

INNOVATIVE APPROACHES TO TECHNICAL VOCATIONAL EDUCATION AND TRAINING FOR ECONOMIC DIVERSIFICATION

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Introduction

The theme “innovative Approaches to TVET for Economic Diversification in a Developing Economy” is topical and timely, particularly at this period when we need to remind ourselves that education is not only about making sure all children attend school. Education is also about setting young people up for life, give them opportunities to find a decent work, earn a living, contribute to their communities and societies, and fulfill their potentials (UNESCO 2012). This agrees with one of the national education goals in Nigeria which is to enable individuals acquire appropriate skills and competencies as equipment for the individual to live in and contribute to the development of the society (NPE: 2004:8).

The Nigerian Association of Teachers of Technology recognizes that qualified, skilled workforce is essential to the economic well-being of Nigerian's business, industry and public sector, NATT also recognizes that the economic vitality of our citizen will depend upon Technical and Vocational Education and Training's (TVET) ability to provide educational experience based upon labor market information relating to the needs of industry, business and public sector. I think it is in line with this awareness that we are here to contribute to knowledge on innovative approaches for achieving economic diversification using TVET to drive the process. UNESCO (2012) declared that the benefits of Technical and Vocational Education will depend upon labor market demand. In other words, TVET should be linked to labor market needs such as it is done in China, Republic of Korea and Thailand.

Several papers will be presented on the various sub-themes. My address is to highlight the key note on innovative approaches that can be applied for TVET to enhance wealth creation industrial development, economic diversification, instructional delivery and marketing/branding.

In sharing my thought on the theme of this conference, I wish to suggest that the government needs to pay attention to some central issues:

- Is the TVET system aligned with the type of skills required for economic growth?
- Does the TVET system have impact on economic development of Nigeria?
- Are qualified people engaged to administer TVET in federal, state and local government levels?
- Are graduates of TVET programmes employable by private and public establishment?
- What make TVET to be effective and responsive in a developing economy?

Those questions must be answered in an honest and direct way in order to have a focus on the way forward.

What is TVET?

Technical Vocational Education and Training (TVET) is a means of preparing for occupational fields and for effective participation in the world of work. Quality TVET helps in the development of individual's knowledge of science and technology in broad and specific occupational skills. TVET provides opportunity for people to equip themselves with skills that lead to productive and satisfying lives (Akinseinde, 2010; UNESCO and ILO, 2002).

TVET is a profitable education and can be regarded as a vehicle of national economic growth since it has practical or industrial significance. TVET helps in the reduction of unemployment and increases the number of jobs that requires hand tools simple machines as well as advance technology. At present, there is high rate of unemployment and idleness among school graduates in Nigeria.

Prevailing Situation

There is high level of awareness of TVET and what it can do for us socially and economically. Early providers of western education in Nigeria never saw technical and vocational education as a priority, and there was no need to have educated Nigerians with high technical know-how. So early institutions for vocational and technical education had low patronage. The situation changed when there was the need for technical personnel to service Nigerian Railway, Ministry of Lands and Survey, and Marine Department between 1901 and 1931. (Adesola, 2002; FME, 2000).

We have realized that manual workers cannot be separated from intellectual training and vice versa. This is because academic and vocational components are complementary (Zonkwa, 2010). Also rapid changes in occupation require more Mathematics and Sciences in TVET programme. So, training young people for employment in the 21st century requires foundation skills (e.g. problems solving, analysis problems, and entrepreneurial capabilities), and technical/vocational skills (i.e. specific occupations, technical knowledge and apprenticeships). (UNESCO, 2012). This implies that students should be well equipped to succeed in TVET programmes.

Instructional Design, Delivery and Technology

Course design in TVET has moved toward Competency Based Training (CBT). The methods of instruction involve mastery learning of required knowledge and skills. This will be effective if sufficient time is given and the appropriate training method used. All specified competencies can be achieved using a variety of support materials which include anatomic models, simulations, audiovisuals, and reference manuals which are relevant to the performance objectives. The implication of using CBT is that the education managers must be committed to providing adequate resources and training materials.

Davis & Roblyer (2005) encouraged teachers to be active users of internet technology. So, a technology teacher must be resourceful, competent and experienced in the application of institutional methods. For example, Technical and Engineering Drawing can be taught effectively using AutoCAD package. There is the need to identify effective learning techniques for TVET programme, as well as instructional resources.

TVET and Economic Development in Nigeria

The current main source of financing development efforts in Nigeria is from oil revenue which is contributing at least 90 percent of the nation's foreign exchange earnings so, depending heavily on the oil and gas sector is unhealthy for the system since we have no control over the price and the output of oil. Ekpo (2015) cautioned that the economy is likely to enter a recession phase by 2016. The indicators of this assertion are

- (1) The economy is deteriorating
- (2) Decline in oil revenue.
- (3) Nigeria depends heavily on crude oil export.
- (4) Unemployment is high, and at the level of national crisis, and
- (5) Poverty incidence continues to rise.

Nigeria needs to move away from oil to agriculture iron and steel industry, chemicals, pharmaceutical industry and revamp the machine tools industry.

The need to change the structure of the economy to a path of sustainable growth requires learning some lessons from other nations. Barro (1998) observed that the Asian reputation and economy suffered between early 1960s and 1970s because of financial crises and economic recessions. He remarked that by 1998, there was significant increase in productivity due to the following:

1. Contribution of technological progress to economic growth.
2. Large increments in public health, elementary education and technical vocational education.
3. Development of human capital, characterized by a highly educated and skilled workforce who specialized in areas where Hong Kong, Singapore, South Korea and Taiwan had competitive advantage. Their economic success stories made them to be known as "**Four Asian Tigers**", or "**Asian Tigers**". This economic miracle should serve as role model for a developing economy like Nigeria.

These nations were able to move from third world status to first world status in a few decades. Singapore, for example, laid solid foundation for the acquisition of basic vocational skills. There was increased emphasis in improving the level of skills and quality of education and training systems in TVET institutions between 1980 and 2010. Seng (2012) observed that Singapore strengthened industrial training system and had growing concern on how to

expand and have quality TVET to meet the technical skilled personnel needs of new emerging industry.

From the analysis above, one can conclude that TVET is a unique brand education known for the quality, relevance and value all over the world. Their products are highly employable and prepared to absorb the challenges of modern global economy.

Conclusion

From a global perspective, many countries have used technology and human capital principally to drive their economies to wealth and prosperity. In Nigeria, the impact of technology on the economy has not visible matched those of other industrialized countries. It can be argued that the difference is traceable to inadequate technology infrastructure, particularly with respect to training and management of the workforce. Besides, appointments to the Boards of technical institutions were given on political basis in order to reward the party faithful. With what is on ground, the economy will not profit from it. Our desire to fulfill economic diversification through technology was thwarted by the problem of governance, quality, efficiency and finance.

It is my desire that the outcome of this national conference will provide answers to the following questions:

- How can TVET contribute to industrial development?
- Is the TVET system closely linked to the national economic development agenda?
- Is sufficient attention given to the less academically inclined in the school system/
- Are we adopting policies, experience and best practices that have proven successful to manage the TVET system in Nigeria?
- What are the innovative for integrating classroom learning with occupational experience?
- How can we market TVET to public and private sectors?

If a goes job is done on the sub-themes, then our main theme becomes transformed thus:

- From economic depression to economic miracle: TVET as pilot.
- TVET and economic development in Nigeria: Towards a better future.
- Pathway to prosperity: Transforming TVET for economic development.

From the above presentation, it is obvious that TVET is very relevant and must be exploited in the face of massive unemployment of youth and graduates of the country's educational system. Ajayi (2010) decried the failure of education to enhance social and economic development. He encouraged the government to establish more vocational centers as well as encourage Nigerian s especially youths to establish more vocational education. He is of the opinion that we should discourage the idea of everybody wanting to go to university without considering our polytechnics and their benefits.

Some countries have used technology and human capital to drive their economics to prosperity. They used a number of innovative approaches to get to where they are now. They were able to convert ideas and innovation into goods and services for their economies to grow. Such economies should be of interest to developmental economy in Nigeria. Measures taken include the promotion of effective personnel development, funding and equipment TVET institutions, updating of curriculum and facilities and align TVET system with skills required for economic growth. We can maintain quality in TVET service delivery, increase students' options and equip them with saleable skills. Where we lack equipment and insufficient number of technical/vocational instructors, it is possible to have Shared –Time arrangement with schools that have facilities for required programme. Akinseinde (2014) recommended resource sharing models for (1) shared –time without central facility, and (2) area vocational central facility. Also, the TVET system need to be strongly attached to industrial set up. Are we ready to employ the best practices to enjoy the benefits of TVET?

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