

REGENERATING TECHNOLOGY EDUCATION FOR SUSTAINABLE SKILLS ACQUISITION AND NATIONAL DEVELOPMENT

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Abstract

Education is generally seen as key to the sustainable development of any nation. Technical and Vocational Education guarantee the sustainability through adequate production of the technical manpower required to run the economy. This article sets out to give an overview of Technical and Vocational Education as a key for the production, in the right quantity and quality, of the skilled workforce required for economic production and national development. The need for Technical and Vocational Education in the light of the current manpower situation in the country was highlighted. Problems of Vocational Education in Nigeria were also identified and recommendations made, which include among others, the rebranding of Nigeria through adequate budgetary provision for Technology Education at all levels of her educational system and that more technical teachers be trained and motivated to remain in the teaching profession as well as establishing a system of massive infrastructural and equipment regeneration. Finally, there should be a synergy between governments at all levels and employers of labour for cooperate financing and running of Technical and Vocational Education programmes as part of their cooperate national responsibility.

Technology Education, also referred to as Technical and Vocational Education is that aspect of education that leads to the acquisition of practical and applied skills as well as basic scientific knowledge (National policy on Education, 2004). The primary purpose of Technology Education is to prepare individuals for gainful employment. It also helps to improve the knowledge, skills, attitudes and efficiency of employees who desire additional training to update their occupational skills and knowledge in order to achieve advancement in their employment.

To be most effective in solving the society's problems, technology education is expected to start at the pre-vocational level in primary and junior secondary classes. This early start helps to inculcate technological literacy and rudimentary technological

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aptitude in children and also enhance their capabilities for success in technological studies in higher education.

Technical education entails the academic and vocational preparation of students for jobs involving applied science and technology (Encyclopedia Britannica, 2013). It emphasizes the understanding and practical application of basic principles of science and mathematics rather than only the attainment of proficiency in manual skills.

Vocational education, on the other hand, is job-specific education designed to prepare individuals for entry into the job market as craftsmen and master craftsmen as well as for higher technology education. Such training takes place in technical colleges and vocational centres for the award of National Business and Technical Education Board (NABTEB) Certificates (Chaedar, 2002).

Ayodele (2005) saw the broad goals of Science and Technology Education as:

- i. Providing trained manpower in applied sciences, technology and business particularly at craft, advanced craft and technical levels.
- ii. Providing the technical knowledge, scientific and vocational skills necessary for agriculture, commercial and economic development.
- iii. Giving training and imparting the necessary skills to individuals who shall be self-reliant economically.

These listed purposes are indicative of the fact that there is no government's technological development effort that will yield the desired fruit except technology education is given a chance to play its expected roles. These roles may include the provision of needed skilled manpower in various spheres of the Nigerian economic endeavours without which the engineers, scientists, inventors, administrators and managers of the different economic ventures will find it impossible to operate. It is therefore necessary to highlight the need for regenerating this type of education for sustainable skill acquisition and national development.

Need for Technical and Vocational Education in the Economic Development of Nigeria

Science and technology education is many things to man, a visa to success, a passport to the unknown, a catalyst to great heights; it empowers, refines, civilizes, enlightens, enriches and gives confidence to many (Ojo and Vincent, 2000). Science and technology education develops intellectual ability of individuals to understand and appreciate their internal and external environment. It is seen as the bedrock of national development.

Development is defined as the process by which some system, place, object or person enhances its state of being. It is measured in terms of physical growth, socio-economic improvement and general enhancement in the quality of life. As observed by Ogunkayode (2012), divergent opinions abound on what development is all about.

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While some believe development is encapsulated in the sprouting of sophisticated physical structures, some look at it from the angle of increase in socio-economic activities, yet some measure development in terms of improvement in financial standing.

Whichever way we look at it, technical and vocational education has been observed by Aworanti (2013) to be an integral part of national development strategies in many societies because of its impact on productivity and economic development. Technical and vocational education is also seen by Rufai (2012), as a necessary ingredient in any effort towards excellent management and development of human resources which is the bedrock of the development of other sectors of the economy. The idea, Rufai stated, is that technical and vocational education and training raise the productivity of workers and increase their earnings throughout their lifetime. Upgrading workers skills would also improve their productivity and advance their values and voices on the job.

Also making a case for Technical and vocational education as an index of development, Aworanti (2013), observed that human development is much more than the raising of national incomes. It is about creating an environment in which people can develop their full potentials and interests, since people are the real wealth of nations. Aworanti concluded that, the return on investment in technical and vocational education for society will be skilled workforce that will enable global competitiveness and economic growth while the return for the individual will be an improved career path, increased earning power and a better quality of life.

It is not enough to establish a need for Technical and Vocational Education for development, it is also necessary to realize that there is need for sustainability. The Bonn declaration (UNESCO, 2009), which was the outcome document of UNESCO World Conference on Education for Sustainable Development, made the following demands:

- i. Sustainable development issues must be incorporated using an integrated and systematic approach in formal education as well as in non-formal and informal education at all levels.
- ii. Education leadership development must be promoted and the significant contribution of non-formal education and informal learning as well as vocational and workplace learning must be recognized.
- iii. Education for sustainable development must become an integral part of the corporate policies of private sector actors particularly in vocational education and work place learning.

In spite of the contribution of technology education to national development and the expressed need for its sustainable development, Nigeria as a nation has not given this aspect of education the attention it deserves. This is seen by Aworanti (2013) as one of the reasons for the nation's underdevelopment.

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Current Manpower Situation in Nigeria

Commenting on the manpower situation in Nigeria, Aworanti (2013) observed that knowledgeable and competitive skilled force is in desperate short supply in Nigeria today. Alao (2013) also observed that, appalled by the dearth of technicians and artisans in the construction industry, stakeholders in the building sector of the economy have called on federal, state and local government authorities to urgently rise to tackle the downward trend of this group of people. This statement was made during the Lagos State Technical and Vocational Education Board (LASTVER) event, held in conjunction with Messers MCS Consulting and aimed at campaigning for the development of skill acquisition programmes for Nigerian youths. Omeife (2013) lamenting over the same situation, noted that the scarcity of qualified personnel in the technical spheres of the nation's development has reached an alarming situation.

Olaitan (1996) in Osalor (2013) stated that the problem of unemployment has worsened as millions of school leavers and graduates of tertiary institution in Nigeria have not secured gainful employment over the years. This, he said, is because they lack the necessary occupational skills to be self employed and to efficiently function in today's world of work.

The Nigerian Minister for Education, Rufai (2012) lamented that it is unfortunate that overtime, Nigerian universities, polytechnics, mono-technics, colleges of education and other educational institutions have shifted their focus to academic qualifications rather than skill acquisition and problem solving activities. This has, among other things, resulted in the dearth of skilled workers needed to satisfy the country's developmental needs. He further emphasized that, the half-baked roadside auto-repairers in Nigeria often cause more damages to vehicles; poorly trained commercial drivers are mostly the cause of many road accidents; half-baked auxiliary nurses in the hospitals have sent many people to their early death, a large chunk of the country's resources are expended every year on foreign expatriate engineers whom the country depends on for the construction of Nigerian roads and bridges. He concluded that the desire to reverse this undesirable situation justifies the current administration's emphasis on the development of technical and vocational education.

Efforts at Revamping Technical and Vocational Education in Nigeria

The Nigerian government has realized the need for revamping Technical and Vocational Education as shown by Rufai (2012) who agreed that the Nigerian Society needs competent technicians to function well. Technical education, he affirmed, provides the much needed skilled manpower in the various spheres of the economy. Above all, technical and vocational education holds the key to the achievement of the Millennium Development Goals (MDGs) since it is a catalyst for creating employment opportunities.

Other arms of government have also keyed into the move to revamp technical and vocational education. One such moves by the Lagos State Technical and

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Vocational Education Board was sponsored by Nigerite Nigeria Limited with the main objective of strategically intervening and reviving technical and vocational education by upgrading the quality, course content and infrastructure available to learners, thereby attracting and raising a new breed of workforce and correcting the poor public perception of technical skills acquisition. The programme was also aimed at supporting regional and national development targets by providing a huge pool of well trained and competent workers for the labour market, stimulating entrepreneurship and wealth creation. This will reduce unemployment and directly impact, over the next ten years, almost every sector of the economy - construction, power, oil and gas among others. Such training it is also hoped, will facilitate youth transformation as a result of the retraining on employability, attitudinal, leadership and entrepreneurship skills.

Problems of Technical and Vocational Education in Nigeria

Technical and Vocational Education in Nigeria is fraught with diverse problems which hamper its ability to produce adequate number and quality skilled technical manpower required to lift the country from the unenviable state of technological irrelevance and economic depression. Some of such problems include:

Poor Funding

Technical and Vocational Education is capital intensive and requires adequate budgetary allocation. The present situation in Nigeria shows that this arm of education is grossly underfunded. As observed by UNESCO (2004), poor funding has caused the success and developmental advancement in technical and vocational education, which was achieved over the years, to become frustrated to failure.

Politics and Frequent Changes in Education Policies

Politics and frequent changes in government negatively affect the implementation of national policies on education. Each president, minister, governor and commissioner has his/her own perception and conception of educational policies that should be implemented in his or her tenure. This trend has left us predominantly at the drawing board stage of very good educational policies.

Inadequate Supply of Technical and Vocational Education Teachers

Inadequate production of quality vocational teachers hampers the supply of such caliber of teachers to give expected training in manipulative skills to students. Even serving teachers are not motivated to remain in teaching. Some therefore, migrate to companies and other establishments that offer better remunerations.

Poor Public Perception of Technical and Vocational Education

There is a general misconception that makes many uninformed citizens believe that vocational courses are meant for those who are not academically sound (Vol, 1997). There is also an absolute disconnection, negligence and bias against vocational education by the Nigerian society. It is important to state that this myth must be

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addressed in and out of the classroom if Technical and Vocational Education is to take its rightful place in the economic development of the nation.

Poor Management of Vocational Education

Technical education has over the years, been made an appendage of general education. This has resulted in many flaws in the management structure of the system. At the apex level, people with no technical education knowledge are frequently appointed into the membership of the State Board for Technical Education, the resultant effect being the formulation and implementation of policies that are counter productive such as appointment of non-professionals as principals of technical schools.

Facilities and Equipment

It is common knowledge that technical schools in the country are ill- equipped especially those in the rural areas. Equipment supplied to some schools are no more functioning because of poor maintenance, while some technical schools with functional workshop equipment have no electricity system to operate them. Some schools are not adequately provided with materials for students' practical work while others have workshop buildings that are in very bad state.

Lack of Collaboration between Technical Schools and Industry

In societies where adequate emphasis is placed on technical and vocational education, industrial establishments are made to support the training of vocational students and even teachers through a cooperative arrangement. In Nigeria, the only such arrangement is the Students' Industrial Work Experience Scheme (SIWES), which is intended to give students the required work experience. Regrettably, even this programme is not effectively implemented and monitored.

Conclusion

The need to regenerate Technical and Vocational Education in Nigeria has been critically examined in this presentation. In reality, it is time to act for as Olufohai (2013) argued that the economic dynamics of countries such as China, Malaysia, India and Chile is built on thousands of highly efficient small-scale industries that employ mostly people with technical and vocational skills. Nigeria can do same if she hopes to become an economic power house. As suggested by Osalor (2012), rebranding in Nigeria should start with the education sector – for without technological capability, Nigeria will continue to dream of becoming a great nation.

Recommendations

Given the nation's resolve to improve on her developmental strides and to make technical and vocational education a pivot for such developments, the following recommendations should be useful:

1. The annual budgetary allocation to education generally, and especially for technical and vocational education should be improved. This will facilitate

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supply of equipment and renovation of infrastructure and general improvement in vocational offerings at students' and teachers' training levels.

2. Legislation should be put in place to ensure continuity in educational policy implementation to avoid a situation where policies come and go with every successive government in Nigeria.
3. Admission quota for technical and vocational education should be improved in the Nigerian tertiary institutions to produce more technical teachers. The government should also consider giving scholarships to indigent students to encourage them to take up careers in vocational education as was done in the 1970s and 1980s. Technical teachers should be adequately motivated through financial incentives - like improving on the hazard allowance and special salary packages.
4. In order to improve its image, effective publicity should be carried out in the mass media. Nigerians should be sensitized through the media to know that they have squeezed themselves out of service-related jobs and encourage them to develop employability skills through vocational and technical education.
5. Appointments into the technical and vocational board should be reserved for specialists in vocational and technical education. Principals of technical and vocational schools should be qualified vocational educators.
6. There should be massive importation, supply and installation of technical equipment in the nation's technical and vocational institutions at all levels.
7. Collaboration between schools and industries for on-the-job training is very important and should be explored. For instance, it should be a policy for every registered business operator in Nigeria to collaborate with schools located within the vicinity of its operation to offer training opportunities to technical students and teachers. Such arrangement can be done using any of the available cooperative training options.

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