



Enhancing Technical Vocational Education and Training (TVET) as a Tool for National Development in Nigeria: Issues, Challenges and Strategies

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

This study examines the issues, challenges and improvement strategies of technical vocational education and training (TVET) as a tool to enhance national development. Technical Vocational Educational and Training (TVET) with its relevant practical training component is widely recognized as the key to any nation becoming technologically relevant and internationally competitive in the world market. In spite of these, technical and vocational education are very much still neglected in the aspect of adequate funding, personnel, modern facilities, staff motivation which consequently are robbing the country of the economic national development to be contributed by graduates of technical/vocational education. Three research questions were raised to guide the study. The descriptive research design was used and a total 74 TVET lecturers participated in the study. The instrument for data collection was a self-structured questionnaire (ICSTVET) and data were collected by the researchers. A reliability coefficient of 0.81 was established for the study through split-half method. The study revealed the following factors as challenges of TVET programmes for national development in Nigeria: lack of required TVET facilities, poor funding of TVET programmes, establishment of separate grammar school, high cost of maintaining TVET institutions and rejected

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students from other discipline are always admitted into TVET programmes. Thus, it was recommended that TVET admission should be for those with skills and interest, TVET lecturers should be trained on new technologies, NGOs should partner with TVET institutions in the funding process and synergy between the TVET institutions and industries for trainee to acquire practical skills and so on.

Keywords: TVET; national development; issues; challenges; strategies.

1. INTRODUCTION

Education is considered by many as an agent of human development, social mobility and socio-economic development of any society. Education is a process of training, designed to give knowledge, develop skills and abilities that could lead to the development of mental alertness and the right attitude to life...which implies that if education is adequately inculcated in human-kind, individuals would meaningfully help themselves and positively contribute to the growth and welfare of their immediate community. In essence, education remains the single factor that guarantees both individual growth and community development [1].

In Nigeria, education systems at all levels have witnessed dramatic changes in terms of purpose, organization, structure and changes in nomenclature of certificates awarded. For instance, from 1970's to early 1980s witnessed the 6-5-4 system of education; late 1980s to 2005 witnessed a restructuring of the education system on a 6-3-3-4 system while 2008 witnessed a new reform of 9-3-4 system of education. The various reforms in education are reflected in the National Policy on Education (NPE) document. The vision of NPE document and various reform movements are to address the issue of imbalance in the provision of education in different parts of the country with regards to access and quality of education offered [2,3].

The education reforms/policies of 1970s and 1980s which focused more on the acquisition of certificates instead of the needed vocational skills have caused many Nigerian youths and adults to move into the education industry in pursuit of certificates. As a result of this, the education industries grew rapidly in size in late 1970s and 80s. The growth, according to Teboho [4], was mainly in size and not in quality. Education can be seen as the transformation in an individual in terms of skills, attitudes, knowledge and beliefs. These attributes of education are ingredients of technical vocational

education training (TVET). TVET plays a crucial role in the national development of developed countries by providing training opportunities and career advancement avenues for the increased school leavers. TVET is a tool for economic and technological growth. It is defined by UNESCO [5] and adopted by the Federal Republic of Nigeria in her National Policy on Education [6] as:

"a comprehensive term referring to those aspects of the educational process involving in addition, to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life".

This definition highlights the importance of the acquisition of practical knowledge, skills and attitudes in any training offered by TVET providers. Technical/Vocational education is designed to offer people the opportunity of improving themselves in their general proficiency, especially in relation to their present or future occupation for national development. Nuru [7] opined that changes in any nation's economy is required to prepare young people for the jobs of the future of which technical and vocational education have crucial roles to play. Technical Vocational Education and Training (TVET) has been an integrated part of national development strategies in many countries of the world because of its impact on productivity and economic growth. A nation cannot develop without well-equipped technical and vocational institutions or centres for imparting and training youths and women on practical skills that will yield development in such nation. Okwelle and Deebom [1,8] asserted that it is not gainsaying that developed nations such as Japan, China, USA and Germany have attained tremendous height in terms of industrialization as a result of consistent investment in technical vocational education and training of its citizen. May [9] observed that technical and vocational education are very much still neglected in the aspect of

adequate funding, personnel, modern facilities, staff motivation which consequently are robbing the country of the economic development to be contributed by graduates of technical/vocational education. Asogwa and Diogu [10] maintained that there is an urgent need for the Nigeria's attention to be redirected towards self-reliant and sustainable means of livelihood which technical education provides in enhancing national development. TVET provides skilled manpower that is needed at all levels of the economy.

In Denmark, efforts are made by the government to increase the number of training places and strengthening their practical element [11]. The reform implies substantial changes in structure and content such as emphasis on social and personal [12] skills to achieved national development through TVET. In Germany, a report according to Michael [11] showed that one of the objectives of the German programme is to promote the vocational education of gifted young people and to raise the standard of vocational education and training to improve the German industrialized system. In Kenya, the 8-4-4 system was introduced with emphasis on technical and vocational education which ensured that the graduate students at every level have some scientific and practical knowledge that can be utilized for self-employments, salaried employment or further training [13].

According to Okolocha [14], Nigeria has joined her world counterparts in revamping and repositioning TVET programme geared towards ensuring a national system of vocational education. A system that ensures that, young people see TVET as challenging and worthwhile. To achieve the objective of revamping of repositioning TVET in Nigeria, the Federal Government of Nigeria according to Olakunri [15] came up with the strategy of using the Education Trust Fund (ETF) which was set up by law in 1993 to fund and upgrade the quality of TVET in Nigeria. The Nigeria government recently mapped out a three-year action plan to revamp TVE through ETF. The sum of N5 billion annual allocations [15] was mapped out for three-year action plan as follows:

2005 - N1.5 billion
2006 - N 2.0 billion
2007 - N2.5 billion

In line with this in Okolocha (2012 [14]), the ETF chairman in a press conference organized in Lagos on February 15, 2006 stated that the

funding of TVET in previous years has been at the level of general interventions. according to the ETF chairman, the renewed interest in TVET is aimed at encouraging Nigerian youths to take to vocational technical education (VTE) which is the direction the whole world is going now. The sum of N1.5 billion had already been distributed to the nation's polytechnics and colleges of technology in 2005. This shows that Nigeria recognizes the importance of the TVET in the world economic order. Despite the importance of the TVET in Nigeria, the programme still seems to be far from receiving massive acceptance, and full implementation. There are however, a lot of other challenges. Other challenges of TVET as observed by Deebom and Zite [8,16] are Over dependent on paper and certificate qualification by employer rather than skills, Negative perception of Nigerians towards technical education, poor budgeting for TVET, placement of other graduates ahead of TVET graduates in terms of employment, professional certification and so on. These challenges hamper national development in any developing, developed and under-developed countries globally. National development in any country depends on its skilled manpower available. No country can have developed economically, scientifically, technologically, politically and socially without developing its human capacity which is the main goal of TVET. The skills so developed should be able to lead to self-reliance in the absence of salaried employment and enhance the industrialization process and national development of the country. The importance of TVET to human and national development cannot be over-emphasised. Training and capacity building for both men and women is a key for poverty reduction. Basically, if people lack in technical skills, knowledge and entrepreneurial skills, the natural resources will tend to remain unutilised and underutilised which affects the national development.

Development has been defined in different forms by researchers both from physical development to mental development which include social and economic well-being of an individual. According to Adenle and Olukayode [17], development is seen in terms of infrastructures such as road, hospital, airports, dams, school etc, as well as development of people in terms of education and health care, even sport and likes. Agbionu as cited in Abdulrahman [18], define development in term of education in the levels of poverty, illiteracy and unemployment and income inequality perhaps at the individual level growth

in knowledge, skills attitude and enhance ability to service are example of development. At the society level, development is associated with modernization, material advancement, industrialization, scientific and industrial progress, new knowledge about men and the universal improvement in standard of living, decrease in lots of living and social security management towards social tribal and gender equality, decrease in unemployment and availability of job opportunities. In this paper, national development could be defined as contribution of TVET towards the building of an individual in terms of affective, cognitive and psychomotor skills, knowledge and attitudes through which the individual can be self-reliant and contribute meaningfully to the economic, physical, structural and social well-being of the nation. From the aforementioned definitions, the role of technical and vocational education in the national development in Nigeria are evidenced.

2. STATEMENT OF THE PROBLEM

The development of any nation hinges on the social and economic contributions of her citizens. No nation can improve technologically, industrially and economically without developing a strong partner initiative in the creation of wealth, poverty reduction and employment generation with required skills [19]. Technical Vocational Educational and Training (TVET) with its relevant practical training component is widely recognized as the key to any nation becoming technologically relevant and internationally competitive in the world market. TVET education is designed to offer people the opportunity of improving themselves in their general proficiency, especially in relation to their present or future occupation to contribute to national development. Nuru [7] opined that changes in any nation's economy is required to prepare young people for the jobs of the future of which technical and vocational education have crucial roles to play. In spite of these, technical and vocational education are very much still neglected in the aspect of adequate funding, personnel, modern facilities, staff motivation which consequently are robbing the country of the economic national development to be contributed by graduates of technical/vocational education. Hence, Asogwa and Diogu [10] maintained that there is an urgent need for Nigeria's government attention to be redirected towards self-reliant and sustainable means of livelihood which technical education provides. It is against this backdrop that this paper seeks to

address the issues, challenges and prospects for TVET as a tool for national development.

2.1 Purpose of the Study

The purpose of this study is to examine TVET as a tool for national development. Objectively, this study aims to:

1. Determine the issues of TVET as a tool for national development.
2. Describe the challenges of TVET as a tool for national development.
3. Identify the strategies for TVET as a tool for national development.

2.2 Research Questions

To achieve the objectives of this study, the following research questions were posed to guide the study.

1. What are the issues of TVET as a tool for national development?
2. What are the challenges facing TVET as a tool for national development?
3. What are the strategies to make TVET a tool for national development?

3. METHODOLOGY

The study adopted a descriptive survey design and was conducted in tertiary institutions in Rivers State. The population of the study comprised of about 74 TVET lecturers in tertiary institutions offering TVET programmes in Rivers State. The institutions are Rivers State University of Science and Technology, Port Harcourt, Ignatius Ajuru University of Education, Port Harcourt and Federal College of Education (Technical), Omoku. Due to the smallness of the study population, the entire population was used as sample for the study and hence no sampling and sampling technique.

The instrument for data collection was a self-constructed questionnaire tagged "Issues, Challenges and Strategies for Technical and Vocational Education and Training" (ICSTVET). ICSTVET was divided into four sections. Section A was used to obtain information about the respondents (Biodata). Sections B, C and D were patterned after Modified Likert-4-point rating scale of Strongly Agree, Agree, Disagree and Strongly Disagree with numerical values of 4, 3, 2 and 1 respectively. Two experts in TVET validated the instrument. The internal consistency of the instrument was done through

a test on 12 lecturers who were not part of the study. Their scores were correlated using Split-half method. A reliability value of 0.81 was established for the study. The instrument was personally administered by the researchers directly to the respondents. Out of 74 copies of the instrument that was distributed, 63 were completely filled and successfully retrieved which represents about 85% rate of return (ROR) which was used for analysis of the study. Mean with Standard Deviation were used to answer the research questions.

4. RESULTS

The results of data analysis of the study are presented in Tables 1to 3 below.

Research Question 1: What are the issues of TVET as a tool for national development?

Table 1 shows that the respondents accepted all the items listed as issues of TVET as a tool for national development. This was indicated in their average mean of 2.95. The small values of the standard deviation were indication for the level of agreement of the respondents. Standard deviation value less than 1.00 shows' that the lecturers were homogeneous in their responses while standard deviation values equal to or greater than 1.00 shows heterogeneity.

Research Question 2: What are the challenges of TVET as a tool for national development?

Table 2 shows that the respondents accepted all the items listed as challenges of TVET as tool for national development. This was indicated in their average mean of 3.01. Although, item 16 was rejected. The small values of the standard deviation were indication for the level of agreement of the respondents. Standard

deviation value less than 1.00 shows' that the lecturers were homogeneous in their responses while standard deviation values equal to or greater than 1.00 shows heterogeneity.

Research Question 3: What are the strategies of TVET as a tool for national development?

Table 3 shows that the respondents accepted all the items listed as strategies of TVET as a tool for national development. The mean values ranges between 2.70 to 3.84. The small values of the standard deviation were indication for the level of agreement of the respondents. Standard deviation value less than 1.00 shows' that the lecturers were homogeneous in their responses while standard deviation values equal to or greater than 1.00 shows heterogeneity.

5. DISCUSSION OF FINDINGS

Result in Table 1 reveal that TVET is the master key to poverty reduction. This finding support the claim of Okoye and Maxwell [1,20] that TVET is job training and laudable programme for economic growth and development strategies that is aimed at poverty reduction and job creation. The finding of the study also reveal that TVET help to develop entrepreneurial skills and create job opportunities in the general society. This result holds on the argument Afeti [21] who stressed that technical vocational education and training holds the key to training the skilled and entrepreneurial workforce needed for the changing technological workforce of the nation and enhances national development. Result of Table 1 shows that TVET improves labour mobility and this is in agreement with the finding of Okwelle and Ayomike [1,8,22] as opined that TVET graduates with skills has the opportunity of changing their jobs.

Table 1. Mean scores of lecturers on Issues of TVET for national development

S/no	Item statement	Mean	SD	Decision
1	It prepares an individual to acquire skills for gainful employment.	3.50	0.85	Accepted
2	It enables an individual to be self-reliant in various trades.	3.30	0.78	Accepted
3	TVET improves labour mobility	2.71	0.62	Accepted
4	Help to develop entrepreneurial skills	2.66	0.59	Accepted
5	It is a master key to poverty reduction	3.01	1.02	Accepted
6	It create job opportunities	2.87	0.70	Accepted
7	It increases the technical performance of industries	3.00	1.08	Accepted
8	Provision of technical competent personnel	2.53	0.91	Accepted
	Average	2.95	0.82	Accepted

Source: Researchers' Field Survey; 2017

Table 2. Mean scores of lecturers on challenges of TVET for national development

S/No	Item statement	Mean	SD	Decision
9	Absence of clarity of aims and objectives on TVET programs in Nigeria.	3.50	0.77	Accepted
10	Difficulty to transform theories into practice by TVET lecturers.	3.30	0.82	Accepted
11	Unfavourable attitude of the public towards TVET.	3.00	1.08	Accepted
12	Establishment of separate grammar school.	3.21	0.59	Accepted
13	Initial contact with the Europeans which changes Nigerian educational system.	2.95	0.90	Accepted
14	Lack of industries to provide practical skills.	2.68	0.62	Accepted
15	High cost of maintaining TVET institutions.	3.08	1.05	Accepted
16	Lack of qualified TVET teachers.	2.31	0.67	Rejected
17	Curriculum implementation.	2.81	0.71	Accepted
18	Lack of in-service training for TVET experts.	3.29	0.93	Accepted
19	Lack of training facilities.	2.60	1.13	Accepted
20	Inadequate instructional models (textbooks etc).	3.21	0.67	Accepted
21	Poor remuneration to TVET lecturers.	2.09	1.03	Accepted
22	Inadequate funding of TVET programmes.	3.11	0.96	Accepted
23	Employers dependence on certificate than skills.	2.94	0.62	Accepted
24	Rejection of TVET graduates during professional registrations.	3.61	0.71	Accepted
25	Rejected students from other discipline are always admitted into TVET programmes	3.53	0.58	Accepted
	Average	3.01	0.81	Accepted

Source: Researchers' Field Survey; 2017

Table 3. Mean scores of lecturers on strategies of TVET for national development

S/no	Item statement	Mean	SD	Decision
26	Improve links between industry and TVET institutions.	2.90	0.83	Accepted
27	Implement a flexible workable TVET programmes.	3.41	0.67	Accepted
28	There should be a synergy between TVET institutions and industries for practical skills.	3.57	0.57	Accepted
29	Readiness of TVET experts to adapt to curriculum change and modern techniques.	3.37	0.74	Accepted
30	Flexibility of TVET policies.	3.29	1.04	Accepted
31	TVET lecturers should be open to in-service training.	2.74	0.88	Accepted
32	Admission should be strictly for those of interest and aptitude.	3.84	0.63	Accepted
33	Same admission status with other programmes.	2.70	0.72	Accepted
34	Provision of adequate training facilities.	3.01	1.11	Accepted
35	TVET lecturers should be highly remunerated.	2.90	0.83	Accepted
	Average	3.17	0.80	Accepted

Source: Researchers' Field Survey; 2017

Finding of Table 2 on the challenges of TVET as a tool for national development indicated that unfavourable attitude of the public towards TVET, lack of training facilities and high cost of maintaining TVET institutions were identified as challenges facing TVET programmes. This result was satisfied by Ojimba [23] that asserted that most technical education departments in Nigerian Universities do not have laboratories or workshop space, let alone useable equipment and where they exist, they are grossly

inadequate, as the workshops only have items or equipment that were provided when the departments were first established of which most of them are already obsolete or grounded. The result is in collaboration with Oryem-Origa [24] who opined that only 40% of institutions of higher education in Nigeria have laboratory or workshop space for technical education programmes. The remaining 60% do not have laboratory or workshop space and this has resulted to the low quality of technology programmes in our higher

institutions. Other challenges of TVET implementation as revealed in the study include inadequate instructional models (textbooks etc), poor remuneration to TVET lecturers, inadequate funding of TVET programmes, over dependence on paper and certificate qualification by employer rather than skills, negative perception of Nigerians towards technical education, poor budgeting for TVET, placement of other graduates ahead of TVET graduates in terms of employment and professional certification, employers' dependence on certificate rather than skills, rejection of TVET graduates during professional registrations, rejected students from other disciplines are always admitted into TVET programmes. The result in this study is supported by Deebom and Zite [16] who observed that over dependence on paper and certificate qualification by employer rather than skills, negative perception of Nigerians towards technical education, poor budgeting for TVET, placement of other graduates ahead of TVET graduates in terms of employment, professional certification and so on. The finding is also in tandem with the assertion of Odu [25] as stressed that inadequate funding, poor workshop organisation, inadequate instructional materials are some of the challenges of TVET implementation.

The finding of this study in Table 3 reveals that TVET can be improved as a tool for national development through implementing a flexible workable TVET programme, there should be a synergy between TVET institutions and industries for practical skills, admission should be strictly for those of interest and aptitude, readiness of TVET experts to adapt to curriculum change and modern techniques, improve links between industry and TVET institutions, provision of adequate training facilities. This result conforms to Okwelle and Ayomike [22] as asserted that improve links between industry and TVET training are strategies for TVET improvement. This finding is also in harmony with the views of Anyakwo [26] who posited that factors such as adequate and functional facilities, appropriate class size, the right number of qualified and competent TVET educators, appropriate teaching methods/strategies; and adequate funding will promote the quality of TVET programmes.

6. CONCLUSION

TVET is the bedrock to national development. To provide TVET programmes that can create impact in the development of human resources

who can be the driving force for technological and economic growth of the nation, quality and standard will have to be created. Certain factors such as inadequate instructional models (textbooks etc), high cost of maintaining TVET institutions, establishment of separate grammar school, inadequate funding of TVET programmes have been identified as the challenges of attaining quality TVET programmes to enhance national development in Nigeria. Also, strategies for addressing the challenges of attaining quality TVET were identified in this study as improving links between industry and TVET institutions, implementing a flexible workable TVET programme, synergy between TVET institutions and industries for practical skills, TVET lecturers should be open to in-service training, provision of adequate training facilities, TVET lecturers should be highly remunerated. If these are implemented into TVET programmes in Nigeria, they will enhance the individual readiness to enter the workforce and make them self-reliant. It will also contribute to the economic development of the nation.

7. RECOMMENDATION

Based on the findings of the study, it was recommended that the government should adequately fund, plan, implement, and manage TVET programmes in tertiary institutions in Nigeria. This will make tertiary institutions to be fully equipped in terms of infrastructures, training facilities and manpower needed to boost TVET programmes. Retraining packages should be organized for the TVET lecturers to equip and update them of new technologies.

There should be a synergy between the industries and TVET institutions for the acquisition of practical skills. This will enhance transition of theoretical knowledge acquired into practical and industrial form. Also, Non-Governmental Organizations (NGOs) should partner with TVET institutions to fund the programmes.

Finally, admission into TVET programmes should be strictly on merit based on skill interest and aptitude. This will make TVET institutions to produce graduates with skills and interest.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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