



The Attitudes of the First-grade High School Students to Mathematics

Mahyar Afshar

postgraduate student, Islamic Azad University, Karaj

Corresponding author: Mahyar Afshar

ABSTRACT: Attitude is a category of behavior created by different processes of validation. Students may express the feelings, expectations, or values as the causes of interest or lack of interest in mathematics. All these validation processes are strongly affected by social contexts and cognitive interpretations of students from situation. In this study, firstly the previous studies were reviewed to present a definition for attitude to mathematics. Then, the relationship of attitudes to mathematics and relation of attitudes to mathematics and performance of students were studied.

Keywords: attitude to mathematics, first-grade high school

INTRODUCTION

1. Introduction

Education experts significantly considered the factors affecting the academic achievement in mathematics during the last three decades. The findings of different studies showed that academic achievement in mathematics is not only affected by the structures of knowledge and data processing processes, but is related to motivational factors such as beliefs, attitudes, values, and anxiety (Besan, 1995). Negative attitude to mathematics is one of the incompatible motivational components leading to the lack of success in mathematics learners (Fenma, 1989).

For defining the concepts of research, it must be said that attitude is one of the structures having different definitions based on its used context. Attitude includes cognitive, value, and emotional aspects in the areas of psychology and education. Cognitive aspect refers to having the conscious beliefs. Value aspect refers to the positive or negative emotional orientation than the emotional backgrounds of individuals.

Attitude refers to the tendencies which are learned based on the positive and negative encounter to a certain subject, position, anxiety, or person (Aiken, 2005). Since attitude determines the behavior, studying the attitude of students to lesson is one of the research subjects. The studies showed that the students with positive attitude to lesson show an interest in good activities in that lesson. On the contrary, the students with a negative attitude to a lesson, have no appropriate reaction to that lesson. The studies on the attitude to mathematics and its role in the academic achievement of this lesson began through the studies of (Aiken, 1961 and 1979). Different studies were conducted on attitude to mathematics, but this concept must be theoretically developed. Many authors showed but attitude has a vague structure and is usually used without a correct definition and must be theoretically developed.

Attitude to mathematics is a category of behavior including the interest or lack of interest in mathematics and is composed of the following components:

1. The emotions of students to the concept of mathematics and mathematical activity
2. The value of mathematics in the structure of the general goals of students
3. The expectations and results that students expect to obtain by working on mathematics
4. Attitude of students to mathematics teacher

2. The significance of the study

The model and nature of scientific research in humanities and educational sciences from the material and physical sciences. In other words, research can be considered as the organized efforts helping the researcher in clarifying the truth of a subject. Unfortunately, the research-scientific methods especially the use of these methods written by researchers are very limited in Iran. The frequency and significance of concepts in different fields of scientific research in humanities and educational sciences are so much that cannot be included in one study. Thus, the contexts of this section were summarized based on the current facilities. It should be noted that the

significance of this study was the lack of interest in mathematics and the resulted anxiety and fear among the students and it was hoped that a special attention would be paid to it by the relevant authorities.

1.1. Research hypotheses

1. Students have motivation for learning mathematics.
2. Students have more severe fear and anxiety from mathematics.

2.2. Research method

Since this study aimed at reviewing the attitude of students to mathematics, thus it was of a descriptive research type because it attempted to report objective results from situation without any interference.

3. Analysis

A questionnaire with 12 questions was used for data collection. The questionnaire was distributed among 200 students and then was collected and reviewed after being by students.

The questions related to the first hypothesis:

Question 1: I want to increase my skill in mathematics and study in this field.

Question 3: I do not want to learn mathematics more than what I need.

Question 5: I am interested in acquiring more knowledge on mathematics.

Question 7: I have no interest in learning mathematics more than what I need.

Question 11. I have no motivation for solving mathematical problems.

Table 2. The results obtained from the questions of the second hypothesis

Total disagree	disagree	No idea	agree	Totally agree	
15	25	18	62	80	Question 1
12	28	56	54	50	Question 3
12	17	22	54	95	Question 5
61	45	50	32	12	Question 7
5	25	43	62	65	Question 9
31	84	35	30	20	Question 11
136	224	224	294	322	total

Based on the contents, Table, and F ration that were for comparing the variance of population and F as the statistical Table, the first hypothesis was confirmed.

Question 2: Mathematics makes me angry.

Question 4: I completely feel relaxed while studying mathematics and am not afraid of it.

Question 6: mathematics makes me sad and confused.

Question 8: making attempts to understand mathematics does not make me give up.

Question 10: to me, mathematics is one of the scariest lessons.

Question 12: I do not get angry while solving the mathematical problems.

Table 4. The results obtained from the questions of the fourth hypothesis

Total disagree	disagree	No idea	agree	Totally agree	
50	58	45	35	12	Question 2
38	44	18	65	35	Question 4
62	58	32	36	12	Question 6
15	15	32	58	60	Question 8
58	50	20	32	30	Question 10
22	32	48	62	36	Question 12
245	257	195	288	185	total

The second hypothesis was confirmed due to the smaller F from F in the statistical Table.

CONCLUSIONS

Based on the results obtained from statistical tests, it can be concluded that the attitude to mathematics is at the theoretical average level among the first-grade high school students. Thus, not a very good condition is governing and the quality of attitude to mathematics can be increased by creating more appropriate fields and methods. In addition, they showed no interest in teaching mathematics to others but considered the study of mathematics books significantly. However, they did not consider the study of mathematics books so useful. Competition in mathematics is very important to them, so that if others gain higher scores in mathematics, they will be upset but their study of mathematics was not merely for gaining a high score and the significance of mathematics was more to them. They liked the mathematical formula and mathematics is not considered as a difficult lesson to them. As a result, unlike the attitudes raised to mathematics in society, it can be predicted that

if we consider the opinions of students about mathematics with a positive look, we will find that almost everyone believes in mathematics as the factor of progress and success in life.

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