
Strengthening Technical Vocational Education and Training (TVET) In Africa to Meet Industry Needs in the Changing World of Work

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ABSTRACT

The economic growth of a nation depends largely on the skills of its workforce, which in turn, are dependent upon the quality of the nation's education and training. Education and training are undergoing continuous change, and this poses more challenges to the current workforce all over the world. Despite the importance of TVET in transforming national economic growth and development, Africa still has some deficiencies in the skills acquired by its TVET graduates. Therefore, this study aimed at determining the perceptions of the public, particularly the organized private sector employers, regarding the competency of TVET graduates and the role of African leaders in strengthening TVET for a sustainable workforce development. A descriptive survey research design with a sample size of 150 participants comprising organized private sector employers in Lagos state as well as lecturers and students of two technical institutions in Oyo and Ogun states of Nigeria. Validated questionnaires based on a 5-point Likert scale were used as the data collection instrument for the study. Data were analyzed using descriptive and inferential statistics. Findings revealed that employers were not satisfied with the level of skills acquired by African TVET graduates, and this affects their anticipated input in their various workplaces. It was recommended that TVET should be strengthened through formulation and adoption of government reforms that would aid teaching TVET programmes since this will contribute enormously to the quality and sustainability of the African workforce that can meet industry needs in the changing world of work.

Keywords: TVET, Africa, Training, Industry needs, Changing world, Work

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1. INTRODUCTION

The United Nations Educational Scientific and Cultural Organization, UNESCO (2006) define Technical Vocational Education and Training (TVET) as an educational process characterized, in addition to general education, by the study of technology and related sciences, practical skills acquisition, attitudes, understanding and knowledge relevant to occupants in various economic sectors and social life.

The UNESCO and the International Labour Organization (ILO) recommendation of 2000 on TVET for the 21st century defined TVET as: (i) an integral part of general education; (ii) a means of preparing for occupational fields and effective participation in the world of work; (iii) an aspect of lifelong learning and a preparation for responsible citizenship; (iv) an instrument for promoting environmentally sound sustainable development; (v) a method of facilitating poverty alleviation (Oviawe, Uwameiye, & Uddin, 2017).

Similarly, UNESCO (2009) defines TVET as all forms and aspects of education that are technical and vocational in nature, provided either in educational institutions or under their authority, by public authorities, the private sector or through other forms of organized education, formal or non-formal, aiming to ensure that all members of the community have access to the pathways of lifelong learning. Uwaifo (2010) described TVET as that training of technically-oriented personnel who are to be the initiators, facilitators and implementers of technological development of a nation by adequately training its citizenry the need to be technologically literate, leading to self-reliance and sustainability. TVET thus equips people not only with vocational and technical skills, but with a broad range of knowledge, skills and attitudes that are now recognized as indispensable for meaningful participation in work and life. TVET focuses on practical applications of skills learned, and are intended to prepare trainees to become effective professionals in a specific vocation.

According to Kukoyi (2009), TVET is a planned programme of courses and learning experiences that begin with exploration of career options, support basic academic and life skills, and enable achievement of high academic standards, leadership and preparation for industry-defined work. The goals of TVET are to fight ignorance and illiteracy, provide knowledge, develop skills, and inculcate the attitudes that are required for entry and progressing in any occupation. TVET is otherwise regarded as workforce education, particularly, in a more traditional role, it facilitates the adjustment of the skills and knowledge of man to the changing demands of the society.

On the average, global unemployment remains an ongoing challenge, particularly in developing economies of African continent. A major factor that contributes to the increasing rate of unemployment in Africa has to do with school education. It is not the case that high unemployment rates result from lack of jobs, but rather from the mismatch of market needs and skills that people bring to industries. However, training individuals to be technically skilled mechanics, engineers, shoemakers, and garment makers, among other professions increases a country's competitiveness globally. As a matter of fact, countries with well-established TVET systems tend to enjoy lower youth unemployment.

This is because the orientation of TVET coupled with the acquisition of employability skills allows it to address issues such as skills mismatch that has impeded smooth school-to-work transitions for many young people. Furthermore, required skill sets are constantly shifting as industries change more rapidly. Therefore, as African countries aspire to join the ranks of developed countries, the need for a skilled workforce becomes even more necessary. Africa needs a skilled labour force to construct and maintain roads, buildings, railways, and bridges.

The major challenge that faces most African countries is the development of a competent workforce for sustained economic growth in the global economy. The increasing complexity of modern workplaces and contemporary life means that steps must be taken to strengthen workers' skills in the use of emerging technology. A well-structured Technical Vocational Education and Training (TVET) system will enable productivity, enhance competitiveness and promote entrepreneurial activity. Hence, in preparing students for successful and productive participation for the world of works, TVET institutions have an enormous responsibility in ensuring that their graduates are better equipped to face the challenges that lie in their future careers.

The need for a trained and educated labour force in the emerging global economy has prompted governments around the world to undertake educational reforms (Cong & Wang, 2012). Spees (2018) claims that countries around the world are working hard to increase their workforce quality and size through vocational training in order to capitalize on the booming labour market. TVET is the most effective tool for the society to develop its members' potential to respond to the present and future challenges of the society. It is of paramount importance in developing nations where there are large numbers of young, unskilled workers.

Countries like Hong Kong, Singapore, South Korea, and Taiwan, otherwise referred to as the Asian Tigers, have invested heavily and successfully adopted policies not only in university education and polytechnic training but also in technical and vocational education, and this has resulted in the emergence of a highly skilled workforce. These countries successfully used technical and vocational training to upskill their economies, which made their workers more productive and their respective economies more innovative. Therefore, it becomes increasingly clear that skills development policies such as TVETs play a critical role in meeting industry needs in the changing world of work. Put succinctly, TVET prepares individuals for the ever-changing world of work.

1.1 Statement of the Problem

The high percentage of unemployed youth who have obtained secondary and higher education indicates that higher education is not enough in itself to enter and remain in the labour market. The development of skills can contribute to structural transformation and economic growth by enhancing employability and labour productivity and helping countries to become more competitive. However, most countries continue to struggle in delivering on the promise of skills development. The challenge therefore is how TVET training can produce graduates with skills that can respond to the needs of a highly competitive and dynamic global market and industry. Despite the significance of TVET in national workforce development, employers still have varying perspectives about the competency of TVET graduates.

Therefore, there is a need to bridge the gap between industry requirements and training in TVET institutions. Hence, this study attempts to ascertain employers' perceptions of TVET system in Africa in order to determine ways of strengthening the system for a sustainable workforce development that can meet industry needs for the changing world of work.

1.2 Research Objectives

The main objective of the study was to investigate how TVET can be strengthened to meet industry needs in the changing world of work in Africa. The specific objectives are to:

- (i) examine the importance of TVET skills to improve youth employment;
- (ii) analyse the expected improved national economy through TVET skills;
- (iii) investigate the perceptions of employers regarding the competency of TVET graduates for ensuring sustainable workforce development; and
- (iv) examine the key reforms by African leaders to strengthen TVET in most African countries.

1.3 Key Reforms to Strengthen TVET in Africa

There is a need to reform the TVET education system in Africa to fulfil expectations of increasing worker competencies, reducing skills mismatch in the working place and improving demand and supply in labour market. This requires great efforts by African governments at ensuring strong collaboration between TVET institutions, private sector, and labour unions or industry associations in organizing skills training programmes and standards, as well as in developing curricula so that training courses in TVET institutions are tailored towards the needs of the industry. These reforms include the following:

- i. TVET in Africa needs to be redesigned to make it attractive to the youth, and for people to understand its implications for national development.
- ii. TVET requires new institutions, changing qualification systems, an increase and reallocation of funding, and greater access to training, even as economic conditions and needs are substantially changing.
- iii. Special efforts should be made to increase access to the TVET system and link the subjects taught to the needs of the labour market.
- iv. Ensure better co-ordination between employers and those who design and teach TVET courses.
- v. Governments should set up skills observatories bringing together vocational sector representatives, including large and small employers and those who design and teach TVET, to complement the co-ordination groups and ensure TVET teaches skills that employers are going to need.
- vi. Certify TVET skills rather than the completion of a formal course, and thus recognize the skills acquired in the informal sector.
- vii. TVET should be strengthened through Public-Private Partnerships (PPP) because government cannot singlehandedly shoulder this enormous task.
- viii. Administrators must re-orient and re-direct curricula to instill in youths and adults skills for resource conservation and sustainable use, social justice, and proper growth, including competencies to perform tasks in the 21st century workplaces (UNESCO, 2020).
- ix. The TVET institutions should make vocational training available to youths and adults in formal and informal sectors for reskilling and up-skilling.
- x. TVET administrators should create a school-friendly environment to ensure the success of lifelong learning. To this end, they must partner with stakeholders to ensure that all people, regardless of age, gender, wealth, place, or language, have access to successful TVET programmes.

2. METHODOLOGY

Research Design

This study employed a *quantitative survey research*. Being an analytical research, the researcher had to review various literature works, textbooks, journals, magazines, government publications, etc. that are relevant to the subject matter as the secondary data sources while the use of semi-structured questions prepared by the researcher constituted the source of the primary data.

2.1 Sampling Technique, Sample Size and Study Locations

A sample size of 150 respondents from different but relevant sectors within Nigeria using Simple Random Sampling Technique was used for the study. The respondents comprised 30 organized private sector employers in Lagos state; 15 Lecturers and 40 students from Federal College of Education, Osiele, Abeokuta, Ogun State; and 20 Lecturers and 45 students from The Polytechnic, Ibadan, Oyo state. These states were strategically chosen to reflect the opinions of people from the main business hubs of the country. The interviews were done at their various workplaces and institutions with the help of a research assistant who helped in the distribution of the questionnaires to the respondents.

2.2 Instrumentation

The instrument used for data collection was a self-structured questionnaire developed by the researcher. The questionnaire consisted of two sections A and B. Section A was designed to elicit information on the background of the respondents using such variables as: age, sex, level of education, marital status, religion and family size. Section B comprised 10 questionnaire items. Each item in the research questions had a five-point rating scale of **Strongly Agree (5)**, **Agree (4)**, **Uncertain (3)**, **Disagree (2)** and **Strongly Disagree (1)**. The questions were basically on the perceptions of the respondents on the role of TVET in meeting diverse industry needs.

The questionnaire was validated through experts' opinions in terms of appropriateness of the research objectives. The structured questionnaires were administered through the face to face method of collecting data with the help of a research assistant who did not require any special kind of training other than simple explanations on persons that made up the study population. The reliability coefficients (Rho) were computed using the Cronbach Alpha and found to be above 0.80 for all items, meaning that there is internal consistency on all items surveyed.

2.3 Method of Data Analysis

Data generated from the questionnaires were organized, reviewed and analyzed within the framework of the study using descriptive and inferential statistics.

3. RESULTS AND DISCUSSION

3.1 Results

The study was aimed at strengthening TVET in Africa to meet industry needs in the changing world of work. The questionnaire response rate was computed by dividing the number of those who responded to the questionnaire by the number in the sample and multiplying the outcome by 100%. This response rate is shown in Table 1.

Table 1: Questionnaire Response Rate

<i>Participants</i>	<i>Number of Respondents in Sample</i>	<i>Number of Usable Responses</i>	<i>Response Rate (%)</i>
<i>Employers</i>	30	27	90.00
<i>Lecturers</i>	35	30	85.71
<i>Students</i>	85	79	92.94
<i>Total</i>	150	136	90.67

The response rate represents 90.67% of the entire questionnaires. The response rate from the students was the highest being 92.94%, while that of the employers was 90.00%. The least response rate was that of the lecturers which was 85.71%.

3.2 Discussion

The findings arising from the survey are presented in Table 2 and discussed subsequently.

Table 2: Perception of TVET by the Nigerian Public

S/N	SURVEY OPINION	SA	A	U	D	SD
1.	<i>TVET is believed to be designed for students who cannot effectively cope with the rigour of conventional education system.</i>	15.7%	37.5%	10.7%	15.3%	20.8%
2.	<i>Prevalent belief is that brilliant students should not take up TVET programmes.</i>	15.9%	30.4%	17.4%	23.4%	12.9%
3.	<i>TVET is perceived as an inferior education designed for students from poor families.</i>	13.8%	29.5%	12.8%	24.8%	19.1%
4.	<i>The essence of TVET as contained in the international policy on education is to enhance skills acquisition and promote self-employment.</i>	57.8%	39.5%	2.7%	-	-
5.	<i>TVET unlike the conventional education has the prospect of stimulating technological progress for national development.</i>	48.8%	34.7%	11.8%	2.9%	1.8%
6.	<i>Inadequacy of experts and well trained TVET instructors affect students' performances in vocational education.</i>	28.2%	52.4%	10.4%	4.9%	4.1%
7.	<i>Poor funding of TVET instructional resources hinders technological progress in Africa.</i>	46.8%	43.2%	7.7%	1.2%	1.1%
8.	<i>Formal or informal TVET is helpful in preparing students adequately for the world of work and better performance in the industry.</i>	47.6%	42.2%	10.2%	-	-
9.	<i>TVET, if well-positioned, could become a mechanism for curbing unemployment of graduates in the African competitive industry.</i>	68.7%	30.2%	1.1%	-	-
10.	<i>There is a need for TVET to be strengthened in Africa so as to meet industry needs of the changing world of work.</i>	59.8%	34.2%	4.3%	1.2%	0.5%

Table 2 showed that majority of the respondents with 98.9% score were of the opinion that TVET could be used to combat the challenge of unemployment facing many graduates in Africa. Also, 94% of the respondents were of the view that African leaders should strengthen TVET so as to meet industry needs in the changing world of work.

The survey also established, through the responses of 89.8% of the participants, that TVET has the potential of enhancing skills acquisition; promote self-employment, technological progress as well as preparing students for the industry. All the aforementioned participants' responses are in line with the findings of (Kahiol, 2019) that TVET programmes need to instill career-related skills such as critical thinking, problem solving, leadership skills, and collaborative efforts with others so as to balance personal characteristic such as integrity. To make people more competitive globally, there should be improvement of TVET which will include upgrading TVET employees to improve their skills and leveraging innovation and investment in new technologies, training and specialized skills (Kahiol & Norlisa, 2020).

However, few of the participants perceived TVET as an inferior education designed for students from poor families, and that brilliant students should not take up TVET programmes. Furthermore, the survey revealed that between 70% and 90% of the respondents identified inadequate instructional resources, inadequacy of TVET experts and instructors, poor conditions of service for instructors, irregular capacity-building and training as critical challenges affecting the quality of TVET in Africa. This is in line with the findings of Desjardins and Rubenson (2011) that TVET administrators must ensure that the TVET programmes have sufficient resources, well-targeted literacy programmes, better-trained teachers, and technologies essential in promoting workplace skills.

4. CONCLUSION

Technical Vocational Education and Training (TVET) can be said to be a training which encompasses knowledge, skills, competences, structural activities and other experiences acquired through formal, on-the-job and of-the-job education and which is capable of enhancing several opportunities for learners to secure jobs in various sectors of the economy, enabling self-reliance through job and wealth creation. TVET is a multifaceted, multidisciplinary and pragmatic field of study that enhances its recipients' relevance and functionality in the society.

The purpose of TVET is to prepare people for self-employment and to serve as a medium of evolution for people in the world of work. Effective TVET recognizes that education and training in any country needs to be based on reliable labour market information, demand and employer's needs, particularly in priority trades and occupations. Workforce development, through a well-planned and orchestrated education and training initiative, will contribute significantly to promoting the interests of individuals, employers, enterprises, the economy and society within such country. This is a dynamic process as demand and employer's needs must keep pace with changes in technology and the rise of new skill sets.

TVET faces huge demands globally due to the high level of unemployment and the quest for technological development, industrialization and economic growth. TVET as a veritable tool for diversifying the national economy is essential in creating a new generation of employees who will face the demands of the workplace, especially in this era of changing world of work. Engaging the youth in TVET skills will go a long way to improve youth employment and make them more productive to themselves and society at large leading to improved economy.

For TVET to achieve its envisaged objectives, it must be properly strengthened. Adequate collaboration between TVET institutions and industries would lead to provision of relevant practical skills for industrialization in many African countries.

5. RECOMMENDATIONS

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

- i. Government and non-governmental agencies should as a matter of priority provide the youths with Technical Vocational Education and Training.
- ii. Government and non-governmental bodies, and wealthy individuals should set up the youths who have acquired TVET skills and knowledge so that they earn a decent living after training.
- iii. Yearly exhibitions should be organized by African governments for the youths to showcase their skills through the products they develop.
- iv. Governments and other relevant stakeholders should provide the youths with necessary assistance to enable them commercialize their products. This can go a long way to motivate other youths and boost their confidence in the Technical Vocational Education and Training programmes.
- v. Government should introduce a policy that addresses school to work/practice scheme for all TVET graduates.
- vi. TVET curriculum should be reviewed to take into account issues that have to do with delivery, professional training of trainers, assessment, and teaching and learning materials in core/fundamental skills. There should be collaboration between TVET institutions and the workplaces during the curriculum development to address the needs of the industries.
- vii. There should be periodic staff and student exchange programmes between TVET institutions and the workplaces to equip students and staff with the practical skills while the workplaces benefit from the theoretical knowledge of the staff and students of TVET.
- viii. Linkages must be strengthened between education, training, and work by providing professional information and vocational guidance to the youths in and out of school. Access must be provided to the workforce through appropriate education and training as this is vital for socioeconomic development.

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