentage of 71.56% in agreement, research question two is therefore upheld. From the survey, majority of the respondents were of the opinions that VTE increases employment generation and it is capable of reducing the risk of exclusion from employment for women, jobless youths, less skilled, physically challenged persons and ethnic minorities thereby reducing anti-social behaviours.

Research question three was used to gather information concerning the challenges and prospect of vocational and technical education.

S/NO	ITEMS	AGREE		DISAGREE	
		No.	%	No.	%
	CHALLENGES				
14.	Inadequate equipment and infrastructure facilities persist in our institutions as a result of inadequate funding.	39	97.5	1	2.5
15.	VTE curriculum is not based on current reported needs and requirements of business and industry as well as the needs of students.	36	90.0	4	10.0
16.	Emphasis is laid more on theory rather than practical.	38	95.0	2	5.0
17.	Lack of planning.	29	72.5	11	27.5
18.	Ineffective management	30	75.0	10	25.0

19.	Societal misconception of vocational and technical education.	33	82.5	07	17.5
20.	Lack of manpower resources.	27	67.5	13	32.5
21.	Huge financial cost of vocational and technical education.	40	100	0	0
	PROSPECTS				
22.	VTE affects all the three domains of learning (cognitive, affective and psychomotor).	39	97.5	1	2.5
23.	VTE products could be self-reliant.	37	92.5	3	7.5
24.	VTE inculcates in its products the spirit of enquiry, thereby making them to be creative.	36	90.0	4	10.0
25.	It inculcates in its products skill acquisition.	32	80.0	8	20.0
26.	VTE inculcates the right attitude to work and helps in exposing its products to various equipment being used in industries.	38	95.0	2	5.0
	TOTAL	454	1135	66	165
	AVERAGE	34.92	87.31	5.08	12.69

Table 4: *A table showing the challenges and prospects of VTE in Nigeria*
Source: Field Survey

From the results of the data collected on research question three, 35 out of the 40 respondents representing 87% agreed that vocational and technical has challenges and prospects. Therefore, with a high percentage of 87% in agreement, the research question is upheld. Respondents agree that vocational and technical education affects all the three domains of learning (cognitive, affective and psychomotor). This is in agreement with the findings of Akinyemi (2003). Respondents also agreed that vocational and technical education could make people become self-reliant. The self-employment potential is invaluable especially when one considers the acute unemployment that is prevalent in the country. Products of vocational and technical education rather than seeking for jobs will even be employers of labour due to the nature of their training. They could establish business centers, secretarial business, poultry, fish pond, crop production business, catering business, sewing business, automobile workshop, electronic repair business, photography business, video recording and fine art studio among others.

Discussion

From the results of the data analysis, it could be seen that the results of respondents to questions 5 and 7 were 50% and 55% respectively. The reasons for the low percentage according to the respondents are as follows: Nigerian governments (federal, state and local) have 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 necessary to adequately finance both the planning and implementation of standard and sustainable vocational and technical education programme in Nigeria tertiary institutions. In support of this statement, Okorie (2001) said the insufficient finance is a realistic and practical factor inhibiting the implementation of vocational and technical education programme in Nigeria. The priority of the Federal Government of Nigeria in education sector is holistically on science education. Too much noise is made on the pages of papers and televisions about vocational and technical education, but little is done to improve the teaching/learning of vocational and technical education programme in Nigerian universities.

The society does not accord respect or recognition to the graduates of Vocational and Technical Education. The impression is that this type of education is meant for the unintelligent and under-achievers. According to Amoor (2009), most parents do not encourage or guide their wards to take a course in Vocational and Technical Education programme in Nigerian universities; this is because the society does not place any significant value or dignity on the programme. This subsequently affects the enrollment of candidates into vocational and technical education programme in Nigerian universities.

Most of the Nigerian universities that offer Vocational and Technical Education Programme do not have uniform course contents. The course content for Business Education, Home Economics, Agriculture, for instance in the department of Vocational and Technical Education, Ahmadu Bello University, Zaria, is not the same as in University of Nigeria, Nsukka. This is applicable too to the Federal University of Technology, Yola and host of others. This disparity in course content of Vocational and Technical Education programme in Nigerian universities poses a great challenge for the standardization of the programme.

Findings

It is the findings of this paper that as laudable as the Vocational and Technical Education programme is, there are many challenges confronting it and this is making it difficult for the programme to accomplish its goals and objectives. Some of these problems include inadequate funding resulting to inadequate equipment, lack of infrastructure, inaccurate and lack of uniform course contents, poor curriculum planning, inefficient mode of instruction, lack of planning, ineffective management, misconception about Vocational and Technical Education, lack of manpower resources, huge financial cost of Vocational and Technical Education and lack of support for graduates of Vocational and Technical Education and the need to intensify capacity building for academic and non-academic personnel involved in the delivery of the programme.

Conclusion

In conclusion, the study confirms that Vocational and Technical Education is highly essential and vital for the development of Nigeria. It is the means by which the nation can achieve a technological breakthrough and in no distant future join the industrialized comity of nations.

Recommendations

Based on the findings in this study, the following recommendations are hereby made:

- Adequate equipment and infrastructure facilities should be provided for our institutions of higher learning for effective training of participants.
- VTE curriculum must be based on current reported needs and requirements of business and industry as well as the needs of students.
- Training must be laid more or practical rather than theory.
- Due to the huge financial cost of vocational and technical education, government at all levels and private sector should be involved in financial Vocational and Technical Education.

- Government at all levels and individuals should give necessary support to graduates of Vocational and Technical Education who have developed technological products.
- Nigerian institutions that offer Vocational and Technical Education Programme should have uniform course content.
- Refreshers courses should be organized from time to time to update technical personnel to acquaint them with the latest scientific by-products of technological discoveries or inventions.

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