

TECHNICAL AND VOCATIONAL EDUCATION: A CATALYST FOR NATIONAL DEVELOPMENT IN NIGERIA

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Abstract

Vocational and Technical Education (VTE) is that form of education that prepares Students who could apply relevant practical skills to make positive changes within their society and afford a self-dependent life. This form of education has been attest. Severally as an education that provides self-employment, enhance productivity and self-reliance. It reduces the over dependence of school graduates on government own jobs. Vocational and Technical Education gives individual the skills to live, learn and work as productive citizen in a global society. This paper examines the significance of Vocational and Technical Education in national development and productivity, highlighting its problems in Nigeria which among others include poor implementation of the VTE programme which affect national growth and development. Suggestions raised include re-branding the Technical and Vocational Education programme from the basic education level.

Introduction

Across the world, governments are doubling their efforts in promoting vocational and technical education in tertiary institutions, with a very firm and strong belief that skill formation enhances productivity and sustains competitiveness in the global economy. According to At choarena (2004), in recent years, the debate on the knowledge economy has drawn more attention of governments to vocational and technical education. This, of course, has made the government of South Africa and Philippines to reshape their vocational institutions in order to make them more efficient and effective. This was done by merging vocational and technical education together as a means of rationalizing resources and concentrating management capacity with the institution of improving institutional efficiency and effectiveness. This was also done in the spirit of developing appropriate skills and competencies to combat youth unemployment, poverty and further contribute to social transformation. Vocational and Technical Education according to Danko (2006), is the core of both the individual's and the society's economy. He stressed further that through acquisition of skills, individuals could explore their exploits, their environment and harness the resources within it, which could serve them and the society since the wealth of the society determines to a large extent, the extent, the development of the nation. Okorie (2001) said that Vocational and Technical Education is basic for rapid technological advancement. In Nigeria, there has been emphasis in recent times on improving vocational and technical education in tertiary institutions basically for combating unemployment and poverty, as well as improve the economic performance of the nation. According to Usioboh (2007) Successive movements have over-emphasized other university education programme above the equally important technical and vocational education. He further stated that, what is needed

is for the government to give adequate and equal attention to all the various levels of education of our citizenry, in the best interest of our national development.

Conceptual Frame work National Development

National development is the ability of any nation to improve the social welfare of the people e.g. by providing social amenities like quality education, portable water, transportation, infrastructure, medical care etc. On the other hand, national development is an exploitation and utilization of both human and material resources to improve the lots of a nation. In Nigeria, Vocational and Technical Education is the form of education perceived to be the greatest weapon that can be used to bring or achieve a quick desirable changes or development in the country' s economic, political, sociological and human resources.

Technology unarguably emerged as the dominant factor in determining the wealth of a nation. The technology applied in Nigeria today has been imported which impact negatively to the development of our indigenous technology (Habibu, 2007). No nation can be self-reliant without developing and utilizing her indigenous talents and technologies. According to Abdullahi (1993), developments in TVE are intimately linked to the general trends in the economy and labour markets which are particularly susceptible to the effects of technological changes. It is believed that the promotion of TVE would enable an individual to be better, more useful and productive citizen of the society for sustainable development in Nigeria.

Technical and Vocational Education

Technical and Vocational Education is a planned programme of courses and learning experiences that begins with exploration of career options, supports basic academic and life skills and enables achievement of high academic standards ,leadership qualities, preparation for industry define work and advanced and continuing education. Adele and Olukayode (2007) describe TVE as a programme with various branches that can transform Nigeria into a can transform Nigeria into a producer/manufacturer nation from its present status to a consumer/ importation. Its various courses are career oriented and thus arms graduates with skills to work in the chosen trade or profession. The current Nigeria National Policy on Education places great emphasis on technical and vocational Education as an integral part of national development strategy. Federal Republic of Nigeria(2004) describes Technical and Vocational Education as a comprehensive term referring to those aspects of the education process involving in addition to general education the study of technology and related science and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupation in various sectors of economic and social life. For country 1o advance socially, economically and technologically, its citizens must be productive and creative. it has a productive citizen majority of which can be job creators rather than job seekers Enearta (2008) views Vocational and Technical Education as a programme that prepares learners for career that are based in manual or practical activities, traditionally non-academic and totally related to a specific trade occupation or vocation, hence the term in which the learner participates. Obidile (2014) corroborates the above definition when she defines Vocational and Technical Education as the type of education which equips the learner with the necessary knowledge and specific skills which are need to start work. For her VTE encompasses the training (on-the-job, out-of-school, artisans) given to an individual to advance his/her proficiency in relation to his/her present or future job. Okoro (1993) cited in (Momoh, 2012) says that vocational education is a form of education that prepares persons for employment in recognized occupations, while technical education is meant to produce technicians through the vocational training they received in the post-secondary level of education.

To Okoye and Arimonu (2016), vocational education refers to skills-based programmes designed for skill acquisition at lower level of education. They focus on specific vocations for entry into defined workplaces. Technical education, on the other hand, is not designed for any particular vocation but rather provides general technical knowledge. It prepares people for entry into recognized occupation at a higher level but usually lower than the first degree. As they opined, technical and

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vocational education are usually a merger of technical education and vocational education, that is, the inclusion of basic technical and scientific knowledge with the skill-based vocational programme. Aghenta and Egwuelu (1995) offered a more elaborate definitions of the terms. For them, vocational education is a type of education which is concerned with the development of skills, knowledge and attitude necessary for success in any occupation. On the other hand, technical education is an aspect of vocational education that stresses the engineering aspect of vocational education such as electronic, electrical, mechanical and automobile.

Adamu (2006) defined TVE as that aspect of education that gives its recipients an opportunity to acquire practical skill as well as some basic scientific knowledge. It also involves the acquisition of skills and competence that can help individuals to function productively in industries, commercial or educational sectors.

In summary, Vocational and Technical Education can be defined as educational programme that inculcate skills, values, attitudes, discipline etc on an individual which prepares him for entrance into a specific job or occupation.

Goals of Technical and Vocational Education in Nigeria

Nigeria's philosophy of education holds that:

1. Education is an instrument for national development; to this end, the formation of ideas, their integration for national development, and the interaction of persons and ideas are all aspects of education;
2. Education fosters the worth and development of the individual, for each individual's sake, and for the general development of the society;
3. Every Nigerian child shall have a right to equal ed educational opportunities irrespective of any real or imagined disabilities each accounting to his or her ability;
4. There is need for functional education for the promotion of a progressive, united Nigeria, to this end, school programmes need to relevant, practical and comprehensive, while interest and ability should determine the individual's direction in education. (FRN, 2004).

The philosophy of technical and vocational education in Nigeria hangs mainly on the above stated philosophy of education. This implies that any programme that will qualify as "education" in Nigeria should not just offer "certificates" but must be relevant, practical and work-oriented. This will go a long way in solving under-employment/un-employment and the attendant problems. It will also empower the graduates to become relevant producers of goods and services as well as become sensible consumers of same

It is in the light of the above, that FRN (2004), provides that the goals of technical and vocational education shall be to:

- Provide trained manpower in the applied science and technology and business particularly at craft, advanced craft and technical levels.
- Provide the technical knowledge and vocational skills necessary for agriculture, commercial and economic development.
- Give training and impart the necessary skills to individual who shall be self-reliant economically.

Funding of Vocational and Technical Education Programmes

There is no gainsaying that the level of funding a programme receives will determine the success or otherwise of the programme. The funding of education generally is supposed to be the responsibility of the various tiers of government. However, because of the enormous cost implications, the National Policy on Education (2004) states that the financing of education is a joint responsibility of the Federal, State and Local Governments and the private sector. It is to this end, that government welcomes and encourages the participation of local communities, individuals and other organizations.

This is particularly true for vocational education. We as a nation generally need to actually invest more in vocational education; not just on paper but in practice. The document further states that sectoral bodies such as the Education Tax Fund (ETF) have been established to respond to the funding needs of education. In addition, other funds from which the burden of financing education can be eased are:

- i. Industrial Training Fund (ITF)
- ii. National Science and Technology Fund (NSTF)
- iii. Petroleum Trust Fund (PTF).
- iv. Tertiary Education Trust Fund (TETFund) created from the defunct Education Trust Fund (ETF).

Apart from the above stipulations, sources of funding for vocational education can be classified into two:

Internal Sources: This refers to sources within the various institutions. These include: levies, launching programmes, donations, fees from sandwich, remedial and consultancy services, contributions from Alumni Associations, business outlets such as school canteens, bookshops, cyber cafe, business centres, mechanical workshops, farms etc.

External Sources: This refers to sources outside the various institutions. These include the various tiers of government. Such funds can be in the form of budgetary allocations, donations, subsidies, various funds and grants, e.g. Education Trust Fund (ETF), NSTF, PTF etc. It could also be in the form of aids from foreign countries and organizations e.g. UNICEF.

It is however pertinent to note that government remains the major financier of education. However, there is need for institutions to develop alternative funding strategies in the form of donations and support from philanthropic organizations, private companies, non-governmental organizations (NGOs) and private individuals to get more actively involved in vocational education if the nation is to make headway in this direction.

Technical and Vocational Education and National Productivity

Productivity is the effectiveness of productive effort, especially in industry, as measured in terms of the rate of output per unit or input. Productivity is a crucial factor in production performance of firms and nations. It measures the economic growth of a country. This cannot be achieved without growing the labour productivity which depends on the main factors, investment and saving in physical, capital, new technology and human capital. Higher productivity is a means to better levels of economic well-being and greater national strength. Technical and Vocational Education is often seen as a product of human resourcefulness. This is to say that the technological progress of any nation depends on the level of resourcefulness by her people which in turn is the direct reflection of the quality of training and meaningful development in education of a nation.

Agbionu (1994) argues that training and development of manpower to provide the skills that will enable the worker to work more efficiently is an important part of productivity improvement. He explained further that, whichever process a nation wants to adopt in the development of its technology, the system of technical and vocational education provides the bedrock on which the activities of technology development have to be funded. This is because any technological system involves specific arrangement of labour and capital in the production process, and capital parse, is a product of human knowledge. The mere fact that Technical/vocational education is indispensable for productivity growth is a key factor for national development implies that technical and vocational education plays a vital role in nation development.

On the other hand, to attain great achievement of productivity and Sustainable economic environment and natural development in this modern world, appropriate attention and optimum recognition are to be given to the promotion of Technical and vocational Education in Nigeria.

The role of Technical and Vocational Education in National Development

As earlier highlighted, the primary purpose of technical education is useful employment to adults and young people who are preparing to enter occupations in agriculture, business, home-making, industrial and technical fields. Technical and Vocational Education played a vital role in national development, especially in areas which include the following:

1. **Poverty alleviation:** Many who are fortunate to graduate in a regular school system and excel in various fields of learning fall back to the skills acquired in technical and vocational institutions in times of employment crises. This has been proven right in recent time when workers of various categories were retrenched in both public and private sectors due to the deteriorating state of our economy. Such workers who possessed skills other than that for which they were previously employed had something else to fall back on and better off financially than those who had no other skills.
2. **Reducing Dropout Rate:** dropouts are the persons that leave school or college before the successful completion of their studies. In a situation whereby those people continuously live without sustaining their livelihood, they can notoriously become social miscreants in the society. The vocational and technical education here has a fundamental role to play because it can adequately assist in minimizing the dropout rate. In every society, there are some people that are not contented with the general education and for that reason, they do engage in vocational and technical education where they can adequately sustain their livelihood and be comfortably self-reliant (Okorieocha and Daru 2014).
3. **Promotion of the Nigerian Economy and increasing the earning capacity of Nigerians:** it promotes the national economy through foreign exchange by exporting our products. The knowledge of technical and vocational education helps in the conversion of local materials into finished products, this reduces the importation of foreign goods which lessens our import dependency and encourages exportation of our local products. When this happens, the earning capacity of Nigerians increases and their standard of living improves substantially (Boyi, 2016).
4. **Consumer Education;** consumer education promotes better understanding of individual relationship with business and the peace of business in our socio-economic system. Vocational and technical education educate the youths in the development of consumers business and socio-economic competencies. It therefore makes the youths intelligent consumers of goods and services. A good knowledge of consumer education helps to serve every individual in making adjustments in the economic arena. Akpan (2004) affirmed that vocational and technical education educates the public on the consumption of goods and services and foster healthy business communication consideration and discourage exploitation which could deter the socio-economic growth of the society.
5. **Promotion of Nigerian Culture and value:** Technical and Vocational Education helps to promote the Nigerian Culture and cause us to value what we have. This can be seen in the national and international appreciation of Aso-Oke work in Okene and other South Western part of Nigeria.
6. **Industrial Development:** Technical and Vocational Education helps a nation develop technologically and industrially by producing people competent and capable of developing and utilizing technologies for industrial and economic development. It is a tool that can be used to develop and sustain the manpower needs of any nation.
7. **Generation of employment/creation of job opportunities:** Technical and Vocational Education helps to reduce the rate of drop outs or unemployment in the society. It could be used to developed marketable skills in students/youths so that they can become easily employable. Vocational and Technical Education makes an individual to become an asset to him and the nation and also prevent him from being a liability to the society. This is epitomized by the fact that vocational and technical education is sufficiently capable of providing practical vocational training and skills to the masses. With that, they can independently create job opportunities for themselves and be economically self-valiant (Akpakpan, 2016).

Constraints to Effective Technical and Vocational Education in Nigeria

As Technical and Vocational Education is expected to meet the aspiration of Nigerian society, to shape its future and provide solutions to some of its social, political and economic issues. The development of this educational system has been identified with some constraints, which serve as hindrances to its development. The problems may not be far different from what the system has experienced in the last three decades, but many of which are in the increase as stated by Habibu (2007). The following are some of the constraints militating against effective Technical and Vocational Education in Nigeria:

1. **Inadequate funding of the programme:** No doubt, vocational technical education has made some notable impacts on the Nigerian society, especially in respect to the products of the training programme who are contributing their quota to the economic growth and development of the nation through various industrial establishments (Odu, 2013). Inadequate funding of vocational institutions has caused the turning out of half-baked graduates because there is no fund to build and maintain workshops, laboratories or even purchase modern equipment (Aghenta, 1985). Staffing of Vocational technical education is generally inadequate because of poor funding. Experienced and skillful teachers may not be employed. Those that are employed, because of poor remuneration do not stay long in the teaching profession, but drift to some other more lucrative jobs especially in the industries and abroad. Consequently, inexperienced and unqualified technical teachers are employed thereby lowering academic standard, resulting to wastage in the achievement of technical education goals (Agbionu, 2003). Inadequate funding of Vocational technical institutions has often caused a lot of difficulties in the payment of staff salaries. It has also resulted to the retrenchment of teachers or retirement of teachers at early age. Furthermore, Momoh (2012) and Mohammed (2001) observed that government lack of commitment to technical education and inadequate funding has weakened technical education in Nigeria. A direct consequence of this is that while the number of technical education institutions is dwindling that of general education is growing in bounds (Momoh, 2012).

2. **Lack of facilities and workshop:** Most technical education departments in Nigerian Universities do not have laboratories or workshop space, let alone useable equipment and where they exist, they are grossly inadequate, as the workshops only have items or equipment that were provided when the departments were first established of which most of them are already obsolete or grounded (Ojimba, 2012). It is quite unfortunate and surprising too to know that most technical education departments still depend on engineering workshops and lecturers to teach technical education concepts in this 21st century. The available facilities, as at today are inadequate quantitatively and qualitatively and besides, they are out-dated. Oryem Origa (2005) opined that only 40% of institutions of Higher Education in Nigeria have laboratory or workshop space for technical education programmes. There remaining 60% do not have laboratory or workshop space and this has resulted to the low quality of technology programmes in our higher institutions. He also observed that the few schools that have laboratories, experience acute shortage of laboratory equipment and supplies. The conclusion is that the situation is partly the reason it has been very difficult to carry out experiments effectively for students. This has also made teaching and research in science and technology difficult and therefore the country was producing insufficient and ill prepared technical education graduates for driving the technological and socio-economic development of Nigeria. The shabby performance of technical education graduates is no longer news as very important projects in the country, particularly, the construction industry are now run by technicians and crafts men from neighbouring West African countries (Nworlu – Elechi, 2013).

3. **Brain drain:** This refers to the movement of technical teachers and lecturers of technical education which are very much needed for the socio-economic and technological development of Nigeria from one University to the other or to other professions where they feel will offer them better conditions of service. According to Bassi (2004) about 45% of all Nigerian professionals including technical educators have left the Nigerian shores over the years. Between 1997 and 2007 alone, Nigeria lost over 10,000 middle level and high level managers to the western economies. About 500

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lecturers from Nigerian tertiary institutions have continued to migrate each year, particularly to Europe, America and other African countries.

4. 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 (Ph.D) to teach and continued professional training. Both types of training can be acquired either locally or overseas. Usually, local training within the nation is cheaper than overseas training but more strenuous because of inadequate facilities, literature and distractions arising from the need to meet the necessary demands. Overseas training requires a lot of foreign exchange but the enabling environment exists to achieve success in a record time. However, over time it has always been difficult to get the trainees back to their respective countries after the completion of their study. Invariably, the salary and service benefits paid to technical education teachers in Nigeria is about the lowest in the world. This leads them to migrate to other countries especially the United States of America or local industry for better pay. Academics from within and outside Nigeria also migrate to Botswana and South Africa because of high wages that they pay to the academics and the relatively better equipped laboratories (Ojimba, 2012).

Conclusion

Recognizing the fact that Technical and Vocational Education is the bedrock of any national development. The problems of this form of education should be address and see how vocation and technical education can be maximized towards productivity and sustainable development in Nigeria. It calls for re-branding of and reposition of the technical and vocational education programme to optimally utilize the human and material resources. Nigeria is a country blessed with Nigeria is a country blessed with abundant human and natural resources for instance, the third Nigeria Economic Summit (1996) reported that the country has abundant human and mineral resources, good geographic position, good climate and relatively free from disasters. What remains for Nigeria is to utilize these resources effectively to produce goods and services require for general development through effective technical and vocational education

Recommendation towards further Development of Technical and Vocational Education in Nigeria

The important of Technical and Vocational Education cannot be over emphasized Because it is the engine for economic growth of any dynamic nation. For technology education to play its definite role for effective productivity and Sustainable development in Nigeria, the following recommendations are hereby raised:

1. Government should provide proper and adequate funding for vocational and technology education. This is because a programme is as effective as the level of funding it receives.
2. Technical and Vocational subjects should be made compulsory and not elective at all levels of learning.
3. Adequate and modern facilities should be provided in our schools, colleges, polytechnics and universities. Equipment and facilities for training technology students should be the replica of what is obtainable in the industries. Regular maintenance of the equipment should also be ensured.
4. Training and re-training of teachers, this means products/learners be provided with high trained manpower in Applied Science, Technical, Arts, Home Economics, Business Education etc. Upgrading opportunities for technical and vocational teachers should be provided through workshops, seminars and conferences. It is also required for technical and vocational education teachers to obtain highest qualification possible in their field.
5. Multinational companies/public liabilities companies should support the learning of technical and vocational subjects by providing infrastructure and equipment to schools and awarding scholarship to deserving students to pursue specialization in technical courses.

6. Policies concerning technical and vocational education should be left to those in the field to formulate and implement. Formulation and Implementation of technology education policies by the general educators has been a serious obstacle to development and productivity in Nigeria.

7. Nigeria must cultivate a certain standard of scientific and technological culture. Federal Government should provide adequate education for her citizens. In fact, the National Policy on Science and Technology 1986 recognizes that one important means of having National

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