

STRATEGIES IN IMPROVING THE POLICY AND ACCESS TO TECHNOLOGY EDUCATION IN SECONDARY SCHOOLS IN NIGERIA

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Abstract

Education in the colonial period of Nigerian history was too theoretical and literal in nature. The policy of education at that time did not see the needs of the country's technological emancipation. Due to yearnings of Nigerians about the insensitivity of the educational system to societal needs, a national conference was held in 1969 to reform the educational system. The outcome of this meeting gave rise to the new National Policy on Education which came on board in 1977 (revised in 1981, 1998 and 2004). This gave rise to the 6-3-3-4 system of education emphasizing the importance of technology education. A lot of faults were detected which opened an avenue for the 9-3-4 system of education. It is found that this most recent system was bedeviled with a lot of challenges. This paper makes a case for how these hydra-headed problems could be abrogated and suggested strategies on how the current system of education could be moved forward abinesio, the UBE programme in Nigeria.

1. Introduction

It should be realized that the whole aim of primary and secondary education in the colonial times was to turn out workers for the white-collar jobs that were predominantly available. There was need to train people as clerks for the government and for the commercial firms. All that was needed for this was a literary education. Hence, ability to speak and write English was an asset. The function of education then, was simply to teach pupils how to read and write. Secondary school education was modeled on the grammar school, pattern which offered courses in Latin, Greek, English, History (mainly European), Geography, Science and Mathematics.

2. Policy of Education at Colonial Period

Significantly, the mere extension of colonial type of academic education is obviously not a solution to the present Nigerian situation. Infact, the colonial system of education has lingered too long in Nigeria even when it is apparent that it has outlived its usefulness since it does not reflect the social and economic needs of the country. Thus, some have observed that African

educational systems are largely a colonial residue only partially referred or reshaped to meet the needs of a truly independence nation (Okorie, 2001). Most Africans found at independence that the educational system had not provided them with the skilled manpower required in vital areas of national development. Sofolahan (1991) agreed with the Ashby Report that the most urgent educational problem of Nigeria, and a condition for industrial development in the country was training “for the job” through a planned system of vocational education.

Nigeria is rich in natural resources such as minerals, forest products, animal life, water and good soil. In order to develop these resources, professional and technical know-how is needed. In other words, more good teachers, scientists, technicians’ mechanics and maintenance workers of all kinds must be trained. Most importantly, there is a skilled engineer to design and install new and improved equipment and technically skilled personnel.

Inspite of its contributions, the traditional system of education has failed to meet the needs of the country at a period in which new social and occupational groups have emerged to claim a significant place in a developing Nigeria. Academic education as it is practiced is earnestly desired. Undoubtedly productive power of a nation hinges on a proportionate distributions of the labour force among the different occupational branches of the economy at all times. Thus, it is clear that Nigeria needs an educational system which can produce adequate manpower at all levels of industry, both skilled and unskilled.

With the arrival of Christian missionaries, literary education was introduced into the Nigerian educational system. The content of education at primary and secondary levels was consciously devoid of science and technology. The report of the Phelps-Stokes Commission on Education in this part of Africa, Nigeria inclusive, criticized the type of education that existed and went ahead to make recommendations for a more relevant education. This was why the 1960 national conference was held to recommend the kind of education that can take the needs and aspirations of the people of Nigeria into consideration (Mkpa, 1988). The 1969 conference eventually gave birth to the new National Policy on Education, first published in 1977 revised in 1981, 1998 and 2004.

3. Pre-Vocational Education

At pre-primary, primary and junior secondary school levels, vocational technology education is meant for exposure and general orientation to the world of work as well as for acquisition of technological literacy. It is usually described as education about technology and not education in technology.

Technology education is taught in the junior secondary schools as integrated aspect of introductory technology. Introductory technology as a subject comprises basic electricity, electronics, metal work and woodwork, elementary building construction, technical drawing, food preservation and storage and other miscellaneous topics. Introductory technology is designed to expose the students to the appreciation of technology and subsequently develop their interest in various areas of industrial technology. Although, the curriculum of introductory technology includes some practical oriented contents, the age (12-14 years) characteristics of

the students hinders the acquisition of practical skills as they are too young to manipulate tools and equipment for their study. Consequently, more emphasis is on theory than practical, as a result the students cannot acquire here, the necessary competent skills needed in industrial technology. For this lack of practical skills, students in their JSS certificate examination are examined in theory (essay and objective tests) and practical which is only on technical drawing.

4. Vocational Education/Pre-Professional Education

At Senior Secondary Schools, technical colleges and vocational centres, vocational technology education is meant for either pre-professional training or for production of low-level manpower (skilled labour) i.e. artisans, craftsmen and master craftsmen for the labour market. Vocational technical education in this level requires relatively low-cognitive and psychomotor abilities for mastery. Its curriculum is usually framed on the basis of 70% manual and 30% cognitive skills. It is education for doing rather than for knowing things.

5. Objectives of Universal Basic Education in Nigeria

The major objective of the programme is to wipe out illiteracy and ensure the acquisition of functional skills for alleviation of poverty. However, in order to correct the inadequacies for the UPE and lay a solid foundation for the promotion of basic education in Nigeria, the Universal Basic Education (UBE) came up with the following specific objectives:

- Development in the entire citizenry a strong consciousness for education and a strong commitment to its vigorous promotion.
- The provision of basic education for every Nigerian child of school age.
- Reducing drastically the incidence of dropout from the formal school system (through improved reliance, quality and efficiency)
- Ensuring the acquisition of the appropriate level of literacy, numeracy, manipulative and life-long learning.

6. Concept of the Universal Basic Education (UPE)

Universal Basic Education (UPE) emerged during the world conference on education in Jomitein, Thailand held from 5th to 9th March 1990 with a view to cater for learners worldwide.

The Universal Basic Education (UPE) otherwise known as the 9-3-4 system of education is an innovation on the 6-3-3-4 system. The first nine years is slated for six years primary and three years junior secondary school. The nine years of schooling is expected to be comprehensive, free and compulsory for every Nigerian child. The main purpose of this scheme is to grant an unhindered access to children of primary school age to school. Education was predicted to be a right of every Nigerian child and not a privilege. The parents of any child within the school age who is not in school should be sanctioned. The National Policy on Education, FRN (2004), stated that UBE covers the first six years of the primary education while the rest three years is for Junior Secondary Education which is meant to be universal, free and compulsory, hence, the government states that sanctions shall be imposed on society, parents or guardians who would

prevent children or adult from benefiting from the education. To protect the right of the child, parents on their part, shall ensure that their children or ward attends and complete their primary school education and junior secondary school education.

The nine years Basic Education was sub-divided into Lower Basic, Middle Basic and Upper Basic. The Lower Basic was intended to be from primary one to primary three; Middle Basic covers primary four to primary six while the Upper Basic is Junior Secondary 1-3. The concept of Basic Education is to make Nigeria technologically advanced, erode illiteracy and provide opportunity for all children irrespective of low background-school fees was to be free, books were to be provided to every school child, hence it is said to be free and compulsory.

Certain subjects were specified in Universal Basic Education (UBE) curriculum to be taught at the primary and secondary education levels. At the primary school, subjects specified were English Language/French and Language of the environment, Mathematics, Science, Physical and Health Education or Studies, Agricultural Science, Home Economics, Social Studies and Citizenship Education, Culture and Creative Arts. Other educational provisions that can facilitate quick and easy learning such as good school library, basic health scheme, counselling, etc were also included. It was recommended in the National Policy on Education that language of the environment (local) should be used as the medium of teaching or instructing the pupils for the first three years after which English Language can be used.

At the junior school level, the subjects are divided into two groups which are academic and pre-vocational. The subjects are further divided into groups A, B and C. A child is expected to offer a minimum of ten subjects and maximum of thirteen subjects as specified in UBE curriculum. All subjects in group A are compulsory and they are core subjects which includes English Language/French, Mathematics, Language of the Environment (Local Language) Integrated Science, Social Studies, Citizenship Education and Introductory Technology. Groups B consists of subjects otherwise known as pre-vocational electives. They include Agricultural Science, Home Economics, Business Studies, Local Craft, Computer Education, Religious Knowledge, Music, Fine Art and Art Arabic Studies.

Though the Universal Basic Education (UBE) was launched in November, 1999, the implementation took off in September, 2007. The curriculum is learner-centred and it emphasizes the importance of literacy, numeracy and language.

7. Critique of the Current National Policy on Education in Secondary Schools (UBE)

It is worthwhile x-raying the 6-3-3-4 system to be able to ascertain the extent of implementation of UBE. The laudable programme of 6-3-3-4 system of education failed as a result of the following reasons:

- **Inadequate Planning:** The 6-3-3-4 system failed because experts were not involved in the planning procedure. Civil servants from ministries sat down and formulated policies without being mindful of the implementation.
- **Dearth of Instructors:** The 6-3-3-4 system was crucial to Nation's development technologically. Instructors especially for introductory technology are not sufficiently trained before the take-off of the programme. The few persons that were sent abroad for training refused to come back. Most of the technology education teachers available within the country drifted to the industries. The programme could not succeed because there were no instructors to handle the multi-billion naira technological and commercial equipment.
- **Lack/Inefficient Electricity:** Power generation is a major problem for most of the rural area schools. Electricity that would have been used for the equipment in the workshops is not readily available. Therefore the scheme became purely academic than vocational.
- **Accommodation:** Overcrowding of learners in the classroom that characterize the 6-5-4 system also dominated the 6-3-3-4 system. There were inadequate classrooms; no workshops for vocational students and equipment supplied were lying fallow in open classrooms without being installed.
- **Funding:** Inadequate funding was one of the major problems. When the Federal Government claimed to have sent fund, it will neither get to its destination nor properly utilized.
- **Political Programme:** Some state governors tend to undermine the National Policy on Education or any national education programme and fashion their policies title towards their party's political programme. Nwadiani (1997) attributed the failure of 6-3-3-4 system of education to failure in the planning process which has a very strong weakness of not being able to put into cognizance the required resources in terms of human, finance, physical facilities and time for the achievement of educational goals.

8. Separation of Junior Secondary Schools from Senior Secondary Schools

The appointment of separate principals in junior secondary schools and in senior secondary schools is an issue that needs to be addressed. Some educators opined that the creation of two arms of secondary schools in a school (junior and secondary schools) is nothing more than duplication of efforts and wastage of finance.

9. Implementation of UBE

The intention of the planners of Universal Basic Education (UBE) were that UBE school children should be provided with free books, mid-day meal, free school fees, adequate school accommodation. Good furniture and adequate funding. These expectations are far from being realizable. In most states, there has never been mid-day meal and this is a failure. Free UBE books were not distributed. The author's oral interview with some headmasters and principals of primary school and junior secondary schools in Delta State showed the absence of these amenities and they claimed that these were stated in the UBE handbook but not implemented.

- **Accommodation:** Most primary schools and junior secondary schools were privileged to get additional classroom blocks. However, some school children are either still learning in over-crowded classrooms or building at the verge of collapse in most states.
- **Rate of Admission:** Admission rate in public schools has increased since the last ten years. Nevertheless, most parents/guardians are still in doubt of the possibility of implementing UBE programmes, particularly in the area of free compulsory and universal Education. Therefore, more children of school age are enrolled in private schools in urban and rural areas with exorbitant schools fees. Since more learners are in private schools where the UBE programme has little or no impact, it is difficult to access whether UBE is a success.

10. Funding of UBE

There is no significant difference between the funding of 6-3-3-4 educational programme and the present UBE system of education. The degree of funding of any education programme determines the success.

In other words, the problems that saw the end of the 6-3-3-4 system of education are still very prominent in UBE programme. As earlier stated, the problems include:

- Lack of adequate implementation of UBE programme
- Poor funding
- Insufficient furniture for both teachers and learners
- Political programme

UBE is supposed to be free, compulsory and has a broader focus than 6-3-3-4 system. This is in view of the fact that UBE has been extended from 6 years to 9 years in order to accommodate children in primary and junior secondary schools. With the launching of UBE in 1999, one would have expected to see remarkable changes in primary and junior secondary schools, but the reverse is the case in Nigerian junior secondary school.

11. Separation of Vocational Technology Education from General Education

The need to separate vocational technology education is imperative. Agusiobo (1989) advocates the following challenges that confront the administrative policies of vocational technology education.

In the administration of vocational technology education, certain subjects should be specified at the initial stage but later, the scope should be enlarged as equipment and facilities become available and more specialized staff trained. It is only the separation of vocational technology and general education that can make the administration of the former attain its administrative goal. Vocational technology educators have also believed that the goals of technology education are not the same as those of general education hence technology education

programmes will require separate planning, and separate administrative and operating arrangements. Any attempt to combine the two under one administrative arrangement will definitely result in failure.

12. Access to Vocational Technology Education

Enrolment rate in vocational/technology education programmes are low. It is considered intellectually second rate and materially less rewarding. For example, Nwokolo (1993), have found that vocational technology graduates are better placed than liberal arts students to secure employment in times of mass unemployment. It was found by Osburn (1993), that “the antithesis between a technology education and a liberal education is fallacious”. There can be no adequate technology education which is not liberal and no liberal education that is not technology, that is, there is no education which does not impart technique and intellectual vision”. In spite of all these, vocational and technology education has remained a subordinate discipline in terms of societal recognition, adequate funding and parental/children’s choice. It is not surprising, therefore, that transition from junior secondary school to the technical college as at 1985 soon after the National Policy on Education, was almost 100% in favour of the liberal education curriculum in many states in Nigeria (Okoro, 1991). This issue of poor transition from junior secondary schools to technology education programmes is still a common phenomenon today. No improvement has been made in terms of technology education enrolment. The reasons are not to far-fetched. Technology education right from its inception has been tagged “education for the handicapped, for the drop-out and for the never-do-well (Odu, 2003).

13. Suggested Strategies (Reforms) in Improving the Policies and Access to Technology Education

The following strategies are made in order to improve the policies and access to technology education in the current UBE programme.

1. The government should endeavour to make provisions for the programme and funding get to their actual destinations where they are needed. The study revealed that the provisions are not adequately supplied, indicating that the current medium through which the supply is made is faulty, therefore, needs to be changed.
2. The government should provide adequate fund and apart from funding the scheme, should ensure that credible persons are involved in the implementation; probity, transparency and accountability should be guaranteed.
3. The Federal Government should take the responsibility of recruitment and remuneration of teachers in all local government areas. The award of contract for the UBE projects should follow due process.
4. Education cannot be free and some people are paying for its somewhere. It is expected that the federal government plays a principal role by providing 65% of the total fund needed for the scheme while the state and local government take care of the 35%.
5. Government should ensure that credible persons are involved in the monitoring and evaluation and to ensure that monies disbursed are appropriately accounted for especially

where the implementation is failing. The monitoring and evaluation team in charge should be held responsible because it is their duty to assess the implementation, identify constraints and collect data on infrastructure, facilities, instructional material, funding and personnel etc. and forward same to the state government for remediation.

6. UPE programme require Guidance and Counsellors. Guidance and Counselling centres should be made compulsory in both primary and junior secondary schools. Unfortunately, few Guidance and Counsellors are available for the UBE programme.
7. Technology education should be separated from the administrative and operating umbrella of general education (liberal education). Any attempt to combine the two will definitely result in failure because they have different goals.
8. The mass media should be used to disseminate information on the importance of technology education to the public. The campaign for technology education will improve Nigeria technological culture and national development.
9. About 10 percent of the education tax fund should be voted for technology education for the procurement of tools, equipment, training materials and infrastructural facilities.
10. N.C.E. Technical teachers that will teach the pre-vocational subjects for the UBE project should have sufficient work experience and knowledge to be able to realistically train the students practically. This task can only be achieved by teachers going for training and retraining in industries and academic institutions.
11. The technology education teachers should be given special salary package. Technology teaching allowance of between 35% and 40% of their monthly salary is recommended to all technology education teachers to stem the exodus to the industry.
12. The workshops/studios/laboratories should be equipped with relevant machines and hand tools.

14. Conclusion

The educational system in Nigeria has been practiced under the following phases 6-5-4, 6-3-3-4 and 9-3-4 system. The most current system is the 9-3-4 which is the Universal Basic Education programme. The UBE programme is a nine-year duration academic period from primary one to junior secondary school class three. The programme has been placed on board through with some imminent problems such as inadequate teacher facilities, training materials to mention but a few strategies such as training and retraining of teachers particularly, technology education teachers, special salary package for teachers, provision of equipment and facilities will make the UBE project to move forward when implemented.

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