
Technical and Vocational Education and Training (TVET) For Sustainable Future in Nigeria

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Abstract

Sustainable development is only possible if there is a critical mass of skilled people as there is increased capital returns when the level of education goes higher and this will push the nation out of the middle income into high economy. Technology and Vocational Education and Training (TVET) will play a pivotal role in the provision of skilled workforce needed for the country's economic transformation. Achieving sustainable development has been very elusive especially in the developing countries. This is because of poor infrastructure, poor governance, unutilized resources, unaccountability, lack of transparency and lack of skilled human capital, which in return hinder national development. The current Education system in Nigeria is exam oriented and does not provide any functional skills because it encourages rote

Journal of Resourcefulness and Distinction, Volume 8 No. 1, August, 2014

learning, drilling of the learners and this will eventually lead to mechanical learning, and eventually make learning not to be learner centered and creativity is not encouraged. TVET also intends to establish how knowledge management can be utilized to achieve sustainable development through TVET in Nigeria and in the long run curb challenges emanating from inappropriate training methods which lead to non functional education and lack of equity in some knowledge supply chains resulting in lack of lifelong employability.

In pre-colonial Nigeria, learning of the youth was through traditional apprenticeship. Here the apprentice watched the masters and slowly developed abilities to execute practical aspects needed tasks. Later, with the coming of the missionaries, some formal learning was introduced and the Africans were taught basic literacy subjects like masonry, carpentry and agriculture so as to provide cheap labour and not make them self reliant. The European schools on the other hand, were to prepare graduates for white-collar jobs while the Asians education was meant to prepare learners for accounting and book keeping. After independence, the new government wanted to put in place a strong economic base but technical knowhow was not enough since the expatriates were leaving the country.

For a country to reach the middle economy cadre, knowledge and social skills are the key engines of social development and economic growth. Education and training should be seen as a lifelong endeavor where one remains relevant and marketable as this will lead him/her to learn quickly and be innovative and in the end lead to lifelong employability. These can only be realized if the quality of training is emphasized and the trainers are willing to adapt the technological advances. All these have been entrenched in Nigeria's Vision 2020, which proposes Technology and Innovation as the main drivers of the economy.

Technical and Vocational Education and Training (TVET) in Nigeria Today

United Nations Educational, Scientific and Cultural Organizations (UNESCO's) definition of Technical and Vocational Education and Training (TVET) is: " 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 knowledge, Practical Skills, and Attitude relating to occupations in various sectors of economic and social life" (UNESCO, 2005).

By definition, technology is "the know-how that extends human capacity" (Alavi and Leidner, 1990). It is more than knowing but also having desire to do and produce an outcome. Technical, Vocational Education and Training (TVET) in Nigeria is seen as a kind of education that provides learners with the technical skills that can be used generally in technical fields under the Ministry of Education, Science and Technology.

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These programmes are designed to prepare skilled human resources for various positions in industry and the informal sector. The offering of the TVET subjects is at the Technical Training Institutes, Polytechnics, Institutes of Science and Technology, and Universities. Polytechnics in Nigeria offer diplomas, higher national diplomas and certificate in TVET (Ferej, Kitainge, Ooko. 2012).

TVET is understood to be:

- 1) an aspect of lifelong learning and preparation of responsible citizenry;
- 2) an avenue to prepare for occupational fields for participation in the world of work;
- 3) an important part of education

Technical, vocational education and training (TVET), has been used by several developed countries as an instrument of development. However, in Africa, TVET has not been given the focus it deserves and its significance has not been fully embraced. Studies show that, in Africa funding towards TVET is not satisfactorily done, TVET training centres have been neglected or overtaken by institutions concentrating on purely academic education. In addition, people tend to view TVET in a negative way, as education and training meant for those who have failed in the society. This perception has been aggravated by the lower academic requirements stipulated for admission into TVET programmes.

The societal stigma of TVET has also been created by the impression that the main objective of vocational education and training is to cater for school drop-outs and those completing secondary education with minimum entry requirement who cannot find places in higher education which is the preferred choice for many youths.

TVET therefore offers an important avenue to train skilled workers for the employment market and for sustainable livelihoods and those already employed can take up refresher courses thus leading to a lifelong learning, which is about acquiring and updating all kinds of abilities, interests, knowledge and qualifications. In addition, TVET promotes development of knowledge and competencies that will enable each graduate to adapt to the knowledge-based society and actively participate in all spheres of social and economic life, taking more control of his or her future (Armstrong, 2009).

In addition, TVET-based qualifications and careers are still poorly perceived and recognised in the workplace. There are a large number of skilled yet unemployed people and this is because of declining employment in the public and private sectors. On the other hand, Africa has a large cheap unskilled labour force, because of lack of education and training. However, the core role of TVET is enhancing the informal sector and in offering skills and knowledge to the unskilled.

TVET Institutions play a very vital role in the growth and the development of the economy by producing graduates who in the long run fit into the dynamic demands of the economy. There is an increased enrollment of learners in the TVET institutions to undertake the practical courses like in building and construction, automotive and mechanical engineering work.

The Skills from TVET

There is a mismatch in TVET skills and demand due to globalization, changes in technology, organization of work, new development of work like worldwide, recession, international financial crises. The current education in Nigeria is exam oriented and does not provide any functional skills because it encourages rote learning, thrilling of the learners leading to mechanical learning and this will not encourage creativity and this will lead to learning not being learner centered. In the long run it will lead to no skills being acquired but a mere acquisition of a certificate showing that one reached a certain level of education and this will lead one not to get employed leading to some people resorting to uncouth ways of acquiring wealth. While TVET overlaps general education, it has a distinctive feature because it links more directly with the workplace (Keating, 1995).

Science, Technology and Development

Science and technology are vital components of a country's economic growth, wealth creation and poverty reduction strategy. This is valid in those countries which are industrialized or developing countries. There is an increased recognition of the added value of private sector involvement in making knowledge and technology (provided by knowledge institutes) available to low income groups in developing countries (Kerre, 2010).

In Africa, development must start with meeting the basic needs and a reduction in poverty, ignorance and disease and this can be achieved through science and technology, as it will lead to empowerment at the individual level. The use of technology is evident in agriculture, manufacturing, communication, energy, communication, transportation, construction and even bio-technology. High economic growth is contributing to the reduction of global poverty rate. However, high economic growth also has high economic high environmental costs Millennium Development Goals (MDGs) (UNESCO, 2005).

Education for Sustainable Development (ESD) can develop critical thinking skills for evaluating and assessing the relationship between the different MDGs and globalization of capital. It will also lead to exploration of new development alternatives and provide and support education and learning goals that will help in the achievement of the MGDs.

Knowledge Management (KM)

Knowledge management is concerned with storing and sharing the wisdom, understanding, and expertise gained in an organisation about its processes, techniques and operations (Armstrong 2009). Knowledge management comprises of a range of strategies and practices used in an organization to identify, create, represent, distribute, and enable adoption of experiences and insights and thus result in knowledge embodied in organizations or individuals as practices or processes. KM includes courses taught in the fields of library and Information sciences, information systems and business administration. (Alavi and Leidner, 1999).

Knowledge Management-KM, includes the following perspective:

- 1) Organization with a focus on how an organization can be designed to facilitate knowledge processes best.
- 2) Techno-centric with a focus on technology, mostly those that enhance the sharing and creation of knowledge.
- 3) Ecological with a focus on environmental factors, identity, interaction of people, knowledge, and environmental factors.

Knowledge management therefore entails identifying relevant information and disseminating it to enable learning to take place by linking people together and with information and by so doing, they are able to learn from documented evidence.

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TVET influences directly the world of work and can help improve the incomes of poverty-stricken citizens, provide them with more choices in their lives and help empower individuals who would otherwise have been marginalized in society.

TVET in the past has been seen as ‘second-class education’ compared to general academic education. TVET is now seen as the master key to poverty alleviation and social cohesion and a chance for countries to join in the league of development and globalization (UNESCO, 2005)

The UNESCO Bonn Declaration on Learning for Work, Citizenship and Sustainability (2004) stated that “since education is considered the key to effective development strategies, technical and vocational education and training (TVET) then must be the master key that can alleviate poverty, promote peace, conserve the environment, improve the quality of life for all and help achieve sustainable development”.

TVET has continuously helped improve the quality of human capital and has provided the necessary knowledge and skills for the development of one's capabilities towards the achievement of national competitiveness and sustainable development. TVET is also considered an indispensable instrument for improving labour mobility, adaptability and productivity, thus contributing to enhancing a nation's competitiveness and addressing labour market imbalances.

Thus, TVET and sustainable development are inevitably connected. TVET, has an essential role to play in raising awareness, and providing skills and values considered necessary to put sustainable development into practice.

Nigeria's Vision 2020 is a national development plan anchored on the newly redefined development concept of 'Sustainable Development' by the three pillars: the economic, social and political on a foundation that aims at transforming Nigeria into a newly industrialized frontier, "middle-income country providing a highly quality life to all citizens by the year 2020" (Kerre, 2010). What is needed therefore, is a workforce with the necessary technological competencies and the capacity to provide for their wants and needs for a quality lifestyle and this can only be achieved through TVET institutions which are well equipped (Kerre, 2010).

TVET graduates will play an integral part in inventing and implementing practical solutions to problems like poverty, access to safe drinking water, environmental degradation and hygienic sanitation. They have roles to play in helping the society to respond to environmental and development issues as they work between nature, technology, economy and society.

TVET for sustainable development must incorporate considerations that will influence economy, society and ecology, commitments, and competencies are sort.

Conclusion

If the middle level colleges continue to offer TVET courses by churning out graduates who have hands on the job skills, then these colleges will have carved themselves a niche and hence remain afloat and a source of competitive advantage. Lifelong learning is a self-motivated and voluntary pursuit of knowledge for professional or personal reasons, it takes place throughout life and in many situations. It enhances social, citizenship, personal development, competitiveness and employability hence should be emphasized at all levels of learning.

Recommendations

It is recommended that:

1. The school curriculum should integrate technical and vocational education into the mainstream general curriculum in the early forms of learning i.e. childhood and primary level. At secondary level, emphasis should be on orientation and exploration of technological careers while at post secondary, emphasis should be on specialization with regard for higher education and training for those willing and having the capacity to do so. Social awareness should be emphasized.
2. The curriculum should also be modified to meet the requirements of Vision 2020, which posits that there should be creation, adoption, adaptation and usage of knowledge so that it becomes part of formal instruction as per Vision 2020.
3. A new incentive structure should be developed to support Science Technology and Innovation (STI).
4. Education and training should be made responsive to the changing needs of the globalized economy and there should be a widened access to education and training as this will reduce social and economic inequality. Those centers which train the talented and gifted learners should also be funded.
5. There should be harmonization among the ministries of education, training and skill development; appropriate career guidance, funds for TVET and tools and equipment which meet industry standards.
6. Positive attitude towards TVET can be achieved through favorable policy and legislative environment. The government should allocate more money to TVET institutions and the machines used should be relevant to those in real place of work.
7. The skills offered should be practical based on demand and not supply driven and the learner given a chance to be innovative, this is because in exams they are given a drawing paper to reproduce a car engine instead of being given disjointed parts and allowed to be creative and come up with whatever they dim fit. The training should not necessarily be for local circumstances nor be based on local practice codes.

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