

VISION AND MISSION OF VOCATIONAL AND TECHNICAL EDUCATION IN THE 21ST CENTURY

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Abstract

Vision and Mission of the nation's education for development, vocational, technical education must be focused. Today, human society is dynamic with new challenges to human existence surfacing daily. Obviously only those with qualitatively educated and creative individuals can cope with the demands of our rapidly changing society. Hence to be able to solve the problems of the society, there is need for a new vision and mission for the technological sector of our educational system. In this paper, attempt is made to highlight the various concepts of vocational and technical education and indicate how the problems of indigenous technology can hamper the proper mission and vision of technology education. Efforts are made to suggest ways vocational and technical education can be used to develop this country.

Introduction

Mission and Vision is to create a mental picture of the desired state of injecting new or different perspectives to meet our shared aspirations. To properly set a vision and mission for our vocational and technical education, we need to identify clearly our present strengths, weaknesses, opportunities and threats in all their ramifications. It is clear that the level of development of a nation is very much dependent on the status of her vocational and science education. The various organs of livelihood viz: communication, agriculture, health, housing, clothing, etc., are controlled by technology.

In the popular mind, technology is synonymous with machines of various sorts, i.e. the steam engine, the locomotive and the automobile, etc. Vocational education and its history encompass much more than mere technical devices and processes at work. This paper identifies the problems and the way forward associated with vocational and technical education and strategies that can be implored to revitalize its existence.

Concept of Vocational and Technical and Technology Education

Vocation/technical education in Nigeria developed less quickly than other forms of education partly because the voluntary agencies which pioneered western education in Nigeria were unable to increase or popularize this type of education on the same scale as literary education since the former was more expensive in terms of staff and equipment (Fafunwa, 1974:194). Vocational education is currently used interchangeably as "technical education vocational", "technical education" and "technology education" (Abdullahi, 1996; Awotunde, 1996 and Oranu, 1996). National Policy on Education (1981) defines technical education as "that aspect of education which leads to the acquisition of practical and applied skills as well as basic scientific knowledge. Gambo (1983: 32) in agreement with the above definition says that technical education is that aspect of education which involves the acquisition of techniques and application of the knowledge of the sciences for the improvement of man's living standard. In other words, it is the branch of knowledge that deals with the industrial arts, applied sciences, engineering, etc. Based on the above definition, one can assert that some form of technological education existed in this country before the introduction of western education. The training was mainly meant to meet the local demands. These were in the form of smith work, smelting of iron, pottery and the larving of artifacts, etc.

Technical Education under 6-3-3-4 system of education is expected to be as follows, according to (NPE, 1981:28):

- a) To provide trained manpower in applied sciences, technology and commerce, particularly at sub-professional grades;
- b) To provide the technical knowledge and vocational and economic development;
- c) To provide people who can apply scientific knowledge to the improvement and solution of environmental problems for the use and convenience of man;
- d) To give training and impart the necessary skills leading to the production of craftsmen technicians and other skilled personnel who will be enterprising and self-reliant; and
- e) To enable our young men and women to have an intelligent understanding of the increasing complexity of technology.

To make the above aims work for Nigeria's technology breakthrough, both the State Government and the Federal Government were encouraged to establish Technical Colleges of Education, Polytechnics and Universities of Technology across the country. Technological education offered at tertiary level by polytechnics and colleges of education should aim at:

- a) The production of high level and middle level manpower as appropriate in areas necessary for

- agricultural industrial, commercial and economic development;
- b) Identification and solution of the technological problems and needs of industries;
- c) Production of technicians and technologists and similar business related personnel for direct employment into industries.

Furthermore, the National Commission on Secondary Vocational Education NCSVE (1983) clearly states that vocational education at this level is concerned with the development of the individual student in five areas:

- i) Personal skills and attitudes.
- ii) Communication and computational skills and technological literacy;
- iii) Employability skills
- iv) Broad and specific occupational skills and knowledge; and
- v) Foundation for career planning and life-long learning.

From the above assertions, it has become obvious that if the mission and vision on vocational education for national development are realized, they will enhance the individual's abilities and capacities for higher and improved productivity; which will lead to both manpower and national development. Vocational Education does not only prepare and equip students with knowledge and skills that increase their chances of finding and keeping a job, it also equips them with knowledge and skills to create their own employment. But, in spite of this role of vocational education, our society still has a poor attitude towards it. Vocational education programmes are still being perceived as programmes for those students who are less-able or those students not succeeding in "academic" programmes. Research evidence (NCSVE, 1983; Lotto, 1985) continue to show that many technology teachers and technology teacher trainees are drawn from the bottom quarter of graduating senior secondary school students. Thus, those in the programme are stigmatized.

Technology Education in Nigeria

The technology applied in Nigeria today has been largely imported. No nation can be self-reliant without developing and utilizing her indigenous talents and technologies. Nigeria is a country with abundant human and non-human resources. For instance, the third Nigerian Economic Summit (1996) reports that the country has "abundant human and mineral resources, good geographical position, good climate and is relatively free from natural disasters". Ogunranti, A.; Ihongbe, J.H.; Babatunde, S.O; Akanbi, K. & Egwuim, J.C.I. (1985) defines technology as "a systematic integrated process for delimitating and analyzing problems; devising, implementing, managing, controlling, and evaluating solutions to the problems". They state further that man uses machines, ideas, procedures, management, and organized in an integrated process to solve problems. In other words, it means a systematic application of scientific or other organized knowledge to practical tasks.

The fundamental objective of indigenous technology should be, to provide a broad base for science and technology to facilitate the self-perpetuation of technological advances that spin on economic and social development in a developing country like Nigeria (Onwuachi, 1984). Every society has some elements of technology but it, somehow, depends on how fast it grows into an international standard. To this extent, the Awka "dane-guns", Bida "brass-utensils", Kwali "pottery" technologies, Okene weaving centers, which by all standards are "an endangered species", should not be allowed to go underground, they should be encouraged and where necessary be resuscitated. In order to achieve the nation's Mission and Vision in the 21st Century on vocational education in Nigeria, therefore, there is the need to harness these technologies. As Aminu (in Abdulahi, 1996) states, the development of a nation depends upon the amount of output it can procure per unit of input".

Problems of Indigenous Technology

In the analysis of the problems of indigenous technology in Nigeria, the following need to be elaborated:

1. Lack of proper understanding and awareness of the role of science and technology for socio-economic development and sheer lack of strong political will over the years on the part of policy makers to accord priority to science and technology.
2. High illiteracy rate and inadequate manpower development especially in technology. Nigeria has a relatively large member of academic scientists mainly theoreticians, but few practical technicians and technologists who can convert raw materials to finished products of technology.
3. Insufficient members of good and qualified science and mathematics teachers is a factor that adversely influences the interest and choice of students for these subjects. This creates a vicious cycle.
4. The expectations and opportunities for employment, other than teaching for science trained graduates.
5. Poor remuneration and inadequate recognition of indigenous scientists, technologists and inventors.

6. The love and preference of Nigerians for anything imported which works against the patronage and development of indigenous technology and processes,
7. Insufficient attraction of the youths to science and mathematics which is the basic foundation for science and technology.
8. The poor rate of publicity of indigenous inventions and innovations, thus frustrating local talents.

Vocational and Technical Education for National Development: The Way Forward

The primary purpose of vocational and technical education is for useful employment in all-areas of endeavour (Gallington, 1982). Though the 6-3-3-4 system of education is laudable and easy to be assimilated, the students to some extent are biased in selecting these subjects due to some unguarded self-centred elite who have passed through general education.

Most students who leave school half baked or as dropouts after the first three years in the secondary schools may go on to apprenticeship. Others who proceed for the last three years called senior secondary school get to broaden their knowledge and outlook. Since those who proceed on vocational and technical education acquire both knowledge and skill after last three years of the secondary school, self-reliance could be certain.

However, it has been observed from the concept of formal education in Nigeria that there has been general lack of interest in practical work as a result of its difficulty in nature and more so, vocational and technical education was excluded from the curriculum. Presently, only an insignificant majority of Nigerian youngsters possess saleable skills while an overwhelming majority are unskilled. In sharp contrast to this, a skilled worker in Japan or America, for example, earns more than a university lecturer. This is because these countries recognize the importance of vocational and technical education in the economic development of a nation. In Nigeria, there is a direct need for skilled manpower to run the economic activities of the country. Unemployment and underemployment are rampant and there are little opportunities for self-employment for school leavers.

Thus, it can be clearly seen that among the numerous school leavers in Nigeria, most of them obviously need skills to enable them function fully in this present day society. These skills according to Osuala (1991) can only be acquired through a well-planned programme of vocational and technical education.

In order to achieve the objectives of our vocational and technical education therefore, there is the need to re-examine critically our youngsters' educational pursuits. Emphasis must therefore be placed at all levels of our educational system to revamp the lost ability of every individual. Every educator, especially those with functional skills, need to be encouraged in an effort to improve the overall quality of the training situation.

Attempts should be made to modernize the curriculum to fit the rapid strides of technology. There should be efforts to diversify every institution's curriculum so as to make them functional and appropriate for future technological interest and needs of our youngsters and for the development of the nation.

Vocational and technical education should be the cornerstone on which Nigeria should rely and provide her youths the opportunities to train, develop skills, abilities, understanding work habits, appreciations and to have knowledge on useful and productive bases. Vocational and technical education is directed towards the preparation for occupational life, it embodies such principles as learning by doing. Hence, Lotto (1986) observes that vocational and technical education meets unique needs for knowledge and skills not met in the general education curriculum and that this should be inculcated in youths at the early stage of growth. For vocational and technical education to accomplish, effectively, its purpose, it must be properly financed while youngsters are guided based on needs and interests, bearing in mind the society's needs too.

Studies have shown that vocational and technical education in Nigeria have been inadequately funded. Olaitan (1988) and Nwachukwu (1994) reveal that vocational and technical education programmes are grossly underfunded. This process has demoralized quite a large number of students from taking to this laudable area of discipline. Facilities for vocational and technical education are very crucial and their provision should be priority if these parts of education are to be meaningful and if future generations, especially dropouts, are to be considered useful to the society. Vocational and technical education should therefore be the collective responsibility of those who know it, who can impart it and who can maintain it, for development and for future generations.

Suggestions for Improvement

The strategy for Vision and Mission of our vocational and technical education in the 21st Century includes the following points:

1. Nigeria must cultivate a certain minimum of scientific and technological culture. The means of doing this is by adequate education. In fact, the National Policy on Science and Technology (1986) recognizes that one of the important means of having national development is to have strong vocational and technical education programme at all levels of the educational system.

2. The curriculum needs to be reviewed to address the means of providing continuing education as an important objective of vocational and technical education.
 3. JETS clubs which are presently restricted to secondary schools should be extended to the primary schools to further challenge pupils' curiosity and creativity for consequent inventions.
 4. Creative Nigerians who have been able to use their hands in the construction of one technical device or the other should be encouraged.
 5. Vocational and technical education should be used as a means of promoting science and technology culture.
 6. The results of research (including innovations and inventions) should be exhibited for potential entrepreneurs in science and trade fairs.
 7. All institutions offering both vocational and technical education should run consultancy services using their human and material resources to generate revenue for the institution.
 8. Institutions should market their expertise projects to all neighbouring companies and government agencies.
 9. Efforts should be made to train teachers so that the nation is not caught unawares as was the case in the introduction of introductory technology where incompetent and acute shortage of teachers in the education system seriously marred the scheme.
 10. Equality of educational opportunities for all sexes and of professional treatment and pay in working life must be constantly pursued by the leaders and decision makers in all fields of education.
11. Teachers and students of vocational and technical education and their work environment should have better conditions in terms of insurance schemes.

Recommendations

The philosophy of vocational and technical education should be thoroughly studied based on the needs of every individual for the enhancement of self-reliance. Government should therefore see it as a necessity to persuade every family member into assimilating this area of discipline.

There should be an efficient means of disseminating necessary information about vocational and technical education to students while in school with felt interest and needs. Efforts should be made to get communities involved in formulating programmes for vocational and technical education especially the local crafts of the communities for school dropouts.

Vocational and technical education should be intensified right from primary school having a larger emphasis of the curriculum on practical skills than theoretical aspects. There should be efforts to diversify the curriculum offerings than as spelt out in the National Policy on Education, to make school leavers more functional and more self-reliant in the present day world of work and making vocational and technical education compulsory as in the case of Mathematics and English.

Conclusion

From general observation, most school dropouts and graduates are jobless due to little or no saleable skills. Most of them have taken to roving within the streets as beggars since no skills have been learnt during schoolwork. However, our present economic condition predicts that we should now utilize technology more appropriate to our situation and discontinue the importation of technology from the advanced countries. Our concern now should be for technology capable of being adapted to the country's need and equally capable of being applied by our existing human resources.

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