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Mathematics and Students

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ABSTRACT

In this paper, an examination of students' relationships with mathematics is conversant by affective analysis into internal mathematical structures and identity analysis into students' narratives. By analysing the perceptions of a class of thirty one adolescents, 5 interacting parts emerged: students' views, feelings, mathematical information, identities, and habits of engagement. These parts contributed to the context inside that students engaged in arithmetic and resulted in their distinctive learning experiences. This framework has potential for researching aspects of students' mathematical journeys and may be employed by teachers to induce to grasp individual students' distinctive affiliation to the topic of mathematics.

Keywords: *Mathematics, Students, Feelings, Mathematical Information, Identities, Habits*

Mathematics is connected to an individual's life from his birth to death and in his daily morning to night life too. Mathematics is been utilized at every movement of our routine life and is connected to our life in such a way that we can't even imagine a life without Mathematics.

"Mathematics is a tool which helps an individual to draw conclusions and interprets the finding and results on the basis of logical reasoning."

- Pascal

Today the world is running towards the development. Every individual is doing continuous effort for his development, whereas many people are showing their disgust towards Mathematics and the Mathematics seems a very difficult subject for them. Though they all are using Mathematics in their routine life cycle but even though they show their dislike towards Mathematics as a study subject. Many students starting from the primary school to the engineering college are been seen shivering and found stressed while giving the exam of the Mathematics. Why so? We have to find out the answer of this question.

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It is important to find out, what are reasons that many students are not succeeding in Mathematics. There may be many reasons for it, but within those reasons the study of the personal reasons is more important.

Here the individual reasons for the downfall of 12 students of standard 9 in Mathematics are been studied. The study is organized to identify the reasons, so that with an appropriate workout on those reasons the mind set of these 12 students and many others like them can be motivated for the Mathematics so that just like other subjects Mathematics can also become an easy subject for them. As Mathematics is widely used subject it came be helpful to them at their entire life span.

Objectives Of The Study

1. To study the individual reasons of the secondary students of standard 9 for downfall in Mathematics.
2. To study the study habits of the secondary students of standard 9 in Mathematics.
3. To study the study contexture of the secondary students of standard 9 in Mathematics.
4. To study the I.Q. level of the secondary students of standard 9 in Mathematics.

Hypothesis

1. What is the I.Q. level of the secondary students of standard 9 who are having downfall in Mathematics?
2. What are the study habits of the students in Mathematics?
3. What is the study contextures used to teach Mathematics to the students?

Tools

1. Achievement test of Mathematics.
2. Desai's literally inexhaustible group I.Q. test.
3. Students Mathematics study habit analysis.
4. Free response Questionnaire.

METHODOLOGY

The 12 participants attended a co-educational school in Anand District. They were from the same class so the social norms and views of the class as a whole could be examined as well as the affect and identities of the individual students. Students in Year 10 (aged 14-15 years) were researched because understanding adolescents' relationships with mathematics is vital because they are on the "brink of deciding whether or not to pursue mathematical studies" (Nardi & Steward, 2003, p. 346).

The methodology of this research was informed by the affective research into students' internal structures and Sfard and Prusak's (2005a, 2005b) narrative view of identity. Sfard and Prusak

(2005a, 2005b) operationalised the notion of identity by gathering evidence of students' spoken identities. Their research is based around what students say, rather than on the researcher or teacher's perceptions of what is going on in the classroom.

A qualitative framework was employed in this research. The data collected included observations of mathematics and English classes, interviews, metaphors for mathematics, drawings of mathematicians, personal journey graphs, questionnaires, exercise books, assessment results, reports, prizes, and attendance. The teachers were interviewed.

Informed by Evans (2000), affective indicators were sought such as verbal expressions of feelings, the use of metaphors, negative or positive self-talk, body language, avoidance, and resistance. Other data collected were students' reflections on their experiences, their views of mathematics, and the language they used to describe mathematics. The students' identity stories were collected mainly through the interviews. Decision-making permeated the process of data collection and analysis.

The data was analysed using a grounded theory approach of constant comparison to seek, refine, and understand the interrelationship of the emerging elements of a students' relationship with mathematics. A data analysis software package NVivo (QSR International, 2006), helped to manage the large data set and aid the analysis.

INTERPRETATION AND ANALYSIS

In the present research, 12 students with a low achievement in mathematics on the basis of the achievement test of Mathematics in first semester school exam of one high school in Anand district were chosen. Through their given answers in the above exam a qualitative analysis and interpretation was done.

FINDINGS

1. Testing the I. Q. level of the students of standard 9 having downfall in Mathematics, the I.Q. level of 8 students was medium, 3 was good and of 1 student was poor.
2. Out of the 12 students, the study habit of 5 students was medium and 7 students were good.
3. Students were not having interest in Mathematics.
4. Out of the 12 students, the rationality of 4 students was medium and 8 students' was poor.
5. The menace power of the students in Mathematics is poor. They are not able to remember the theory, formulas and signs of Mathematics.
6. Out of 12 students, the health status of 2 students is found weak.
7. The basic knowledge of students from primary level mathematics is weak. They are not having through knowledge of basic concepts and mathematical processes.

8. Mathematics seems tough to every students.
9. Students don't like Mathematics.
10. Majorly students allot time of 3 to 4 hours for Mathematics only while the time of exam.

SUGGESTIONS FOR STUDENTS

1. After the school time the students should plan and implement the study schedule and not to waste the time after other activities.
2. The Mathematical rules and formulas should be understood by the students and should not be only remembered.
3. Students should understand the importance of the exams and should stay away from coping.
4. Through group discussion the students should work out the solutions of the problem they are facing.
5. Students should play Mathematics puzzles.
6. Students should constantly repeat the tables.
7. Students should play games or do activities which develop their memory power.

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