

THE ROLE OF VOCATIONAL AND TECHNICAL EDUCATION IN PROMOTING ECONOMIC AND ENVIRONMENTAL SUSTAINABILITY

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ABSTRACT

Vocational and Technical education is a vital component of education in development of practical and sellable/marketable skills for national economic empowerment and development in Nigeria. It is, therefore, a catalyst for diversifying Nigeria economy that is over depended on the oil sector of the economy for revenue acquisition. This paper started the discussion with detailed definitions and clarification of a few vital concepts. The paper also looked into the history of the development of vocational and technical education in Nigeria, its effect on the industrial revolution, socio-economic and political stability in Nigeria. It also clarifies the different skill acquisition through vocation and technical education in our tertiary institutions for manpower development. This paper also examines some certain factors responsible for the setback in vocational and technical education for sustainable growth and development. It also makes recommendations on how vocational and technical education can be given top priority in both formal and informal educational system for sustainable economic development

Keywords: *Education, Diversification, Sustainability, Nigeria, Vocational, Skills*

INTRODUCTION

Today, Nigeria is in dire need of revamping her educational system in order to diversify her economy for sustainable development. This impressive goal can be achieved by Nigeria if the right education is

pursued to provide a sustainable basis for the modern Technological revolution. In other to explore other sources of revenue generation, as the adverse consequences of over-dependence on oil trade heightened the need and call to diversify Nigerian economy away from oil towards the direction of non-oil export trade. Proponents of this increased proportion of non-oil export argue that the non-oil trade has great potentials to propel Nigerian economy to the desired growth and development. Consequently, Odukoya (2009) cited in Emmanuel (2015) the importance of Education to the general well-being of mankind cannot be overemphasized. Education as he perceives, is a fundamental human right. He further explains that the relationship between education and development had been established, such that education is now internationally accepted as a key development index. It is in recognition of this importance that the international community and governments all over the world have made commitments for their citizens to have access to education. Nigeria government has indulged in educational programs to ensure that illiteracy and ignorance are minimized to the barest level in Nigeria in other to form a basis for accelerated national development.

Ajeyalemi (2006) in Balogun (2015) observe that Vocational and Technical Education is capable of providing the necessary tools for wealth creation in emerging economies like that of Nigeria because of its dynamic nature in the provision of small and medium enterprises. The characteristics of these economies include; the availability of a highly productive-based workforce rather than natural resources, the consolidation of tertiary institutions which is meant to engender economic efficiency in the educational sector. The education is not meant to close up avenue/production of middle-level manpower but rather to create an open and flexible system of education that had not existed hitherto. VTE is aimed at transmitting ideas, skills and values of work and environment and what the individual can do with his/her life. Furthermore it is of great value that lifelong learning, which is expected to provide learners with

new opportunities, responsibilities and challenges, is prioritized. Skill acquisition can be accomplished through work experience or through education in school workshops and laboratories. And that the aim was to develop a better avenue of integrating academic skill training and experience.

Concept of Vocational and Technical Education

Vocational and Technical education is defined by different authors in different ways. The National Policy on Education(1981) defined Vocational and Technical educational 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 the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of the economic and social life. Technical education, therefore, can be seen as the formal training of persons to become technicians in different occupations. Thus any education that is geared towards teaching technical skills and attitudes suitable to such skills can be regarded as technical education. In view of the above Okoro (1993) in Bisalla and Adeyemi (2015) defined vocational education as any form of education whose primary purpose is to prepare persons for employment in recognized occupations. Vocational training, he explained deals with the training or retraining designed to prepare individuals to enter into a paid employment in any recognized occupation. In that regard, Iheanacho (2006) defined Vocational education as that aspect of education which deals with business education, farming, book keeping, and bricklaying with the aim of acquiring vocational skills in these fields. Ojimba (2012) observe that agricultural education, fine and applied arts education, business education and vocational trades in soap making, hairdressing, computer training are Vocational and Technical education. Equally meant to prepare learners for careers that are based in manual or practical activities, traditionally non- academic and totally related to a specific trade, occupation or vocation.

According to Otuaga (2012) Vocational training is instructions intended to equip people for industrial or commercial occupations. It may be obtained formally either in trade schools, technical Secondary schools or in on the Job training programmes or more informally by picking up the necessary skills on the job. Trainer (2015) opines that Vocational and Technical education are leaving experience meant to be impacted to an individual systematically. In order to get him/her adequately equipped, for a good employment in a recognized occupation. Vocational education is aimed at enriching capabilities that will influence the effective Psychomotor or cognitive domains of individual. In readiness for entry into the world of work in order to satisfy their intrinsic and extrinsic values, work, and aspirations such that local and material needs would be met.

Enahoro (2008) in his concept said vocation training is utilitarianism and it is a concept recognizing the importance of labour. Thus training someone in an appropriate field will substantially contribute his quota to the overall good of the nation, he or she has to pass through vocational- technical education and training. It is an issue that needs no further investigation to say that when and if it is good with a nation, it is also good with its inhabitants and vice versa.

Historical Development of Vocational and Technical Education in Nigeria

The origin of vocational and technical education in Nigeria has a cheered history. Its roots could be traced to the pre-colonial era when traditional education was in practice. According to Ogunmilla, Sofoluwa and Olumade (2006) quoted in Okolocha and Baba (2016) *"in traditional education of the various ethnic nationalities, arts and crafts of various types have existed as their own expression of vocational training. The traditional agricultural practices then were developed to suit the cultivation of agricultural species predominantly produced in the different eco-geography areas of the country, the instructional method then was observation and imitation of the master"*.

Mamman and Chadi(2016) observe that the colonial masters did not recognize African traditional vocational education. Their educational system was non-vocational oriented in the place which was perhaps due to its expensive nature. Oziengbe (2009) followed the same direction in this argument when he claimed that the education system of Nigeria has been influenced by the British system of education. This type of education neglects the cultural and vocational interest of the nation. The system was the earliest type of vocational education practiced in Nigeria and it provided employment for youth as they learnt how to use their hands in a specific trade (vocation).Okolocha and Baba (2016) opine that vocational and technical education in Nigeria was started by non-indigenous companies like Shell BP and UAC started training artisans among their employees. During this period, non-indigenous companies like shell BP, the PZ and the UAC started training artisans among their employees who were to serve the skill needs of the companies at that particular time. There was no arrangement for examination of issuance of any certificate. The emphasis was to improve the learners' ability to accomplish more complex tasks.

In similar submission Ajayi and Ayodele, (2002) cited in Okolocha and Baba (2016) avers that schools were built primarily for the purpose of evangelism by the early missionaries. Specifically, the early missionary activities were characterized by literacy types of education which was geared towards winning converts and producing clerks and interpreters. It was not until 1908 when government department started to organize some form of the vocational training school. Adegbite (2000) claimed that the marine training school came on board in 1982 while the public works, post and telegraph and the railway training school were also established around 1931. Aina in Mamman, Chadi, Jirgi& Mubarak, (2013) cited in Okolocha and Baba (2016) averred that the Nigeria government became active between 1930 and 1960 in the provision of technical education. It appears the first technical institute established in Nigeria was the Hope Waddell Institute in Calabar in 1885 with the aim of providing education in

the rudiments training in the technical trade and teacher's education. Yaba Higher College was officially opened on January 19, 1934, and later became the first vocational and technical institute in 1948 with the motive to train Artisans, crafts men and Technicians, together with teachers of technical education to teach in trade centres.

Thereafter, technical colleges were established by various regional governments various locations in the country, namely: Enugu (1950), Ilorin(1951), Kano (1953), Bukuru (1953), Sapele (1955), Ijebu-Ode (1959), Osogbo, Oyo (1961), Owo(1963), Aba (1964) and Abakaliki (1966). These colleges were not feeling paying and they were adequately funded by the government at that time. In 1959, Nigeria Federal Ministry of Education set up a commission- the Ashby commission to conduct an investigation into Nigerian needs in post-secondary education. The Ashby commission recommended that adequate attention should be given to technical and vocational education. It also recommended that students studying technical drawing and craft subjects should be encouraged. Similarly, technical schools should be upgraded to award the City and Guilds London Certificate.

The Commission for Technical Education (1963) recommended three levels of vocational and technical education. Pre-vocational and pre-technical training usually offered in secondary schools, Craftsmen training usually offered in technical colleges, trade centres and vocational schools and Technical training usually offered in polytechnics and colleges of technology. The fourth Commonwealth Education Conference (1986) recommended that industry should be closely associated with technical education. This could be through policy-making, manpower planning and curriculum development, and provision of opportunities for industrial experience, accreditation, consultancy services part-time courses and vocational guidance. In 1987, the National Council on Education (NCE) approved the National Board for Technical Educational (NBTE). That classified vocational and technical institutions into Vocational

Schools, made up of vocational/artisan training centers to produce artisans. They are post-primary level institutions that offer courses leading to the award of the Federal Ministry of Labour and Productivity Trade Test Certificates. Technical Colleges - Institutions that produce craftsmen at the craft level and master craftsmen at the advanced craft level. They are post-Junior secondary school institutions offering courses that lead to the award of the Advanced National Technical Certificate/Advanced National Business Studies respectively.

Polytechnics/Mono-technics/Colleges of Technology: - These are post-Senior Secondary school institutions, which produce technicians and higher technicians/technologists. The courses offered by these institutions are of two-year duration, each leading to the award of National Diploma (ND) and Higher National Diploma (HND) respectively. Federal Government of Nigeria (2004) identified a range of courses offered under vocational and technical education as mechanical trades, computer, craft practice, electrical engineering trades, building trades, wood trades, hospitality, textile trades, printing trades, beauty culture trades, business trades and leather goods manufacturer. This historical evidence has shown that the VTE existed in Nigeria during the olden days before its transformation as it exists today.

Impacts of Vocational and Technical Education on Industrial Revolution

According to Balogun (2015), VTE is capable of providing the necessary tools for wealth creation in emerging economies like that of Nigeria because of its dynamic nature in the provision of small and medium enterprises. The characteristics of these economies include; the availability of a highly productive-based workforce rather than natural resources, the consolidation of tertiary institutions which is meant to engender economic efficiency in the educational sector. Abokede (2005) declared that the goal of VTE is to transmit ideas, skills and values of work and environment and what the individual

can do with his/her life. The goal is of great importance especially now that emphasis is being placed on lifelong learning. It is expected to provide learners with new opportunities, responsibilities and challenges to exploit for survival. It indicated that skills acquisition can be accomplished through work experience or through education in the school workshops and laboratories. And that the aim was to develop a better avenue of integrating academic skill training and work experience.

Esen (2002) posited that technical and vocational education is the ingredients of socio-economic and political stability of a nation and its economic survival. For a long time now, Nigerians have adopted education as the official ingredient for achieving socio-economic stabilities and political survival. Political stability and economic survival implies development in real economic terms and also improving the quality of life of the average Nigerian. It is in this perspective, that a re-examination of Nigeria's place in this fiercely competitive global economy is necessary. Embracing vocational and technical education rather than general education as an instrument for national stability and economic survival, the nation would have been better for it. The classic examples of the Asian Tigers viz South Korea, Malaysia, Singapore, Indonesia etc. Not to mention the economic giants such as Taiwan, China and Japan come to mind. In terms of socio-economic and political stability, we want to be a producer nation that is, producing mainly secondary goods rather than primary and crude raw materials. We do not want to remain a consumer nation. Since socio-economic and political stability means sustained economic development, a transformation from a "consumer nation" to a "producer nation" becomes imperative. This is because a "consumer nation" in this competitive world economy is a dying nation. A developing nation must be willing and capable of producing at least a large proportion of its consumer goods.

However, if one may ask is it "general education" that turns our hides and skin into shoes, or raw cotton into clothes? The relevant

technological skills that are derived from vocational and technical education. Will transform wood pulp into paper and our crude oil into a wide spectrum of petroleum consumer goods. Therefore, technical education and vocational education and not just "general education" are the real ingredients of socio-economic and political stability in Nigeria.

Factors hindering the success of Vocational and Technical in Nigeria
Mamman and Chadi(2016) observe that the subject of Vocational and technical education has not been given the needed attention like the other sectors of the economy. For example, Health, this negligence of this sector by the Nigerian government leads to some obstacles in national development. Some of the reasons attributed to this poor performance include; Curriculum, Funding, Facilities, Brain Drain, Staff training and retention, among others.

Curriculum: Mamman and Chadi(2016) argued the extensive gap between the curriculum content being taught in the tertiary institutions, the theoretical aspect, and practical services required by the employees of labour and the world of work. Therefore, it is a necessary to evaluate the current curriculum in other to meet the current tasks in the areas of technology and industrial development.

Funding: Universities in Nigeria are owned and funded by the Federal Government, state government and private individuals. In Nigeria, the allocation to education as a share of the GDP is quite minimal. Till date, government funding of vocational and technical programmes has not been remarkable.

Facilities: Most technical education departments in Nigerian universities do not have laboratories or workshops space. No usable equipment and facilities and where they exist, they are grossly inadequate, as the laboratories only have the items or equipment that were provided when the departments were established.

Brain Drain: In the context of this paper, brain drain refers to the movement of lecturers of technical education. Which are needed for the socio-economic and technological advancement of Nigeria from

one university to other universities or to other professionals (including politics), calling for better conditions of service. Akintunde (1989) cited in Bisalla and Adeyemi (2016) who identified five different components of brain drain:

- i. Experts in academics who moved to the industry where they get better pay for their services.
- ii. Lecturers and students who leave the country to acquire more knowledge and skill but later refused to return.
- iii. Lecturers who move from one country for other conditions of service.
- iv. Skill professionals who abandon the practice of technical education in favour of other more lucrative economic activities and political appointments which are not related to their training.
- v. Skilled professionals, although in their field of training who do not devote their full attention to their job. Because of their effort to supplement their earning through other unrelated economic activities.

Staff Training and Retention: The training of academic staff is ordinarily a continuous exercise to ensure consistent improvement in the quality of their outputs. The training is two-fold: training to acquire minimum qualification to teach, and continued professional training. Both types of training can be acquired either locally or overseas.

The apathy of political office holders/law makers: Education generally, including technical education programmes has been grossly neglected in Nigeria. Technical educators have the greatest challenge of convincing the law makers on why they should give priority to the programme in allocating resources. Bisalla and Adeyemi (2016) averred that if this lopsided attitude to the proper development of technical education remains, Nigeria's dream of becoming a technologically developed country will be a mirage. It is evident that Nigeria lags behind in preparing her workforce for the challenge of the rapidly changing global economy. For that, the nation must

invest copiously in education with particular attention given to vocational and technical education. No nation would make any meaningful Socio-economic stride without viable educational institutions. This was buttressed by the United Nations Educational Scientific and Cultural Organization (UNESCO), noting that revitalizing this sector is among the ways to improve economic opportunities for the youths. The authors further stated that the progress of Nigeria lies in the productivity of its citizens and quality education and genuine vocational programs hold the key. However, the 1991 policy of the World Bank harped on the development of a skilled labour force which makes an important contribution to development. The challenges are to use employer, private and public training capacities effectively to train workers for jobs that use their skills and to do so efficiently in developing economies increasingly influence technological change and open to international competition.

CONCLUSION

Bisalla and Adeyemi (2016) empirically claimed that no nation would make any meaningful socio-economic stride without well-equipped technical and vocational institutions. The United Nations Educational Scientific and Cultural Organization (UNESCO) have noted that revitalizing this important sector is among the ways to improve economic opportunities for the youths, which is aimed at diversifying a nation's economy for sustainable growth and development. The National Board for Technical Education (NBTE) and teachers in this area should take up the campaign for more funds for technical and vocational education and to launder its image. It is obvious that no society has ever become an industrialized nation without technology. Nigeria can become an economic power-house (and realize its visions). If proper attention is given to education and technological development, if creativity promoted and rewarded, and if its material and human resources are channeled to productive use.

Many writers and researchers have also observed that vocational-technical education if seriously pursued will help to reduce the over-

dependence on one sector of the economy for revenue generation in Nigeria. And not only that, it will help to solve the nation's unemployment problem for sustainable growth and development. From the facts so far presented and the on-going economic and social development, vocational and technical education is the nation's hope to create a pool of skilled manpower who is better equipped to convert our natural resources into useful goods and maintain peak productivity. It is also that part of education that can provide job opportunities to both sexes, particularly to a greater percentage of the nation's population who are rural dwellers.

RECOMMENDATION

On the basis of this paper, the following suggestions were made,

I. Need for Educational Reform in Nigeria in order to right the wrongs of successive years of irregularities and confusions. Such reform must compare note with the success story of other developing countries that are now successful in Industrialization.

II. Innovating Science Education for Technical Entrepreneurship through a curriculum that can stand the test of time. There is need to review the current curriculum in order to meet the current challenges in the areas of production, technology and industrialization.

III. Need for Staff Development and Training. Governments at various levels should through tertiary Institutions organize local and international trainings that can improve their technical know-how. They should be sponsored under bond that after their training or course they are coming back to Nigeria to transform their knowledge to wealth and skill creation.

IV. Skill acquisition as benchmark for both Academic staff and students. This explains the fact that promotion of staff should be rather attached to their skill acquisition and disposal to students. Also assessment of student should be geared toward their ability to display skill acquired especially in Vocational and Technical Education.

V. The guiding principles to the success of vocational and technical education should be making the best use of all available materials, tools, equipment as well as human resources at all times.

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