

PERCEPTIONS OF LOW ACHIEVERS IN MATHEMATICS, THEIR PARENTS AND TEACHERS REGARDING THE CAUSES OF LOW ACHIEVEMENT IN MATHEMATICS

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ABSTRACT

The study has been conducted on a sample of 354 students who were low achievers in the subject of maths. A self prepared checklist for collecting the data from students, teachers and parents was used. The results revealed that almost equal number of causes for low achievement in mathematics relate to person himself/herself, family and school.

INTRODUCTION

Mathematics enjoys a unique position in the school curriculum and it is also necessary for the study of other subjects in our daily life but the teaching of mathematics in our schools is not satisfactory. Most of the students fail to understand the importance of mathematics and are often unable to apply their knowledge to advanced work or to practical problems. Obioma (2005) states that despite the importance placed on mathematics, researchers had observed that students lack interest in the subject and perform poorly in it. Unfortunately, mathematics is disliked by majority of the students and is not taught effectively by all teachers of mathematics in a classroom. Majority of pupils feel that mathematics is a difficult subject and it can be understood and followed only by exceptionally intelligent students. Many efforts are being made to improve the standard of mathematics at school level but it is disappointing to see a high percentage of students continuously failing in mathematics for more than 25 years.

NEED FOR THE STUDY

It is clear that our efforts to improve the status of mathematics at school levels over the past decades have been largely ineffective. Why is there a little visible progress, the study will bring in light the perceptions of low achievers in mathematics, their parents and their teachers regarding the factors causing low achievement in mathematics. Nirmala et al. (2006) observed that Mathematical information processing skills, decision making and attitude towards

mathematics have made a significant contribution towards the academic achievement in mathematics. According to Hui-Ling (2001) the variables home environment, peer influences, school environment, educational aspirations of parents are consistent predictors of mathematics achievement. Maria (2006) found that the main causes were as low educational status of parents and fewer educational resources at home. Poverty of the home, lower status, unhappy family is the main predictor in India for low achievement. Muijs et.al (2009) stated that schools in low-income communities suffer from high levels of unemployment, migration of the best qualified teachers, and low educational achievement. According to Wachira (2005) the best predictor of mathematics achievement is prior achievement in mathematics. When the basics of mathematics are not clear to students they become psychologically disturbed.

OBJECTIVES OF THE STUDY

1. To identify the low achievers in Mathematics in secondary schools.
2. To enlist causes of low achievement in mathematics of the students as perceived by the low achievers in mathematics, their teachers and their parents.

HYPOTHESES

Perceptions of low achievers in mathematics, their teachers and their parents are different regarding the causes of low achievement in Mathematics.

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DELIMITATION

It was delimited to 354 students who were low achievers in Mathematics, and their teachers who taught them Mathematics and the parents of students having low achievement in mathematics. The students who have scored 33-40 marks in Mathematics subject and more than 40% in other subjects (at least four subjects) have been selected as sample. Equal number of male and female low achievers in mathematics has been selected from rural and urban areas and from government and private schools for this study. The parents of students having low achievement in mathematics and teachers who had taught them made the sample for securing teachers and parents' perceptions.

TOOLS

A self-constructed checklist was used to find out the perceptions of students; teachers and parents regarding the causes of low achievement.

METHODOLOGY

A checklist containing 30 questions related to three areas of causes of low achievement namely personal factors, factors related to school and factors related to family, 10 in each area, was administered to 354 students who were low achievers in mathematics, their teachers of mathematics and their parents.

RESULTS AND DISCUSSION

The data and the analysis are presented below:

Table 1
Causes of Low Achievement in Mathematics Perceived by Low Achievers in Mathematics, Teachers and Parents Jointly

Causes	Mean	Median	SD	Rating
Personal	28.77	33.89	7.15	I
Family	28.06	33.15	8.32	II
School	27.01	31.05	8.50	III

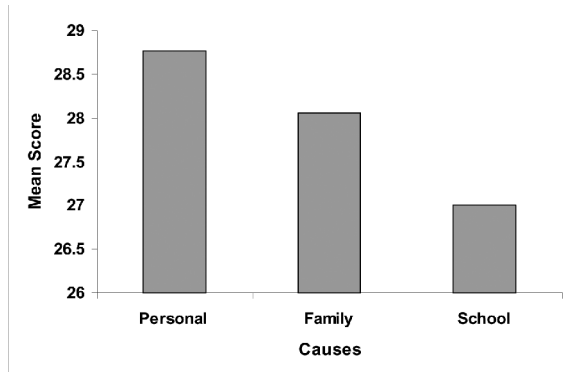


Figure 1: Bar Graph of Causes of Low Achievement in Mathematics Perceived by Low Achievers in Mathematics, Teachers and Parents Jointly

The mean scores in table 1 on causes of low achievement in mathematics indicated by students, teachers and parents for personal causes is 28.77, for causes related to family is 28.06 and for causes related to school is 27.01 respectively. The first area perceived by low achievers in mathematics, their teachers and parents is related to personal factors like lack of confidence, lack of practice in mathematical problems, hesitation in asking questions from teacher, maintenance of a distance from mathematics assuming mathematics a difficult subject, lack of readiness to understand concepts of mathematics, carelessness on the part of student, lack of interest in mathematics, poor performance in prior classes, lack of concentration and bad handwriting.

The second area perceived by low achievers in mathematics, their teachers and parents is related to family factors like lack of proper guidance at home, lack of proper time to study mathematics properly due to assistance given to family i.e. helping parents in looking after business, home or agriculture, lack of proper atmosphere at home due to the poverty of home, shortage of facilities at home, non-availability of extra tuitions, poor base of mathematics because of insisting parents to promote the child in next class in spite of poor performance in mathematics, inferiority complex due to the poverty of home, ignorance of parents and lack of awareness of the importance of mathematics by

parents and lack of necessary articles in learning mathematics.

The third area is connected to causes related to school of the student such as lack of interesting teaching methods to teach mathematics at school and lack of laboratory, lack of interest of teacher in mathematics, lack of inductive approach, difficult and whole syllabus to be done by all students even by the weak students, lack of proper time due to the official duties done by the teachers, lack of proper checking of notebooks and tests, trend of copying in the school and lack of individual attention given to the weak students in mathematics.

Table 2
Causes of Low Achievement in Mathematics Perceived by Low Achievers in Mathematics, Teachers, Parents Separately

Causes	Category	Mean	Median	SD	Rating
Students	Personal	28.37	28.52	6.95	I
	Family	27.62	32.64	7.98	II
	School	26.05	31.27	7.62	III
Parents	Personal	28.94	34.24	7.01	I
	Family	27.20	26.46	8.88	III
	School	27.82	32.65	6.78	II
Teachers	Personal	29.65	34.79	7.38	II
	Family	29.73	25.06	8.18	I
	School	25.84	32.86	8.04	III

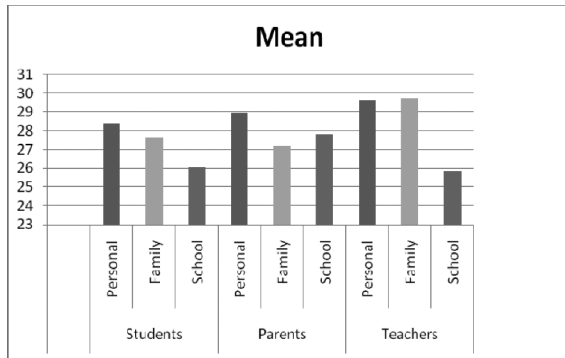


Table 2 shows that the mean scores on Personal causes 28.37. Family causes, 27.62 and School causes 26.05 perceived by the low achievers in mathematics, the mean scores in the case of their teachers are 29.65 on personal causes, family causes is 29.73 and mean of school causes is

25.84 and the mean scores of personal, family and school causes of their parents are 28.94, 27.20 and 27.82 respectively.

If we look up the ratings given by the low achievers in mathematics, personal causes have been rated at No. I, then family factors at no. II and school factors have been rated at No. III. It can be stated that low achievers in mathematics confess that there are certain personal reasons for their low achievement in mathematics. They also perceive that some lack of facilities at home is also a cause for their low achievement in mathematics. They do not blame schools or their teachers. On the other hand the parents of low achievers in mathematics rank personal factors at No. I, School factors at II and Family factors at No. III. Parents perceive that due to the carelessness of their wards, their achievement in mathematics is low, Secondly they find fault with teachers and system of schools. They think that their duty is to send their wards in schools and to pay their school fees. They also perceive that it is not their duty to create interest of students in mathematics but on the other hand it is the duty of teachers to pay attention to improve the academic achievement of their wards in mathematics. But the teachers rate them in different way. The teachers assign rank I to family factors. They think that family is at fault because parents do not pay proper attention to their wards. They give second rank to personal factors and rank III to school factors. So they defend themselves by saying that they are doing their job sincerely but the fault lies with parents and then with students.

Personal causes as already given have been given a rating I by the students and the parents. On the other hand, teachers rank personal causes at No. II. The second cause perceived by low achievers in mathematics, teachers and parents is related to family factors. Teachers give first rank to family causes, students give second rank to family factors and parents themselves give rank third to family factors. It shows that according to teachers parents are more responsible for the low achievement of students in mathematics. Teachers blame parents for low performance of students in mathematics whereas even students

consider that family causes are more responsible for their low achievement than school factors. The third area is connected to causes related to school of the student . Parents have ranked school factors at rank II. So it is clear that parents think that teachers are also responsible for the low achievement of students in mathematics whereas teachers put the blame on the parents and the carelessness of students.

RECOMMENDATIONS

1. It is the duty of a teacher to identify the problems of low achievers in mathematics at earlier stage.
2. It is also the duty of parents to give proper facilities, time and attention to low achievers in mathematics.
3. The students should not feel hesitation in asking questions from the teacher. They should not assume mathematics as a boring subject. So it is recommended that causes related to personal factors, school factors as well as family factors should be given full attention at the very initial stage.

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