

Challenges in Achieving the Objectives of Secondary School Mathematics Curriculum: Implications for National Policy on Education

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Abstract

The poor state at which most secondary schools are in terms of the products they produce is a worrisome one. Many studies have been conducted to proffer solutions to the ugly situation. The situation seems to remain unchanging. Therefore, a need to find out the challenges to this becomes imperative. This made the researcher to focus attention on finding out the challenges in achieving the objectives of secondary school Mathematics curriculum. The study was a survey study which used a structured questionnaire to collect relevant data for the solution of the problem. The responses of 250 randomly selected secondary school teachers and students were collected. This sample comprises of 80 teachers and 170 students. Three research questions and three research hypotheses were formulated to guide the study. Simple percentage was used to analyze the data collected while the hypotheses were tested with chi-square statistic at alpha level of 5%. Among the major findings made, the researcher found out that lack of supervision of secondary school teachers in the discharge of their statutory assignments is a significant challenge in achieving the objectives of secondary school Mathematics curriculum. On the other hand, it was also discovered that the lack of the mere teachers' and students' knowledge of the objectives of the secondary school Mathematics curriculum did not constitute a challenge in achieving the objectives of secondary school Mathematics curriculum. Based on the finding, however, the researcher recommended that thorough supervision of the teachers should be upheld because they are the major curriculum implementers. Furthermore, the researcher recommended that efforts should be made by both the teachers and the government in improvising and providing, respectively, the necessary tools for the implementation of the National Policy on Education.

Introduction

Science teaching, especially, Mathematics is an integral secondary school curriculum. The reason for this is not farfetched. For Ngugah (2013), Mathematics is all embracing and all encompassing. That is, in virtually all spheres of human endeavour, Mathematics is used as an aid in commerce, farming and control of environment. It is also applied in areas of Medicine, Engineering and even administration. Nneji and Alio (2014) described it as not just a pre-requisite for progress through the educational system; but it is also a tool for educating the mind. According to them, Mathematics develops, in its learner, the habit of precision and logical thought.

In recognition of the inevitable roles of Mathematics, the federal government of Nigeria made its study compulsory at all levels of education and a prerequisite for entry into any tertiary institution in Nigeria. This also reflects in the objective of secondary school education as captured in the National Policy of Education. According to the policy, the broad aims of secondary education are:

1. To prepare students for useful living within society and;
2. To prepare students for higher education

Analyzing the broad aims of secondary school education according to the National Policy on Education, Obodo (1997) observed that Mathematics can contribute to the realization of the general aims of education and Mathematics education in particular by:

1. Developing habits of effective critical thinking. This means developing logical reasoning both individually and deductively.
2. Providing competence in the basic skills and understandings for dealing with number and form.
3. Fostering the ability to communicate thought through symbolic expressions.
4. Developing the ability to differentiate between relevant and irrelevant data and to make relevant judgment through the discrimination of values.
5. Developing intellectual independence and aesthetic appreciation and expression.
6. Advancing the cultural and social heritage through its own total physical and social structure.

From the above, it is very obvious that a lot is expected of Mathematics education at the secondary school level by the National Policy on Education. The pertinent

question that is begging for an answer is to what extent has Mathematics achieved these objectives? What are the challenges in achieving these objectives? Have teachers and students diverse opinions on the challenges? What about the lack of the knowledge of the objectives by the teachers and students? Better still, lack of supervision of secondary school, has it posed a challenge?

Problem Statement

For an effective and healthy educational system, every facet of the system must be functional. It is only when this is achieved that it will aggregate to functional education. Based on this background, the objective of National Policy on secondary school education, and the role of Mathematics in achieving it cannot be realistic amidst of foreseen challenges in our secondary schools. As it stands, many of the secondary school graduates are not meeting up with the expected behaviour. They are not seen living useful life within the society. Some secondary school leavers who are expected to live independently and have sound communicative ability of thought through symbolic expressions are yet to live up to that.

Furthermore, the basic skills and competencies needed in dealing with number and form are not duly expressed. The Mathematics teachers who translate the curriculum in practical terms seem to be having challenges in doing this. This is attributed to their low knowledge of the various cultural bearings/heritage which they are expected to advance its physical and social structured.

This situation is not acceptable and calls for attention from all quarters. Many scholars have tried to find out why the situation is not the way it ought to be, yet no lasting solution had been found. Such variables like lack of supervision of teachers, students' phobia for Mathematics, lack of functional Mathematics laboratory, students' low interest in Mathematics, lack of motivation of teachers, etc, have become the recurring decimal as the factors responsible for the ugly situation of the students. In continuation for the search for the solution, this present study focused on determining the challenges in achieving the objectives of secondary school Mathematics curriculum.

Purpose of the study

The main purpose of this study was to determine the challenges in achieving the objectives secondary school Mathematics curriculum implications for National Policy on Education. On a specific note, the study sought to find out if:

1. Lack of supervision of teachers was a challenge to the achievement of secondary school Mathematics curriculum.
2. Lack of functional Mathematics laboratory was a challenge to the achieving of secondary school Mathematics curriculum.
3. Poor knowledge of the objective of secondary school Mathematics curriculum by the teachers and students as enshrined in the National Policy on Education.

Research Questions

For the purpose of directional search, the researcher formulated the following research questions to guide the search for the solution:

1. What challenges does lack of supervision of teachers pose in achieving the objectives of secondary school Mathematics curriculum?
2. To what extent does lack of functional Mathematics laboratory pose a challenge in achieving the objectives of secondary school Mathematics curriculum?
3. How can the poor knowledge of the objective of secondary school Mathematics curriculum by the teachers and students pose a challenge in achieving the objective of secondary school Mathematics curriculum?

Research Hypotheses

In furtherance for the search for the solution and to clarify the teachers' and teachers' view on the challenges, the researcher formulated the following research hypotheses:

1. There is no significant difference in teachers' and students' view on the lack of supervision as a challenge in achieving the objectives of secondary school Mathematics curriculum.
2. There is no significant difference in teachers' and students' opinion on lack of functional Mathematics laboratory as a challenge in achieving the objectives of secondary school Mathematics curriculum.
3. There is significant difference between the teachers' and students' knowledge of the objectives of secondary school curriculum.

Methods

The research designed employed was survey research design. The researcher used structured questions to collect data from sampled teachers and students in Enugu East. A sampled size of 250 which comprises of 170 students and 80 teachers was used. The response for each of the four items in the questionnaire were Yes and No. Data were collected by personal administration of the questionnaire copies to the randomly selected teachers and students in Enugu East Local Government Area. The instrument was validated by experts and the reliability of the instrument was discovered to be 0.84 using Spearman reliability coefficient formula. The pilot test and retest was done in Nsukka Local Government Area. The data so collected were analyzed using simple percentage while the hypotheses were tested using Chi-square statistic at alpha level of 5%.

Results

The data collected were analyzed in the tables below:

Table 1- Analysis of research question 1: Lack of supervision of teacher as a challenge in achieving the secondary school Mathematics curriculum

Responses	Respondents		Total	%
	Teachers	Students		
Yes	50	100	150	60
No	30	70	100	40
Total	80	170	250	100

In table1 out of 250mrespondents, 60% agreed that lack of supervision of teachers is a challenge in achieving the objective of secondary school curriculum. 40% of them disagreed to it.

Table 2- Analysis of research question 2: Lack of functional Mathematics laboratory as a challenge in achieving secondary school Mathematics curriculum.

Responses	Respondents	Total	%
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	Teachers	Students		
Yes	65	95	160	64
No	15	75	90	36
Total	80	170	250	100

In table 2, out of 250 respondents, 64% agreed that lack of functional Mathematics laboratory is a serious challenge in achieving secondary school Mathematics curriculum and 36% disagreed.

Table 3- Analysis of research question 3: Poor knowledge of the objective of secondary school Mathematics curriculum by teachers and students.

Responses	Respondents		Total	%
	Teachers	Students		
Yes	13	58	71	28
No	67	112	179	72
Total	80	170	250	100

Table 3 shows that out of 250 respondents, 72% disagreed that lack of knowledge of the objective of the secondary school Mathematics curriculum by teachers and students is a challenge while 28% agreed to it.

Hypotheses Analyses

1. **Table 4a** – Testing of hypothesis 1H₀₁: There is no significant difference in teachers' and students' view on the lack of supervision as a challenge in achieving the objectives of secondary school Mathematics curriculum.

Responses	Respondents		Total
	Teachers ef(of)	Students ef(of)	
Yes	50(48)	100(102)	150
No	30(32)	70(68)	100

Total	80	170	
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Table 4b – Summary table of 4a

L/S	Df	X ² -cal	X ² -tab	Decision
0.05	1	0.306	3.841	Don't reject

1. **Table 5a** – Testing of hypothesis 2 HO₂: There is no significant difference in teachers' and students' opinion on lack of functional Mathematics laboratory as a challenge in achieving the objectives of secondary school Mathematics curriculum.

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