EVALUATING THE IMPLEMENTATION OF THE MATHEMATICS CURRICULUM IN AKAMKPA LOCAL GOVERNMENT AREA OF CROSS RIVER STATE

Emmanuel Asuquo Edoho, Ph.D
Uwase Uwase Esuong
&
Ekaette Asuquo Edem
Department of Science Education
(Mathematics Education Unit)
Faculty of Education

Abstract
Curriculum over the years has been seen as a well-planned experiences, aggregate of courses and activities provided for learners under the auspices of a school. The implementation or attainment of the mathematics curriculum has become a great source of concern and worry for educationists and relevant stakeholders in the educational sector. This is due to the high rate of failure recorded yearly in the subject. This has actually caused questions to be raised, thus: Is the mathematics curriculum actually implemented correctly? Are the objectives of the mathematics curriculum achieved? These salient questions raised form the bedrock for this research as it navigates through the mathematics curriculum, its implementation and attainment in Akamkpa Local Government Area of Cross River State. To deal with these salient questions, several professional papers were consulted and reviewed with regard to the educational standard and mathematics curriculum implementation. The study revealed that the implementation of the mathematics curriculum has not been fully attained as most teachers are not even aware of the innovations brought into the curriculum. Several recommendations were made including: the organisation of regular workshops, seminars and short-term training, government provision of mathematics laboratory, especially in all the schools alongside other laboratories to safeguard mathematics equipment, as well as concretise the teaching of mathematics.

Keywords: Curriculum, Implementation, Mathematics, Evaluating

Introduction

Curriculum over the years has been seen as well-planned experiences, aggregate of courses and activities provided for the learners under the auspices of the school. Every objective of the school has been written down in a document which serves as a guide for the school. This document is known as the school curriculum. It contains cognitive, psychomotor and affective programmes which are meant for the overall development of the individuals who pass through the school.

Mathematics, which is a science of numbers, quantities and shapes and the relationship that exists between them, is a critical and focal subject in our today's curriculum. Its basic knowledge has become a pre-requisite for gaining admission into any course of study in the tertiary or higher level of education. This is due to the overall importance of mathematics in solving daily life's problems and in aiding the understanding of other subjects, especially the science subjects. This is why mathematics is referred to as the queen and servant of all subjects.

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Meaning of Curriculum

The term curriculum, since its introduction in education, has been variously defined or explained by key players in the field of curriculum, education and other related fields of study. The quest for providing a generally acceptable definition of the term has been elusive. The task has defied various attempts and, in some cases, thrown experts into arguments and counter-arguments. This is because the field of curriculum has undergone stages of transformation in its course of development. Tanner & Tanner (1980) attributed these various changes to increased studies and knowledge about the learning process, the need to relate the school activities to real life situation as well as changes in the larger society.

Tanner & Tanner (1980) proposed a definition of curriculum as that reconstruction of knowledge and experience, systematically developed under the auspices of the school to enable the learners to increase his or her control of knowledge and experience.

Curriculum, according to Esu (1995), designates those knowledge activities and experiences, both formal and informal, planned and guided by the school for the benefit of learners. It is a conscious relationship between means and ends.

Inyang-Abia and Umoren (1995) viewed curriculum as the planned experiences offered to the learner under the guidance of the school. The problem of defining curriculum to gain general acceptance of particular view has remained unsolved.

Mathematics Curriculum

Mathematics curriculum could be regarded as the entire programme of the school's work which incorporates everything that the teacher and the students do. According to Ekwueme (2013), the mathematics curriculum could also be a set of mathematical content, together with indications of how it should be interpreted. It is the content of what is taught, along with an overall process of how that content is designed to be taught in school. We refer to this stage as intended curriculum.

The universal basic education (UBE) programme was introduced in Nigeria in September 1988. Following this, in 2008, the Federal Government of Nigeria, through the Nigerian Educational Research and Development Council (NERDC) developed and introduced the 9-year basic education curriculum (BEC) in schools by realigning all extant primary and secondary school curricula to meet the key target of the UBE programme. In view of some contemporary and national concerns, and to make the curriculum more practical, relevant and interesting to young learners, in line with global best practices, the 9-year BEC was revised in 2012. Also, its implementation just commenced in September 2014. The structure of the 9-year basic education curriculum is summarised as follows:

Lower Basic Edu. Curriculum Primary 1-3 Core Compulsory Subject	**Middle Basic Edu. Curriculum Primary 4-6 Core Compulsory Subject**	**Upper Basic Edu. Curriculum JSS 1-3 Core Compulsory Subject**
1. English studies 2. One major Nigeria language (Hausa, Igbo, Yoruba) 3. Mathematics 4. Basic science and technology 5. Social studies 6. Civic education 7. Cultural and creative arts 8. Christian religious studies 9. Physical and health education 10. Computer studies/ICT	1. English studies 2. One major Nigeria language (Hausa, Igbo, Yoruba) 3. Mathematics 4.Basic science and technology 5. Social studies 6. Civic education 7. Cultural and creative arts 8. Christian religious studies 9.Physical and health education 10. Computer studies/ICT	1. English studies 2. One major Nigeria language (Hausa, Igbo, Yoruba) 3. Mathematics 4. Basic science and technology 5. Social studies 6. Civic education 7. Cultural and creative arts 8. Christian religious studies 9.Physical and health education 10. Computer studies / ICT 11. Basic tech
Elective subject(s) 1. Agriculture 2. Home economics 3. Arabic language Note: Offer 1 elective but not more than 2	**Elective subject(s)** 1. Agriculture 2. Home economics 3. Arabic language Note: Offer 1 elective but not more than 2	**Elective subject(s)** 1. Agriculture 2. Home economics 3. Arabic language 4. Business studies Note: Offer 1 elective but not more than 3

Source: NERDC (2018)

The mathematics curriculum guides published by the Nigerian Educational Research Development Council (NERDC, 2008) set the goals of primary and secondary mathematics as follows:

1. To stimulate interest in the learning of mathematics;
2. To help students understand and acquire basic mathematical concepts and computational skills;
3. To help students develop creativity and the ability to think, communicate and solve problems;
4. To help students develop number and spatial sense and the ability to appreciate patterns and structures of numbers and shapes;
5. To enhance students' lifelong learning abilities through basic mathematical knowledge.

The mathematics curriculum topics taught during the 9-year Basic Education covers five content areas as follows:

Content Area	Topics
1. Number and Numeration	• Whole numbers • The nature of numbers • fractions, decimals and percentages
2. Basic Operations	• Whole numbers (addition, subtraction and multiplication) • Fraction and decimals • order of operations • indices
3. Algebraic Process	• simple equation
	• open sentences
4. Mensuration and Geometry	• Money, length, weight, time, temperature, area, volume, capacity. • Lines, angles and bearings • Two and three dimensional shapes
5. Everyday Statistics	• Data presentation • Measures of central tendency

The 3-year secondary school mathematics curriculum also covers the same content but in more advanced and broad form. *Source: NERDC (2008)*

Implementation of the Mathematics Curriculum in Akamkpa L.G.A.

As education is central to society so is curriculum the heart and life wire of education. The implication is that no society can rise above the level of the values inherent in its curriculum.

Abdu (2010) defined curriculum implementation as the task of translating curriculum documents into the operating curriculum by the combined efforts of the students, teachers and others concerned.

Okebukola (2004) described curriculum implementation as the translation of the objectives of the curriculum from paper to practice.

Over the last three decades, the school mathematics curriculum, the teaching and learning of the subject have become critical issues in Nigeria. In view of this, the school mathematics curriculum has been undergoing numerous changes and the evolution of these new school curricula and methods are designed to find ways to empower students to use practical and investigative approaches when learning mathematics. (Edoho & Esuong, 2016).

However, the implementation of the mathematics curriculum as introduced in the Basic Education Curriculum has been slow and, in most places, not implemented at all.

Akamkpa L.G.A. is among the eighteen (18) Local Government Areas in Cross River State as created in 1976. It belongs to Akamkpa Educational Zone and has twenty-eight (28) Secondary Schools and twenty-four (24) Primary Schools, both private and public, with a total of three hundred and twelve (312) teachers and only thirty-seven (37) mathematics teachers.

According to the above statistics, there has been insufficient supply of mathematics teachers in schools and this has hindered the implementation of the curriculum in the schools. Even in schools where mathematics teachers are available, there is low orientation and less-understanding of the new 9-3-4 curriculum, let alone putting it into action.

Other issues, according to Ekweme, Meremekwu and Nnenna (2013), that have affected the implementation of the mathematics curriculum include:

- Provision of Teaching and learning facilities;
- Teachers' participation in curriculum planning and assessment;
- Teachers' qualification;
- Funding;
- Motivation of teachers;
- Regular supervision and inspection;
- Societal problem;
- Understanding the framework of the new mathematics curriculum.

The inadequacies in most of the items for smooth implementation of the new mathematics curriculum in Cross River State have led to a drop or shortfall in the attainment or success of the objectives of the curriculum.

Conclusion and Recommendations

The selection of mathematics as one of the core subjects offered in primary and post primary institutions in Nigeria, as well as its status as part of the mandatory requirements for admission into post-secondary institutions in the country (i.e. attainment of pass at credit level) is a clear indication of the relevance of the subject in Nigeria's education. In addition, job opportunities, recruitment, promotion and placements are accessed by success in mathematics. Therefore, effort must be channeled towards the actualisation and overall implementation of the mathematics curriculum in our respective schools.

The following recommendations have been made for the attainment of the new mathematics curriculum:

1. Workshops, seminars and short-term training should be organised more regularly;
2. More mathematics teachers should be involved in workshop and seminars;
3. The government should provide mathematics laboratory, especially in all the schools alongside other laboratories to safeguard mathematics equipment and concretise the teaching of mathematics.
4. Emphasis should be laid on the new mathematics curriculum implementation by the relevant stakeholders.

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