

TECHNOLOGY EDUCATION FOR ECONOMIC REHABILITATION AND RELIANCE- A CASE FOR NIGERIA

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Abstract

For a developing country like Nigeria, education is usually considered as an investment. Technology education which is predominantly an investment was not given its proper place in the development of education and therefore could not contribute to the development of Nigeria as expected. Nigeria as a result had to depend economically to a great extent on foreign economies and hence the need for rehabilitation and to be self reliant. This paper reviews the history of technology education in Nigeria and its consequences and tries to give a clearer -concept of technology. Suggestions were then proffered on how to make Nigeria self reliant.

Introduction

Nigeria is economically one of the richest countries in Africa with its mineral oil wealth, agricultural and forest products and diversified home made goods (Amucheazi, 1980). It is equally observed that the economy of Nigeria appears buoyant but much control still rests with foreigners and multinationals while a lot of the mineral resources are unexploited. A situation where our crude oil has to be exported for refining leaves much to be desired. '

Before we talk of rehabilitation, it is pertinent for us to consider our past and trace it to the present. We should be able to criticize the present so as to see the need for a change for better and thereby grow.

Impact of Colonialism on Nigeria's Technological Development

It is a well accepted aphorism that the past is very much involved in the present. The very long period of Nigerian colonization went a long way in forming what we call Nigeria today.

Through the instrumentality of education, the church and government processes, efforts were made to change the orientation of the various nationals in the entity called Nigeria. The British Way of life, of government, of worship were taken as models for Nigerians to copy. As a result of this long period of socialization, the present day Nigerians have not yet found it easy to thread an alternative path to development other than that laid out by our colonial masters.

One of the major problems of colonial educational policy is that it was not technically or vocationally oriented. During the colonial era, scientific and technological activities were muted down (Ezimuo, 1991). Technical manpower needed by the colonial administration was trained in the technical colleges overseas while indigenous technology was not encouraged so that the system of apprenticeship under the craft guild continued. The result of this as pointed out by Awokoya (1977) was that indigenous technology became virtually underdeveloped and was practiced in an empirical manner by people in the rural areas remote from civilization. Thus Nigeria operated a dependent consumptionist and purely distributive economy. Our role therefore became that of an exporter of petroleum and a few agricultural commodities in return for costly imports. Our Nigerian so called "industrialists", "manufacturers" and "commercialist" who are deficient of creative and productive capacities only act as "front men", advert and commission agents of foreign companies. That is why we scarcely controlled our destiny. According to Eteng (1980), even our political economy is externally monitored, controlled and dominated by western capitalists. Nigeria therefore became increasingly underdeveloped and dependent.

The first step towards organizing technology education in Nigeria was the establishment of the Nigerian College of Arts, Science and Technology at Ibadan in 1950; Zaria in 1952 and Enugu in 1954. According to Ezimuo (1991) the pioneer tutorial staff in these institutions were largely expatriates. No visible efforts were made by the colonial administration to develop indigenous manpower for technology education.

Concept of Technology

Much of modern technology is based on science. The technological achievement of ancient times was enormous, but whatever process was involved, it was not based on science. There was neither theorizing about the processes involved in the technology nor about the reasons why it worked. Synthetic dye production and electrical power were examples of application of science to technology.

Technology is driven by the demands of the market place which culminates in making money, hence technology talks of patenting of its products. Wolpert (1978) quoting the historian of technology, Gorge Basalla opined that, artifact is regarded as the fundamental unit and different versions result from the modification of the original object. One of the key features of technology is diversity which is due to necessity and utility. Basalla pointed out that different kinds of hammer were produced in Birmingham in 1867. Basalla equally stated that technology does not always exist primarily to supply humanity with its needs, rather the needs often develops after the intention. For example, the invention of internal combustion engine gave rise to the necessity for motor transportation. Technology involves bringing together in one's mind different elements in new combinations.

The relationship between science, technology and industrial success in modern societies is complex. For example, it has been suggested that the success of Japanese industry is based not on science but on its ability to apply science. For instance, transistor was invented to replace the old thermionic valves and the idea of integrated circuits only developed

slowly. To develop our own indigenous technology, efforts should be paid to the artifacts we have and attention given towards improving or modifying them to international standards instead of transfer or importation or stealing of technology as some people suggest.

The true situation is that a huge volume of artifacts and products are uninhibitedly consumed, not because the country has advanced so much but because Nigeria is able to import from abroad material resources, capital and consumer goods, productive skills and technology, organizational and managerial principles, institutional arrangements and social values necessary for the production of these needs. In other words, Nigerians are consuming imported goods and services which virtually constitute the products of creative abilities and innovative skills and labours of foreigners. Therefore these artifacts rapaciously and unabashedly consumed by most Nigerians are not true reflections of Nigeria's development.

There is need therefore to give more attention to research and development. This is only possible when the environment is conducive.

Technology Education as a Pre-Requisite for Economic Development

Brameld (1965) has defined education as power, being stronger than the forces of nature, it serves as a knife for transformation and reconstruction. It can do good or evil, make and unmake. Indeed it is so powerful as to make a mule dance. The implication of the above statement is that education can lead to economic development of Nigeria or can destroy the economy. It also means that with the right education every member of the country can make his own contribution to the economic growth of the nation. On the other hand, the wrong type of education can be disastrous in that it will have negative effect on the economy and any other area of the nation's life.

Sheehan (1973); Bowman and Anderson (1968); Harbinson and Meyers (1964) agree that there is a positive correlation between the level of a country's education and the level of economic development. Thus highly industrialized countries like USA, Japan, West Germany have appropriate education and hence they have a fairly buoyant economy, it is only the right type of education that will produce modern man for the development of the Nigerian economy.

Sheehan (1973:59) mentioned science, education, technology education, agricultural education and technical training and medicine as the kinds of education an economist emphasizes when he regards education as an investment. The admission policy of Nigerian universities, colleges of technology and education is to offer 60% of the places to science subjects while 40% will go to the arts. The new federal universities of technology are primarily established to improve the growth of technology education for the development of the Nigerian economy. These are clear indications that government has recognized the place of technology education as a bedrock for economic development.

The number of universities, polytechnics and colleges of education have increased over the years as well as the number of secondary schools but there are not enough students to read the sciences on which technology education is based. There has been an explosion in the number of students going into educational institutions. This increase is only quantitative but the quality is highly deficient. Almost everything that will give qualitative education in this country is in short supply such as teachers, classroom buildings, equipment, laboratories, experimental farms and other inputs. We do not lack students to fill the educational institutions, yet some universities, polytechnics and colleges of education find it difficult to have enough students in their sciences. The students prefer to go for business studies, law and other less tedious courses. This accounts for the very low turn-out of science based graduates. The social demand approach to education in Nigeria has led to quantitative development of education at the expense of the quality. Thus the scarce financial resources allocated to education cannot lead to qualitative education. The poor quality of school graduates makes it very difficult for them to contribute to the rapid economic development even in our present computer age hence unemployment is increasing.

One of the outcomes of the above system of education is disdain for manual labour. Thus many of our young men today would prefer to be idle or join a band of armed robbers instead of engaging in manual labour, in spite of the abundant opportunities that exist for those with skill.

A country cannot be said to be politically independent or self reliant if it cannot control its resources. This inability to control our resources became more pronounced in the course of the military regime. In 1972, the Federal military government promulgated the indigenization decree which stripped the control of some of the industries in Nigeria from the hand of foreigners. The extent to which this decree has really helped the economy of Nigeria cannot yet be fully ascertained.

Conclusion/Recommendations

The recent federal government emphasis on 40-60% local content whereby 40-60% of the total labour force comes from Nigeria might go a long way in making the country self-reliant. This will only work, where these foreign countries are made to map out a programme of manpower development for the 60% of the labour force recruited to improve their skill and grow on the job to later take over from these expatriates. This is necessary as these foreigners enjoy generous tax reliefs. If the measure above is enforced then there is hope for this country.

Automatic scholarships should be given to students to read the core sciences like physics, chemistry mathematics and other technologically based courses. This will enable our students to acquire creative, functional and relevant knowledge, skills and techniques that will enable them to continuously ensure an organic link between

man and the environment in the process of creative production, self production and consumption.

To improve the quality of education our teachers should be very resourceful so as to adapt locally available products to suit our requirements in the conduct of practicals for our students to acquire requisite skills. This should however not be without some incentives.

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