

SELF-PERCEIVED STRATEGIES FOR MOTIVATING STUDENTS INTEREST FOR BETTER PERFORMANCE IN MATHEMATICS IN KATSINA METROPOLIS OF KATSINA STATE

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Abstract

This study was conducted to identify self-perceived strategies of secondary school students for motivating their interest for better performance in mathematics. The study was carried out using a total of 200 students in ten secondary schools in Katsina Local Government Areas of Katsina State. The schools and respondents were randomly selected. The data collected were analyzed using frequency tables, means and percentages depending on the nature of responses elicited from the questionnaire items. The paper concluded among others that the use of instructional, constant/regular assignments, provision of adequate textbook/workbook etc will go a long way to motivate the students. Based on the strategies identified, the researcher recommended among others that professionally qualified mathematics teachers be employed to teach mathematics and experts in the field be invited to give a talk in mathematics.

Keywords: mathematics education, self-perceived strategy, motivation, performance.

Mathematics has been aptly described as the bedrock of science and technology. Udonsa (2015) referred to mathematics as the foundation upon which science is meaningfully transformed into technology. Odumosu (2012) opines that technology without mathematics is mere craftsmanship that will make any pursuit of national breakthroughs an exercise in futility. It is therefore not surprising that mathematics is made compulsory at the primary and secondary school levels in Nigeria.

It is sad to note however, that the performance of Nigerian children in mathematics has remained poor generally. According to Effiom (2015) there has been a sharp decline in students' performance in mathematics in our secondary schools. Simon & Francis (2012) observed that this trend of poor performance in mathematics had continued unabated. The results of students in Senior Secondary School Certificate Examinations (JSCE) in mathematics between 1995 and 1997 shows a mean of 29.0 over three years. The West African Examination Council (2012) report on mathematics, for the Senior Secondary Certificate also showed poor performance.

Over the years numerous studies have been carried out to find out strategies that will improve student's performance in mathematics in schools, most of these strategies centered on teachers, parents and governments, little or no information is available on the self-perceived strategies from the children. Research findings indicate that self is the most important factor that influences an individual performance without the learning environment Odumosu (2012). The researcher therefore got motivated finds it necessary to find out the strategies that could help motivate students interest in mathematics and consequently improve their performance in mathematics.

Purpose of the Study

The main objective of this study is to identify and recommend self perceived strategies of children which when adopted by mathematics teachers will motivate the interest of children in mathematics and consequently enhance their performance.

Significance of Study

The findings and recommendations of this investigation will assist the government and mathematics teachers in our secondary schools and even parents to motivate students' interest in mathematics for better performance.

Research Question

The research question that guided the study is:

What strategies could be adopted to motivate student's interest in mathematics so as to enhance their performance?

Methodology

Data for investigation were collected from 200 SSS III students whose performance in mathematics (according to their mathematics teachers' assessment) were either average or below average. The schools were randomly selected from the study area. The study area was divided into five zones namely: kofar-kwaya, kofar-marusa and kofar-soro, kofar yandaka and kofar kaura. Twenty students were selected from each of purposely selected schools from the five zones.

Information was sought using questionnaires developed by the researcher; 200 copies of this instrument were distributed and collected by the investigator.

Data were subjected to statistical analysis. Each item accepted as very valuable strategy must score a mean greater than or equal to 2.50. Where the calculated mean is less than 2.50.the item is not a valuable strategy for motivating students' interest in mathematics for improved performance.

Presentation and Analysis of Results

Research Question

What strategies could be used by mathematics teacher to motivate student's interest in mathematics for better performance?

(Number of respondents: 200 students)

Table I

S/N	STRATEGIES	X MEAN	S.D	DECISION
1	Teacher should teach the students as many times as possible	2.79	0.89	Accept
2	Cane should not be use during mathematics lesson	2.60	1.01	Accept
3	Students should always be encouraged to believe they can do well in mathematics instead of being run down because of the weakness in mathematics	1.80	0.37	Reject
4	The number of periods of mathematics for the time table should be encouraged	1.39	0.78	reject
5	Students should be divided into groups each of which should be headed by a student who is good in mathematics to help teach them during preps	3.07	1.25	Accept

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6	Mathematics assignment should be given to students in place of corporal punishment or any other punishment	2.60	1.02	Accept
7	Teachers to use many instructional material as possible during mathematics classes	2.5	0.79	Accept
8	Give as many examples on the board before class work or exercise to students	2.75	1.05	Accept
9	On entrance into secondary school and from time to time students should be made to understand the pivotal place of mathematics in almost all academic pursuit	2.60	0.78	Accept
10	Textbooks on mathematics and other relevant materials should always be provided for students	3.00	1.34	Accept
11	Students should have mathematics lessons after school on daily basis	3.00	1.5	Accept
12	Tokens or prize to be won by all students who score pass mark in termly examination on mathematics	3.12	1.03	Accept
13	Students to be given mathematic assignment or exercises on regular basis	3.19	1.22	Accept
14	Less teaching load to mathematics teachers to enable them give and mark mathematics assignment on daily basis	3.13	1.14	Accept
15	Long vocation mathematics lessons to be organized for students	2.23	0.82	Accept

Based on the above table item 3 & 4 were rejected since the mean was below 2.50. While the rest of the items were accepted as the strategies that could be used to motivate students and arouse their interest in mathematics teaching/learning for better performance. This findings is in line with the findings of Umeh (2015) which has it that the use of instructional material in teaching mathematics is necessary as it enhance greater performance in students learning mathematics.

Findings and Conclusion

The following strategies were found to be self-perceived strategies of students that should be adopted to motivate students interest in mathematics for better performance.

1. Repetition of previous mathematics lessons before proceeding to fresh topics
2. Friendly atmosphere makes learning more interesting.
3. Regular encouragement of students to believe that they can do well in mathematics.
4. Organizing students into groups of ten to twelve under the leadership of good students for peer influence.
 - i. Mathematics assignment should be given instead of corporal punishment.
 - ii. Instructional materials.
 - iii. Provision of textbooks.
 - iv. Organization of mathematics lessons after schools hours and during long vacations.
 - v. Constant/regular class assignments
 - vi. Reduced teaching / work load for mathematic teachers.
 - vii. Award of prizes to students who pass mathematics on regular basis.

Recommendations

Based on the findings of this research the following recommendations are made:

1. Professionally qualified mathematics teachers should teach mathematics in secondary schools.
2. Teachers should make adequate use of instructional materials.
3. Schools should from time to time invite experts in mathematics to give talk

4. Government should give incentives to mathematics teachers.
5. Students who pass mathematics exams should be rewarded through incentives on termly basis.
6. Assignments on mathematics should be given to students in place of corporal.
7. Schools should reduce teaching load form mathematics teachers.
8. Schools, teachers and philanthropists should organize long vacation mathematics lessons.
9. Parents and guardians should ensure that textbooks and other materials needed by their children/wards are adequately provided.
10. Teachers should create a conducive atmosphere of friendliness.

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