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Strategic Framework For Repositioning Vocational And Technical Education For Eradication Of Unemployment In Nigeria

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Authors' Contributions

This work was a collaborative effort of all the authors. Author BA designed the study, performed the pictorial and chart analysis. Author TNR wrote the protocol and wrote the first draft of the manuscript. Author SL managed the interpretation of the charts. Author OIO managed the literature searches. All authors read and approved the final manuscript.

Abstract

Youth unemployment in Nigeria is a major source of challenge facing the country due to undue emphasis on general education instead of vocational and technical education (VTE). The paper x-rays the evolution of VTE in Nigeria. Although the Federal Government has formulated good policies on VTE, the political will required for the implementation is lacking. An attempt was made in the paper to clarify conceptual issues while benefits of VTE were highlighted. The paper examined frameworks for VTE in China and Germany with a view to incorporating into the Nigerian VTE framework ideas that contributed to technological advancement in China and Germany. Constraints to VTE were itemized while recommendations were made. The paper advocates the re-organisation of informal vocational education through official recognition of apprenticeship programme and apprenticeship centres in all 774 Local Government Areas in Nigeria. The paper further advocates that government should provide daily stipends for the entire apprentice and their instructors. It is also recommended that the government should revisit vocational and technical education with a view to addressing some of the plethora of problems facing this level of education in Nigeria.

Keywords: *General education, Framework, Vocational and Technical Education, Unemployment, National Policy on Education*

1. Introduction

The rising rate of youth unemployment in Nigeria is currently perceived as one of the most significant problems confronting economies and societies. The unemployment rate in Nigeria stood at 861,110 between December 2014 and March 2015; while job created by public institutions stood at 5,726 while informal sector generated 400,000 jobs (Okolocha & Baba, 2016). United Nations Educational Scientific and Cultural Organisation (UNESCO) reported in 2016 that at least 475 million new jobs need to be created over the next decade to absorb the 73 million youths currently unemployed and the 40 million new annual entrants to the labour market. At the same time, Organisation for Economic Cooperation and Development (OECD) surveys suggest that both employers and youths consider that many graduates are ill-prepared for the world of work. The National Bureau of Statistics (NBS) data as reported by Udo (2017) indicates that 15.2 million youths remain unemployed or under employed. Also Tunji (2017) citing National Bureau of Statistics in 2012 and National Population Commission in 2013 reported that half of about 167 million people in Nigeria are made up of youth. The report showed that about 11.1 million youths were unemployed in 2012. The detail breakdown of the percentage of the unemployed rate amongst the youth revealed that over 50% of all unemployed did not go beyond primary school education; 30 % of this population is secondary school leavers while about 20 % are graduates of tertiary institutions of learning who have remained unemployed over the period of five years after graduation (NISER, 2013).

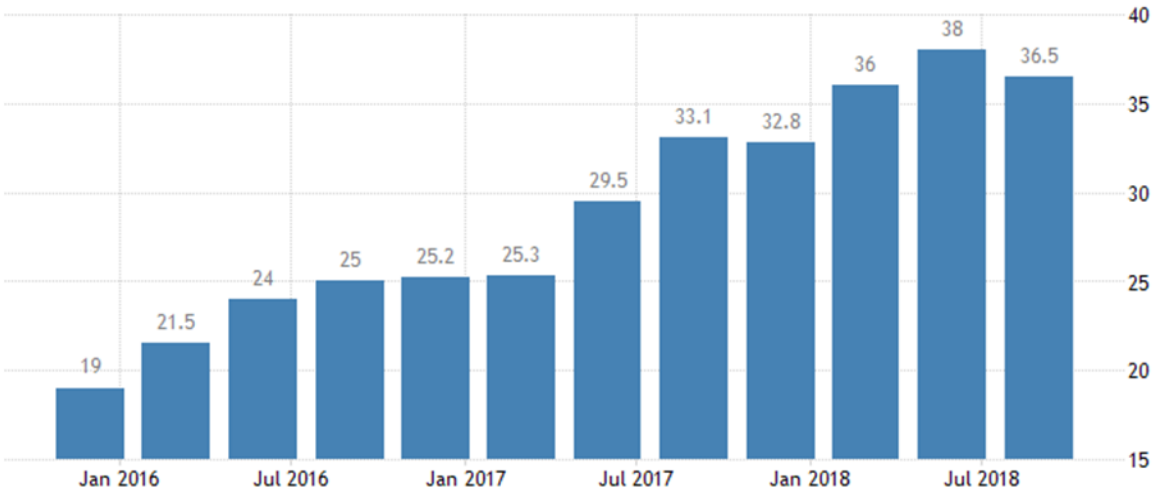


Figure 1: Unemployment situation in Nigeria

Source: National Bureau of Statistics, Nigeria

Figure 1 reveals the employment situation in Nigeria between January 2016 and July 2018 .The unemployment situation has been attributed to undue emphasis on general education

to the detriment of vocational and technical education (VTE) in Nigeria since independence. General education is characterized by too much book work and pride of multiple certificates without emphasis on the development of educational skills. Murgor (2013) observed that in recent times there has been increased interest in technical and vocational skills development because of precursory evidence that a country with better developed technical and vocational skills among the youth has higher likelihood to reduce poverty and lead to sustainable economic growth.

This paper will focus on the evolution of VTE in Nigeria, the concept of VTE, the significance of VTE, the framework for VTE in developed countries with specific references to China and Germany, the differences between framework for VTE in these developed countries and Nigeria, constraints to VTE in Nigeria and proffer short and long term solutions to these challenges.

2. Evolution of Technical and Vocational Education in Nigeria

Vocational and Technical Education (VTE) is not alien to Nigeria. Fafunwa (1974) observed that traditional African education was designed to train the youth for social responsibility, job orientation, political participation and spiritual and modern values. The family was the setting for education. People specialized in trades such as farming, hunting, medicine, blacksmithing, iron work and so on. Training for the various vocations was organized at the family level through apprenticeship training, imitation and guilds. Okolocha and Baba (2016) remarked that in traditional education of the various ethnic nationalities, arts and crafts of various types have existed as their own expression of vocational training. Vocational education includes the various skills taught as part of the education of the Nigerian child such as weaving, sculpturing, blacksmithing, carving, farming, fishing, cattle rearing, hair plating, dress making, leather working, pottery making, glass and bead working, catering, dyeing, tinkering and many more. The pre-colonial vocational education in Nigeria therefore falls under the informal vocational education. Akanbi (2017) observed that the western education that was introduced in 1842 did not emphasize on the learning of practical skills to make citizens become self-reliant rather it was to make whoever had the opportunity to acquire it serve the purpose of the missionaries. However, with the influence western education, the fledging indigenous technological development in Nigeria was jettisoned in preference for foreign curricula that were not culturally relevant to the country. This perhaps laid the foundation for the dysfunctional vocational and technical education in the country today.

Udida, Ebuara, Ozurumba & Ude (2007) observed that conscious planning of a system of technical education in Nigeria started in 1946, when it was given a major place in the Ten-Year Plan for Development. Prior to this period, Okolocha and Baba (2016) reported that Yaba Higher College was officially opened on January 19, 1934 and later became the first vocational and technical institute in 1948. According to Mamman, et al (2013), the motive behind the establishment of this institution was to train artisans, craftsmen and technicians together with teachers of technical education to teach in trade centres. Other technical institutions established thereafter by regional governments in various parts of Nigeria include Enugu (1950), Ilorin

(1951), Kano (1953), Bukuru (1953), Sapele (1955), Ijebu Ode (1959) Osogbo and Oyo (1961), Owo(1963), Aba(1964) and Abakaliki (1966).

The Ashby Commission Report of 1960 placed more emphasis on the importance of technical and commercial education and that it should be a compulsory part of the primary and secondary school curriculum so that children would develop an appreciation of manual and skilled labour (Taiwo, 1980). Other recommendations of Ashby Commission include the following:

- Adequate attention for technical and vocational education
- Encouragement to be given to students studying technical drawing and craft subjects
- Technical schools to be upgraded in order to award City and Guilds London Certificate.

Akanbi (2017) indicated that this recommendation led to the establishment of a number of comprehensive high schools; however, these schools soon reverted to more traditional grammar- focused education systems due to financial constraints for proper monitoring.

One event that changed educational landscape in Nigeria was the 1969 Curriculum Conference sponsored by the Nigerian Education Research Council (NERC) that witnessed the emergence of the first articulated philosophy for Nigerian education. Thereafter, at the end of the civil war in the country, the Federal and State Ministries of Education formed a new body named National Council on Education. It was during the meeting of the National Council on Education held on December 1972 that a decision was taken to organize a seminar to make proposals for a National Policy on Education. The meeting held in 1973 gave birth to the National Policy of Education in 1977 which was meant to harmonize educational practices in Nigeria.

The National Policy has been revised several times but suffices to say that it provided the basis for the structure of 6-3-3-4 system of education with effect from 1982/1983 school year. This Policy made adequate provision for a more technical and technologically oriented education system. Prior to the publication of the National Policy, the Federal Government introduced as from September 1979, a Universal Primary Education followed by its extension to include the junior secondary schools. Nwabam & Eze, (2017) observed that the introduction of the 6-3-3-4 system of education, which in 2008 was reformed to 9-3-4 system, was meant to address the problem of secondary school leavers without saleable skills. The policy gave legal framework to the 6-3-3-4 system of education in Nigeria where a child is expected to spend six years before entering into junior secondary school (JSS). After three years in Junior Secondary Schools, students who are academically delinquent are encouraged to opt for an apprenticeship system or any other scheme for out-of-school vocational training while the SSS is reserved for able and willing students to have a complete six-year secondary education.

The goals of VTE, as enumerated by NPE (2013:30-31), shall be to:

i. Provide trained manpower in the applied sciences, technology and business particularly at craft, advanced craft and technical levels.
ii. Provide the technical knowledge and vocational skills necessary for agricultural, commercial and economic development.
iii. Give training and impart the necessary skills to individual who shall be self-reliant

economically.

The constant review of the NPE by the Federal Government to strengthen VTE is in recognition of VTE as a veritable tool for reducing unemployment and equipping its citizens with saleable skills. The next section will examine the concept of VTE.

3. Concept of vocational and technical education (VTE)

Both terminologies that is, Vocational and Technical Education appear inseparable since they provide practical and tangible ways in helping to provide one rewarding learning experience. Marfo (2017) observed that programmes that focus on skill-based-education are viewed by many as a fallback plan for those who failed academically. For this reason, vocational education tends to have bad reputation for academic challenge and legitimacy than technical education, with more visible academic components. However, both are receiving enormous attention as the need for highly trained workers continues to climb. Moustafa (2010) postulates that many educators hardly differentiate between the terms technical and vocational education while society has been made to believe that vocational education is for those who are unfit intellectually to pursue technical academic programmes.

The 2014 revised edition of the National Policy on Education defines VTE 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 acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life. TVE is further understood to be:

a) An integral part of general education;
b) A means of preparing for occupational fields and for effective participation in the world of work;
c) An aspect of lifelong learning and a preparation for responsible citizenship;
d) An instrument for promoting environmentally sound sustainable development;
e) A method of alleviating poverty (p. 43).

United Nations Scientific and Cultural Organisation (UNESCO) and the International Labor Organization (ILO), refers to TVE as “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 occupants in various sectors of economic and social life" (UNESCO and ILO, 2001). TVE is 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. Technical and vocational education is further understood to be:

a) An integral part of general education;
b) A means of preparing for occupational fields and for effective participation in the world of work;
c) An aspect of lifelong learning and a preparation for responsible citizenship;
d) An instrument of promoting environmentally sound and sustainable development;

e) A method of facilitating poverty alleviation (Source: UNESCO (GC) 2001,Global https://unevoc.unesco.org/home/TVETipedia+Glossary/filt=all/id=475.

The similarity between the definition of TVET by the Federal Government and that of UNESCO indicates that the Federal Government was guided by UNESCO in the formulation of the NPE.

Nwosu and Micah (2017) regard VTE as a conjoined term made up of Technical Education (TE) and Vocational Education (VE). They added further that it is an aspect of Nigerian educational system that provides room for vocational training, skill acquisition and adequate scientific competence. Okorocha (2012) perceives VTE as an educational training which encompasses knowledge, skills, competences, structural activities, abilities, capacities and all other structural experiences for securing jobs in various sector of the economy or even enabling one to be self-dependent by being a job creator. A single thread running through the various definitions is that VTE as an central part of the educational system has the potential of enhancing human resource development, productivity and economic development of a nation. The next section will focus on the relevance of VTE.

4. Importance of Vocational and Technical Education

The significance of VTE stems from its ability to equip recipients with saleable skills that make them job creators instead of job seekers. Murgor (2013) observed that the rising interest in technical and vocational skills acquisition is largely due to a notion that a country with better developed technical and vocational skills among the youths has higher likelihood to reduce poverty. Okolocha & Baba (2016) observed the shifting away from the general education that encourages mere acquisition of certificates to skill-based education which centers more on what one can do and the ability to apply requisite skill in real work environment. They added further that in Nigeria, the rising unemployment has helped to heighten the need for VTE. The Draft Plan of Action of African Union summarized the significance of VTE thus: In the knowledge society of the 21st Century, dominated by information and communication technology, and where labor market demands are constantly changing, providing relevant VTET programs to both boys and girls becomes necessary to promote sustainable development and attain MDG-1 of eradicating extreme poverty and hunger in Africa". (African Union, Second Decade of Education for Africa, 2006 – 2015, Draft Plan of Action, June 2006)

According to Eichhorst, et al (2012), vocational education and training is frequently perceived as the solution to improving the opportunities of youths who lack the resources, skills or motivation to continue with higher education. Almeida, Behrman, Roballo (2012) observed that by merging the initial education more closely to particular vocations and tasks demanded in the labour market, the challenge of mismatch, often seen as the real source of high degree of unemployment in developing countries like Nigeria may be curtailed. The benefits of VTE are summarized in Table 1

Table 1: Summary of benefits derivable from vocational and technical education

Benefits	Individual	Employer	Society

Short-term benefits	Employment chances Earning levels Work satisfaction Drop out less likely reduce from vocational than general disciplines (US data)	Higher productivity is expected from well trained workforce and thus Saved cost from recruiting external persons (include time for orientation and integration and the risk of employing a person not known to the company)	Saved expenses for social benefits(unemployment as a result of failed transition from education to work),
Long-term benefits	Flexibility and mobility Lifelong learning (more likely to receive additional training on the job and upgrade skills later in life)	Supply benefits(e.g., image improvement) Less turnover (no need for retraining of new workers)	Externalities from productivity gain due to better education. Increase in tax income from higher earnings

Source: Hoeckel, (2008:4) [Online].url :http://www.oecd.org/edu/skills-beyond-school/41538706.pdf

Eichhorst, et al (2012) classified VTET around the world into three, namely; (i) school-based, (ii) a dual-apprenticeship system combining school training with firm-based approach and (iii) informal based. Attempts will be made in the next section to focus on VTET frameworks in industrialized countries with specific reference to China and Germany and relate them with TVET system in Nigeria.

Framework for TVET

Figure 2 represents the TVET system in China

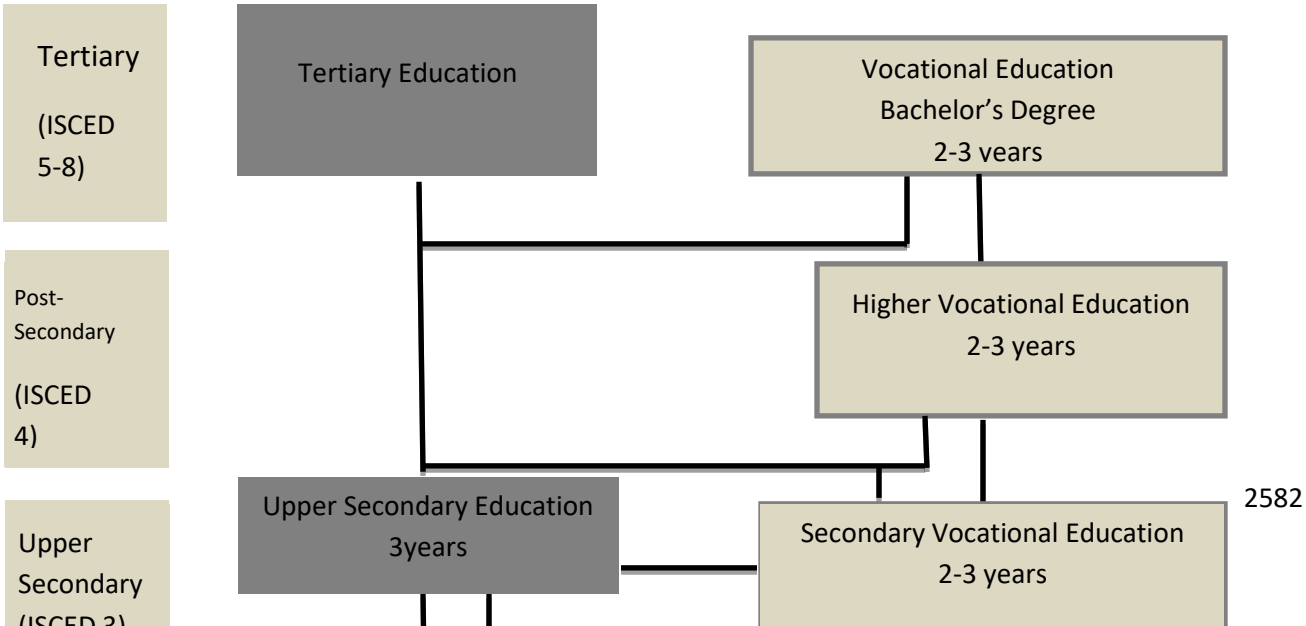


Figure 2: TVET in the Chinese Education System

Source: UNESCO-UNEVOC International Centre (2018)

In China the concept of quality education and the implementation of TVET policy have been emphasized, so that now there is hardly a Chinese person who does not have practical skills in one area or another Zheng and Lu (2015).

Germany is one of the European nations that accept learning on the job is a traditional component of the educational system. All vocational training is aimed at imparting comprehensive professional competence in the occupation. Vocational Training in Germany is guided not only by the requirements of the labour market, but also by the need for individuals to acquire skills, knowledge, and competences that enable them successfully to prove themselves on the labour market. Training programmes are designed on the principle that they should be as broad as possible and as specific as necessary. It is estimated that 60% of each year's students prefer professional education. In addition, up to 70% of them again fall into the merging system while the remaining part of the students completes a full-time school-based education at vocational training centres. This system of VTE is called dual system because the training takes place in two learning phases, that is, at a business oriented and at the vocational school. The statutory requirement for mandatory requirement for schooling in Germany begins as a template at the age of 6 and lasts (depending on the Federal State) 9-10 years. After four years of basic school, the students decide on secondary school within the general three-tier of school system:

- The gymnasium, which demanding curriculum is oriented at the acquisition of the general entitlement to study at universities

- The middle school (Realschule), which curriculum leads to obtaining the middle school certificate which enables broad general educational and vocational preparation qualifications, and
- The secondary modern school (Hauptschule) which is customized for students with practical skills or interests and leads to the secondary school leaving certificate (e.g., introduces to the world of labour)

Training centres in the German dual vocational training system are classified into three, namely; training centre (enterprise), training center (vocational school) and inter-company training centers. In the Training Center (enterprise) trainees usually spend 3-4 days a week at a company providing vocational training where they are groomed in practice on the basis of training plan according to the provisions of the training regulations prepared with regard to the corresponding profession. The training regulations regulate the duration of training, describe the job and determine the requirements for examinations. The characteristic feature of this type of education is the learning of the required professional experience connected with the transfer of knowledge and skills. During the training the trainees receives remuneration which increases yearly and amounts at the average of one-third of the starting salary of a qualified worker. In 2009/2010 the average monthly educational remuneration (gross) in the first year amounted to 532, 97 €, in the second year it was 590, 39€ and in the third educational year, it amounted to 648, 22€.

In the Training Centre (vocational school) the practical education is supplemented with the theoretical course at vocational schools where students study about 12 hours a week. The teaching takes place on specific days during the week or on blocks. In these vocational schools one third of the lessons consists of the cross-occupational learning and two thirds consist of the works related subjects according to the framework curriculum prepared for separate professions by the Conference of the Ministers of Education and Cultural Affairs for the work-related branch and by lands individually for the cross-occupational learning section.

The Intercompany training centres are necessary because it is not always possible for small and medium sized enterprise to provide complete vocational training in a recognized profession within their own range. In order to create a conducive atmosphere for the provision of vocational training for these enterprises, intercompany training centers are available. Besides, not all enterprises possess all the new technologies. Therefore, intercompany training centres offer courses related to new technologies as well as other educational events, which supplement the professional education at small and medium-sized enterprises. These training activities supplementing the application within the three year period of training in crafts, as a rule, last four to six weeks, and in the construction industry they last 26 weeks.

The importance of VTE in China as the bedrock of her development is indicated in the TVET system in Figure 2. Figure 2 reveals that as in Nigeria, the first 9 years of formal education in China is compulsory. However, unlike in Nigeria, after the first 6 years of primary education, a student can either be placed in the Lower Secondary Education or Primary Vocational Education where such student spends 3 years or 2-3 years respectively. Next to this is the Upper Secondary classified into two, namely: Upper Secondary Education (3years) and

Secondary Vocational Education (2-3 years). The secondary vocational education is the equivalent of the Technical College in Nigeria. Next is the tertiary education for those in pursuit of general education while secondary vocational education graduates move to higher vocational education for 2 to 3 years. However, those in higher secondary education have the choice of moving to tertiary education or higher vocational education (2-3 years). Graduates from higher vocational education can proceed to Vocational Education Bachelor's Degree programmes for 2 to 3 years.

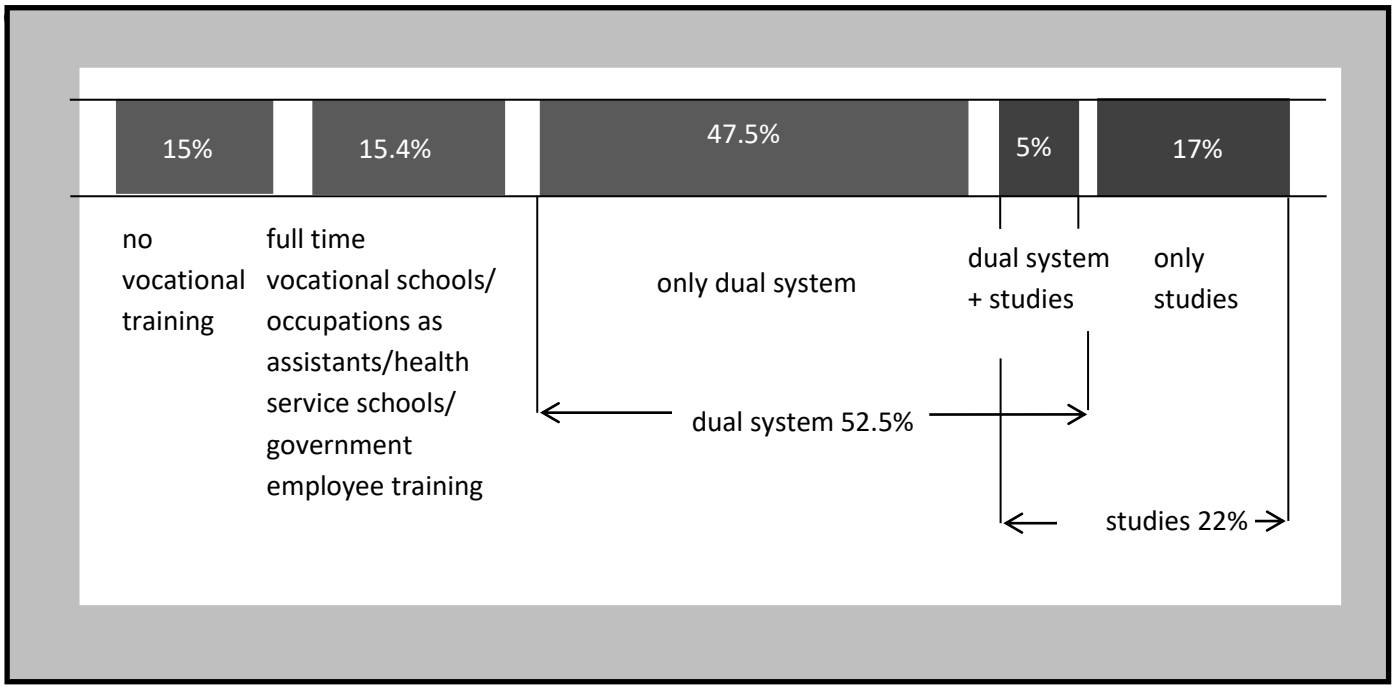
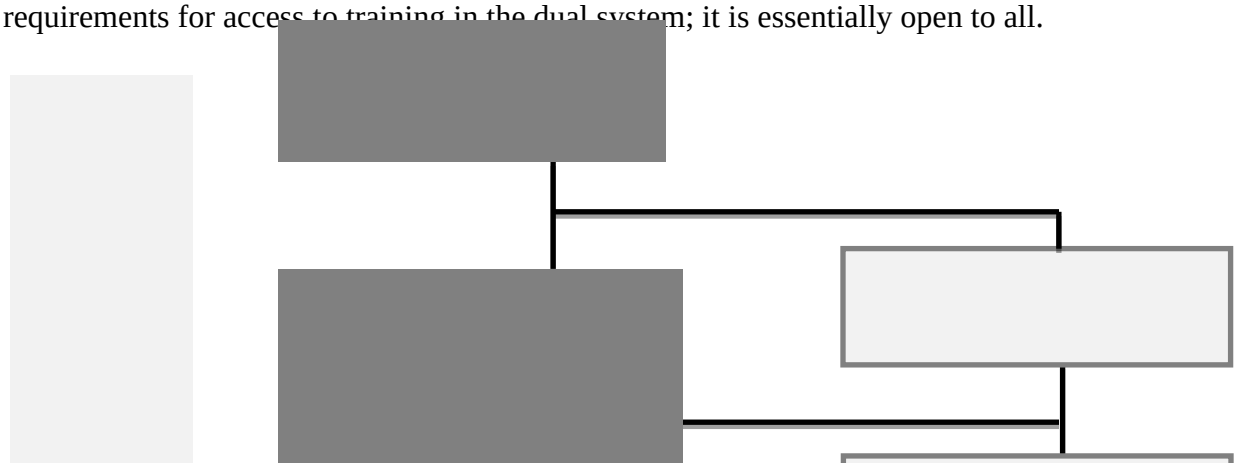


Figure 3: Cohort structure by type of qualification in Germany

Source: Schaubilder zur Berufsbildung, BIBB, 2006

The aim of training in this kind of dual system is to provide, in a well-ordered training programme, broadly basic vocational training and the qualification and competences required to practice an occupation as a skilled worker in a changing world of work. Successful finishing of the entire programme entitles the trainees to practice the occupation as a qualified skilled worker in any of the recognized training occupations. Compulsory full-time education must have been completed by the time of commencement of vocational training, There are no further requirements for access to training in the dual system; it is essentially open to all.



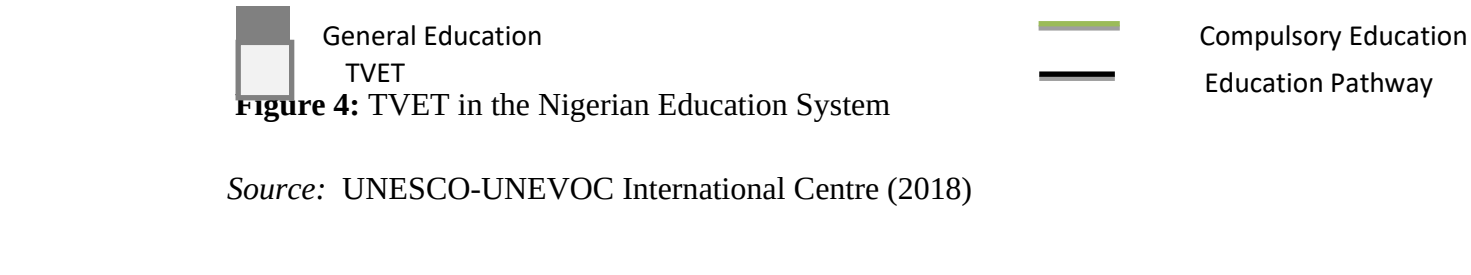


Figure 4: TVET in the Nigerian Education System

Source: UNESCO-UNEVOC International Centre (2018)

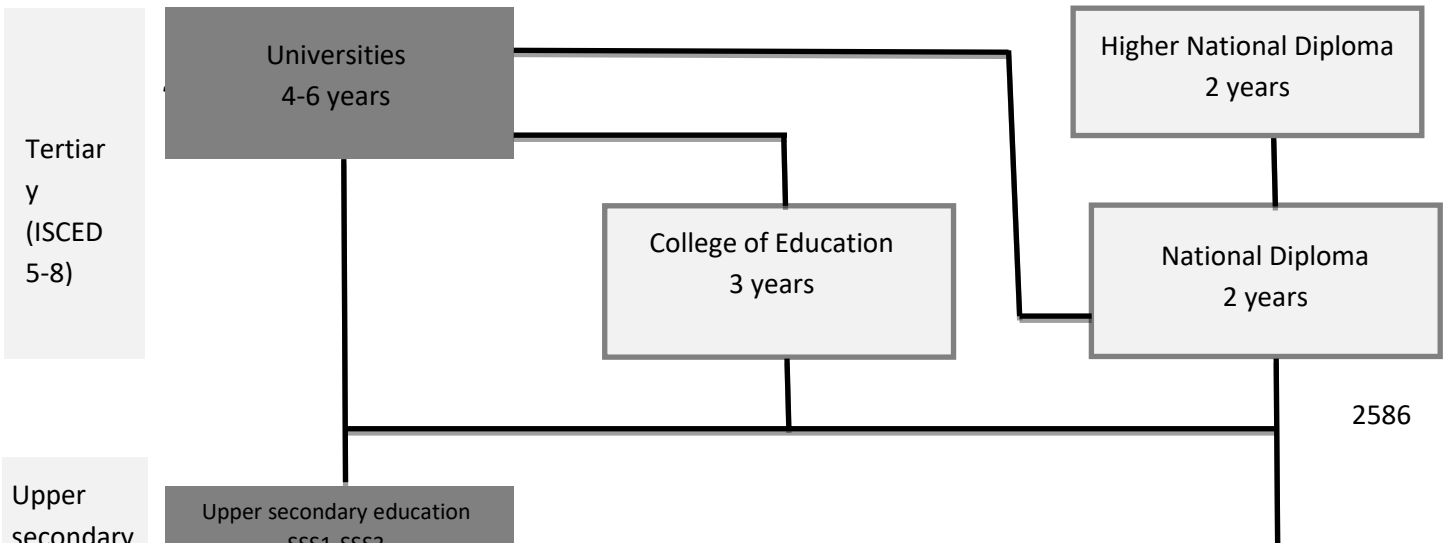


Figure 5: Current VTE in the Nigerian Education System
Source: Author (2021)

It is observed from Figures 2 and 5 that unlike in China where distinction between general education and VTE is made after primary education (6years), such distinction occurs after Junior Secondary Education, (9 years) in Nigeria where students are exposed to Basic Technology. In Nigeria it is mandatory for all students to sit for Basic Education Certificate Examination (BECE). Their performances in BECE determine their placements in General Education and VTE. Those that perform well in BECE take another placement examination to determine their areas of interest, namely; sciences, arts or commercial subjects. While students with poor performance in BECE are expected to go to technical colleges, the reality is that this hardly happens since most parents want their children to acquire university education.

An examination of VTE system in Figure 4 as recommended for Nigeria by UNESCO contrasts sharply with that of China as indicated in Figure 2. The Chinese TVE system not only reveals its simplicity but its functionality as well. When the VTE system recommended for Nigeria (Figure 4) is compared with actual VTE system in Nigeria, that is, Figure 5, a wide disparity exists. This is due to the wide gap between policy formulations and implementation that characterizes policy-related issues in Nigeria. In addition, the Chinese VTE allows dichotomy between general education and VTE after primary school, the Nigerian VTE system does not allow for such until after JSS 3. The advantage of introducing pupils to VTE immediately after

primary education lies in the early identification of their skills that determine their areas of interest. Through this approach, the population of juveniles roaming the streets as social miscreants without saleable skills will be reduced. One of the advantages of VTE is that it allows recipient to release his innate potentials in order to be independent or gainfully employed in the critical sectors of the economy where technological skills are required.

The observation of frameworks for VTE system in Nigeria, China and Germany reveals a well-documented policy on VTE. However, unlike in Nigeria, China and Germany appear to have done very well in their implementation of VTE policy. The problem of a gap between policy and implementation of VTE in Nigeria is captured in the observation of the Presidential Task Team on Education that moving from policy documents to on-the ground implementation has always been the bane of successive administrations, (FRN,2017, p.11). Another observable difference is that placement of students in VTE institutions in China and Germany starts at an early stage. For instance, in China after the initial six years of acquiring primary education, students are placed on VTE or General Education depending on their abilities, but in Nigeria, it is after nine years. Even then, most Nigerian parents general education which is a path to university education irrespective of their children's ability. This is premised on the perception among most Nigerians that VTE is a second option for dropouts from general education. This is diametrically opposite to situation in China and Germany where VTE is emphasized as a precursor for technological advancement. The synergy between the industry and Vocational Training Centres in both China and Germany typifies a good example of cooperation that promotes VTE. Through such cooperation, training of students is purposely directed towards the needs of the industry thereby reducing employment of TVE students upon the completion of their programmes.

One of the banes of Nigerian education is absolute disregard for the manpower requirements in the industry; a situation that leads to production of generalists without saleable skills. The importance of VTE is evident in the quest for Nigerian undergraduates to take advantage of prolonged closure of schools by enrolling in different vocational trainings. A research conducted by United Nations International Children Emergency Fund in 2018 (UNICEF) shows that the out of school children's population in Nigeria has risen from 10.5 million to 13.2 million, the highest in the world. Greater percentage of these school children can be made productive through VTE. For example, the apprenticeship programme in the informal sector can be integrated into the VTE to boost its recognition. Through this programme some of these children can acquire saleable skills that would make them to be productive. It is quite obvious that VTE in Nigeria is bedeviled with serious challenges which will be the focus of discussion in the next section.

With the huge population of redundant persons in the country, reorganization of the informal vocational education sector could make it more attractive. This could be through open recognition of apprenticeship programmes and establishment of entrepreneurship centres in all the 774 local governments in the country. In addition, daily stipends has to be set aside for the entire apprentice along with their instructors. Through this scheme, the unemployed youths

would acquire saleable skills and be made productive through their meaningful contributions towards the economy. This is the usual practice in Germany as a good example worthy of emulation instead of the various youth empowerment programmes that have failed to address the problem of unemployment.

In Nigeria, the philosophy behind the introduction of trade subjects is that, every senior secondary school graduate should have been well tutored for higher education as well as acquired necessary functional trade/entrepreneurship skills needed for poverty eradication, job creation and wealth generation. Okoye and Ogunleye (2015) asserted that these trade/entrepreneurship subjects are vocational and technological and skill oriented subjects aimed at equipping the learners with manipulative skills which can enable them to be self-employed and self-reliant, thus reducing the challenge of unemployment in the country. These subjects are designed to be practical oriented with entrepreneurial components and require a lot of practice.

It is however observed that as laudable as this policy appears, its implementation is defective. For instance, there is no uniformity in the choice of vocational/ trade subjects among secondary schools in Nigeria. This implies that each secondary school chooses a trade subject that is most convenient based on its peculiarities. Consequently, it limits the choice of trade subjects available for the students. In addition, one of the constraints to instructional delivery of trade subjects is that it emphasizes theory instead of practical, a development which makes vocational and technical education unattractive to secondary school leavers. The government must ensure adequate provision of resources for trade subject at this level of education. Acquisition of practical experience by students requires a synergy between the manufacturing industry and secondary schools. Through this approach the training of VTE students will be geared towards the manpower requirements of the employers of labour.

Constraints to Vocational and Technical Education in Nigeria

Akanbi and Abiolu (2018) observed that one important perennial issue to note is that formulation of excellent policies in Nigeria has never been a problem, but oftentimes, they are bedeviled by poor implementation or lack of adequate preparation for its take-off, review, among others, some of which was lacking in the National Policy on Education. They observed that one of the things that went wrong was that the 6-3-3-4 was being operated as a skeletal structure as it fails to address more fundamental education issues contained in the policy such as:

a. Language of instruction in the early years of the schooling.
b. Learner-centered pedagogy.
c. Student Guidance and Counselling
d. Systematic Learning Assessment
e. Teaching for mastery
f. Diversification of curricula
g. Minimum qualification level for teachers
h. Modification of structure of tertiary education
i. Integrating the non-formal component of education

j. Religious, ethical and moral values in education;
k. Systematic monitoring of the system (FRN,2011: 16-17)

They added that without addressing effectively and urgently the issues above and with all sincerity of purpose, "the children will pass through the school without the school also passing through them"; implying they would not be functional despite the fact that they have been certified. Kadiri (2010) states that: noble policies or resolutions mean nothing without implementation. How can one measure the progress of what is not implemented?. This is to support the observation that there is a robust policy on VTE, but implementation has been a major problem.

Although vocational and technical education is recognized to be the panacea to the myriads of problems confronting educational system in Nigeria, this kind of education is plagued with plethora of challenges such as:

Funding: The peculiarities of Vocational and Technical Education make it capital intensive. This is because of the specialized nature of the various resources that are utilized for effective and efficient delivery of instruction in this type of education. For instance, VTE requires a lot of money for the purchase of equipment, machines, tools, infrastructure, personnel and materials that are required for effective instructional delivery. However, researches have indicated that government at various levels have not made adequate fund available for the implementation of the VTE in Nigeria (Ayeni, 2005 and Yakubu 2002). According to Ayeni (2005), the underfunding of vocational and technical education in Nigeria has resulted in the production of half-baked graduates of technical institutions armed with certificates, but virtually no skills. Akanbi (2017) observed that the highest budgetary allocation to education in Nigeria in this 21st Century has been 10.4% in 2006. Akanbi and Abiolu (2018) added that unfortunately, the allocations are spent not invested; this is because much of it is used up by recurrent expenditure.

Curriculum: The curricula of vocational and technical education have not been developed to meet up with the current societal demands. According to Ayeni (2005), VTE tends to produce more of those who lack job skills for employment than those the economy requires to remain vibrant. It is quite unfortunate to note that the curricula of VTE do not provide students with enough technical skills for entrepreneurship but provide them with more in-depth knowledge in the theory of the profession. To this end, Obanya (2002) opined that there is need to address the issue of redesigning VTE programmes in Nigeria to meet our commitments in creating workshop instructional stimulations that are relevant to the practice of industrial and commercial activities for viable business engagement.

Akanbi and Abiolu (2018) observed that another thing that went wrong was that vocational and technical subjects are treated in pure science content, arrangement and methodology, even agriculture and this is a colonial legacy. The curriculum of a subject with practical content is generally organized into an average of 67% for the theoretical classes and 33% for laboratory. Ojimba (2012) noted that one of the issues confronting the design of appropriate curriculum for technical education is preparing student for the shift from the florist to

ICT paradigm in technology practice. Bisalla and Adeyemi (2016) identified some of the inherent problems in curricular as including:

i. They are based on foreign model.
ii. Lack of basic textbooks and available ones are illustrated with examples from local environment.
iii. There is usually a shortage of highly competent indigenous teaching and support staff with sufficiently wide experience of technology.
iv. The curricular are adjudged to be too academic and overloaded with intellectual content in pure science and mathematics at the expense of basic engineering and technology.
v. The teaching approach follows the conventional method of transferring knowledge across through the lecturer reading out to students, who would then take down notes. The educational system continues to place considerable value on this method of teaching.

Most recipients of VTE are on the streets in search of jobs because they lack the necessary skills required to be self-employed as a result of poor industrial training. According to Yakubu (2002), VTE students no longer possess the necessary skills through industrial training as a result of the failure of industry-based supervisors to assist in developing the right attitudes in trainees. This implies deficiency in the industrial training through which they would have acquired such skills.

Physical facilities: The state of facilities and teaching aids in the technical institutions and secondary schools is nothing to write home about. Apart from the fact that workshops, laboratories and classrooms in many technical colleges and secondary schools are grossly inadequate, where the workshops, laboratories are available, they are bereft of functional essential basic tools, equipment and materials (Imarhiagbe, 2002). In a similar vein, Ayeni (2005) and Yakubu (2002) identified lack of tools and equipment, gross inadequacy of available machines, lack of textbooks and writing materials as problems which militate against vocational and technical education. These have made the teaching of vocational and technical subjects and courses more theoretical than practical, a development which makes many of the recipients of such courses unfit for the jobs they were trained for.

Staffing: The effective delivery of vocational and technical education will to a large extent depend on the availability of qualified, skilled and motivated teachers who will equip the graduates with the knowledge, skills and values required for the technological transformation of the country. However, there are various personnel problems in the implementation of vocational and technical education in Nigeria. Some of these problems according to Anakobe (2002) include shortage of qualified and skilled teachers to handle vocational and technical subjects, inadequate motivation and attractive conditions of service for the serving teachers and recruitment of non-qualified personnel to handle the subjects. These problems are inimical to the production of competent graduates in vocational and technical education disciplines who could make meaningful contributions to the technological and industrial development of Nigeria.

Societal perception: There is public apathy towards vocational and technical education in Nigeria as more recognition is given to graduates of universities to the detriment of graduates of technical colleges and polytechnics (Irmarhiagbe 2002). The society looks down on technicians and skilled craftsmen. The public apathy towards vocational and technical education is also manifested in low enrolment in the disciplines in secondary schools and technical colleges. Moreover, many parents discourage their children and frustrate their interest in vocational and technical subjects and courses while they encourage them to enroll for lucrative subjects and courses. In a related development, because of the preference for white-collar jobs, many students do not like to offer vocational and technical education subjects and courses.

Structural problems: The structure of vocational and technical education has some problems. For instance, Okoro (2004) found some discontinuities in the vocational and technical education programmes such as non-articulation of vocational programmes in the technical colleges with the technical programmes in the polytechnics. Olaitan and Famiwole (2006) also identified some of the problems inherent in the structure of vocational and technical education. These include lack of understanding of movement by the recipient from one stratum to the other, non-inclusion of technical subjects in JAMB entry qualifications and the products of the technical colleges flow into the job market directly because of their limitations in basic sciences, and the structure not being specific in the training of technical teachers at the university among others.

Apathy of political office holders and legislature: There is no other way of demonstrating apathy towards vocational and technical education in Nigeria other than the existing discriminatory disposition of government towards graduates of technical institutions. Up till today, there is disparity in the placement of HND graduates and university graduates. Technical educators have the greatest challenge of convincing the law makers on why they should give priority to the programme in the allocation of resources (Bisalla & Adeyemi, 2016).

Conclusion

Attempt has been made to survey the state of VTE in Nigeria. Although the government has incorporated VTE into the National Policy on Education, with the policy documents subjected to series of revisions, yet they have not translated to improvement in the quality of VTE. The National Policy on VTE is at best a paper Tiger that has failed to transform VTE from its pedestrian state to an enviable status to attract students. With the myriads of problems confronting this system of education in Nigeria, it is not out of place to regard this system of education as endangered. The following recommendations are made to tackle the challenges of VTE based on identified problems:

1. Government to enforce the implementation of National Policy on VTE.
2. Government must incentify VTE to make it more attractive'
3. Informal apprenticeship programmes must be integrated into VTE.

4. Students under the apprenticeship programme must be placed on stipend to encourage them to stay on the programme,
5. There must be a synergy between the organized private sector and VTE institutions to ensure production of graduates with relevant skills required in the industry.
6. VTE must be adequately funded

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Consent

As per international standard or university standard, study was written, patient consent has been collected and preserved by the authors.

Competing Interests

Authors have declared that no competing interests exist.

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