

Challenges of technical vocational education and training (TVET) and the need for enhanced educational technology in technical schools in Nigeria

Aniah Anthony* and Mohammed Abubakar

Department of Educational Technology, Federal University of Technology, Minna, Niger State, Nigeria.

*Corresponding author. Email: anthonyaniah@futminna.edu.ng; Tel: +234 8036195385.

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ABSTRACT: The paper discussed the challenges of technical vocational education and training (TVET) and the need for enhanced educational technology in technical schools in Nigeria. Concept of TVET, forms of TVET, objective of TVET and the relevance of educational technology to technical schools were discussed in the paper. The challenges of TVET and the need for enhanced educational technology materials in technical schools as a way of exposing students to relevant knowledge and skills required to face the world of work were also discussed. Such material includes the use of video recorded packages and photography machine for training of students in order to acquire theoretical knowledge and practical skills. Recommendations were articulated in line with the title of the paper. One of such recommendations was that government and non-governmental organizations (NGOs) should show keen interest in TVET by making available fund for provision of technological facilities to enhance effective training and skill acquisition in technical schools in Nigeria. This will help to meet the target of achieving sustainable development goals and also make the graduates of technical colleges self-reliance and relevant in this era of economic depression and unemployment.

Keywords: Challenges, educational technology, technical schools, TVET.

INTRODUCTION

The impact of globalization on population explosion in the 21st century has prompted government all over the world to take renewed interest in TVET education. This is considered as an indispensable means to tackle the many challenges that the rapidly increasing number of unemployed youths are confronted with when it comes to their integration into the labour market (Maclean and Wilson, 2009). Obioma (2010) posits that a critical factor is the massive training of citizens to acquire requisite vocational, technical skills and competencies in TVET. It is on this premise that the paper sees the need for government to lay strong emphasis on TVET as a way of alleviating unemployment problem by recognizing TVET on government agenda as it is obtained in other parts of the world that have made good economic success like Italy, Brazil, China, Sweden and Japan that gave recognition to TVET through adequate funding. The

Federal Ministry of Education (2012) reported that estimated 80% of jobs taken by people globally requires technical and vocational skills. Thus, Nigeria in her National Policy on Education (2004) stated that TVET is an integral part of educational development. The policy recommended that a greater proportion of education expenditure shall continue to be devoted to vocational education at federal and state levels. The policy further stated that in recognition of the fundamental importance and cost intensive nature of TVET, government shall provide adequate funds for TVET. In the same vein, Federal Ministry Education (2012) noted that education emphasized on the development of individuals who will develop the society; thus, commitment to TVET must be strengthened as it is the master key to unlocking the future.

The concept and forms of TVET varies from one society or country to another, this can be easily seen from the

different names given to TVET, the names include vocational education and training (VET), technical and vocational education (TVE), technical vocational education and training (TVET), vocational technical education (VTE) or vocational technical education and training (VTET). All these forms of TVET focused on the same issue and have a common purpose, to equip youths with the desired relevant skills that will make them self-reliance and productive as they move into the world of work and unemployment.

TVET is the total education programme by which man learns about work. It could also be referred to as aspect of education tailored towards enhanced productivity of the labour force. Thompson (2012) defined TVET as an application of skills to support life According to UNESCO (2003) and FRN (2004), TVET is the study of technologies and related sciences as well as the acquisition of practical skills, attitudes, understanding and knowledge related to occupations in various sectors of economic and social life. TVET is essentially meant to impact knowledge and skills for increased efficiency in the world of work, enhance sustainable livelihood, personal empowerment and socio-economic development which enhances proper adjustment in knowledge economies and rapidly changing work environment. Cedefop (2008) sees TVET as vocational education and training carried out before entering working life and the education or training that come after entry into working life. He added that it is aimed at helping people to improve or update their knowledge or skills, acquire new skills for a career move or training and continue their personal and professional growth in TVET.

Objective of TVET

The Federal Ministry of Education (2009) stated that the main objective of TVET is to provide skilled manpower in applied science, engineering technology and commerce to operate, maintain and sustain a nation's economic activities for rapid socio – economic development. TVET is designed to impact necessary skills and competencies leading to production of craftsmen, technicians and technologist who will be enterprising and self-reliant, thus having the greatest potential to generate employment, reduce poverty and eliminate the Area Boy Syndrome. A renowned professor of Education from University of Indonesia, Alwasilah Chaedar in Business Day paper (2012) stated that TVET provides students with life skills to become productive entrepreneurs as it engenders creative and innovative ideas, enlarge the pie, and increase personal freedom.

RELEVANCE OF EDUCATIONAL TECHNOLOGY TO TECHNICAL SCHOOLS

The importance of educational technology to technical schools cannot be over emphasized. Training received through functional education practices in conjunction with

technology serve as source from which modern skills acquisition and innovations are derivable for the benefit of individual and sustainable development of Nigeria society at large. Educational technology is a veritable tool for fostering development and acquisition of entrepreneurial skills in students and teachers for economic empowerment and sustainable education.

Educational technology is a practical oriented course that exposes students to skill acquisition such as craft work, photograph, computer, video coverage, videotaping (recording). All these aspects of educational technology help students to be self-employed and create job opportunities for others. Educational technology and technical schools' activities are interwoven, hence, knowledge gained from technology will also enable students acquire basic skills that could help them to engage in areas such as automobile, fancy and interlocking block production, wood work and electrical works (Aniah, 2018).

Educational technology also plays important role in technical schools because it enhances acquisition of practical skills, attitude and knowledge relating to the world of work. According to Eze (2004), educational technology provides education and in-service training, workshops and seminar opportunities for acquisition of skills. Linan (2004) supported this by stating that educational technology assist in providing entrepreneurial awareness education; which focused on increasing awareness of entrepreneurial knowledge among students which will directly pursue the creation of more entrepreneurs.

Another very important aspect of educational technology is that it prepares technical college students into the world of work. With the advent of western education and technology, traditional apprenticeship was complimented with training in structured TVET in technical colleges, mono/polytechnics, universities and work places to meet the challenges of rising unemployment in Nigeria.

THE CHALLENGES OF TVET IN TECHNICAL COLLEGES IN NIGERIA

TVET delivery in Nigeria has been criticized of poor quality, very high cost, training not suited to actual socio – economic conditions, disregard of the informal sector's needs, disregard of labour market and of high unemployment rate among graduates (Atchoarena and Delluc 2009). According to Billet (2009), TVET has suffered from low standing. The author argued that dealing with TVET is as though its contributions are not fully appreciated or understood and its' status is shaped by societal views and sentiments about the learning of vocational knowledge.

Promoting Nigeria entrepreneurship is a long term process, involving overcoming negative cultural perceptions regarding entrepreneurship, which is often seen as something to be engaged in only by those who failed in other ventures. For many parents and students, TVET still remains a second class education mostly in developing nations like Nigeria. In Nigeria, only 3.6% of senior

secondary school students were enrolled in TVET in 2005 (Federal Government of Nigeria, 2009), and 3% out of 166000 enrolled in TVET in 2007. On the average, FME (2009) reported a 2.5% enrollment in TVET at the secondary school level as against the National Policy on Education (2004) target of 20% or 80% of roadmap for Nigeria education sector.

Despite the importance attached to TVET by many governments, the training system in most developing countries is largely underfunded. Generally, the provision of TVET and especially formal TVET is expensive. Oketch (2009) is of the opinion that a look at the funding of TVET can shed light on the contradiction between the emphasis for skills and limited funding that government is willing to commit to it. Financing of TVET in Nigeria is a shared responsibility among the private sector, public sector and donor agencies. The Federal Government acknowledged that it is difficult to gauge total education expenditure because of the way the three-tiered federal system works. Government inability to fund education in spite of UNESCO's recommendations that, at least 26% of national budgets should go to education for healthy development of the sector (Business Day Newspaper, 2012). This is responsible for failure in education and TVET programme in schools in Nigeria.

Lack of trained qualified teaching staff to handle TVET in Nigeria, for instance, in 1976 large containers were imported into Nigeria with instructional materials when universal primary education UPE was introduced but were abandoned and wasted away. In the same light, the current trend in agriculture is the importation of machines and improved varieties of seedlings with little or no attention on manpower that will manage and use them effectively. This is liking to when TVET was introduced in Nigeria with heavy importation of technology facilities but no competent personnel to handle them. The end results then were the decay of those technical equipment and no significant impact of TVET on the economy. Another example is the reconstruction of railways. Although foreign companies may be contracted for the job but the truth remains that Nigeria cannot continue to employ foreign middle level manpower for such jobs when there are millions of youths in the country without jobs; simply because the youths are not skilled.

In the technical colleges, there was a total of 2,730 teaching staff comprising 2,285 (83.7%) males and 445 (16.3%) females, in 2005. This gives a staff ratio of 1: 35. The standard ratio is 1: 25 showing need for more qualified staff. The polytechnics/monotechnics have staff strength of 12,938 academic staff and non-teaching staff; with a total enrollment of 360,535. The short fall in academic staff is estimated at 17,078 (FME, 2009). Yet the Federal Government's Technical Teachers Training programme (TTTP) initiative that would have corrected this anomaly has been abandoned for some years. The present obsession about university education in Nigeria hampers economic development prospect of teeming mass who are better endowed with vocational skills than intellectualism.

In 2009, out of 1.5 million candidates that applied for admission into higher institutions, only 300,000 chose polytechnics and colleges of education as first choice (FME, 2012). This explains why there are serious skill gaps in Nigeria. In fact, if everybody becomes a university graduate and there are no such industries or vocational centres established to employ them, it will be more harmful than beneficial.

Other challenges of TVET in technical colleges and Nigeria at large include: Limitation to career progression of polytechnic staff, lack of qualified and competent teachers, low esteem and recommendation for skilled vocational workers, low societal estimation of TVET, poor private sector participation in the implementation of TVET, poor learning outcome due to poor learning environment, use of outdated curriculum and training facilities, which results in a mismatch between what is taught and the needs of labour market, poor management of funds, lack of standardization and development of non-formal TVET, low enrolment of female students, inadequate number of technical and vocational colleges among others (FME, 2009; 2012).

NEED FOR ENHANCED EDUCATIONAL TECHNOLOGY MATERIALS IN TECHNICAL SCHOOLS IN NIGERIA

With the increase of technological education advancement and development, entrepreneurial skill development and acquisition became a paramount task for all vocational institutions. Asia-pacific Economic Co-operation (APEC) (2009) opines that educational technology curricular provides learners with knowledge and skills needed for effective performance in specialized office functions such as laboratory and workshops training centres in order to remove barriers to work opportunities. Enhanced educational technology materials include textbooks, educational media, library media prints, non- print and electronic resources such as computer hardware and software, digital contents, video tapes, photography machine for training of students to acquire theoretical knowledge and practical skills which are essential as they move into the world of work.

The provision of adequate technology textbooks, practice materials for workshops and other instructional materials will improve students learning outcome. Developing materials for technical and vocational education can be expensive because of the rapid need for revision in the rapidly changing occupations. It might be a good strategy to work out close co-operation between TVET schools and educational technology to adapt existing materials to the training needs of technical schools in Nigeria.

Video recording is a process of recording information or event with electronic medium known as video tape recorder. Video recorder is an information, communication and technology (ICT) device and a standard school resources. It is a vital device in every educational technology centre and micro-teaching laboratory used to

x-ray instructional activities. As an audio-visual device, students of technical schools can use it in the class or at home to acquire relevant skills and knowledge. Furthermore, if school is opportune to have video recorder and camera system, it simplifies recording of vital demonstrations and events which creates room for play back of information for effective instructional delivery. Video tape recorder in conjunction with television makes demonstrations of practical skills more meaningful and effective.

Educational technology provides avenue for skills acquisition through exposure to practical/craftwork like drawing, photography, painting, tie and dye, workshops and seminar opportunities. These will equip students with entrepreneurship skills, and spirit which promote self-employment, self-reliance and job creation. Government and private individuals should assist in providing educational technology experts and facilities in order to enhance the development and production of students (man-power) that are skilled and competent in the use of educational technology facilities which help to reduce the rate of poverty in the country.

On the whole, educational technology helps to generate jobs and enhance the current employment rate. Opportunities for skill acquisition, self – employment and job creation are available to any student of technical colleges who is well-trained and exposed to real practical aspects of TVET via educational technology.

CONCLUSION

The paper concludes that globalization and population explosion in the 21st century were identified as the major factors responsible for unemployment and other negative vices in Nigeria. It therefore holds that TVET has become imperative in addressing the present predicament of rising unemployment in Nigeria through adequate funding, monitoring and application of educational technology materials for enhanced learning outcome. This will help in overcoming negative perceptions expressed by many parents and students who claimed that TVET remains a second class education especially in a developing country like Nigeria. The paper observed that if everybody becomes a university graduate and there are no industries or vocational centres established to employ them, it will be more harmful than beneficial as it will create room for serious skill gap or unemployment and other forms of negative vices.

Suggestions

Based on the identified challenges, the following suggestions were made.

1. TVET curriculum should be revised to shift from single to multiple skills build from local market opportunities to foster local innovations and technologies than over dependence on imported ones. The programme

should incorporate useful traditional skills and increase the flexibility of course offering.

2. There is an urgent need to revitalize the TTPPs initiative of the Federal Government. This will enhance turn out in good quantity and quality of TVET teachers that will facilitate the achievement of TVET goals. TVET teachers should also be supported to enhance capacity development through scholarship and fellowship award including periodic workshops training with close monitoring and supervision by National Board for Technical Education and Federal Government.
3. Students should be committed and also develop keen interest in the practical aspect of educational technology while in school in order to acquire the required training, skills, competences and knowledge for entrepreneurship, self-reliance and self-employment after graduation.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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