Determining Attitudes and Anxiety Levels of Students in Need of Protection Towards Mathematics Course

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Abstract

The aim of the study is to investigate anxiety and attitude levels of students who are in need of protection towards mathematics course. Data of the study is obtained by applying “the scale of anxiety towards maths” and “the scale of attitudes towards maths” to total 8 students in the spring semester of 2013-2014 who are sixth, seventh and eighth grade students of SOS Kindergarten. It is shown by the results of the study that anxiety levels of students who need protection are high and they are hesitant in having attitude towards mathematics course. Also, suggestions are provided for these students in the light of findings.

Keywords: Mathematics anxiety, attitudes towards maths, children in need of protection.

1. Introduction

King (1997) states that Mathematics is defined as a very important, beneficial science the importance of which is known and admired by all people also needed by all other sciences. Although mathematics is needed much, students regard it as a kind of science which is very hard to learn. People mostly express that they are afraid of mathematics as they think it is difficult.

Yiğit (2007) informs that anxiety is the state of being afraid and irritated with a dangerous fact while mathematics anxiety means avoiding or hesitating mathematics. In the case this feeling and state increases continuously it causes an emotion on students that they cannot be successful at mathematics and they are about to fail.
Miller and Mitchell (1994) define Mathematics anxiety which has become a very important problem for mathematic academicians as; “the meaningless state of students in which they feel afraid while focusing on mathematics that affects their performance negatively and prevent them from learning”.

Betz (1978) indicates that currently it is very important to study mathematics and have the necessary skills and abilities in learning mathematics because mathematics is the most effective and active tool that must be learned for the organization and system of our developing community. Mathematics anxiety is one of the main factors which direct students to make the right choice today, in the future and in their career, as well, in the process of their education and learning life.

Tooke and Leonard (1998), state that mathematics anxiety is a negative factor which makes learning harder and reduces positive relationship of the students with mathematics.

Budak (2000) explains that attitude, on the other hand, highly affects a person in thinking negatively and positively about someone, a particular group of people, any object of fact and behaving or not to behave to them. Attitude is formed by cognitive, emotional, behavioral and judicial aspects. Gürsul (2008), indicates that the effect of attitudes are very high in forming behaviors.

Hembree (1990) claims that the most important fact that prevent good skills and abilities of students achieving in mathematics, is caused by negative attitudes of pupils they form towards mathematics. Mathematics anxiety is caused by some reasons such as worrying about having decreased success in mathematics and keeping away from it. Hannula (2005) informs that because of such reasons, mathematics anxiety starts at early ages and times in the process of education and learning, becomes more and more and it has become so hard to find a solution to eliminate and destroy that anxiety. Işık, Çıltuş and Bekdemir (2008), indicate that students having mathematics anxiety either don’t have good level of mathematics at aimed and expected rates and they just learn mathematics by memorizing without understanding and perceiving.

Mathematics and anxiety were first investigated together by Dreger and Aiken (1957). First studies on mathematics and anxiety were named; “emotional reactions syndrome shown to mathematics and arithmetics”.

Balıoğlu (2001) claims that although researches done on mathematics anxiety in 1950s began with individual observation of teachers, it wasn’t noticed by researchers until 1970s.

Zelhard and Balıoğlu (2001) state that as a result of the fact that mathematics sciences and usage increase day by day, being necessary in all areas, problems of students studying mathematics have increased, as well.

Even if it is regarded as a difficult course by most of the students, mathematics is a type of science and course students must learn. Mathematics anxiety is one of the most important problems students experience in learning mathematics. The study has great deal of importance in sense of determining attitudes of today’s students towards mathematics who are about to be the next generation of tomorrow’s information community and investigating their levels of mathematics anxiety which influences success in mathematics negatively.

Evaluating attitudes of students who need protection towards mathematics which is a very important course in the education system and determining their anxiety levels are the aims and goals of the study.

2. Method

Survey method is used in the study which is one of the quantitative research methods. Creswell (2009) stresses that the aim of survey researches is to define and describe any fact or event as it is.

2.1 Participants of the study

Participants of the study are total 8 students of SOS Kindergarten who are in need of protection and they are sixth, seventh and eighth graders, in the spring semester of 2013-2014 of North Cyprus. No sampling carried out due to having so little participants in number.

2.2 Data Gathering Tools

Apart from some questions asked to get demographic information about the participants such as sex, age and grade, “mathematics anxiety scale” developed by Ikegulu (1998) and “mathematics attitude scale” developed by
Baykul in 1990 are used and applied. Mathematics anxiety scale includes 13 positive and 7 negative items and cronbach alpha ratio value is .912. Mathematics attitude scale is made of 30 items which consists 5 options and the cronbach alpha ratio value is 0.96. all reliability and validity rates of the scale are completed. The scale include items and options are rated as it follows; (5) partially agree, (4) uncertain, (3) Don’t agree, (2) strongly disagree and (1) partially agree.

The scoring and calculating of the two scales’ averages obtained as shown below:

Strongly disagree: between 1 and 1.80
Don’t agree: between 1.81 and 2.60
Uncertain: between 2.61 and 3.40
Agree: between 3.41 and 4.20
Strongly agree: between 4.21 and 5.00.

3. Findings

This section includes analyzing results related to the main problem of the research. Demographic information of the participating students are shown with respect to sex in table 1, with respect to grade in table 2 and average of anxiety and attitudes are shown in table 3.

| Table 1 Distribution of the participants with respect to sex |
|---------------------------------|
| sex    | f  | %  |
|-------|----|----|
| female| 4  | 50,00 |
| male  | 4  | 50,00 |

It is seen from table 1 that 4 out of 8 participants are male and the other 4 are female having equal distribution in sex as 50% of the participants are male and 50% are female.

| Table 2 Distribution of the participants with respect to grade |
|---------------------------------|
| Grade  | f  | % |
|--------|----|---|
| 6      | 3  | 37,5 |
| 7      | 3  | 37,5 |
| 8      | 2  | 25,0 |

It is shown in table 2 that 37.5% of the participants are sixth graders and also 37.5% of them are seventh graders while eighth graders are 25%. It is to say that number of sixth and seventh graders is equal.
Table 3  Anxiety and Attitudes of the participants

|                | Minimum | Maksimum | Average | Standard Deviation |
|----------------|---------|----------|---------|--------------------|
| Total Anxiety  | 3,25    | 3,90     | 3,61    | 2,6314             |
| Total Attitude | 2,27    | 3,70     | 3,13    | 5,6061             |

It is seen that the average score of being “agree” is 3.61. It can be said that students of SOS Kindergarten have Mathematics Anxiety. According to table 3 the average of being “uncertain” is 3.13.

Dursun and Bindak (2011), state that mathematics anxiety levels of primary school students are 2.086. In this sense, it can be said that anxiety levels of the students is generally low. Aydin (2011) indicates that it is seen in his research that mathematics anxiety levels of primary school students are 2.93. Considering these all, it can be said that mathematics anxiety levels of students who need protection are higher than that of normal students.

4. Conclusion and Recommendations

According to findings, it is seen that children who need protection are mostly uncertain in forming any attitude towards mathematics. Ekizoglu and Tezer (2007) state that secondary school students observed to be uncertain in creating any attitude towards mathematics when mathematics attitude scale applied to the students in their study.

Therefore, besides studies and effort done to increase student’s attitudes towards mathematics, also new type and various studies can be carried out. It is supposed that creating a relationship between lifestyle and mathematics course increases success in mathematics. For instance, teachers can use great deal of materials during the lesson by embodying the topics.

Beswick (2006), expresses that a person’s friend groups also have huge effects on that person in forming an attitude towards mathematics. Negative attitudes towards mathematics can start at early years and times among the students and if they aren’t eliminated and terminated they may turn into bias causing anxiety. Specially, classroom teachers of the students should have smiling face and they should satisfy the students by being patient and providing a positive atmosphere within the class.

It is seen that anxiety levels of students who need protection are mostly high according to findings obtained by measuring their levels of anxiety towards mathematics. If it is taken into consideration that students who love mathematics are likely to form a positive attitude towards mathematics, the teaching and learning atmosphere can be arranged in a way they learn mathematics with pleasure and enjoyment. In this sense, it is necessary to investigate reasons of anxiety and remove them.

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