A Study of Relationship between Attitude of Students Towards Mathematics and Their Achievement in It

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Abstract

The study was conducted at Aligarh comprised of XI standard students. The sample was drawn randomly but purposive sampling technique was used. The method adapted was descriptive and statistical in nature. The sample consists of 400 students selected from 7secondary schools of Aligarh. The sample includes 3 government schools of A.M.U and 4 private schools. Out of 400 students 200 were males and 200 were females. Out of 7 schools, 2 were of girls schools, 1 boys school and 4 were co-educational schools. Out of total number of students 211 were Muslims, 189 were Non-Muslim. For studying the effect of parental education on the attitude of children both mother and father were categorized into "less educated father group and highly educated father group" then "less educated mothers group and highly educated mothers group". Out of 400 students 194 students belonged to high educated fathers group, 206 students belonged to less educated fathers group, 116 belonged to high educated mothers group and 284 belonged to less educated mothers group. The investigator used "Mathematics Attitude Scale & Mathematics Achievement Test" by "Dr. TahiraKhatoon (2009), Dept. of Education A.M.U Aligarh. The responses were expressed in terms of five categories i.e. Strongly Agree which is scored as 5, Agree scored as 4, Undecided scored as 3, Disagree scored as 2, Strongly Disagree scored as 1. The statistical techniques employed was Mean, Standard Deviation, Standard Error of Mean, t-test, Pearson Product Moment Correlation, Item Total Correlation.

Keywords: Attitude, Achievement, Randomly, Co-educational Schools.

Introduction

Education is considered as a prominent factor which affects the overall development of an individual. Education is further defined as "To develop the knowledge, skills or character".

Mathematics develop the reasoning ability among the students. It broadens the mental horizon of the students and develop scientific attitude.

Attitude is a predisposition or readiness to respond in predetermined manner to relevant stimuli.

Achievement is referred as a success or accomplishment.

Objectives of the Study

1. To access the attitude of secondary students towards mathematics.
2. To investigate the difference of Male and female students due to their attitude towards mathematics.
3. To investigate the difference of religion due to attitude towards mathematics.
4. To investigate the difference of medium of instructions due and their change in attitude.
5. To investigate difference in achievement score due to attitude towards mathematics.
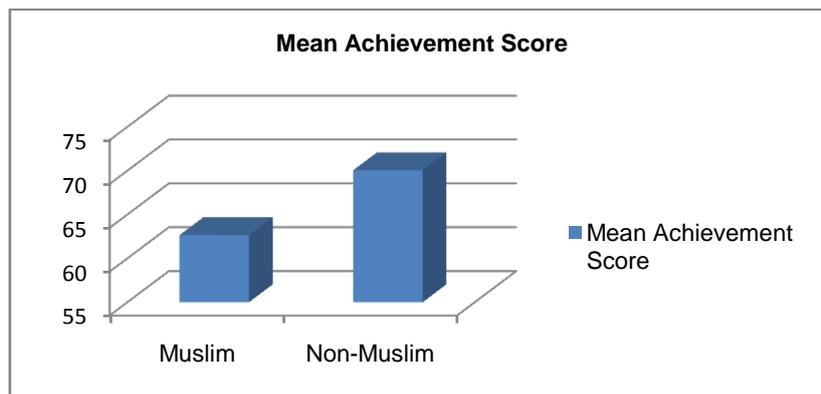
Table 1.1

Significance of the difference between Mean Achievement Score of Male and Female Students

Gender Difference	N	Mean Achievement Score	SD	SEM	df	t-Value	Significant /Not Significant
Male	200	66.20	20.605	0.463	398	0.046	Not Significant
Female	200	66.10	20.266				

Mean Achievement Score
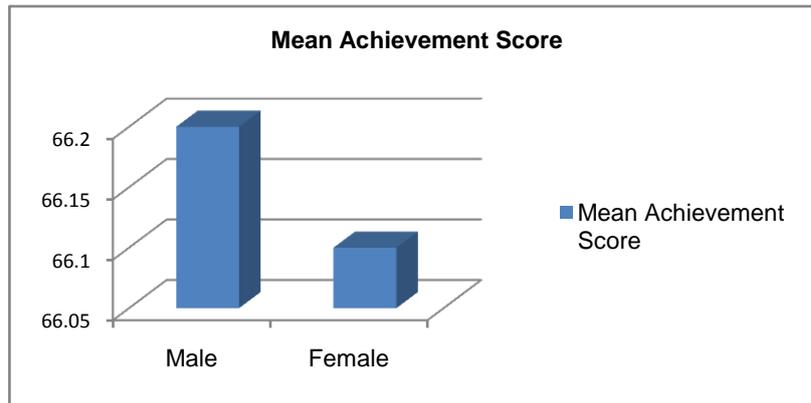
Table 1.2
**Significance of the difference between Mean Achievement Score
of Muslim and Non-Muslim Students.**

Religion	N	Mean Achievement Score	SD	SEM	df	T-Value	Significant/ Not Significant
Muslim	211	62.654	21.848	0.460	398	3.487	Significant at 0.01 Level
Non-Muslim	189	70.053	20.302				

Mean Achievement Score

Table 1.3
**Significance of the difference between Mean Achievement Score of
children of Low and High Educational Status of their Fathers**

Fathers Education	N	Mean Achievement Score	SD	SEM	df	t-value	Significant/Not Significant
Low	194	58.299	20.451	0.443	398	7.58	Significant at 0.01 level
High	206	19.671	19.671				

Table 1.4
**Significance of the difference between Mean Achievement Score of children of
Low and High Educational Status of their Mothers**

Mothers Education	N	Mean Achievement	SD	SEM	df	t-value	Significant/Not Significant
Low	284	61.549	21.273	0.494	398	7.107	Significant at 0.01 level
High	116	77.414	17.327				

Table 1.5
**Significance of the difference between Mean Mathematics
Achievement of different schools of students**

Schools Name	N	Mean Achievement Score	SD	SEM	df	t-value		
						Muslim School	Hindu School	Christian School
Muslim School	211	62.654	21.348	0.495	359	X	X	X
Hindu School	150	66.733	20.896	0.536	313	1.775**	X	X
Christian School	104	83.365	12.906	0.521	252	8.902*	7.190*	X

Table 1.6
Significance of the difference between Mean Mathematics Achievement
and Attitude of the Students

Maths Attitude	N	Mean Achievement Score	SD	SEM	df	t-value		
						Most favorable	Moderately favorable	Least favorable
Most favorable	158	76.646	17.846	0.472	357	X	X	X
Moderately favorable	201	60.149	21.195	0.743	197	7.82*	X	X
Least favorable	41	55.122	18.362	0.78	240	6.81*	1.41**	X

*significant at 0.01 level

**significant at 0.05 level

Conclusion

After statistical analysis, the following conclusions were drawn according with hypothesis and result of the study:

1. There was no significant difference between attitude of male and female students towards mathematics.
2. The statistical results indicated that Non-Muslim students had more favorable attitude towards mathematics than Muslim students.
3. The statistical results showed that the children of high educated fathers had more favorable attitude towards mathematics than the children of low educated fathers.
4. The statistical results showed that the children of high educated mothers had more favorable attitude towards mathematics than the children of low educated mothers.
5. The statistical results indicate that the high math achievers had more favorable attitude towards mathematics than low math achievers. It was concluded that there was a significant difference between the attitudes of children in relation to their math achievement towards mathematics.

Suggestions

In the light of research findings, we may make some suggestions to help students to develop positive attitude towards mathematics and higher rate of achievement. These are as follows:

1. Students should be given opportunity to make exercises as much as possible.
2. Students should be given opportunity to adopt the process of problem solving, instead of being only taught the solutions to the problem.
3. Students should be given opportunity to demonstrate and explain.
4. Students should be given sufficient time to take down notes, ask questions and express their own ideas in math class.
5. Use of co-operative grouping also helps students to solve their problems.
6. Teachers should create an environment in which students do not feel threatened and allow them to relax.
7. Teachers should teach at slow pace. It can help students to better comprehend the material being taught.

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