

## Enhancing Technical Education for Human Capital Development in Nigeria

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### ABSTRACT

Entrepreneurship/Vocational Technical Education plays a vital role in the economic development of any nation. Attaining a faster economic growth requires accelerated development of technical education and vocational training. As the oldest form of education, technical education has passed through several stages of transformation in nomenclature and practice before it became a household topic in Nigeria today. With its comprehensive nature, there is the need to further enhance technical education and training for the nation to achieve the desired industrial growth in the committee of nations. This paper looks into various ways in which this aspect of education can be improved to create an enabling environment for industrial growth in Nigeria.

**Keywords:** Education, technical, vocational, training, economy

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### INTRODUCTION

Education according to Okolocha and Baba (2016) is a right of every individual. It unlocks the development of personal and national potentials of citizens of a country and the world at large. Meanwhile, Balogun (2010) opines that education is the light without which the world will be darkness. It is the basis for scientific and technological breakthrough and also the basis for modernity which has made all nations of the world to accord it immense priority, even if the level of priority varies from one country to another. Okolocha and Baba (2016) believes that emphasis is 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.

Technical and Vocational education is the type of educational process that involves the study of technologies and related sciences in addition to general education as well as acquisition of practical skills, attitudes, understandings and knowledge relating to occupations and vocations in various sectors of economic and social life. According to Roberts (1965) in Ikpe (2010), Technical and Vocational education could also be defined as that aspect of education designed to develop skills, attitudes, work habits and aspirations encompassing knowledge and information needed by workers to enter and make progress in employment on a useful and productive basis. He further described vocational education as an integral part of total education programme contributing towards the development of good citizens by developing their physical, social, civic, cultural and economic competencies.

Also, education is generally viewed as crucial for rapid economic growth, and essential, thus, if we wish to increase the productivity of the poor by reducing fertility and providing people with the skills, they need to participate fully in the economy and in society. Okolocha and Baba (2016) believe that emphasis is 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.

Okafor (2011) argues that youth unemployment appears to be going astronomical because many of them lack “employability” skills that are often acquired from technical schools. As Edukugho (2004) noted, youth unemployment moved from 4.3% in 1985 to 5.3% in 1986, to 7.0% in 1987 and jumped to 60% in 1997. The report shows that in 2003 primary school accounted for 14.7% unemployment, secondary school 53.6%, and tertiary schools constituted 12.4%. The nation’s poverty level was put at 70% and more than 91 million Nigerians are said to live on less than one dollar per day. Most analysts agree that today’s employers demand more skills than they did in the past (Yang, 2008 in Okafor, 2011). Oranu (2010) reported the several factors that have contributed to the rising demand for skills in the labour market to include: technological and organizational change, trade, deregulation of key industries, and the decline of unions. Bennell (1996) observes that all countries, especially developing countries, need balanced development through all of the educational sectors in order to make significant progress in terms of national development.

## **HISTORICAL DEVELOPMENT OF TECHNICAL EDUCATION**

The origin of vocational and technical education in Nigeria has a chequered history. Its roots could be traced to pre-colonial era when traditional education was in practice. The instructional method then was observation and imitation of the parent or master. During the colonial era, the child was trained in the family trade through direct apprenticeship by either the parents or relations. 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 (Okolocha and Baba 2016). There were no arrangements for examination or issuance of certificates. The emphasis was to improve the learners’ ability to accomplish more complex tasks. In other words, during the early part of the colonial era, vocational training was encouraged. However, 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 (Ajayi and Ayodele, 2002). It was not until 1908 when government department started to organise some forms of vocational training school. The marine training school according to (Adegbite, 2000) came on board in 1982. The public works, the post and telegraph and railway training school were also established around 1931.

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 teachers’ education, (Mamman, Chadi, Jirgi, & Mubarak in Okolocha and Baba 2016). 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, (Aina in Mamman, Chadi, Jirgi & Mubarak, 2013). Thereafter, technical colleges were established by various regional governments in several 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 fee 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 as follows: 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) which classified vocational and technical institutions into: Vocational Schools - These are made up of vocational/artisan training centres 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/Monotechnics/Colleges of Technology: - These are post- Senior Secondary school institutions, which produce technicians and 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 manufacture. This historical evidence has shown that the VTE existed in Nigeria during the olden days before its transformation as it exists today.

## **HUMAN CAPITAL DEVELOPMENT**

Uyabemem and Dantawaye (2018) argues that any nation which fails to develop its human capital should not expect productive economy. It is when a nation develops its human capital that human can drive its economic advancement through the growth of small and medium scale businesses. Obisi and Anyim (2012) in Uyabemem and Dantawaye (2018), stressed that human capital is the talent, skills, competencies and other advantages which people possess, that can be put to use to give individuals, organizations and nations significant benefit. Yusuff and Soyemi (2012), explains that human capital can be understood from the perspective of the populace that can be put to positive use towards the development of the nation. In other words, human capital represents the fundamental human infrastructure for technological development and by extension economic development. The Nigerian economic summit further explains that the higher the human capital of a society, the higher is the potential for economic growth.

If we take a semantic look at it, the concept of human capital is the mixture of human and capital. But economically, the capital according to Boldizzoni, (2008), refers to factors of production used to create goods or services that are not themselves significantly consumed in the production process. Along with the meaning of capital in the economic perspective, the human is the subject to take charge of all economic activities such as production, consumption, and transaction. On the establishment of these concepts, it can be recognized that human capital means one of production elements which can generate added-values through input.

### **TECHNICAL/VOCATIONAL EDUCATION AND ECONOMIC STABILITY**

Olubodun (2010) opines that there was the urgent need for leaders of Nigeria to take vocational and technical education with all seriousness it deserves. The country really needs to move forward economically at this crucial time, the neglect of this aspect of education has been partly the cause of our economic backwardness and poverty. The development of vocational education has helped many countries to achieve economic stability, and this has made them thrive towards sustaining the programme. With adequate technical knowhow, we can develop manpower skills that can stand shoulders high with peers around the globe, have people design and produce our own cars, machines and the likes.

Most of the products imported into this country are results of certain forms of technology or the other, by the time foreign exchange is considered, they become so expensive and out of the reach of an average Nigerian. If we are able to source for raw materials locally and manufacture our own products, the cost of products will be reduced and an average citizen will be able to afford such. Nigeria can develop manpower resources necessary for technological advancement if we focus on adequate development of our technical and vocational schools (Olubodun, 2010).

Also in line with Olaitan (1996), it should be clear to us that vocational/technical education is an important force that dictates man's economic existence and social order. Vocational education is perceived to be the greatest force that can be used to achieve quick desirable changes and development of the nation's economy.

### **TECHNICAL EDUCATION AND MANPOWER DEVELOPMENT**

Presently Nigeria is offering education in general subjects, but to achieve development, it must offer a variety of courses for disciplines such as technical, vocational, professional, agricultural, and so on, because the country needs a balanced distribution of manpower for all professions, so that the vast population of Nigeria can contribute to economical growth by participating in different professions.

Vocational and Technical Education (VTE) systems play a crucial role in the social and economic development of a nation. Owing to their dynamic nature, they are continuously subject to the forces driving change in the schools, industry and society. Mechanized farming requires technical skills that could be obtained in technical and vocational schools.

The real tests of success of VTE are the employability of the graduates, personal development, opportunities for further education and career development, public acceptance and image. Ultimately, the effectiveness and responsiveness of a VTE system would be measured by its impact on the social and economic development of the nation.

Although technical and vocational education seem deficient in „citizenship or leadership training (Friedman 1982) it provides students with “life skills” (Alwasilah, 2002) to become productive entrepreneurs as it engenders creative and innovative ideas, enlarge the economic pie, and increase personal freedom. Most of the so-called “expatriate engineers” who are being paid millions of dollars to build Nigeria’s roads and bridges are graduates of technical and vocational colleges.

## **ECONOMIC IMPACT OF NEGLECTS IN TECHNICAL EDUCATION**

The observable difference in income and wealth between developed and under- developed countries reflects essentially disparities in the level and degree of technological progress. As was pointed out earlier economic development is the process of accumulation of real capital brought about by the application of advanced production methods and organization which raise productivity and, thus, income and investment possibilities. This in turn permits the application of new technological methods which are bound to lead to further increases in productivity, income and investment. Since rapid economic growth seems to imply a higher increase in capital stock than in labour supply, sustained growth depends on technological progress. Without the development of new technologies and, perhaps even more so the adapted application of technologies of industrialized countries to developing countries, it is difficult to imagine how the problem of economic social and political development can be solved within a reasonable span of time.

Substantial productivity increases cannot be achieved without labour adequately educated and motivated for technological and organizational methods. If the allocation of available capital favours the production and import of capital goods while neglecting technical education the (marginal) productivity of invested capital likely falls considerably short of what otherwise could be attained relatively easily. Technical education would have to provide for the effective utilization of knowledge accumulated elsewhere rather than attempt to be self-sufficient in a narrow national sense. With basic technological and organizational prerequisites lacking the exploitation of the technological and organizational experience of the already developed countries would be difficult.

Secondly, enrolments in vocational education and level of economic development are related. Demand for vocational education seemed to exist in industrially developing societies, with growth and diversification of industrial structure. As Nuru (2007) observed, the lower the overall level of a country’s development, the weaker is the case for introducing vocational curriculum and diversify it. But it is in these countries the need for vocational education is felt. Emphasis on diversified industrial production emphasizes the need for labour force with vocational skills. Much growth in vocational education took place in countries like Korea during early industrialisation processes, when employment opportunities could increase. So vocational education becomes more popular in regions where jobs can be guaranteed. The other way can also be augured: unemployment rates may diminish, if people have vocational skills.

## **JOB CREATION AND MANPOWER DEVELOPMENT**

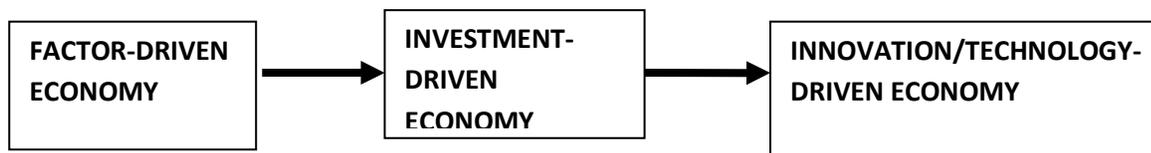
Usoro (2010) argues that the central concern of technical education and job creation revolves around capacity building/entrepreneurial ventures by individuals in training. This concern is predicated upon the fact that productive work and employment are central elements of development. Sustained economic growth and sustainable development as well as the expansion of productive employment must go hand in hand. Productive employment is strictly based on skills acquisition in jobs of great importance to the nation. In this regard, creating enough jobs and productive employment to break the vicious cycle of poverty remains one of Africa’s most daunting development challenges (UNESCO, 1995).

The region’s economies have not achieved adequate employment creation or enough labour absorption capacity-to keep pace with population growth, urbanization and the rising expectation of their citizens. Dike (2009) observes that 80% of the youth in Nigeria are unemployed and 10% are underemployed. The solution to this problem lies in creating jobs for the Nigerian youth.

## ECONOMIC DEVELOPMENT

It is crystal clear, that the traditional trading, commerce and service sectors alone cannot provide sufficient jobs for the number of school leavers in any growing economy; hence the overall strategic plan of the government should be to diversify and accelerate economic growth through industrialisation. This can be classified as the early phase of industrialisation, where the educational priority will be to provide and expand primary, secondary education, including technical education, entrepreneurship and vocational training skills. This system was put into practice in Singapore between 1960s and 1970s. It was only in the 1980s onwards, that an increasing emphasis was placed on improving the level of skills and quality of the education and training system, including universities and polytechnics in Singapore (Seng 2007).

The economic development of a developing nation can be classified into three phases as shown in figure 1. A “Factor-Driven” economy if properly administered can metamorphose into an “Innovation-Driven” economy, which will be powered by the needs of knowledge intensive industries.



**Figure 1- Phases of Economic Development**

To get through these stages, a developing nation will have to start from an “early industrialised” economy to a “newly industrialised” economy and onto a “globalised and diversified” economy. There is no doubt that entrepreneurship and vocational training form an integral part of all three facts itemised above. In tandem with the changing economic landscapes, the VTE system will have to be involved in response to the changing manpower needs. The education and training needs must ensure that graduates from various institutions have the necessary knowledge and skills for the many new jobs to be created in a rapidly growing economy. For the purpose of clarity, the economic, manpower and strategies which can be implemented during these developmental states will be elaborated here.

## **LABOUR INTENSIVE ECONOMY**

The major challenges we have in Nigeria today is how to create jobs for our teeming youths! In a bid to avert the continuation of this, the economic strategy has to be shifted from that of import substitution to that of rapid industrialisation by attracting foreign investment for export oriented and labour – intensive manufacturing (Seng 2007). From the education and training perspective, the immediate and herculean task is to ensure that the workforce has the basic vocational and technical skills to support the labour-intensive manufacturing and production activities such as engineering, steel metalworking, plumbing, electrical and electronic maintenance and repair, civil and construction activities etc.

The priority then, is to expand the educational system, especially the vocational schools, with the technical education department of the ministry of education rising to the challenges.

## **CAPITAL INTENSIVE ECONOMY**

If a developing nation is able to surpass the first stage of economic development, the next stage of capital-intensive economy follows but as the name implies, it is expensive in nature. The new focus will be on the development of new industries such as petrochemicals, biotechnology, information technology, as well as manufacturing services. Again, the education and training system will be called upon to respond to the manpower needs of more capital-intensive industries. In this scenario, the stage will be set for working adults to engage in further general education and some vocational training. With anticipated increasing educational and training opportunities, it is apparent that both young school leavers and working adults alike have the potentials for self-development and enhanced working conditions with attendant and complementary remunerations. In the light of this, where does poverty stay in such an economy? It is a general note that economic restructuring has a direct impact on the capability of the existing workforce. What is expected of the workforce in terms of education and knowledge will no longer be adequate hence the need for further vocational training. Companies will be expected to diversify, upgrade and develop into strong export-oriented companies and invest in the regional economies. This is what we see in the practice of our commercial banks in Nigeria, having branches in neighbouring West African countries.

## **KNOWLEDGE INTENSIVE ECONOMY**

There is the need to increasingly develop into a globalised, entrepreneurial and diversified economy. While continuing to strengthen the higher end manufacturing activities, there is a clear recognition of the importance of the service sector as an engine of economic growth. Concerted efforts need to be formulated to attract and nurture new growth sectors such as the biomedical sciences, information technology, creativity technology and higher level engineering. The response of the educational sector in this regard is more than paramount. We can see that entrepreneurial and vocational training is the centre of the circle of economic development in any economy if poverty is to be phased out.

## CONCLUSION

Technical/Vocational education is an engine to national development of any nation. In an economy where every able person is gainfully employed, especially with background training in technical education, poverty is bound to reside behind the fence (Olubodun and Aremu 2011). From the international perspective however, (Olubodun and Aremu 2011) believe there is no one ideal system that can suit the needs and aspirations of all countries. The systems are often shaped by the economic, social and cultural conditions of the local community. A fundamental question is whether sufficient attention has been paid to those who need and can benefit from vocational and entrepreneurship education. As highlighted above, there are policy decisions and choices to be made.

## RECOMMENDATIONS

To have a stable and sustained technical and vocational education for self-reliance and national development in furtherance to Olubodun (2010), this paper makes the following policy recommendations:

- **Entrepreneurship Education** - The government should lay more emphasis on acquisition of business and technological skills through entrepreneurship education in technical schools. The relevance and utility of entrepreneurship education lies in the practical application of what is taught. Rogers (2001) observes that 'the economic and social benefits of literacy do not spring from learning literacy skills but from using literacy skills'.
- **A mental re-orientation of Nigerians** - This is important in the current Nigerian situation as holders of vocational/technical certificates are rated far below pure academic certificates. If there is proper orientation, people especially the young ones will see the need to go for technical/vocational training.
- **Job creation** - This paper focuses on technical skill as a pivot to national development, there is the need for avenues where the skill so acquired will be put to practice. Fingers can never be equal, while some vocations can stand alone and the graduate float their businesses, some cannot. There is the need to initiate job creation efforts for those who may not be able to stand alone immediately after graduation.
- **Funding** - There is need for adequate funding of technical/vocational education across the country to ensure continuity and maintain standards
- **Follow up** - It is highly important to put in place good monitoring techniques for any programme. Once this aspect of education is given its right place, graduates of the schools who either enter the job market or run their own businesses need to be monitored for possible assistance.

If these steps are followed going by the above discussions, there will be a complete turnaround in technical/vocational education, and skill acquisition becomes easier. At the end of the day, positive national development will be achieved and poverty out of the way, when all points on the circumference meet at the centre. The centre is bound to hold tight as things refuse to fall apart. It is our collective responsibility as stakeholders in technical education to make it work!

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