

REPOSITIONING TECHNOLOGICAL EDUCATION FOR EFFECTIVE INDUSTRIALIZATION OF NIGERIA

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Abstract

This paper identifies the disgraceful position accorded to technological education as fundamental source of the problems confronting it. It also highlights the root causes of the disregard. Gray Longe commission of 1990 limits technological education to the training of middle level manpower that will operate and maintain machine. This paper observes the none challant attitude of Nigerians towards technological education and calls for repositioning. This demand calls for both change of attitude, regards and commitment accorded to technological education in order to enable it perform creditably. This demand for re-positioning technological education is both necessary and timely, should Nigeria cope with the challenges of technological advancement of this 21st century. He then suggested the possible ways of effectively repositioning technological education for the development and industrialization of Nigeria.

Introduction

Technological education is the bedrock of technological development (Elekwa, 1999). In fact, there would be no technological development without human development in technological programme. (Abdullahi, 1999). The government and citizens of Nigeria should see the importance of technological education in our national growth, development and industrialization in order to reposition it to perform creditably.

Position carries with it potentials for performance, it depicts status, value and attitude. It could also be seen as the degree of importance attached to something. Anything given a pride of place attracts high degree of commitments, dependence and regards. From the ongoing, position could be seen as an attitude of value and regards accorded to a system to enable it perform a certain function. This paper measures the position accorded to technological education in Nigeria with regards to importance, commitments, and performance. It calls for a repositioning of technological education, this call is a demand for change of attitude and commitment accorded to technological education in order to enable it transform this country from underdeveloped to a developed nation. It is not just to train machine operators and repairers but people who will design and develop industrial machines and skills.

Review of the Present Position of Technological Education in Nigeria

Many Nigerians have expressed disappointment over the inability of technological education to transform this nation into developed country. Today Nigeria can boast of more than thirty faculties of engineering in our universities, several polytechnics and colleges of technology yet the anticipated national growth and technological development appear to be elusive, Ibogbe (2000) lamented. Thus technological educations have not performed creditably occasioned by the position of disregards accorded to it.

The Root Cause of Disrepute Position Given to Technological Education in Nigeria

The position of disregards accorded to technological education in Nigeria is the main source of all the problems confronting technological education. The major causes of this disregard is identified to be;

- (1) Misconception of the Word Technological Education.
- (2) The Base of Nigeria's Philosophy of Education.
- (3) National Policy on Education.

Misconception of the Word Technological Education

One of the problems that kept technological education in position of disrepute in Nigeria is the apparent misconception of the word "Technology". Hernich (1968) is of the view that technology is one of the most misunderstood words in our language. He said that educators tend to define technology simply by obvious manifestation of machines. This implies that if we have machines, we have technology. Others define technology transfer as importation of machinery. They are still lack of proper definition of technological education, which gave rise to various notions, and definitions of technological education. Many limit technological education to the process of learning that equips the learner with the skill to operate and use machines. They see it as another word for technical or vocational education at most in a higher level. Such school of thought believe that technological education should be left for school dropouts who could not get up to five credits in WASC. The admission requirements and the ceiling on the career progression of her graduates seem to favour this view. It also defines the position government functionaries gave to technological education in Nigeria. Thus none of them will like their children or wards to register in technological institutions. Hence such institutions are not only depleted of technologically talented candidates but also frustrated by inadequate funding.

The Base of Nigerian Philosophy of Education

The national policy on education 3rd Edition (1998), states that Nigeria's philosophy of education therefore is based on:~

- (a) The development of the individual into a sound and effective citizen;
- (b) The full integration of the individual into the community, and
- (c) The provision of equal access to educational opportunities for all citizen of the country at the primary, secondary and tertiary levels both inside and the formal school system. The educational philosophy of a country determine to a great extent, the school curriculum that will be designed to achieve the goals.

The fact that about forty- five (45) years of independence, our education system especially technological education has not fulfilled the aspirations of Nigerians, confirms that there is something wrong with our educational philosophy. The phrase "The Development Of The Individual Into A Sound And Effective Citizen" appears to be over generalized and vague. It has no specific focus. Who will ever accept that he/she is not sound and effective, then why education? "The Full Integration Of The Individual into The Community". Does a freeborn Nigerian need to be educated before he/she is integrated into his community? These appear to reveal that the base aimed more at solving some political post war problems rather than the development and industrialization of the nation. This explains why everything about education is politicized. Both the appointment of supervisory bodies, implemented and even the beneficiary of education in this country is politically biased.

The phrase "The Provision of Equal Access to Educational Opportunity for all Citizen of the Country" could be misleading. The providers of such opportunity could be deceived into concentrating on quantitative rather than qualitative education. While some would like to force people into education in order to benefit from the so called equal access to educational opportunity. Those who are neither interested nor talented for academic pursuit are forced into school against their wish. Moreso, high premium is placed on certificate than performance and productivity. This ugly base is responsible for displacing merit and competence with quota system, state of origin and catchments area in our admission and appointment exercises. The natural products of the above are exam malpractice, certificate forgery and cultism in our education industry. Poor funding and inadequate infrastructure cannot be eliminated.

The base is contradictory to the specific objectives of technological education and the actual implementation is a mirage. Ibogbe (2000) cried out over the engineering graduates roaming the streets as unemployed youths, largely as a result of lack of skill exposure.

National Policy on Education

The National policy on education 3rd edition (1998) spelled out the five main national goals of Nigeria, which have been endorsed as the necessary foundation for the National Policy on Education,

as:

- (a) A free and democratic society;
- (b) A just and egalitarian society;
- (c) A united, strong and self-reliant nation,
- (d) A great and dynamic economy;
- (e) A land full of bright opportunities for all citizens.

The above goals are so wide that one could neglect technology and industrialization without feeling guilty. The cardinal roles of technology education and industrialization in achieving the-said goals were not properly emphasized, at such any government could pursue anything else rather than industrialization of the nation. Such oversight could explain why there is no section solely dedicated to technological education in the national policy on education. The section on tertiary education only mentioned technologies in passing without detailed aims nor statements for technological education. The so called emphasis on technological education appears to be cosmetic since it does not make provision of adequate infrastructure and conducive environment for its implementation mandatory to proprietors of such institutions.

Recommendation

The call for repositioning technological education is eminent and the following recommendations will enhance its effectiveness.

(1) Good Understanding of Technological Education.

Nigerians must distinguish between technological education and technical, vocational and literary education. The Oxford Advanced Learners Dictionary has the following definitions.

TECHNICAL: This is the practical use .of machines and methods.

TECHNICAL COLLEGE: This is a college where students study mainly practical subjects.

TECHNOLOGY: Scientific knowledge used in practical ways in industries for DESIGNING (NOT JUST OPERATING) new machines.

From the above simple definitions it is evident that there is an obvious difference between technical education and technological education.

Technological education has its focus on DESIGN and PRODUCTION while technical education focuses on OPERATION and MAINTENACE. To take technological education to mean just a high technical education is highly deceptive. Ogenyi and Onogu (1997) asserted that technology is concerned with modern design, concepts, manufacturing, operation, installation, maintenance and their interaction for continuous positive industrial development. Udo (2000) defines technology as the knowledge of efficient and appropriate action developed by human to extend their potential for controlling their environment. In his own contribution, Galbraith (1967) looks at technology as systematic application of scientific or other organized knowledge to practical task.

Education is also defined, as the process of teaching, training, learning to improve knowledge and develop skill. Simple combination of the definitions of technology and education will give an insight to what technological education should mean.

Technological education is therefore defined as all the process and activities of teaching, training and learning that will improve the learners knowledge, skill and ability to conceive, design and produce new machines and attitude for industrial revolution and development. Technical education is just a small fraction of technological education. It embraces all engineering and technological education at all levels.

(2) Different Philosophy For Technological Education

A different philosophy and orientation for technological education will demonstrate its genuin repositioning. Such philosophy will be based on the recognition of technological education as bedrock of technological development and industrialization. It should aim at creating conducive environment and providing all the required infrastructure and skilled manpower to develop talent and skill for creativity and productivity for the gifted citizens of Nigeria not minding their states of origin.

(3) Defined Policy On Technological Education

Other forms of education have defined aims and objectives and government responsibilities for them but for technological education. The aims, objectives and government responsibilities for technological education should be clearly spelt out in the policy for education. The policy should remove every form of limitation to the progression of technological graduates. It should make it mandatory for government/ proprietors of such institutions to ensure provision of adequate funding, required infrastructure and conducive environment for all technological institutions. In the other hand the institution on their part should take the responsibility of meeting the developmental needs and aspirations of both the government and the industries.

(4) Different Ministry For Technological Education

For proper implementation of the suggested new philosophy and policy on technological education, government should separate technological education at all levels from the ministry of education. A new ministry, which could be called THE MINISTRY OF TECHNOLOGY AND DEVELOPMENT, should be created, the ministry of technology and development should integrate technological education, industry, science and technology.

The new ministry will have a common goal of acquisition of technological education and rapid industrialization of the country. This arrangement will eliminate the long-standing difficulties in formulating generally acceptable and practical procedures to adopt in establishing, strengthening and sustaining the desired university- industrial link. The industries will be an integral part of the technological institutions and vice versa. The rotation of lecturers and industrial staff will be simple since they will be paid from the same source. Also students will no longer find it difficult securing adequate place for their student industrial work experience scheme SIWES. This will also guarantee adequate infrastructure, funding and a conducive environment void of discrimination and disregard for technological graduates.

(5) New Curriculum and Objectives

The ministry of technology and development will now formulate a new policy and curriculum that will enhance appropriate technological education and rapid industrialization, the graduates will be competent enough to face challenges of industrialization. The curriculum will build in appropriate laboratory practical, workshop practices and industrial processes into the academic programme. The industries will be used for effective Students Industrial Work Experience Scheme (SIWES), The learning outcome should transcend the cognitive domain through the affective domain into the psychomotor domain.

Conclusion

The root causes of the problems, responsible for position of low repute given to technological education have been identified in this paper. The author has also made cogent suggestions for effective repositioning of technological- education. If the government is really committed to the industrialization and technological development of this nation, let a high-powered commission be set up. The commission will amongst other things:

- (i) Formulate new philosophy and policy for technological education.
- (ii) Workout the modalities and logistics for the ministry of technology and development-to integrate technological education, ministry of industry, science and technology.
- (iii) That every technological institution will provide technological education at all levels within an industrial environment.

The author is convinced that proper implementation of the above suggestion will effectively reposition technological education for effective industrialization of Nigeria.

References

- Abdullah!, (1997) *The Role of Females In Technological Education in the Implementation of Feap*. Proceeding of Science and Technology for Sustainable Development. C.S.T. Kaduna Nigeria.
- ELEKWA I (1999) Key Note Address Presented at the National Workshop on the Development of Learning Materials at Kano state Polytechnic.IS¹¹- 22nd October 1999, Federal Republic Of Nigeria

(1998), National Policy on Education, 3rd Edition, NERDC Yaba Lagos.

Herm'ch, R (1968) Education Technology as a Technology, Educational Technology Vol.7.

Ibogbe, P.E (2000).Engineering Education For Manpower Quality and Poverty Alleviation:
Engineering Strategy for Poverty Alleviation: Proceedings of National Engineering Conference,
Abuja (2000),

Izuegbu, O.S (1998). Technical Education For National Development. Proceedings of Science and
Technology for Sustainable Development. C .S, T Kaduna, Nigeria.