

Quality Assurance in Technical Vocational Education (TVE) for Sustainable National Development in the 21st Century.

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Abstract: *The need for TVE is increasing as a result of so many factors: technological advancement, globalization process, knowledge economy, changes in modes of production in the work place, growing economic openness and competitiveness. TVE is very vital to the sustenance of technological development of every nation in the present 21st century. For Nigeria to become developed greater emphasis must be placed on technology education in order to improve on its quality for sustainable national development. This paper discussed extensively on quality assurance on TVE for sustainable national development in the 21st century. The paper highlights on the concept of TVE and discusses on the status of TVE in Nigeria. Issues on sustainable development and rationale for enhancing the quality of TVE in Nigeria in the 21st century were explained. Conclusions were drawn and recommendations made amongst which are that: Government should introduce sustainable financing scheme for TVE and increase the percentage of total expenditure on education to TVE and also grant financial aids to trainees who are interested in pursuing TVE programs at whatever level and also the involvement of major Nigerian stakeholders in the provision of workshop tools, equipment and other infrastructural facilities for TVE graduates skills acquisition for sustainable national development.*

Keywords: *Quality Assurance; Technical Vocational Education; Sustainable Development; 21st Century.*

I. Introduction

Technical Vocational Education (TVE) has been recognized the world over as an instrument for empowering people, especially the youth, for sustainable livelihood, social-economic and industrial development. The United Nations Educational Scientific and Cultural Organization (UNESCO, 2008) recommendations on TVE for the 21st century, termed TVE as those aspects of education 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 the economic and social life. TVE is further understood to be:

- An integral part of general education;
- A means of preparing for occupational fields and for effective participation in the world of work;
- An aspect of lifelong learning and a preparation for responsible citizenship;
- An instrument for promoting environmentally sound suitable development
- A method of alleviating poverty

The overriding aims of TVE in Nigeria according Federal Republic of Nigeria (FRN) in the National Policy on Education (NPE) (FRN, 2004:29) are 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 necessary skills to individual who shall be self-reliant economically.

The development of TVE is vital to economic development for two important reasons. First, TVE is needed for enterprise productivity and profitability, as well as for national productivity and wealth creation. Without the necessary technical skills, enterprise and national growth can be seriously affected. Technological innovation and economic growth increases the demand for skilled workers. The need for TVE is increasing as a result of so many factors: technological advancement, globalization process, knowledge economy, changes in modes of production in the work place, growing economic openness and competitiveness. The second reason for the development of TVE is because it is essential for individual prosperity. Acquisition of skills in TVE enables the individual to increase productivity and income. This is especially important for those who are seeking out a living in the informal sector of the economy. Today in Nigeria, population growth, urbanization; poverty and lack of income generating capacity and failure of graduates from schools system to secure employment clearly

highlights the importance of career development which is achievable through TVE. To enable those still in post-secondary schools to be relevant to the world of work as well as to draw the majority of jobless people out of the unemployment market, there is need to reposition TVE as the best means to improve economic opportunities for the teeming youths which will eventually enhance economic and sustainable national development of Nigeria (Yusuff & Soyemi, 2012).

II. Conceptual Definition of Technical Vocational Education

Technical vocational education is defined according to Akerele (2007) as that aspect of education that exposes the learner to the acquisition of demonstrable skills that could be transformed into economic benefits. Oni (2007) is of the view that TVE is that type of education which fits the individual for gainful employment in recognized career as semi-skilled workers or technicians or sub-professionals. According to Maclean & Wilson (2009) TVE is concerned with the acquisition of skills and knowledge for employment and sustainable livelihood. It is a planned program of courses and learning experiences that begins with exploration of career options, supports basic academic and life skills, and enables achievement of high academic standards, leadership, preparation for industry-defined work, and advanced and continuing education. TVE is very vital to the sustenance of technological development of every nation. TVE is described as the academic and vocational preparation of students for jobs involving applied science and modern technology

The primary objective of all TVE programs is the acquisition of skills and attitudes for gainful employment in a specific occupation or professional area. The need to link training in TVE to employment either self or paid employment is at the base of all the best practices and approaches observed throughout the world especially in the 21st century. One of the most significant aspects of TVE is its inclination towards the world of work and the emphasis of the curriculum on the acquisition of employable skills. TVE delivery systems are therefore; well placed to train the skilled workforces that the nation needs to create employment for the youth in order for them to become productive and contribute to the development of their society and the nation at large.

2.1 Status of Technical Vocational Education in Nigeria

In Nigeria, TVE is a type of education or training designed for preparing the individual to earn a living (employed, self-employed or an employer of labor). A cursory look at the FRN in NPE (FRN, 2004) aims of TVE amongst others show the rationale for government attention and assistance to the skill-oriented education. In addition to TVE providing skilled manpower for sustainable national development, TVE has contributed greatly to economic development through access to diverse income areas and improving the standard of living of the generality of the people, supporting foreign investment and generally changing attitudes of people (Adebambo, 2007). Before independence, the system of TVE in Nigeria was the continuation of the colonial system. Much of what goes into TVE was structured after the apprenticeship system. TVE was first brought into the mainstream of Nigerian education through the establishment of the Yaba Higher College in 1932 and some other trade centers. After independence, the number of technical schools and student enrollment increased, but unfortunately it was not followed by the provision of facilities for workshop practice. At this time, TVE was developed based on creating a balance between manpower needs for supplying industrial expansion and educational aspiration of the Nigerian nation. Review of the recommendation of the Ashby commission of 1960 shows that TVE was further degraded by putting it below university education, awarding city and guilds certificate as oppose to university certificate and by not providing training for TVE teachers (Onyene, *eta'l.*, 2007).

However, the 6-3-3-4 system of education was launched to correct all the anomalies and emphasize more on skill-oriented education. The NPE recommended that at the end of the three years in junior secondary education, some students will proceed to senior secondary schools and some to technical schools based on their performance. The objective of this is to integrate TVE with the general education. Also the National Board for Technical Education (NBTE) was approved in 1987 to examine and certify the students in technical schools and award certificate that is equivalent to the Senior Secondary School Certificate (SSSC). In spite of all these, TVE is still lagging behind (Onyene, *eta'l.*, 2007).

Adebambo (2007) observed that in the past, the effort to promote TVE have neglected the provision of trained instructors or teachers. He recalled that the National Teachers Training Certification (NTTC) was necessitated to meet the demand for technology teachers in various technological institutions and training schools. The focus then was on how to teach and what not to teach. This led to the introduction of the Nigerian Certificate in Education Technical (NCET) program. This has more content on what to teach and a little about how to teach. Similarly, in the past, TVE teachers were sent abroad for training because of the high cost it was stopped. In recent times, they are trained through the Technical Teachers Training Program (TTTTP) the resultant effect has been a shortage of teaching personnel in the technological institutions. To compound the problem, the NPE just like the Ashby commission recommendation ignored the issue of production of TVE

teachers. Awakuna (2006) affirms that the problem of production of TVE teachers has resulted in their scarcity which is one of the problems in TVE in Nigeria.

It was also observed by Aina (Agbolade, 2007) that low government support in terms of insufficient funding of the training program has not helped the TVE teachers, hence their inadequacy in the technology institutions. Whilst the problem of insufficient TVE teachers exists in the country generally, a study carried out in one of the Federal Colleges of Education (Technical) by Onyeneeta 'l (2007) revealed that the TVE teachers are qualified but fairly sufficient in the quantity needed. Another study by Kalejaye (2007) indicated that the present day TVE teachers are good in theory but poor in practice. In the same vein, Ashaye (2007) countered this in his own study which revealed that technical teachers have practical knowledge but are impeded by lack of appropriate instructional resources.

TVE in Nigeria has encountered a lot of problems during its developmental stage and up-till the present 21st century. Amongst these is the problem of inadequate provision of instructional materials, tools and equipment. Specialists in the field of TVE have expressed the need for adequate physical, human and financial resources to effectively implement a TVE based curriculum. Akaninwor (2001) in his study traced the technological backwardness in the country to insufficient infrastructure and equipment for technology institutions. Puyate (2001) is of the view that instructional facilities should be looked at vis-à-vis the curriculum in order to make TVE effective. He emphasized a TVE curriculum that will meet the present needs and the demands of the society in the present 21st century. Supporting his view, Aghenta (Onyene, *eta'l*, 2007) affirms that the TVE curriculum should be based on occupation and manpower needs of the country in order to avoid irrelevant courses and time wastage. There is the need for government to place greater emphasis on TVE for individuals to acquire skills and be gainfully employed in industries or other related organizations or become self-employed, so that they become productive and contribute to the socio-economic development of the nation. Another problem of TVE in Nigeria is that of public perception as education for the low status and the unintelligent (Nwokomah, 2005). This stems from the low image of 'blue-collar' jobs which TVE offers. Prior and after independence, the Nigerian education system prepared students for basic 'white collar' jobs. Over time, the scarcity of jobs led to high unemployment rate and also a high level of poverty in the country that proved to be expensive for the nation (Moja, 2000; Ebong & Leigh, 2006). The Nigerian society erroneously believes that those who are not academically inclined study TVE courses. It is for this reason that most parents are not willing to encourage their wards to study TVE courses. The fact remains that most parents are apt to want an academic education for their children, whether or not graduates increasingly finds it difficult to get jobs or not. They do not want their children to go to schools for the purpose of becoming bricklayers, carpenters, mechanics to mention but a few (Nwokomah, 2005).

It is the aspiration of every parent that his ward makes it to the university. That does not mean that they have anything against bricklayers and mechanics. Far from that, but the intention is that their own children get the higher certificates and degrees first, so that they too can be something when the opportunity arise (Nwokomah, 2005). The urge for certificates and degrees in preference to TVE stems from the fact that when it comes to political appointments, leadership positions and decision making, degree holders in different fields are favored most than their counterparts with technical vocational skills acquired through TVE.

III. Concept of Quality Assurance (QA)

Quality Assurance (QA) more like academic terms has varying meaning. QA is a mechanism that lays down exactly how the process in the system should be followed and the standards to be achieved (Juran, 2002). QA can also be defined as an in-built mechanism to ensure the quality of the end-product while being processed (Baso, 2011). Harvey (Wokocha & Nwokeocha, 2011) identified five different approaches to defining quality, which are as follows:

- in terms of exceptional (exceeding high standards and passing a required standard);
- in terms of consistency (exhibited through “zero defects” and “getting it right the first time”, making quality a culture);
- as fitness for purpose (meaning the product or service meets the stated purpose, customer specifications and satisfaction);
- as value for money (through efficiency and effectiveness); and
- as transformative (in terms of qualitative change).

Consequently, quality could be seen as absolute, relative, a process and as a culture. Quality is therefore, a relative term. It ranges from meaning “standard” to “excellence”. Both are rooted in their respective values operationalized in individual, institutional, and national practice”.

Cloete (Onocha (2002:62) recalls that the definition of Quality Assurance is classified into three different concepts namely:

- Quality as something exceptional – This is the traditional conception, which regards quality as

exclusive, distinctive and intuitively recognizable. It refers to excellence, a high standard of attainment by exceptional students and staff.

- Quality as efficient production – This is based on practice in industry, disregards absolute standards but settles for relative „specifications“. Thus quality products are one with “zero defects”. A relative conception is quality as „fitness for purpose, that is, the extent to which a product or service meets the designer and customer specifications.
- Quality as transformation – This is an approach that adds value to the abilities of students, regardless of initial levels.

Onocha however chose to see Quality Assurance as “the level of excellence in performance on the strength of the quality of the context, inputs, processes/transactions and outputs/outcomes of education. After considering the plethora of definitions of Quality Assurance, this paper adopts the view that QA in relation to TVE as discussed in this paper is about “fitness for purpose”. That is, QA refers to all measures that are necessary to ensure that TVE accomplishes the goals expected of it by the Nigerian society.

IV. Issues on Sustainable Development

The development of any nation is usually based on the degree and the extent of sociocultural, socioeconomic, political and industrial development that are brought to bear through the enterprises of science and technology. According to UNESCO (2004) sustainable development is not a fixed concept; rather it is a culturally directed search for a dynamic balance in the relationships between social, economic and natural systems, a balance that seeks to promote equity between the present and the future, and equity between countries, races, social classes and genders. The interdependence of people and the environment requires that no single development or environmental objective be pursued to the detriment of others. The environment cannot be protected in a way that leaves half of humanity in poverty. Likewise there can be no long-term development on a depleted planet. Appropriate sustainable strategies must be developed for both rich and poor nations. TVE is a major factor in ensuring that there is sustainable development in a developing country like Nigeria.

However, efforts to define exactly what sustainable development is must reflect the varying conditions in different parts of the world and their impact upon national and cultural priorities and values. For example, “to an individual living in rural poverty in the developing world, "sustainable development", if it is to make any sense, must mean increased consumption and a higher living standard. By contrast, to an individual in a wealthy country, with a closet full of clothes, a pantry full of food and a garage full of cars, "sustainable development" could mean more modest and carefully considered consumption (UNESCO, 2006).

Bajah & Fariwanta (Olorundare, 2007) stated that sustainable development leads to fulfilment of societal ideals considered relevant to the needs and aspirations of the society. Factors, which influence such developments, are based on human ability to explore, invent, and utilize. Satisfaction of spiritual, physical and material needs and the mastery of the environment are parameters of development when applied to the human society. It has been stated by several authors and scholars that the development of any nation depends very much on the advancement and application of science and technology. The role of science in the development of modern societies is not in dispute more so now that the influence of modern technological innovations is far reaching in every sphere of man's life. If Nigeria is to build an organized, self-reliant, and technologically compliant society, much emphasis has to be continually made on science and technology of which TVE is part of (Nwabueze & Ozioko, 2011).

V. Rationale for Enhancing the Quality of TVE in the 21st Century in Nigeria

The basic concern of TVE is the acquisition skills for individuals to be productive to be able to provide the goods and services required by the people in the society. Calhoun & Finch (Chikaire, *eta l.*, 2011) stated that TVE should satisfy the needs of society to fill the required positions necessary for the efficient operation of the economic system as well as the needs of individuals to find personally satisfying positions in the occupational structure. Nigeria as a nation presently has many social and economic problems to handle in the 21st century. Most Nigerians are just recovering from chronic case of negative attitude towards TVE. Nigeria is similarly just awakening from her long sleep of negligence of these aspects of education in her educational system (Apagu and Andural, 2007). The nation and her citizens are in the 21st century questioning the quantity and quality of these aspects of education in the nation's system of education and among Nigerians. Another problem necessitating the enhancement of the quality of Nigeria's TVE in this 21st century is youth unemployment which appears to be accelerating every year. According to Adefaye (2004:30):

The neglect TVE in the country has increased youth unemployment.

That in 2003, primary school leavers accounted for 14% unemployment, Secondary school leavers accounted for 53.6% while tertiary education graduates shared 12.4%. From this data on unemployment situation among school graduates, there is a clear indication that the

primary and secondary school leavers have total unemployment of 67.76%. Presently, about 75 per-cent of secondary school leavers in Nigeria do not go further in higher academic pursuit.

It is therefore, disturbing to have a situation where many youths who are most physically able to render services towards national development are highly unemployed. Rhodes (Chikaire, *eta'l.*, 2011) expressed that public education does not have the right to throw its rejects into the ranks of the unemployed in the community". Rhodes' statement implies that, public education system should find a way of making all citizens capable of contributing to the economy of the nation. If public education that is meant for everybody cannot prepare citizens for work, who else can do it? It is worth mentioning here that the problem of Nigerian youths' unemployment and lack of technological development can be reduced to a very large extent through relevant TVE programs. Unfortunately, it appears the Nigerian system of education is more interested in sieving the academically talented youths from the non-academically-talented, and then allowing the non-academically talented human resources to waste away (Apagu and Andural, 2007).

According to Tommy (Adefaye, 2005:5):

Despite the country's abundant resources, Nigeria had continued to manifest abysmal industrial performance record over the years because of the country's inability to synergize its resources to spawn an organic productive sector capable of engendering sustainable development and alleviate wide spread poverty.

Ndomi (1998) in his comment on Nigeria's state of un-industrialization stated that the nation's predicament is heavily dependent on her ability to come up with a competent and dedicated workforce. The lack of dedicated and competent workforce is Nigeria's headache and the most militating force against the nation's technological, industrial and any type of national development. TVE in the 21st century will help the nation get out of the problem of lack of appropriate manpower and low level of technological development. Obasanjo (Mamah, 2007), explains that Nigeria's current efforts at educational reforms and restructuring are aimed at emphasizing on issues such as: redesigning the curriculum, increasing funding, refocusing on monitoring and evaluation process, accountability and transparency. Nigeria's present predicament was similarly experienced long ago by USA and the country's Advisory Council on T (1968:v), explains:

TVE faces a unique challenge in the years ahead—a challenge rooted in the social and economic welfare of people. In the contemporary social scene with its large city problems, the ghettos, school dropouts, and variety of disadvantaged groups, the need for TVE stands out clearly.

Calhoun & Finch (Chikaire, *eta'l.*, 2011), in same vein emphasized that TVE through the years has been responsive to the needs of society. When geographic and occupational mobility of workers, accelerated and improved technology required a higher degree of trained skills, society turned to the schools to supply its need for trained workers. Calhoun & Finch further explain that because society currently insists that everyone leaving the public school system should have some type of occupational skill appropriate to earn a living, new importance has been attached to TVE. Nigeria therefore, stands to gain from the longstanding experience of USA. There is therefore, no doubt that the quality of Nigerian TVE needs to be enhanced and improve on by all stakeholders involved in TVE for effectiveness and sustainable national development.

VI. Conclusion

In order to achieve sustainable national social and economic development through TVE there must be collective, serious and concerted efforts and strong commitments on the part of parents/guardians, educational institutions/training providers, employers and government. Parents should support children to choose TVE track and reject the perception that TVE is for less academically endowed. Government need to increase funding to support the sector, while educational institutions need to deliver flexible and demand – driven training and employers need to contribute to the development of national skill standards. However, it must be stressed that acquisition of skills is not sufficient to bring economic national development. It is a prerequisite, but a lot more needs to be executed. Poor governance, poor economic policy, corruption have to be eradicated and adequate infrastructural facilities put in place before the much needed sustainable and economic national development can be realized.

Recommendations

In order to achieve sustainable national development through TVE the following recommendations were made:

- Government should introduce sustainable financing scheme for TVE and increase the percentage of total expenditure on education to TVE and also grant financial aids to trainees who are interested in pursuing TVE programs at whatever level. The aids could be in terms of grants, sponsorships and loans. This will in turn attract people, enhance interest and shift considerable attention to the relevance of TVE
- The general populace should be sensitive on the importance of TVE in order to enhance the status of TVE. This involves changing perception and attitudes of the public to TVE. In order to achieve this, the use of role models in TVE, the involvement of successful entrepreneurs in motivation campaigns, especially in schools and upgrading the standard of technology institutions. TVE should be seen as a valid gateway to a good job and not as a second best choice or only educational route for the less academically endowed.
- Establishing strong linkage and collaboration between training institutions and the industry. This will provide opportunities in industry for TVE teachers to regularly update their workplace experience and will also help to develop appropriate curricula that is relevant to employers' needs.
- Establishing link between formal TVE programs and non-formal technical training centres. In order to achieve this, there is need to establish a registration body that will keep a comprehensive register of practitioners and training points in the non-formal sectors, design standard programs/syllabus of training for them, work out appropriate codes of practice that will guide their activities and, as well, monitor them closely to ensure that they adhere strictly to the codes of practice.
- The task of providing TVE cannot be tackled by government alone. The involvement of major Nigerian stakeholders, complemented by partnerships with international agencies, communities, industries, religious organizations, labor unions Non-Governmental Organizations (NGOs), wealthy individuals in the society should be encouraged to fund TVE for the smooth running of TVE in terms of provision of infrastructural and workshop facilities such as tools, equipment and machines for the graduates of the programs to acquire skills that will enable them contribute effectively to the development of their society for sustainable national economic development.

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