

Behavioral Attitudes towards Mathematics of XIIth Grade Students in Mumbai suburbs

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Abstract: *The behavioral aspect of attitude is the tendency to respond in a certain way towards learning mathematics. Behavioral attitude is also influenced by affective attitude. Students feeling confident in doing mathematics is linked with being successful in mathematics, which is regarded as a positive behavior. If students are not confident in doing mathematics, they may not experience success, and unsuccessful behavior is regarded as negative feelings*

Keywords: Behavioral attitude

I. INTRODUCTION

Learning mathematics does not only involve thinking and reasoning, it is dependent on the attitudes of the learners towards learning and mathematics. Attitudes consist of cognitive, affective and behavioral reactions that individuals display towards an object or the surrounding based on their feelings or interest.

The cognitive component of attitude is what the individual thinks or believes about mathematics. The affective component of attitude is the feeling or emotions of the individual associated with learning mathematics. Thus, the affective component is the source of driving the engagement of students towards mathematics.

Furthermore, the affective aspect is also influenced by the belief formed from the cognitive component of attitude, which creates a mindset that becomes constant over time and influences the feelings of the students towards learning mathematics. As such, the cognitive and affective components of attitude are interrelated and deeply interact with each other

Hence the behavioral component of attitude impacts on the cognitive component of attitude as well. When students see the importance of mathematics in real lives, they feel engaged, confident and connected to their learning. As such, the three components of attitude, confidence, importance of mathematics and engagement are interrelated

An important question that arises here is how can an increased level of confidence, awareness of the importance of mathematics and engagement be achieved so that students' attitudes towards learning mathematics become more positive? Teaching mathematics in a meaningful context could be the solution. Setting mathematical problems in a context can help students see the application of mathematics

In mathematics education, a range of meanings exist for the term context A context is an event that takes place in a set environment. The learning environment is the situation context and the characteristics of the task make up the task context. In this paper, like Harvey and Averill, we use the term context to refer to real-life situations.

1.1 Need of the Present Study

The highest percentage of students felt that mathematics was a worthwhile and necessary subject. Students also felt that mathematics is important in everyday life. There was a 3 percent increase in the percentage of students seeing the application of mathematics in other areas. Only 2 percent of the students felt that studying advanced mathematics would be useful. High school mathematics courses would be very helpful no matter what I decide to study) and I plan to take as much mathematics as I can during my education, which showed a decline in the percentage of students strongly agreeing and agreeing. Sullivan and McDonough (2007) pointed out that when students become aware of the connections between the tasks and its relevance to their lives, they tend to see the importance of mathematics.

The increase in the percentage of students believing that mathematics helps with problem solving in other areas and that mathematics is important in everyday life are linked with the highest percentage of the students' agreeing that

mathematics is a worthwhile subject. The Year 10 students may have also started to see the importance of mathematics for everyday use when they were shown the application of mathematics in the Ki-o-rahi sport.

1.2 Objectives of the study:

1. To study the extent of awareness of students towards mathematics
2. To study the extent of awareness of students towards mood changes because of mathematics. · To offer a few suggestions to get over the problems related to behavioral impacts because of Maths.
3. To throw light on salient features of improving the methods of teaching Mathematics.

The study has the limitation of having only students of grade 12th from ISC and CBSE schools. It did not take care of students of other grades. Data has been collected within the geographical boundary of suburbs of Mumbai. The design or methodology of the research conducted is the Descriptive Survey method. Keeping in view the objectives of the present study the methodology adopted was Descriptive Survey Method. The present study seeks to establish awareness about the environment among secondary school students and its standard of ethics. It tries to compare environmental awareness and environmental ethics among secondary school students of different boards CBSE, ICSE, SSC in higher secondary school students. The method adopted by the researcher includes a questionnaire developed by the researcher making it a descriptive survey method. Survey research is the most frequently used in all disciplines.

The questionnaire for the survey was designed under the guidance of my mentor Prof. Mrs. 2 Shubham Patil. The questionnaire was prepared keeping in mind the main purpose of study.

Q1. Upon solving a mathematics based problem and after getting the correct answer does it give true satisfaction?

Analysis: Out of 30 samples, 100% students feel that India plays a great role in conserving mathematics based problems and after getting the correct answer does it give true satisfaction.

Interpretation: It is observed that solving mathematics based problem and after getting the correct answer does it give true satisfaction

2. Do you feel there is a bi-directional relationship between your mood and solving math problems?

Analysis: Out of 30 samples, 66.70% students strongly agree and 30% agree is a bi directional relationship between your mood and solving math problem

Interpretation: Students are aware that there is is a bi-directional relationship between your mood and solving math problem

Q3. Does failure to solve mathematical problems affect your mood? Mass movement is a must for the protection of the environment.

Analysis: Students selected multiple responses. 60% of the students strongly agree, 20% just disagree, 20% of the students selected a neutral response.

Interpretation: As majority have agreed, failure to solve mathematical problems affects their mood.

Q4 Do your peers who are good at mathematics influence you to take math as a subject?

Analysis: 73.3% of students agree that peers who are good at mathematics influence you to take math as a subject

Interpretation: Students of Grade 12thstrongly agreed that peers who are good at mathematics influence you to take math as a subject

Q5. Is solving mathematics dependent and related to gender?

Analysis: 73.3% of the students disagree that mathematics is dependent and related to gender.

Interpretation: Mathematics is not dependent and related to gender.

Q6 Do you feel boys are higher achievers when solving mathematics and developing self concept?

Analysis: According to above diagram, 69% students disagree that they feel boys are higher achievers when solving mathematics and developing self concept Interpretation: The survey brings out strong disagreement that they feel boys are higher achievers when solving mathematics and developing self concept

Q7. Does an achiever having good mathematical understanding have an overall good academic record in other subjects as well?

II. CONCLUSION

A number of authors have shown that the relationship between aspects of the social environment and student emotional aspects may be mediated by other variables such as control-related appraisals and values-related appraisals. Therefore, competence support, autonomy support, expectations, and feedback that students receive from others have an impact on their cognitive appraisals and these are the main sources of their emotional dispositions. When studying attitudes, it is important to take into consideration the role of these mediated variables where we can include the motivation features of each student. In this sense, Wigfield, in reading specific domain, maintains that attitudes, realized as the individual's feelings towards reading, could be related to the motivation of the individual concerned because they influence how much individuals involve themselves in reading activities. Attitudes are affective responses that accompany a behavior initiated by a motivational state. Attitudes can therefore be linked directly to motivation and provide key information to a better understanding of attitudinal and motivational processes. In the domain of maths there is little research that studies the relationships between motivation and attitudes. However, a number of studies have highlighted some specific associations. Singh et al used two sets of items to tap motivation, one related to attendance of school and classes and another to participation and preparedness for math classes. The authors concluded that mathematics attitude was affected by motivational factors since significant direct effects of .19 and .21, of these two motivation components were identified in student attitudes. Students who displayed school behavior associated with low motivation (e.g., coming late to school, skipping classes, coming unprepared without books and homework) had a more negative attitude toward mathematics. Other authors have taken into consideration Effort as an indicator of motivation.

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