

DEVELOPMENT OF BASIC SKILLS IN THE NIGERIAN CHILD THROUGH TECHNOLOGY EDUCATION: CONSTRAINTS AND PROSPECTS

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ABSTRACT

Technology education offers an individual the opportunity of acquiring practical and applied skills as well as basic scientific knowledge. Its curriculum is designed in a way that it can prepare the learner towards self-reliance in the areas of science and technology. Universal Basic Education (UBE) programme was tailored towards realizing this objective by developing in the child basic skills that can enable him be self-reliant after graduating at Junior Secondary School level. The researcher in his attempt to demonstrate this showed among other things, the modalities and scope of emphasis for basic skill development in the child. He looked at the constraints and prospects of developing basic skills in the child through technology education and recommended among other things for the provision of adequate number of equipment and trained teachers to ensure effective development of requisite basic skills in the Nigerian child.

INTRODUCTION

One of the basic components of the Universal Basic Education (UBE) scheme introduced by the Federal Government of Nigeria" in December 1999 under President Olusegun Obasanjo, is the acquisition of formal basic education. This encompasses the first nine years of schooling (i.e. primary and junior secondary education) for all children. The curriculum at this level of education emphasizes more on technical education or technology education which eventually prepares the learners towards self-reliance in the area of science and technology. Technology education as defined by the federal government in the National Policy on Education (NPE) (2004), is that aspect of education which leads to the acquisition of practical and applied skills as well as basic scientific knowledge. The basic objective of technical education therefore, is to provide trained manpower that is competent in Applied Science, Technology and Commerce, necessary for agricultural, commercial and economic development.

According to International Technology Educational Association in Bolayi (1991), technology education provides technical skill and knowledge basic to most occupations and professions. Technology education enables the future scientists and engineers to solve technical problems and the future craft person or technician to develop knowledge, skill and the ability to obtain technical information. These basic skills can be realized in the child if there is proper implementation of the technology education curriculum as stated in the UBE scheme. The technology education curriculum, as it is stated in the UBE scheme, includes science, agriculture, cultural arts, and home economics at primary school level and introductory technology at JSS level (Ajcyabemi and Baiyelo, 1990:55). Effective implementation of technology education curriculum will not only lead to the development of basic skills on the Nigerian child, but will also make Nigerian youths self-reliant and self employed.

THE CONCEPT OF TECHNOLOGY EDUCATION

The National Policy on Science and Technology (1986), described technology as the use of knowledge primarily derived from systematic investigation to ensure a better quality of life. Galbraith (1997:69), also defined technology as the systematic application of knowledge to practical tasks. In other words, it is the way, manner or method or technique of doing things. Technology is at the heart of any development in any country of the world. Technology has permeated all aspects of peoples' lives to an extent that it has dissolved cultures, concepts and value systems (Dike, 1980 :23).

On the other hand, technology education is that aspect of education which leads to the acquisition of practical and applied skills as well as basic scientific knowledge. According to Stoltman (1985), technology education is that aspect of education that takes care of the training of engineers, technicians and craftsmen/artisans, It is undertaken at different levels by different institutions. It is obvious that technology education includes vocational and technical education at the secondary school level of educational system. Vocational and technical education was described by UNESCO (1983), as a comprehensive term referring to those aspects of the educational process involving the addition of general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic life. The difference in concept and interpretation, notwithstanding, the common element in most of the suggested meaning is that of providing the individual with skill, and attitude, required in the world

of work. Hence, technology education plays an important role in providing training for skilled workers for the economic base of the nation. It also develops the technical base of a nation and the technological literacy skills which allows intelligent interaction with and use of technology at home and at work.

NEED FOR TECHNOLOGY EDUCATION FOR SKILL DEVELOPMENT

There have been various efforts in the past towards highlighting the relevance of technology education to the society. It is a common knowledge that most third world countries are under-developed due mainly to the non-appreciation of the role of technology in their development efforts. The majority of people in the third world countries are poor. Yet, these countries possess in abundance, the most important factor of production-manpower. The technology in use in the third world countries is inappropriate. That is why imported technologies have not been able to fit into their scheme of things.

For development to be initiated in the developing countries, concerted efforts should be made towards acquisition of appropriate technology. This should be done by gradual variations in the culture, in which citizens should embrace the rudimentary aspect of technology. This should be acquired through education. This education should start at the formative stages. That is why the Universal Basic Education serves as the national platform for technological education and acquisition.

Technology education has to do with the training of the child or the individuals to acquire skills which will enable them pursue a career as technical persons and creating jobs instead of seeking them. The major fabric of technological education involves training in the process of applying science and technology education to practical problems right from primary to tertiary level of education. Technology education aims at developing practical skills as well as the creative and innovative abilities of students. It also enhances and facilitates their problem solving and decision making skills. Therefore, there is compelling need for technology education of the child to enable him acquires those basic skills that can make him self-reliant when out of school and contribute to the development of the society at large. Technology education will develop, according to Enemali (1994: 47) cited in Musa (1995), the skills, knowledge and attitudes that Nigeria needs to the extent that its programmes are directed towards life-like experiences and to the extent that problems, conditions, and processes of the real world are integrated into the programme.

MODALITIES FOR DEVELOPING BASIC SKILLS IN THE CHILD

Development of the basic skills in the child should start with the effective implementation of the technology education curriculum through the Universal Basic Education Scheme. This will make children develop an appreciation of manual and skilled labour. Such an attitude will surely enhance an attitude of doing things and will eventually lead to the acquisition of the skill for one trade or another.

In this age of Information and Communication Technology, children should do computer appreciation courses from the early stages in the primary schools and acquire the requisite skill. The Basic Education curriculum should offer basic general education and training in woodwork, metal and building construction etc.

Technical training schools should prepare the artisans or craftsmen in one or more of a range of the skilled trades. Specific trades should be cited at trade centres responsible for the particular trade. For example, plumbers, cabinet makers, coach builders, carpenters and brick layers should be cited at the timberproducing areas. The other trades should be in the area of agricultural, mechanics, auto electrical, blacksmiths and welding, brick laying and masonry, building construction, carpentry and joinery, electronics, sheet metal works, wood mechanics, painting and plant machinist. They should also be trained in commercial practice, concrete practice, draughtsmanship, electrical installation, radio servicing, telecommunication, refrigeration services and air conditioning. Farm settlements should be established where they do not yet exist and be used. Pupils who have interest in agricultural technology should be sent to these places. They may wish to stay there after school and should be given incentives. The Children should be made to visit industries periodically, where they are taught the basic workings of such places. They should also embark on industrial attachment in industries, even if for a brief period. This will expose them to appreciate how basic sciences and technologies they are taught in schools manifest to physical objectives.

THE SCOPE OF EMPHASIS FOR BASIC SKILL DEVELOPMENT IN THE CHILD

The formal basic education encompasses the first nine years of schooling (primary and junior secondary education) for all children. At this level of education, children are exposed to such courses as Science, Agriculture, Cultural Arts and Home Economics at the primary school level and Introductory Technology at the junior secondary school level. Subjects like Integrated Science and Mathematics are the science subjects,

vocational subjects are Agricultural Science and Home Economics, while Introductory Technology represents technology subjects. When students are exposed to these subjects they are expected to acquire rudimentary skills that could even make them self-reliant.

Furthermore, introduction of technology education curriculum will emphasize the acquisition of abilities and skills in craftsmanship. Wood and metal working, bricklaying, agriculture and live-stock breeding, automobile engineering, electronics and electrical technology etc. are frequently the principal contents of the ideal technology education component of the Universal Basic Education. To further enhance the realization of the development of basic skills on the primary school pupils, there is need to complement the above curriculum with vocational training programmes to develop skills in areas like mat and cloth weaving, clothing and textile, home management, carpentry, blacksmithing, plumbing, metal work, block/brick moulding, fishing, net weaving and other nomadic related work at their rudimentary level. Pupils' exposure at this level would inspire and expose them to the need for better skill acquisition at the JSS level and beyond. At the JSS level however, students are expected to be exposed to some compulsory pre-vocational subjects. According to the National Policy on Education (2004), the preparatory aspects of pre-vocational training offered to students at the junior secondary school level is for the purposes of:

- a) Introduction into the world of technology and appreciation of technology towards interest arousal and choice of a vocation at the end of junior secondary school and professionalism later in life;
- b) Acquiring technical skills;
- c) Exposing students to career awareness by exploring usable options in the world of work; and
- d) Enabling youths to have an intelligent understanding of the increasing complexity of technology.

The main goals of technical and vocational education according to the National Policy on Education (2004) are to:

- i. Provide trained manpower in the applied sciences, technology and business particularly at craft, advanced craft and technical levels;

- ii. Provide the technical knowledge and vocational skills necessary for agricultural, commercial and economic development,
- iii. Give training and impart the necessary skills to individual who shall be self-reliant economically.

Evidently, when students are exposed to such vocational subjects as Agriculture, Introductory technology, Home Economics, Business Studies, Fine Arts and Computer Education in the junior secondary schools, it will be obvious that the graduates of the programme are not exposed to only cognitive learning or achievement alone, It is easier for these students to develop in the process of their training a specific, critical, reflective and creative mind. This will equally modify the attitude and feeling of UBE graduates towards technical and vocational education, this will however disemphasise the insatiable desire for white-collar jobs which is now rampant and responsible for the mass unemployment in our society.

Producing a functional graduate with a self-reliant education will surely save the government from problems of job creation and reduce job seekers in the country to the barest minimum. It is expected that by the time of certification in JSS III, if students are exposed to enabling courses, they would have acquired some basic skills in one of these areas and may seek reinforcement in their place of work. A programme like this encourages self-employment rather than a job seeker graduate.

CONSTRAINTS AND PROSPECTS OF DEVELOPING BASIC SKILLS IN THE CHILD THROUGH TECHNOLOGY EDUCATION

Development of basic skills in the Nigerian child suffers a lot of constraints. These range from lack of adequate number of equipment, lack of qualified teachers to teach the pre-vocational courses and to lack of maintenance of the

Most of the schools in both rural and urban areas, lack necessary equipment for the proper implementation of basic education programmes. In most of these schools, you can never find a single tool, let alone of machinery and equipment needed to teach these courses. This implies that the rudimentary skill acquisition which pre-vocational education is aimed to achieve in both primary and junior secondary schools lack the effective quality of a sound education. The implementation strategies adopted negate the laudable impression the policy was meant for when analysed against the aims and objectives of the programme. According to Okeowo (2000 : 297), surveys have shown

that most of the schools do not have either the required teaching personnel or functional laboratories/workshops to effectively teach pre-vocational subjects like Introductory Technology and Home Economics. This means that practical- oriented subjects are taught as reading and studying only. For instance, the National Policy on Education (2004), specified that the curriculum of agricultural science in the secondary school should enable students to acquire basic knowledge and skills, stimulate and sustain their interest in agriculture; and prepare them for occupation in agriculture. The implementation of this policy appears to raise great doubt. For example, Agricultural science in the secondary schools appears not to provide a basic knowledge and skills for the few privileged youths attending secondary schools. This is because the curriculum is implemented like applied science and not necessarily as relational courses. Besides, it lacks stimulating programmes. Uwadie (1993 : 18), affirmed that most secondary schools have not been able to teach for skill acquisition and interest, rather they teach for mastery needed to pass terminal and final examinations.

Beyond most of these constraints to the development of basic skills in the child, the researcher still feels that there are still, a lot of prospects towards the realization of basic skill in the Nigerian child. There is every hope that if the observed stability in the political terrain continues, education generally will take its real shape in the country. This means that education sector will get everything it needs to be functional. In other words, when the schools are properly equipped with both relevant human and material resources, students can be better assisted to develop those basic skills that can make them to be self- reliant even if they stop schooling at JSS III level. This will not only reduce the rate of unemployment in the country but will also lead to the reduction in crime-waves across the country.

CONCLUSION AND RECOMMENDATION

The philosophy of technology education has always been on the acquisition of saleable skills for the youths which make them to become labour asset for industries and useful to the society. This becomes more evident when the child is exposed early enough to technology education. Development of basic skills in a child is a sure way of guaranteeing his self-reliance in the society. Basic education curriculum is geared towards enhancing the realization of these skills in a child. However, this is only possible in an environment that is friendly. Busari (1998: 265), is of the opinion that for students to attain basic skills, there is need for well equipped laboratories to develop the

required skills and abilities. What we observe at the implementation stage of the basic education programme seems to negate the very noble objective of establishing it. There is no way we can ensure the acquisition of the appropriate levels of literacy, numeracy; manipulative and life skills needed for laying the foundation for life-long learning and self-reliance if we keep on recording poor' funding in vocational and technical education; inadequate supply of machines, materials and infrastructure; poor electricity supply to energize machines; inadequate and half- backed technical teachers to mention but a few.

For Nigeria to fully realize the objective of having a skilled graduate after JSSIII who have developed their basic skills and could be self-reliant, there is need for the federal government to:

- I. Improve their funding on education generally and on technology or technical education in particular.
- II. Adequately equip technology workshops and laboratories for students' practical at schools.
- III. Employ adequate number of technology teachers who have specialized exposure in various technical skills and practices, so that they would be able to train, educate and produce specialist craftsmen and women.
- IV. Boost children's interest in traditional careers or vocations so that they will develop special interest and love in acquiring these requisite skills which will enable them be self reliant when they graduate from schools.

Since one of the cardinal objectives of the Millennium Development Goals (MDGs) is eradication of extreme poverty and hunger, and since skill is the only instrument needed to do that, there is no amount of money spent on skill development, and especially basic skills that will be a waste. This is particularly true in Nigeria, where youth unemployment and joblessness is a common sight.

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