

## Reinforcement of TVET as a Prerequisite for the industrial development of a nation: The Nigeria Experience

Godwin Oberhiri – Orumah\*

Federal Polytechnic Ekowe, Bayelsa State Nigeria

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### Abstract

*Technical Vocational Education and Training (TVET) plays an essential role in developing diverse human talents, passing on technical skills, and promoting employment, innovation, and entrepreneurship. As a critical part of the national education system and the development of human resources, vocational education in Nigeria should be adequately funded to realize the transfer of technical skills and the promotion of employment and entrepreneurship. This paper aims to explore the strengthening of TVET to meet industry needs in the changing world of work, with the Nigerian experience in vocational education as a case study for Africa. The methodology adopted is the participatory bottom-up approach. It is found that vocational education in Nigeria has gone through a series of name changes before settling on its current nomenclature. It should be noted, however, that vocational education is critical to accompaniment universal academic education to structure a nation, there is a strong challenge it faces to gain recognition and status like general education. Some of these difficulties could be identified as curriculum design, poor linkages with industries, public perception, and other structural issues. The current study also discusses how to overcome and ameliorate these challenges to better technical education in Nigeria and Africa.*

**Keywords:** *Technical Vocational Education and Training, Strategies, World of Work, Entrepreneurship, industry.*

### 1.0 Introduction

There is no dissension that the quality of human capital reserve of modern industry is a major factor in its competitiveness and growth. The world's economic survival and robustness seem to entirely depend on the productivity of its workforce (Okorafor, 2012). The globe and everything therein are continuously changing and thus becoming different in many aspects. The survival of all rational persons in the world is how to profit from these continuous changes. Thus we must make an effort so that people and everything around us will be superior in the new difference, this is the entire duty of every person and since these changes are constant, every person's duty is continuous. This changing effort to profit from nature's continuous changes is the reason for what is known as education of which the Technical Vocational Education and Training (TVET) are important aspects of which is preeminent for work (Anuku, 2012).

TVET means Technical Vocational Education and Training. At the secondary and tertiary education levels, TVET institutions have proven to be the fulcrum for development, especially in developing nations of Africa.

In most of the fast-developing economies worldwide, TVET has been the driving force of providing the necessary skills for bringing to reality theoretical concepts and ideas propounded in many ivory towers, laboratories, and workshops.

According to UNESCO and the International Labor Organization (ILO, 2012), TVET can be defined as "areas of the educational process comprising, as well as general education, the study of technologies and interrelated sciences, and the attainment of useful expertise, lifestyle, knowing what is connected to citizens in uncountable areas of profitable and public life". TVET is taught in unity and private educational institutions, or other forms of recognized or unrecognized education designed to permit all sectors of the general public access to life-long educational resources. As a result, TVET has the capacity to train human resources for the always-changing working environment. This method of imparting knowledge was accepted and found to be a universal remedy to meet contemporary and yet-to-come working environment needs. In the same way, TVET could be positioned purposefully to combat the decrease of poverty, poor economic growth, insecurity, and the actions that cause ecological dilapidation and poor awareness of green practices (United Nations Educational

\*Corresponding author's ORCID ID: 0000-0000-0000-0000  
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Scientific and Cultural Organization, UNESCO 2019) cited by (Onwusa, 2021).

Technical Vocational Education and Training (TVET) is known as a pure process by which excellent, familiar, information literate, and knowledgeable workers are prepared, trained, or retrained globally. According to Park (2005), cited by Onwusa (2021), TVET is the progressive order of transfer of what you know, expertise and values to better a working environment that could enrich productivity and sustain competition in the world market. Recognizing the skills of TVET requires the knowledge of the dynamic world of work, which always needs new ideas of teaching methods, and instruction mostly, must change to fit into the world's desires Kingombe (2012) cited by Onwusa (2021).

The way we work has changed significantly over the last century and we are on the verge of witnessing unprecedented changes in our work in the years to come. Unless we prepare for these drastic changes, we may not be able to cope with its adverse effects on individuals and society at large. Few of these predictable variations have started cutting across the working environment which vividly validates the unavailability of this actuality. Strengthening TVET in our developing countries has become a very important means of preparing us all in Nigeria and Africa as a whole for the changing world of work. Africa can take cue from recently developed economies like; China, Singapore, Malaysia, India, etc. The workplace is changing faster than we can imagine, individuals and organizations must adapt or face the dire consequences of not being relevant to the trends. For instance, a skilled automobile mechanic from about ten years ago, may not have work to do in this modern times as cars are more of electronic automation than the mechanical cars of a few years back. Therefore, there is the need for that mechanic for instance to improve his/her skills in electronics to still be relevant or be sidelined. In the modern workplace, there are basic kinds of occupational skills required which strengthened TVET institutions can provide.

## 2.0 Background Information of TVET in Nigeria

Work and industry have evolved over the centuries, with work at some point seen as direct use of our hands and physical exertion on farms mainly, to the period of using farm implements and further development came and then the beginning of the industrial revolution where classy and new equipment for production became the norm in the workplace. The way we work now has changed significantly in many ways over the last century and we are on the verge of witnessing unprecedented changes in our workplace in the years to come. Unless we prepare for these drastic changes we may not be able to cope with its adverse effects on individuals and society at large.

In Nigeria, reforms in the educational sector were to serve new economic and social needs leading to a

national policy on education in 1977 and the establishment of the National Board for Technical Education (NBTE) by decree 9 of 11<sup>th</sup> January 1977. The regulatory agency was charged with the mandate of advising the government on managing the affairs of TVET, setting standards of skills to be attained, and always reviewing the standards to meet technological and national needs. Much emphasis was on the kind of education that will equip our citizens with the right and technical skills for production and economic sustainability, thus the focus was on practical job teaching and training (Eze and Okorafor, 2016).

The National Policy on Education (NPE) revised in 1991, was the beginning of a breakthrough in Nigeria's education reform. This gave rise to the 6 – 3 – 3 – 4 educational system with TVET as a core part of our educational programme in Nigeria. This simply explains 6 years in primary school, 3 years in junior secondary school, 3 years in senior secondary school, and 4 years at tertiary institution. At the time students complete their junior secondary school, it is left for them to continue with the senior secondary school or technical colleges or proceed to acquire skills in vocational training centres. In the higher education programmes, TVET is offered in technical colleges of education, polytechnics, and schools established that offer one-course areas known as mono-technics e.g. Federal Institute of Construction Technology Uromi, Edo State, and universities of technologies. These institutions are owned by the government and others by private individuals or organizations.

In 1973, the Federal Government of Nigeria established the Industrial Training Fund to bridge the gap between classroom training (Theory) and workplace industry practice among students of higher institutions of learning. In 1974, The Students Industrial Work Experience Scheme (SIWES) started with seven hundred and eighty-four students from eleven tertiary institutions. The scheme is meant to acquaint the students with the required manpower skills needed by industries, therefore building the capacity of students and preparing them for the workplace experience (Eze and Aruku, 2012). Presently many industries in Nigeria are still experiencing trained manpower shortage. Nigeria's enterprises are also no longer as they used to be.

## 3.0 Research Objectives

The trust of this paper is to address the problems of TVET. The workplace is changing faster than we can imagine, individuals and organizations must adapt or face the dire consequences of not being relevant to the trends. As a result, Nigeria redesigned its educational programmes; TVET and SIWES were inculcated as an area of education to address the challenges of personnel training and project Nigeria into a dynamic and self-sufficient economy. Regrettably this vision has remained elusive as shown by the high rate of unemployment at all levels, low technological development, and poor economy.

Therefore, the focus of this paper is why TVET has not met the Nigerian vision and strategies to strengthen TVET.

- 1) Identifying the inherent weaknesses of TVET in Nigeria.
- 2) Examining various strategies in place that can help strengthen TVET
- 3) Identifying the purpose for strengthening TVET in Nigeria

#### 4.0 Methodological Approach

The participatory ('bottom-up') approach which enables every stakeholder to make inputs into the process was adopted. Consequently, the first major task was to secure the interests of all students going for industrial training and departmental lecturers through sensitization of the Polytechnic Community about changing trends in the global workplace space especially with regards to ICT. A mini-workshop was organized for representatives of key stakeholders in the polytechnic. The workshop provided information to various interest groups about the purpose and significance of the need to strengthen TVET. It also sensitized the stakeholders on the various ways in which they would be expected to contribute their quota through playing their roles as they open up to frequently changing trends.

Also, participants went into syndicate sessions in which they deliberated on various thematic issues, envisioning what the Polytechnic should be and providing suggestions on how best the Polytechnic should be guided into achieving the set goals that will strengthen TVET using our institution as a case study.

#### 4.0 Research Findings and Discussions

Technical and Vocational Education cannot contribute immensely to the economic advancement of Nigeria as a nation and the decline of miserable penury, food shortage, and being without a job because it is bridled by several challenges (Eze, 2013). Oranu (2004) noted clearly that the good plans of previous Nigerian governments on TVET programmes are still faced with so many difficulties.

#### 5.0 Weaknesses of TVET in Nigeria

Without disagreement, vocational-technical education has achieved some landslide effects on the Nigerian educational system, especially as regards the products of the training programmes which are giving their proportion to the economic advancement and development of the nation from a number of industrial setups (Odu, 2013).

In Nigeria as in most countries in Africa, TVET institutions are basically Polytechnics and Technical Colleges. The funding of these institutions is far from being at par with Universities and other conventional

institutions. Poor financing of vocational institutions has led to the making of quack graduates for the reason that there is no monetary support to construct and sustain workshops, laboratories, or even procurement of up-to-date equipment (Aghenta, 1985). Furthermore, (Momoh, 2012) noticed that the government is deficient in the commitment to technical education and poor financing which has led to a deplorable practical base education in the country. An unwavering result of this is that despite the fact the number of technical education institutions is declining that of university-based education on the other hand is on the increase (Momoh, 2012).

**Lack of facilities:** According to (Opoko et al., 2018) TVET requires a variety of learning materials including machines, tools, special types of furniture, and other facilities to create conducive teaching and learning for both students and instructors. Way back in the 1970s in Nigeria, the quality of education was a thing of pride for the black race and the rest of Africa. Nigeria was the envy of many developing countries over the years, the general decline in the standard of education in the country appears to have hit the TVET sector badly, leaving many vocational institutions in a state of disrepair and old facilities have been poorly maintained or in many cases obsolete

**Curriculum of Technical Education:** The curriculum of a subject with practical content is generally organized into an average of 70% for theoretical classes and 30% for workshops. There are numerous challenges connected with the education curricula in Nigeria, Ojimba (2012) acknowledged six of them. They include:

- 1) The programs are centered on an imported standard that has metamorphosed under an ideal state of affairs (staff, equipment, infrastructure, training opportunities, etc) that is not noticeably replicated in underdeveloped nations.
- 2) Basic textbooks are inadequate in the area with the majority of the textbooks in the system being circumstantial to foreign environment and are repeatedly clarified with examples from outside the local environment.
- 3) There is a deficiency of home-groomed teaching and backup staff with sound technical know-how.
- 4) The programs are prepared to be excessively academic and encumbered with scholarly content in pure science and mathematics to the detriment of elementary engineering and technology.
- 5) Scanty delivery of humanities, social sciences, business management models, and innovative expertise advancement. Due to the laughable conditions in preparing the undergraduates for the working environment, most companies employ the services of fresh graduates thereby making them more industrious in their establishments.
- 6) The teaching method follows the traditional method of imparting knowledge through the teacher's reading to the students, who then take notes. The

education system continues to place significant value on this system of teaching.

**Poor Public Perception/Estimation:** since the inception of English education, TVET has been seen as a career meant for less academically qualified, rather than effective training to produce skilled manpower for the industries and earn sustained livelihood. In developed nations, graduates with technical certificates are highly considered. As a matter of reality, employability status in advanced countries takes advantage of the person's skills and knowledge, and never the number of university degrees obtained. But the reverse is the case in Nigeria, where too much importance is accorded to university qualifications without considering the holder's capability on the mandatory proficiency and skillfulness on the job. The high level of discrimination in the public service against graduates of technical education and their career prospect limitation has orchestrated the rapid inflow of secondary school leavers into universities. (Nworlu-Elechi, 2013).

**Brain Drain:** This is believed to be the migration of practically sound lecturers of technical education who are actually looking for the socio-economic and technological advancement of Nigeria from university to university or to other sources of livelihood where they get better pay and a better working environment. From the words of Bassi (2004), not fewer than 45% of all Nigerian experts as well as technical tutors have departed the shores of Nigeria over the years, between 1997 and 2007. In the Polytechnic system in Nigeria; Technologist, who are products of Polytechnics, cannot end up being the head of the institution by career progression, they will be required to convert to another teaching cadre, which further drains the required manpower to produce future Technologist and technicians.

### Few Ties to the Industry

In Nigeria, more effective ties between schools and workplaces are required. To better the perception of higher technical education among job givers, job seekers, and their families, logical transformation at the homegrown and management levels is mandatory. Although ties between TVET institutions and industry exist, they are not as strong as they are in the best systems. Some TVET institutions, for example, have modern facilities but no skilled manpower, leaving graduates underqualified for today's labour market. Typically, scheduled employment experiences at the end of a semester last only a few weeks.

**Low Enrolment and Gender Disparity:** There is a low and high disparity in students' enrolment in TVET as few females enroll in such programmes in Nigeria. Only 3.6% of senior secondary school leavers were admitted into TVET in 2005 (Federal Government of Nigeria, FGN, 2009), the 3.6% is made up of 92, 216 undergraduates out of which 86.1% were boys and 13.9% were girls (FME, 2009).

In the same way, FME (2009) reported an average of 2.5% admission in TVET at the secondary level in contrast to the modest 20% target by NPE (Eze and Okorafor, 2016).

## 6.0 Strategies Adopted to Strengthen TVET

This section of the paper examines the strategies in place to help strengthen TVET in Nigeria in order to fully maximize its benefits;

### 1) Tackle Discrimination against TVET

It is important that government agencies stop and remove the dichotomy between TVET certificate-awarding institutions and universities in Nigeria. This is the first step in the right direction and should create an awareness campaign in the public space and other forums to give credence to TVET and highlight its importance to the nation. The reward for work done should not be tied to certificates but to output and efficiency.

### 2) Indigenous Curriculum Strategy

The goal behind any working TVET programmes is to fill and remedy the needs of the immediate environment. The time has come to use our local language to develop a curriculum that meets the economic, social, and cultural needs of society. There is a need to appraise and re-scrutinized TVET programmes to accelerate from single skill to numerous skills, prepared for our homegrown buying and selling, to nurture home-based resourcefulness and expertise than our dependence on imported ones. As much as Nigeria desires to be part of the global world market it is important to consider the state of its natural endowment, culture, and resources. In a previous study, Eze and Okorafor (2012) established the significance of syllabi which will fascinate the needed general public and bring about the emergence of homemade designs, working apparatuses, and resources, in so doing lessening the dependence on overseas expertise and encourage the brain power of Africans to develop homemade technologies and resources.

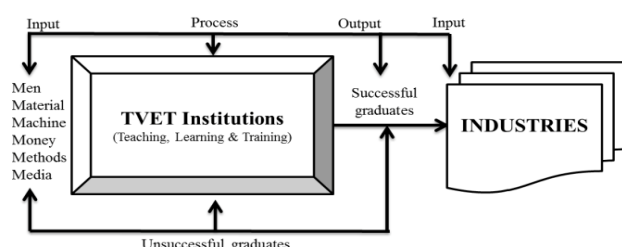
### 3) TVET Teachers Development Programme

Trained teachers in the field of TVET are inadequate in, supply, there is the pressing need to revamp the technical teachers training programme. The Federal Government's strengthening of the Technical Colleges will enhance turning out good quality and quantity of TVET graduates to achieve its mandate.

### 4) School – Industry Linkages

In the world of global space where information, knowledge, and problem-solving upstage normal skills, TVET training institutions no longer function in isolation in the labour market. It will be a good strategy to work out

close cooperation between TVET schools and employers to adopt existing materials for the training needs of changing occupations. This will make it possible to improve the match between training protocols and demand to mobilize more resources for effective training in the schools. Schools – industry linkage can be attained through the establishment of advisory and curriculum development committees with membership from employers and schools, vocational guidance and placement activities, surveys of local employers, and training strategies that include, periodic supervised placement of trainees for work experience. (Okoroafor, et al., 2014).



**Figure 1:** Adopted from Raihan (2014)  
Showing collaboration between TVET institutions and industries

## 5) Establishment of Skills Acquisition Centres

Vocational educators believe that meeting the recurrent cost of paying qualified coordinators and instructors and providing up-to-date teaching resources and maintenance are important to achieving quality training outcomes. Since the provision of facilities for TVET is a huge cost, it would be wise to make available a well-equipped central resource centre that can serve many schools within a zone. This will also create the sharing of knowledge and exchange of ideas (Eze & Okoroafor, 2016).

## 6) Encouragement of Small Enterprise

Small enterprises should be supported by the government and its agencies, the environment in Nigeria where these industries operate is very toxic. The extremely high charge paid by entrepreneurs has pushed many out of business. Local small industries should be motivated, and supported through tax reductions, rebates, etc. Reduced interest rates should be charged on loans for these small businesses. The belief that inadequate infrastructures like transportation, telecommunication, water supply, and power supply hinder industrialization is to disregard the fact that these infrastructures are the outcome and not the agents of industrialization (Ukeagbu, et al., 2010). So many of these local industries will reduce the importance accorded to degrees in Nigeria thus skills and efficiency in job performance will be welcome.

## 7.0 The purpose of strengthening TVET in Nigeria

This section will discuss reasons and the need to strengthen TVET in Nigeria

### 1) Reduce the Rate of Drop out from School

According to Wikipedia (2013) cited by Onwusa (2021), many young people drop out of school before they acquire any potential skill and competency for the world of work. These groups can be taken care of by the different levels or forms of TVET. Technical vocational education and training came to the rescue of the situation.

### 2) Rising Unemployment rate

It is obvious that the unemployment status in Nigeria has remained very high to the point that countries that experienced the Arab string did not experience such a high level of unemployment National Bureau of Statistics (2012) reported that the unemployment rate is at 56%. As of today, the nation's youth /unemployment is unimaginable and extremely high. Graduates find it difficult to fit into any form of skilled or semi-skilled job. The Nigerian educational system equips them with theoretical knowledge for office work that does not exist in the first place. There is a missing gap between training and labour market skills required. This is the situation TVET came to the rescue, to ensure that Nigerian students at different levels acquire the necessary skills and competency that will enable them to fit into the workplace.

### 3) High Crime Rate

The high crime rate in Nigeria is alarming. The security challenges in Nigeria can be traced to the people and national development. It ranges from uprisings, insurgencies, armed robbery, cultism, prostitution, fraudsters (Yahoo boys), stealing, kidnapping for ransom, extremism, and terrorism. The vices can be traced to illiteracy, idleness, poverty, and youth unemployment Kayode, (2013), cited by (Onwusa, 2021). You can imagine a state where bandits and insurgents invade police stations, disarm police officers in broad daylight, and attack banks, the solution is the TVET vocation training. This will equip them with the needed skills and competency in the industries to gainfully employ them.

### 4) Poor Economy

Nigeria happens to be one of the developing nations of Africa, it is one of the largest producers of crude oil in the world but is host to a large number of poor people in the world today. (UNDP, 2013) noted that Nigeria has made a less than impressive show in the global competitiveness index. For 2019/2020 a survey, whose goal is to determine the quality of the standard of living of the people, the state of Nigeria's public institutions, and the

state of technological preparedness. These are all forms of why TVET needs to be strengthened in Nigeria.

## Conclusion

This paper has examined TVET in Nigeria's industry, highlighting its weaknesses in meeting industry needs, strategies adopted, and the purpose of strengthening TVET. Nigerian government should note, that TVET is the backbone for industrialization. The challenges of this form of education should be resolved and see how technical and vocational education can achieve sustainable development and a productive Nigeria. If Nigeria must industrialize and attain a global rating in Africa and the world at large, she must address the issues of curriculum design, integrate industry and education, improve the public perception, and overcome structural barriers by revamping the current vocational education policy and build a link between the schools and industries. We need to encourage our youths to enroll in TVET programmes, we need employers to recognize TVET certificates. TVET must be strengthened in order to accomplish its aims as well as push for the transformation of Nigeria. There is no better time than now.

## Recommendations

Based on the findings of this study, the following recommendations are proffered.

- 1) The Nigerian Government must as a matter of urgency, deliberately develop, support, and manage the policy of TVET programmes through the promotion and the development of vocational training centres or entrepreneurship programmes in schools for youths to be prepared for the workplace.
- 2) Provision of scholarships for TVET teachers/instructors, adequate supervision, monitoring, and execution of TVET programmes.
- 3) TVET syllabus should be reviewed to inculcate numerous skills, originating from home-based buying and selling prospects to foster originality.
- 4) The government on their part should be responsive to financing TVET courses in tertiary institutions of learning.
- 5) TVET should carry out bilateral and multilateral technical cooperation with domestic and foreign high-quality enterprises and jointly build on-campus training bases.

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