

Innovations in Junior Secondary School Curriculum and Pre-Vocational Education towards Self Reliance

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Abstract

The paper explained the meaning of innovation and pre vocational education. It discussed innovation in Junior Secondary School curriculum and pre-vocational education towards self-reliance. Historical development of pre-vocational education and technical training in post primary institution in Nigeria was also discussed. The goals of pre-vocational education were highlighted. The impediments to effective teaching and learning of pre-vocational subjects were explained. Recommendations made in the paper include school should plan time table in way that practical aspects of pre-vocational subjects do not suffer since the essence of innovation in JSS curriculum and pre-vocational education is to enhance self-reliance. Government should endeavour to boost the facilities for teaching and learning pre-vocational subjects by inviting individuals and philanthropic organizations to donate equipment or cash just as it was done to victims of flood disaster and Boko-Haram.

Introduction

Junior Secondary School (JSS) is an aspect of educational system that admits learners after completing primary education. In junior secondary school, both pre-vocational and basic subjects are offered to learners to acquire knowledge and skills. A minimum of ten subjects are offered by learners out of thirteen subjects (FRN, 2004). The primary school and junior secondary school have been put together and called Universal Basic Education (UBE) since 1999. In UBE programme, learners spend six years in primary and three years at the Junior Secondary School. The aims of the UBE programme are stated as follows:

- a. Acquisition of functional literacy, numeracy and life skills especially for children and adults.
- b. All persons in all manners and conditions of physical, spiritual and psychological existence will benefit from the programme.
- c. Special attention to special groups of the population will be taken into account.
- d. Encouragement for the provision of facilities for any childhood education and development with due attention given to the needs of specific special groups and geographical zones of the country, bearing in mind the needs to lay a solid foundation for long life learning right from early childhood (UBE, 2002).

The specific objectives of Universal Basic Education include:

- i. Develop in the entire citizenry a strong consciousness for education and a strong committee to its vigorous promotion.
- ii. Provide free universal basic education for every Nigerian child of school age.
- iii. Reduce the incidence of drop out from the formal school setting.
- iv. Responsible for learning needs of young persons who dropped out of school for one reason or the other through appropriate and complementary approach to the provision and promotion of universal basic education.
- v. Ensure the acquisition of the appropriate levels of literacy, numeracy, manipulated and skills as well as the ethical, moral and civic values needed for laying a solid foundation for life long education.
- vi. Establish center for adult literacy and practical skills acquisition to meet their life

The stages of UBE implies 3 years of lower basic education, 3 years of middle basic education and 3 years of upper basic education. The second stage is 3 years of senior secondary school while the last stage is 4 years of tertiary institution i.e. 9-3-4 system of education (FRN, 2004).

Innovation means a change that is new for improving a particular system. It could also mean departure from the existing practice to new practice that is discovered. Njoku (2011) said that innovation implies a change but not were change which can even occur on its own or a change brought about by man for the sake of it without any benefit while Ojelade and Aregbesola (2013) explained that innovation is a deliberate change brought about by man to improve an existing situation where the existing situation no longer stands the taste of time and therefore calls for improvement.

The Senior Secondary School curriculum and the pre-vocational education need innovation so that learners can be self-reliant or cope with academic work and new trends after graduation from this level of education. Pre-vocational education is that aspect of education that leads to acquisition of basic skills and knowledge. Pre-vocational subjects offered in Nigeria include Basic technology, Agriculture, Home economics, Local crafts, Computer education, Fine art and Music.

Historical Development of Pre-Vocational and Technical Training in Post Primary Institutions in Nigeria.

The need for economic and technological development of the country triggered off changes in the country's educational system. Vocational and technical training existed before the advent of western education only it was informal. Skills such as carpentry, carving, masonry, blacksmith work, building of houses using mud block and roofing of houses using branches of trees, bamboo and grasses were practiced before the introduction of formal education. These skills were acquired in form of home training and the apprenticeship system. Later, the focus changed favouring the literal aspect of education so that the colonialists could get people to read and interpret the scripture and other books for them. This aspect of education continued until the land grant foundation of Morrils act (1890) and smith-Hughes of 1917. USA influenced Nigeria educational system after the slave trade that led to improvement in other business enterprises. This brought about simple job training skills on subject like carpentry, masonry, tailoring, merchandising, craft making. These trades started in some schools like Comprehensive School, Aiyetoro, Mubil, Gombe and technical college, Yaba (Olaitan, 1996).

In a report submitted for the imperial education conference in 1913, it was recommended that the educational programmes in Nigeria should include agricultural training, history, geography, typing, shorthand, book keeping and economics. Similarly, in 1919, the PhelpsStrokes Commission was set up by American missions to investigate the existing educational system in tropical Africa in order to develop an educational system that would eliminate difference between literal, vocational and technical education in terms of emphasis or priority. In the same vain, the commission's report was published in 1925 and it made the following recommendations that technical and vocational training should be carried out with the help of government and under its supervision. The report emphasized the needs to adapt education that fit to the aptitude and occupations of the various people. This includes:

- Prepare the social life of the people
- Inculcate the idea of national growth and development
- Making individual to be more effective in his/her condition of life.
- Inculcate the idea of improving agriculture, industries, health and prepare for self-government.

This policy led to the establishment of trade centres and technical institutes. Though, most of the technical training was received through government departments such as the Public Works

Department (PWD), Post and Telegrams (PT) and Nigerian Railways. Some of the Nigerian middle schools around 1930 combined literacy, technical and business activities. In 1950, government made additional effort which led to establishment of more trade centres, farm institutes, secondary, commercial schools and experimental comprehensive schools. 1952, government also established few technical institutions and trade centers which were sited at Yaba, Enugu and Kaduna. Seven trade centers trained cabinet makers, carpenters, motor mechanics, electricians, metal workers and bricklayers.

The Ashby report of 1960 also recommended the introduction of technical stream in secondary schools leading to technical schools certificate. The comparative technical education seminar held in abroad in 1963 and a commission for technical and vocational education was set up in the same year. The commission studied the situation of vocational and technical education in Sweden, England, Holland and USA. The seminar dealt with three levels of technical and vocational education including pre-vocational education. This includes pre-vocational education and pre technical training offered in Secondary Schools, Technical Colleges, Trade Centers and Vocational Centers, Polytechnics and College of Technology (Osuala, 1993).

Later, the idea of 6-3-3-4 came up which was enshrined in the National Policy on Education in 1981. At the Junior Secondary School level, students offered Metalwork, Electronics, mechanics, Local crafts, Home Economics, Business Studies and Practical Agriculture (FRN, 1981, P. 17).

In 1999, the former president of Nigeria, Olusegun Obasanjo launched the introduction of Universal Basic Education programme. In Universal Basic Education programme, pre-vocational subjects are one of the subjects that make up junior secondary school curriculum. Curriculum is the total learning experience offered to learners in the school. This paper extra-curricular activities. The curriculum for junior secondary school and pre-vocational subjects from 1981 to 2003 and 2004 to date are presented in tables 1 and 2.

Table 1:
Curriculum for Junior Secondary School and pre-vocational subjects from 1981 to 2003.

CORE SUBJECTS	PRE-VOCATIONAL SUBJECTS	NON-VOCATIONAL ELECTIVES
Mathematics	Woodwork	Arabic Studies
English	metalwork	French
Nigerian language	Electronics	
Science	Mechanics	
Social studies	Local Crafts	
Art and music	Home Economics	
Practical agriculture	Business Studies	
Religion and moral Instruction		
Physical education		
Pre-vocational Subject (2)		

Source: FRN (1981)

Students that completed Junior Secondary School level may proceed to apprenticeship system or some other scheme for out of school vocational training or senior secondary school to choose arts, science, social science or technical subjects in addition to English language and mathematics, and other compulsory subjects such as Nigerian languages.

Table 2
Curriculum for Junior Secondary School and pre-vocational subjects from 2004 to date.

CORE SUBJECTS	PRE-VOCATIONAL ELECTIVES	NON-VOCATIONAL ELECTIVES
English	Agriculture	Religious knowledge
French	Business studies	Physical and Health Education
Mathematics	Home economics	Arabic
Language of environment to be taught as L1	Computer studies	
One major Nigerian language other than that of the environment to be taught as L 2	Fine Art	
Integrated science	Music	
Social studies and citizenship education		
Introductory technology		

Sources: FRN (2004)

The present curriculum emphasizes on computer education which is taught in many school as compulsory subject, though, it is an elective subject in the curriculum. The curriculum also emphasizes on value re-orientation, skills acquisition and ICT compared to the curriculum used in the past.

Nigerian has over one hundred and sixty million people and can't provide employment for all, this brings about innovation in JSS curriculum and made introductory technology (Basic technology) a core subject and one pre-vocational subject as elective.

- a. Introduction into 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 option in the world of work.
- d. Enabling youths to have an intelligent understanding of the increasing complexity of the technology (FRN, 2004, P.30).

Some Major Innovations in the Junior Secondary Curriculum Including Pre-Vocational Education

- Both Primary and Junior Secondary School are now put together and operated as system called Universal Basic Education.
- Integrated science has replaced science known as basic science.
- Social studies and citizenship replaced social studies.
- Computer education, fine art, home economics, business studies and music are now pre-vocational electives while introductory technology (Basic technology) is now a core subject.
- French is now a core subject while it was an elective before
- Non-pre-vocational electives are now religious knowledge, physical and health education, Arabic studies and French.

The above innovation is a departure from the former curriculum towards acquisition of basic knowledge and practical skill especially with respect to Basic technology which is now one of the core subjects.

It is important to note that objectives of pre-vocational education will be achieved if conductive

environments provided for teaching and learning pre-vocational subject. Some factors that constitute to ineffective teaching and learning of pre-vocational subjects are explained below.

Impediments to Effective Teaching and Learning of Pre-Vocational Subjects In Junior Secondary Schools

The factors that constitute to ineffective teaching and learning of pre-vocational subjects include the following using of non-experts for teaching pre-vocational subjects, lack of facilities, time table planning, strike embarked upon by teachers and frequent change of curriculum.

- a. **Use of non-expert for teaching pre-vocational subjects:** The problem facing effective teaching and learning of pre-vocational subjects is use of non-experts for teaching these subjects. The dearth of Technical Teachers Training Programme (TTTP) in Nigeria gave rise to inadequate technical and vocational teachers in our secondary schools. The TTTP is in existence by name. There have been no training of vocational and technical education (VTE) teachers for quite a long time. Many schools lack VTE teachers thereby using engineers to teach basic technology and those that read Agricultural Science, Business Administration, Food Science, Fine and Applied arts without teaching qualification are employed to teach Agricultural science, Business studies, Home Economics and Fine arts. These people have no teaching pedagogy so some of them find it difficult to teach in a way that learners can understand the lesson.
- b. **Lack of facilities:** Many Junior secondary schools lack workshops, machines and tools for teaching pre-vocational subjects while those subjects demand practical. It is difficult to be self-employed when the theory learnt can't be put to practice while in school. Self-reliance can be achieved when practical skills are acquired by learners. If government wants this present policy to work then the issue of facilities should be properly addressed.
- c. **Time table planning:** It is a reality to say that most school time table don't recognize subjects that have practical. Therefore, schools also contribute to lack of practical skill acquisition by learners. When planning time table most school don't consider subjects that have practical. The maximum period allotted to many subjects including those that have practical is usually two hours and is insufficient. It is better to use some hours on Saturday for practical lessons instead of using only two hours for both theory and practical.
- d. **Teachers strike:** Teachers strike has adverse effect to learning of prevocational subjects. Sometimes students lost the whole academic session to strike. This is common in public schools and very rampant during political era. UBE teachers spent almost a year at home. For instance, Benue State UBE teachers embarked on strike in October, 2013 and suspended the strike in July, 2014. The same with Plateau State UBE teachers in some years back. Strike occurs as a result of non-payment of allowances by government and this affects academic calendar and what learners are expected to learn within that academic session.
- e. **Frequent change of curriculum:** Frequent change of curriculum affects learners. Frequent change of curriculum affects learners in the sense that before they master the existing curriculum, government introduce new one without adequate provision of staff and facilities for the take-off of the new programme introduced. For instance, 6-3-3-4 system of Education was introduced without adequate provision of teachers and facilities. Now, UBE system of education (9-3-4) has started without adequate number of teachers and facilities.

Conclusion

The importance of pre-vocational education to the nation cannot be over emphasized. The only means the country can be self-sufficient is to lay solid foundation at the Junior secondary school

level since other levels of education is built upon it. To get a sound foundation, a lot of funds must be provided to purchase the needed facilities such as machines, tools and materials. There is a need for training and retraining of both professional and non-professional teachers to keep abreast with the current development in their area of knowledge. Frequent strike embarked upon by teachers affects students' learning. Therefore, government should treat teachers like other civil servants for the avoidance of strike and disruption of academic calendar.

Recommendations

Recommendations are made based on the content of the paper.

1. Government should strive to employ qualified teachers for teaching of pre-vocational subjects.
2. Technical teachers training programme (TTTP) should be revived to train pre-vocational teachers. This will boost the number of pre-vocational teachers in the country and also increase their efficiency in the field.
3. Government should endeavour to improve the teaching and learning of pre-vocational subjects by providing adequate machines, tools, consumable materials and workshops in those schools that are without them. Individuals and philanthropic organizations should be invited by federal government to support this course just as it was done to the victims of flood disaster and Boko Haram.
4. Schools should plan their time-table in a way that the practical aspect of the pre-vocational subjects will not suffer since the essence of innovation in JSS curriculum and pre-vocational education is to encourage self-reliance.
5. There is a need to maintain a particular school curriculum for a long period of time until learners master it. Changing curriculum with the same facilities and without the learners mastering the existing one is a waste of time and energy. Innovation is essential but should be supported with human and material resources for its effective implementation.

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