



Students' Understanding the Attitude of Teachers in Mathematics Teaching

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Abstract

This research was designed to examine the attitude of secondary mathematics teachers in the district of Mianwali. The study design consisted of 10 males and ten female secondary schools each. The general number of respondents is four hundred, of which 200 were female students. The sampling cluster and simple random sampling techniques have been used for the selection of schools and students, respectively. A questionnaire of 34-items is organized on five Likert Scale points to seek answers from the students. Percentage and mean were used to calculate the perceptions of each male and female science student. The results showed a constructive attitude towards mathematics teaching to both males and females.

Key Words: Attitudes, Mathematics Teachers, Mathematics Teaching, Secondary School.

Introduction

Education is seen as the most important tool to bring about positive changes in a nation's social and cultural existence. But the teacher, who plays a crucial role in the education system, forms this entire cycle of introducing improvements. The planning of such an important character, therefore, demands the highest priority. Teaching is a demanding career only the teachers who have a well-trained and optimistic attitude towards a profession can cope with the challenge of building nations or the future of a nation in its classrooms can be said to be affected. The current age is described as the age of science and technology. Science has revolutionized every sphere of human life. Only those nations that are advanced in the field of science and technology can ensure their political survival. The role of science and the teacher is becoming the most important. In this regard, only those nations, whose teachers have a positive attitude to science education, will make progress in the fields of science and technology.

The teacher's favourite attitude towards his profession is important to teach dynamic behaviour. Teachers' competence depends on the attitude he/she has towards his / her profession. A positive attitude enables the teacher to create a learning-friendly classroom environment that has a positive impact on the academic performance of the learners.

Attitude means a person's propensity to treat an object, an occurrence or a situation favourably or unfavourably. Thurston (1935) defined the position as the combination of the individual's emotions, fears, threats and inclinations for objects, events or circumstances. Anne Anastasi (1976) defined a positive or unfavourable response to an opportunity by a person. Apport (1935), explained that attitude as effects of mental state on the behaviour of an individual. Aiken (1970) claimed that an individual's positive or negative reaction to an event, circumstance, idea or person is called an attitude. Haladyna and. A. The attitude of the individual was defined as positive or negative (1983). It was claimed by Müllerieile (2005) as a way of looking at sparrows. The consequence of the attitude is, therefore, a common reaction to activities, people, objects or circumstances.

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Rawnsley (2010) showed how students consider the teachers in their mathematics to be very encouraging and that students are willing to play an active role in the teaching process. In his explanation, students have a more optimistic attitude towards their math teaching courses. The results of the research stated by Skaalvik and Federici, which have consistently demonstrated positive attitudes among teachers as a result of positive educational outcomes such as the engagement of the pupil (Patrick, Ryan, & Kaplan, 2007), High levels of self-esteem and lower anxiety (De Wit, Karioja, Rye, & Shain, 2011) are the academic intervention (Danielsen, Wium, Wilhelmsen & Wolf, 2010).

Kim, Fisher, and Fraser (2010) have reported major gender-related variations in the student understanding of teacher behavior. Empirical research supports the view that students are development-related in their expectations of assistance (Sidhu, 2009).

A wide variety of research has shown a positive connection to the existence and ability of science teaching as a good professor. Westerback and Long (1990) said teachers who enjoy science spend more time teaching science and teaching more creatively. Research studies indicate that teachers have an impact on the accomplishments of students in terms of science. Okpala (1985), noted that the positive relationship of teachers with students had positive effects on students and their attitudes towards subjects in the field of sciences.

Okpala (1985) Social scientists think that there are three components in the attitude i.e.

Cognitive Component

This part consists of values, ideas and characteristics that people associate with an entity, individual or event. We may assume that object awareness forms a cognitive part of actions. For instance, a person who fears snakes thinks all snakes are dangerous.

Affective Component

Affective portion consists of an individual's emotional reactions to an object of attitude. Most people find smoking to be detrimental to health, and this negative emotional reaction causes the snacks to be negative.

Behavioral Component

The behavioural aspect of the attitude is action taken or respond to an entity, individual or case. For instance, someone who fears snakes, how they act when they encounter a snake. He's either screaming or yelling. Screaming or shouting forms a part of the actions.

Statement of the problem

The research's main objective was to examine the attitudes between male and female mathematics teachers.

Objectives of the Study

The study's main objectives were:

- i). To find out the perception regarding Secondary School Mathematics Teachers attitude towards mathematics teaching.
- ii). To compare comparing the extent of mathematics, male and females' teachers' attitudes.

In view of the aims and importance of the analysis, the following hypotheses were formulated:

The hypothesis of the Study

- i). The attitude of mathematics teachers in secondary schools is not positive.
- ii). There is no significant difference in mathematics teaching attitudes between male and female mathematics teachers.

Significance of the Problem

This study will help to encourage mathematical teachers to be confident in the teaching process. This study will help inspire mathematics teachers to take a positive approach to mathematics teaching, which in turn will have a positive impact on the academic performance of students. The study will provide sufficient awareness of the prevailing attitudes of mathematics professors in the government: secondary schools. The study may become the basis for further research into mathematics-related issues. The study may help to select mathematics teachers on the basis of their positive professional attitudes.

Delimitation of the Study

The research was restricted to male and female math's teachers in Govt: Mianwali district secondary schools, because of insufficient time and money.

Research Methodology

The population of the Study

The study consisted of students from all over the government—secondary schools (both genders) in the Mianwali district.

Sample of the Study

The research sample included the 20 Govt. Secondary schools, including 10-male and 10-female Mianwali districts. 20 male and 20 female students were selected from each school. Cluster sampling and simple random sampling techniques have been used to select schools and students, respectively.

Research Instruments

A measurement of the attitude scale of mathematics teachers towards mathematics teaching was established. This scale has been validated by the experts.

The attitude scale consisted of 20 items with the following score options:

- Strongly Disagree = 1,
- Disagree = 2,
- Undecided (Neither agreed or disagreed) =
- 3, Accept = 4, and
- Strongly agreed = 5.

In order to achieve positive/unfavourable values, the mean score of each factor was reported. While developing the attitude scale, it was kept in view that items should be:

- i). Relevant to the study's objectives.
- ii). Clear, Simple and transparent.
- iii). Accuracy and Consistence with the scope of the study.

The items included in the questionnaires were of an objective nature because they were easily filled out in a short time.

Data Collection

The questionnaire was given to the respondents concerned. To this end, the researcher visited each institution on his own. One hundred percent of the data from the secondary schools sampled were collected correctly.

Data Analysis and Interpretation

In view of the objectives of the analysis, data collected using the aforesaid research instrument were tabulated,

analyzed and interpreted. Prior to statistical analysis and interpretation, the responses obtained from the aforesaid testing instruments were scored. Once the things have been scored, the scores have been added to the total score. The most appropriate statistical tools, such as mean, standard deviation, mean, standard error, and t-test, were used.

Table 1. Teacher Mathematics helps Students to Understand the Significance and Scope of Mathematics

Gender	N	Mean	S.D.	S.E _{Mean}	Mean diff.	t	p
Male Students	20	4.300	0.210	0.460	0.000	0.000	N.S.
Female Students	20	4.300	0.610	0.780			

t- value at 0.05 level = 2.03 **N-Significant

The statistically non-significant value of t was located at the point of 0.05 in Table 01. Therefore, both males and females. agreed on the statement "The teacher of mathematics tries to make it possible for students to understand the scope and importance of mathematics.' Since there is no difference in the mean performance of male and females' teachers in mathematics, there are no gaps in teacher attitudes between males and females.

Table 2. Mathematics Teacher is Trying to Develop a Critical Thinking Habit for Students.

Gender	N	Mean	S.D.	S.E _{Mean}	Mean diff.	T	P
Male students	20	4.300	0.210	0.460	0.200	.069	N.S.
Female students	20	4.100	0.490	0.700			

t- value at 0.05 level = 2.03 **N - Significant

Table 02 indicates that a statistically significant value of t is not to determine at the 0,05 level. The students agree on the argument, "The instructor of mathematics tries to cultivate the habit of critical thinking among students." Mean meaning shows that male teachers are more optimistic than female teachers of mathematics.

Table 3. Teacher of Mathematics is Seeking to Promote the Use of Digital Technologies in Mathematics Teaching.

Gender	N	Mean	S.D.	S.E _{Mean}	Mean diff.	T	P
Male students	20	4.150	0.128	0.360	0.400	1.870	N.S.
Female students	20	3.750	0.790	0.890			

t- value at 0.05 level = 2.03 **N-Significant

Table 3 shows that a statistically non-significant value of t is measured at 0.05 level. The students, male and female, therefore agreed "The teacher of mathematics seeks to promote the use of modern technological education while teaching mathematics." Meaning values suggest that male teachers are more optimistic than female teachers when it comes to teaching mathematics.

Table 4. Mathematics Teacher Tries to Develop an Adequate Understanding of the Nature of Mathematics.

Gender	N	Mean	S.D.	S.E _{Mean}	Mean diff.	T	P
Male students	20	4.700	0.430	0.660	10.06842	5.917	S
Female students	20	3.630	0.420	0.650			

t- value at 0.05 level = 2.03 *-Significant

Table 4 notes that the statistically significant value of t at 0.05 levels is determined. The students were therefore in contrast to the argument "The mathematics teacher is seeking to obtain a better understanding of the essence of math." The students also disagreed. Mean values show that male teachers are more favorable than female teachers in mathematics.

Table 5. Mathematics teacher tries to help students in acquiring commands of Mathematical concepts and principles.

Gender	N	Mean	S.D.	S.E _{Mean}	Mean diff.	T	P
Male students	20	4.800	0.550	0.740	0.450	1.545	N.S
Female students	20	4.350	1.150	1.070			

t- value at 0.05 level = 2.03 **N-Significant

Table 5 shows that the statistically not important value of t is calculated at 0.05 levels. The students agreed, therefore, on the statement "The teacher is trying to help students to gain control over mathematical concepts and principles." Mean values indicate that male teachers are more optimistic than female mathematics teachers.

Table 6. Mathematics Teacher Tries to use Illustrative Devices to Make Learning Concrete.

Gender	N	Mean	S.D.	S.E _{Mean}	Mean diff.	T	P
Male students	20	4.75	0.488	0.710	0.550	2.024	N.S
Female students	20	4.20	0.990	0.990			

t- value at 0.05 level = 2.03 **N-Significant

Table 6 shows that the statistically non-significant value of t is calculated at 0.05 levels. The students agreed that the statement "The teacher of mathematics tries to use illustrative instruments to make learning practical." The students agreed. Meaning values suggest that male teachers are more optimistic than female teachers when it comes to teaching mathematics.

Table 7. Mathematics Teacher Tries to Attend Refresher Courses to Keep Knowledge up to Date.

Gender	N	Mean	S.D.	S.E _{Mean}	Mean diff.	T	P
Male students	20	4.650	0.378	0.610	1.500	5.432	S
Female students	20	3.530	1.150	1.070			

t- value at 0.05 level = 2.03*-Significant

Table 7 shows the statistically significant value of t at 0.05 levels. Therefore, both men and women disagree with the statement "the teacher of mathematics tries to take refresher courses in order to maintain knowledge." Mean values indicate that male teachers are more optimistic than female teachers in mathematics.

Table 8. Mathematics Teacher Tries to use Field Trips to Support Mathematics Learning.

Gender	N	Mean	S.D.	S.E _{Mean}	Mean diff.	T	P
Male students	20	3.850	0.218	0.470	0.550	- 2.238	N.S
Female students	20	3.300	0.990	0.990			

t- value at 0.05 level = 2.03 *-Significant

Table 8 shows that the statistically non-signifying value of t is at the levels of 0.05. The students agreed, therefore, on the argument "Mathematics teacher seeks to make use of field trips to help mathematics learning." The students agreed. Mean values indicate that male teachers are more optimistic than female teachers in mathematics.

Table 9. Mathematics Teacher Possess the Ability to Stimulate Interest in the Process of Mathematics Teaching.

Gender	N	Mean	S.D.	S.E _{Mean}	Mean diff.	T	P
Male students	20	4.000	0.510	0.390	-0.300	-1.205	N. S
Female students	20	3.450	0.880	0.940			

t- value at 0.05 level = 2.03 **N-Significant

Table 9 reveals that a statistically significant value of t is not computed at 0.05. The men and women, therefore, agree on the statement "The teacher of mathematics has the capacity to stimulate interest in the process of the education of mathematics." Mean values indicate that male teachers' attitudes towards teaching are more constructive than female teachers.

Findings

1. There is no disparity in the mean output of mathematical teachers for male and female teachers; there are no differences between male and female teachers.
2. The meaning indicates that male teachers are more positive than female mathematics teachers in related to developing attitude towards thinking.
3. The result indicates that when it comes to mathematics teaching, that men are more positive than women teachers.
4. The mean values showed that male teachers are better than female mathematical teachers due to enhance the inters of the teaching of mathematics.
5. The result of mean values reflects the confidence of male teachers than female mathematical teachers.
6. The study result findings that attitudes toward the teaching of male teachers are more positive than those of female teachers.

Conclusions

The following conclusions were drawn based on the data analysis:

1. The mathematics teacher seeks to help students to understand the nature and importance of mathematics.' Because there is no disparity in the mean performance of male and female mathematics teachers, there are no differences in teacher attitudes between males and females.
2. Majority of Student revelled that the mathematics instructor seeks to encourage a student's habit of logical reasoning, so that male teachers are more positive than female mathematics teachers.
3. The math teacher needs to promote the use of modern education when teaching mathematics. "Thus, the importance of male teachers in the field of mathematics is better than female teachers.
4. The study found that there is no constructive attitude of a large number of secondary school teachers in mathematics. Secondary schools are a big subsector for the entire system of education. It supports the medium-sized economic workforce and, on the other hand, acts as a relay for educational institutions.
5. The attitude of mathematics teachers, both male and female, to teaching mathematics was found to be markedly different.
6. Male Teachers of mathematics have displayed a more optimistic outlook toward mathematics in contrast with their female counterparts.
7. The study results indicate that both male and female teachers have a good attitude to mathematics, whereas male teachers have a stronger attitude to mathematics compared to their female teachers.

Recommendations

The following recommendations were taken based on the conclusions of this study:

1. The student recognizes that the mathematics instructor seeks to encourage a student's habit of logical reasoning; the sense suggests that male teachers are more positive than female mathematics teachers.
2. Students understand that the teacher of mathematics is aimed at fostering the habit of critical thought of a student, and that male teachers are more helpful than female mathematics teachers. Therefore, female mathematics teachers trained may be arranged with different workshops
3. Students should be made aware of how the right to assess and evaluate the teachers' Practices of teaching and performance by providing assessment Performa from time to time.
4. Teachers will evaluate their teaching frequently by asking their students to review and assess their teaching Practices of instruction.

5. The appraisal of the teachers by students, Teaching should be seen as one of the key resources for the evaluation and effectiveness of teachers.
6. Student engagement in the educational process is important, and their experience will allow the teacher to interpret, adjust, and improve student understanding and achievement of the teaching strategies. In addition, to provide an ideal mathematical learning atmosphere and enhance its efficiency, the teacher should dramatize the best approach to describe him as a friend of students.

References

- Anastasi, (1976) *A Psychological testing* (4th Edition) New York.
- Allport, G.W. (1935) Attitudes. In: Murchison, C., Ed., *A Handbook of Social Psychology*, Clark University Press, Worcester.
- Aiken, L. (1970). Attitudes toward mathematics. *Review of Educational Research*, 40, 551– 596.
- Danielson, A.G., Wiinum, N., Wihelmsen, B.U., &Wold, B. (2010). Perceived support provided by teachers and classmates and students' self- reported academic initiative. *Journal of School Psychology*, 48(3), 247-267. <http://dx.doi.org/10.1016/j.jsp.2010.02.002>.
- De Wit, D. J., Karioja, K., Rye, B.J., & Shain, M. (2011). Perception of declining classmates and teacher support following the transition to high school. Portential correlates of increasing student's mental health difficulties. *Psychology in the Schools*, 48(6), 556-572. <http://dx.doi.org/10.1002/pits.20576>.
- Haladyna, T. (1983). A causal analysis of attitude toward mathematics. *Journal for Research in Mathematics Education*, 14, 19-29.
- Kim, H., Fisher, D. & Fraser, B. (2010). Classroom environment and teacher interpersonal behavior in secondary science classroom in Korea. *Evaluation and Research in Education*, 14, 3-22.
- Muellerleile J (2005). Attitude Vs Aptitude. ://www.4vqp.com/images/062305_Attitude_vs_Aptitude.pdf
- Okpala NP (1985). Teacher attitudinal variables in instructional assessment practices as correlates of learning outcomes in physics.
- Patrick, H., Kaplan, A., & Ryan, A.M. (2007). Positive Classroom Motivational Environments: Convergence between mastery goal structure and classroom social climate. *Journal of Educational Psychology*, 10(2), 367-382. <http://dx.doi.org/10.1037/A002331>
- Rawnsley, D.G. (2010). Learning environment in mathematics classroom and their association with students and learning. Paper presented at the Australian Association for research in Education Conference, Adaliade, Australia. <http://www.aare.edu.au/98pap/fis98269.htm>
- Thurstone, (1935). *Scales and Attitude Measurement: Different definitions of Attitudes*, New York, London.
- Skaalvik, E.M. & Federici, R A. (2014). Students perception of emotional and instrumental teacher support: Relations with motivational and emotional responses. *International Education Studies*, 7 (1), 21-36.
- Sidhu, E.F. (2009). The relation between stressful life events and adjustment in elementary school children: The role of social support and social problems-solving skills. *Child Development*, 60,1412-1423.
- Westerback, M. E., & Long, M. J. (1990). Science knowledge and the reduction of anxiety about teaching earth science in exemplary teachers as measured by the science teaching state-trait anxiety inventory. *Journal of Research in Science Teaching*, 19, 603-616.