SOCIETY, VOCATIONAL EDUCATION AND TECHNOLOGY: THE NEXUS

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Abstract

Education calls for enhancement of cognitive, affective and psychomotor domains in order to train and refine the intellect, emotions, attitudes, dispositions and skills of the learners. The result is expected to be exhibited in the quality of the graduates' characters, shaped by inherent moral and social values embedded in the culture of the society and invariably, in the national philosophy of education. Vocational education programme provides theory and practical skills needed in the present day technological society for paid and unpaid employment in the society. This paper examined the concept of education, the society, vocational education, and technology. Challenges facing vocational education programme in Nigeria were highlighted. The relationship existing between the society, vocational education, and technology were discussed. The paper made several recommendations which if adopted could help to improve the existing relationship between the society, technology and vocational education and thus enhance teaching and learning of vocational education in Nigeria.

Technology education is made of vocational and technical education. Vocational education is any form of education whose primary purpose is to prepare persons for employment in recognized occupations. It provides skills, knowledge and attitudes necessary for effective employment in specific occupations. Vocational education assumes that, a choice of an occupation has been made and that appropriate training is needed to enable the individual enter or advance in his chosen occupation. Any education which is necessary for effective employment in an occupation is vocational, while any education which is useful to an individual irrespective of his future life vocations is generally education. General education may be useful in several occupations but not normally an essential part of any particular occupation. Vocational education is education for a particular occupational preparation. Therefore, the skill and

knowledge acquired while training for one occupation, may be of little or no relevance in other occupations (Okoro, 1993).

For the purpose of clarity and brevity Oranu (2004), defined vocational education as that skill – based programme designed for sub-professional level education and based on specific vocation. It is important to note that every vocational education programme is technical in nature, while not every vocational education programme is vocational in nature.

Nigeria like most developing nations of the world believes in technology education as a panacea for economic emancipation. Technology education provides the solid base for any industrial society to excel in its technological achievement. It was this recognition that informed the adoption of the 6-3-3-4 system of education in the country.

Education still maintains its prime position as an instrument for social change. Based on this national aspiration for technological breakthrough, the National Policy on Education (2004) creates a separate section for technology education. In all, however, the policy lists five types of technology education institutions outside the universities. They are: the pre-vocation and vocation schools at post-primary level, the technical colleges, the polytechnic and colleges of technical education at post secondary school level. From the foregoing, it is clear that technology education study has no place in the curriculum at the primary school level.

The Concept of Education and the Society

Oxford Dictionary of English defined Education as the process of teaching, training and learning especially when it goes on in school, therefore it is equally referred to as schooling. Boundless school (2014) defines it as the process by which the society deliberately transmits its norms, values, knowledge and skills from one generation to another. Education enable the recipients attain intellectual, physical as well as emotional progress, thereby enabling the individual live happier and fulfilled life.

Generally, education is viewed as a process of bringing about positive changes in the way people feel, think, speak and act. It is an inevitable and powerful tool or weapon that can be used to surmount ignorance, poverty and disease and to produce functional citizens with positive attitudes towards loving what they ought to love and hating what they ought to hate. Without mincing words, a nation that neglects education is due for extinction from the world's map. Sticht (2009), rightly stated that education is one of the stimulators of the growth and development of any society and it enhances the development of the potentials of human beings hence every society gives it priority.

Most governments in developing countries recognize the principle that education is a fundamental human right. Many enshrine that in their constitutions. In practice the right to education is universally enjoyed by the rich, but not by the poor. In education, as in other areas of social development, wealth matters. Difference in income shapes opportunities for education, which in turn, shape future patterns of wealth distribution.

Education is the process through which individuals are made functional members of the society (Ocho 2005). It is a process through which the young acquires knowledge and realizes the potentialities and uses them for self-actualization and to be useful to self and others (Offorma, 2009). It is a means of preserving, transmitting and improving the culture of the society. In every society, education connotes acquisition of something good or something worthwhile. Education is one of the fundamental rights of individuals. Article 26 of Universal Declaration of Human Rights, which was adopted by the United Nations General Assembly in December, as cited by Nwangwu (1976) stipulated that:

a. everyone has the right to education. This shall be free at least, at the primary stages.
b. elementary education shall be compulsory while technical and professional education shall be made generally available.
c. higher education shall be equally accessible to all on the basis of merit.
d. parents have a prior right to choose the kind of education that shall be given to their children.

Education is therefore, a vital tool for empowerment that allows meaningful contribution to the society. It is the right of all, a key to transform an individual and make the person a responsible member of the society.

Vocational Education and the Society

It has become the norm to pair vocational and technical education when referring to that segment of education which goes beyond general education to prepare the individual for the acquisition of practical and applied skills, and basic scientific knowledge as well as attitudes and values relating to different occupations. Used as twin term, both are geared towards occupation requiring manipulative and technical skills application (Besmart- Digbori, 2004).

However, Aghentta (1985), notes a definite distinction between vocational and technical education. Vocational education, he argues, focuses on manipulative skills in non-technical occupations as reflected in fields such as agriculture, business, home economics, painting and decoration. Technical education on the other hand, is more science – oriented with emphasis on the application of scientific and mathematics principle as applied in such field as engineering. Both vocational and technical education aimed at manufacturing and producing of things.

According to Okafor (1992), vocational education is that segment of education charged with preparing people for work. It also refers to education for self-reliance or employment Olaitan (1985), observed that vocational education has the potential role of transforming the nation economically and technologically. However, vocational education ability to meet this challenging potential is frustrated by the public lack of awareness of the true value of vocational education to the nation. To the average Nigeria, vocational education is perceived as education for those unfortunate members of the populace, who for one reason or the other are mentally, physically or socially handicapped. It is interesting to note that the National Policy on Education (FRN, 2004) see vocational education as that form of education which is obtainable in the technical colleges. This is equivalent to the senior secondary education, but designed to prepare individuals to acquire practical skills, basic and scientific knowledge, and attitude required as craftsmen and technicians at sub-professional level.

Considering that a majority of the Nigerian population can be safely classified as uneducated, Olaitan (1985), study on the views of the educated, uneducated and vocational education confirmed this general lack of public awareness of the potential of vocational education. Against this background, vocational education may be seen as a work – utilitarian education, designed to enable the individual function productively in that occupation and be useful to self and the society. It has to be in a trade needed by the society. While vocational education is designed to develop skills, abilities, attitudes, work habits among others, emphasis should be placed on education for self-reliance or self employment.

The Goals of Vocational Education in Nigeria

According to the revised edition of the national policy on education (2004), the goals of vocational education include the following:

a. To provide trained manpower in the applied sciences, technology and business particularly at craft, advanced craft and technical levels;
b. Provide the technical knowledge and vocational skills necessary for agricultural, commercial and economic development;
c. Give training and impact the necessary skills to individual who shall be self-reliant economically;

The extent to which these goals are achieved depends on the quality of the vocational programmes.

Technology and the Society

The ultimate application of scientific knowledge and ideas is towards developing mankind in a way of solving human problems and meeting the needs of man (i.e. in technology). Technology, therefore, is an applied science. Technological achievements such as domestication or harnessing of animals, the rise in agriculture, invention of writing, the formation of cities and transport on land and in sea have had irreversible effect on human development. Transitions from a primitive to a civilized

condition are more or less occasioned by technology. A technological advanced society is synonymous with a developed country whereas a less developed country is technologically backward with commitment only to the production of food as they struggle to meet other basic needs of the people. This explains why most African countries are technologically backward.

Depending on whether scientific knowledge and ideas are utilized in the technological art, technology may be formal or informal. Formal technology has its practices through formal knowledge and process of silence. Here, there is gross utilization of scientific knowledge, laws, theories, facts and principles towards equipping mankind for this technological age. A good example is the testing of soil sample and water before embarking on road construction. Otherwise, informal technology is acquired through experiences based on natural skills, innovations, ability and apprenticeship. This informal form of technology had existed long ago in Africa. Knowledge of special skills was imparted through parental inculcation and transmitted from generation to generation for solving many problems of their society. Udoh (1993) noted that the African physician was capable of testing almost all diseases that were common in Africa before the Europeans came. African specialists used herbs to cure a variety of diseases such as malaria, convulsion, scorpion stings and tuberculosis.

In agriculture, most of the simple farm tools used in traditional agriculture were locally made by African craftsmen, and such simple tools consisted of machetes or cutlasses as well as hoes among others. African societies did not depend wholly on the outside world for the supply of all their domestic and outdoor equipment. This is clearly evident from the domestic equipment which they produced and their consistency in making full use of what they produced. Udoh (1993) listed spoons, dishes, bags, measuring boxes and containers, climbing ropes and cutlasses as domestic goods made by African craftsmen.

Today, most of these indigenous goods have been produced with the help of modern technology. Medicinal plants have been made into useful drugs while machetes, hoes, cutlasses and other tools have been produced with some technological touch.

The ultimate of technology is to utilize knowledge generated by science to satisfy the needs of man. Such human needs that require technological breakthroughs include Health, Housing, Agriculture, Communication, Information, Energy, Sports, Body Care, Defence, etc.

Technology Education and the Nigeria Society

Vocational – Technical (Technology) education is defined in the National Policy on Education (2004) as that aspect of education which leads to the acquisition of practical and applied skills as well as the basic scientific knowledge. By this definition,

it implies that all other sectors of the economy in the society depend on the progress made in the area of technology education in this science age.

Technology education could therefore be regarded as the most significant system of education for any civilized society. A *Sociologist* *Gerhard Lenski* and Lenski (1982) differentiate societies based on their level of technology, communication and economy. It forms the bedrocks upon which the entire economy is anchored. Unfortunately, such a system of education with vast benefits was not and still does not enjoy the acceptance or the recognition of the generality of the Nigerian society. Probably due to the influence of the kind of education handed down by colonial masters.

Greater emphasis as Udofot (1995) puts it, was placed on the teaching of the arts and humanities, while science and technology received little or no emphasis at all in the school curriculum. This, according to him, was because the colonial masters could accomplish their goal of producing their much needed low-level man-power to serve as clerks and interpreters in the society. This is why at independence, (Ajayalemi and Baiyelo, 1990), Nigeria inherited many serious problems such as acute shortage of skilled man-power in all sector of the economy. This problem reached its critical point during the third national development plan (1975-80). There was therefore urgent need for the government to formulate policies to redress the situation. Members of the society needed to develop some understanding of science and technology as well as an awareness of their limitations and potentials. There was also the need to develop the understanding and awareness in the nation's youths through formal educational system. Hence the introduction of technology education at almost all levels becomes imperative. Technology education, as defined in the National Policy on Education incorporates technical, commercial and vocational courses. Its aim is to train students in the application of scientific knowledge to the solution of practical problems affecting the society and not only manual and skill training. In pursuance of the new national aspiration and goals, the programme was given prominent place in the National Policy on Education as outlined in the objectives below:

- Provide trained man-power in applied science, technology and commercial particularly at sub-professional grade.
- Provide the technical knowledge and vocational skills necessary for agricultural, industrial, and commercial and economic development.
- Provide people who can apply scientific knowledge to the improvement and solution of environmental problems for the use and convenience of man.
- Give an introduction to professional studies in engineering and other technologies.
- Give training and impact the necessary skills leading to the production of craftsmen, technicians and other skilled personnel who will be enterprising and self-reliant.
- Enable our young men and women to have an intelligent understanding of the increasing complexity of technology (FGN, 2004).

In order to actualize these stated objectives, the government evolves strategies such as, adoption of the 6-3-3-4 system of education, the creation of a separate ministry for science and technology, establishment of the National Board for Technical Education (NBTE), Polytechnic and universities of technology and university graduates and technologists are given equal recognition in remunerations etc. These steps do not only help to accelerate the pace of development in the technological sector, but also improve the image of technical education in the country.

However, in all the development, little or no effort is made to incorporate the policy of the technology education into the lowest rung of the nation's education ladder. Primary education forms the foundation upon further academic works is built (National Policy on Education, 2004). It was therefore a serious omission to have left technology education out of the entire plan towards the inculcation of technological literacy in the society, right from the primary school, particularly to those whose primary education would mark their academic terminal point.

The Relationship (Nexus) between the Society, Vocational Education and Technology

Education is one of the basic activities in all human societies for the continuance of society depends upon the transmission of its heritage to the young. It is essential that the young ones be instructed in the ways of the group so that they will behave according to the accepted code of behaviour of the group or society. Every society therefore establishes its own ways of socializing its people into the norms and values. The goals that a society sets for its educational system and what and how children are taught in school all depends upon what is perceived as valuable to that society.

It is generally considered that vocational education like any other course is created to prepare persons for employment in recognized occupations. It provides skills, knowledge and attitudes necessary for effective employment in a specific occupation. Therefore, there is need for the society to concentrate attention and resources on the purpose for which they have been created. Vocational education centres should have activities for youths in the community. The centres should exert their influence in the society or community by practically demonstrating those ideas and values they stand for. It is commonly accepted that the major function of vocational education is to produce men and women, who, in addition to being able to make successful living through skill acquisition, can also adjust to society and contribute to its economic and social well being.

It is through vocational education via schools that individuals receive knowledge and practical skills, which can be used to improve general standard of living in a society as a whole. For example, through both their knowledge and people processing functions, vocational education are able to produce the required manpower that are vital for meeting both the basic needs of the society, thus generating high

productively and growth in the economic sector of the society. Nieto (1992) opined that vocational education supports the economic sector of the society with highly trained and educated manpower that it requires for generating growth.

Challenges Facing Vocational Education Programme in Nigeria

Mbonu (2008) highlighted the following challenges:

- **Very low Esteem of Vocational Education :** Majority of Nigeria youths still opt for grammar related education in preference of vocational education due to the treatment of the society to the graduate of vocational education. The society see the vocational education programme as manipulative in nature, merely designed for those students which are not science inclined and generally poor academically. Doctors and Engineer are given more recognition in the society than vocational education graduates who are equipped with adequate skills needed in industry and commerce.

- **Lack of Respect for Dignity of Labour in the Society:** Graduates of vocational education are not respected for what they can do, rather, the society appreciate those with white collar jobs.

- **Weak Policy and Support for Implementation:** Sousa (2000) posited that education policy is always in evolution and may often be backed by legislation thereby providing it with the teeth to bite where necessary. For instance, in South Africa, most of the education policies are linked to relevant Acts of Parliament (Tirisano, 2000). In Nigeria, some policy decisions on education are yet to be backed by any Act. Implementation is questionable as defaulters are never punished.

- **Lack of Continuity in Policies/Practices:** This is caused by instability in governance, unsteady budgetary provision for the programme resulting from unsteady economy, frequent unplanned changing of leadership by military coup and impeachment by civilian government. Also, the national revenue depends very much on oil revenue alone. Its floatation affects the budgetary provision of all programme greatly.

- **Deteriorating Infrastructures in Institutions for Effective Delivery of Vocational Education Programme:** There is no proper maintenance programme to service the existing infrastructure, let alone provision of new ones. A lot of money is needed for proper implementation of vocational education world over. It is realized that vocational education programme is the country's only hope for technological advancement. (Olaitan, 1996) opined that, adequate funding of vocational education would require the full participation of the communities, industries, organizations and agencies outside the government.

- **Lack of current Database on Vocational for Effective Curriculum Planning:** In this era of globalization where science has turned the earth to global village. Government agencies (supervisor and regulatory) through the ICT programme can enhance easy access for research and development. But there is no current database of vocational education; this hinders personnel who should be able to know the level of vocational education implementation in Nigeria for effective curriculum planning.

- **A widening Gap Exists Between Intended, Achieved Plans and Policies:** Un-strategic planning devoid of any alternatives exists between the intended, achieved plans and policies formulation. All hands must be on deck to ensure it works. If government alone is to sponsor, when it fails to provide, the programme suffers great setback. But when many are involved in funding, it will hardly fail.

- **No Provision of Alternative Power Supply Source for Vocational Education Programme Projects:** Most schools used public power supply and it is not available most times. Vocational education practical projects are not done in school as expected due to constant power failure thereby, making the programme ineffective.

- **Lack of Plan in Updating the Skill of Teacher through Capacity Building:** Retraining of teachers enables them to be current with recent findings and improvement in ever increasing scientific discoveries. No body can give what the person does not have. Over the years our students keep learning old knowledge and skill making them to lack behind their contemporaries in other nations of the globe.

Conclusion

Vocational education can be operated in wide variety of educational institutions. It can be applied in any institution and at any given level. It can take different forms such as: trade and industrial, distributive, home economics, business and office occupation, technical, agriculture or health occupations. If due attention is given to vocational education, the society will be a better place with advanced technology. And the sky will not be the limit for vocational education to meet the needs of the society it intends to serve.

Recommendations

The following recommendations were made:

1. Vocational education curriculum planners should enrich the curriculum to include topics in technology and how it will benefit the society.
2. The government should provide relevant equipment and machines to enhance teaching and learning of vocational education.
3. Supervision of the effective use of the equipment should be carried out regularly by relevant authorities.

4. The government through the Ministry of Education should grant permission to business teachers to undertake in-service trainings, workshops, seminars and conferences in order to keep them abreast with the use of the new technologies.

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