

A Study of Attitude towards Mathematics among Secondary Students of Kohima in Nagaland

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Abstract

The study aims to come across attitude towards mathematics among the secondary students of Kohima. In the present study, the investigator tried to compare the attitude towards mathematics in terms of gender stratified sampling technique was used for selection of the sample from population. The sample consists of 60 secondary students from Kohima district of Nagaland. Mathematics attitude scale (Mas), developed by Alli Imam & Tahira Khatun, developed standardized tool used for collecting the data. Results were statistically analyzed using mean, standard deviation (S.D.) and T-Test. The result indicates that male secondary students have more attitudes towards mathematics with compare to female secondary students in Kohima. Attempt has also been made to suggest the policy measure to improve the learning of mathematics skill in Nagaland. I expect the suggestions and consequences establish will be valuable for community and society.

Keywords: *Attitude towards Mathematics, Secondary Students and Gender.*

1. Introduction

Education (NPE 1986, POA 1992) described education as a unique investment in the present and future. The NPE laid special emphasis on the removal of disparities and equalizing educational opportunities by attending to the specific needs of those who have been denied equally so far. In this regards special emphasis has to be laid on the education of women, scheduled casts, scheduled tribes, minorities and persons with special need in

order to ensure their equalization with the general population at all stages and levels of education. The Education Commission (1964-66) recommended mathematics as a compulsory subject for students at school level.

The importance of mathematics is stressed in the revision of National curriculum Framework 2005, which refers to mathematics as useful in workplace and fundamental to national prosperity. Study of mathematics contributes to societal values, how people feel about themselves and their environment. Mathematics can provide people with a feeling of control over their environment and therefore it increases a sense of power through knowledge.

2. Brief Introduction of Nagaland

The tribal State of Nagaland was inaugurated as the 16th state in the Indian union on 1st December 1963. The original inhabitants of the State belong to the Mongoloid race and is known as the Naga. State is divided into 11 districts and is inhabited by 16 major tribes and other sub tribes. It is 3rd smallest state which is located in the North eastern part of India. Its area is 16,579 sq.km and population- 1,978,502 as per **2011 census**. The topography is of hilly range. It is a home of diverse indigenous tribes, with festivals and markets celebrating the different tribes' culture. Its capital city is Kohima suffered heavy fighting in World War II, commemorated by memorials at the Kohima War Cemetery. The Nagaland State Museum exhibits ancient weaponry, a ceremonial drum and other traditional Naga cultural artifacts.

3. Justification of the Study

“Mathematics is the gate way and key of all the sciences”. Hence in the age of science and information technology the knowledge of mathematics is very much essential and useful. If mathematics is not given an important place in the curriculum then students would not get any opportunity for mental training and in the absence of which their intellectual development might be affected. The standard of Mathematics of class XII in India is same as that of class X in America or England. Evidence of students’ poor attitude and high levels of anxiety toward mathematics are abundant. In the midst of a technological era findings related to declining mathematics scores in ‘Scholastics Aptitude Test’ as well as poor mathematics scores had been already published in the ‘International Mathematics and science study. It is evident that knowledge of mathematics is indispensable for everybody for living his life better. The period of secondary education is the actual milestone in one’s life. Mathematics is considered to be one of the important subjects in secondary school curriculum since the skills used in the learning of the subject are known to get carry over value than subject itself.

The investigator also anticipates that the results of this study would have its far reaching implications for both teachers and students at secondary level and draw favorable attention of educational stakeholders and policy makers to consider and bring forth a corrective measure in this regard.

4. Statement of the Problem

“A Study on Secondary School Students Attitude towards Mathematics of Kohima in Nagaland” has been undertaken in present study which will cover secondary schools located in Kohima Town only.

5. Operational Definition of used Terms

5.1 Gender: It is biological division of individual assigned at birth based on anatomical differences as male or female. In my study male is boy and female is girl of secondary school students of Kohima town.

5.2 Secondary School: The schools (Govt. & private) which provide courses for the class 9th & 10th and registered to NBSE, Kohima.

5.3. Kohima: It is a capital of Nagaland; India’s Northeastern boarder state.

5.4 Mathematics: It is a compulsory subject upto the class 10th in the secondary school.

6. Objectives of the Study

There are the following objectives are stipulated for the present study:

6.1 To find and compare Mathematics attitude and its dimension of Secondary students of Kohima in relation to their gender.

7. The Hypothesis of the Study

7.1.1 There is no significant difference between Male and Female students of secondary school in relation to their Mathematics attitude.

7.1.2 There is no significant difference between Male and Female students of secondary School in relation to *usefulness of Mathematics*.

7.1.3 There is no significant difference between Male and Female students of school in relation to *the confidence in learning Mathematics*.

7.1.4 There is no significant difference between Male and Female students of secondary school in relation to Confidence in Engagement in Mathematics

8. Delimitations of The Study

The following are the Delimitations of the study:

8.1 This study is delimited only to the secondary school in Kohima Town, Nagaland.

8.2 In the schools of Kohima Town, Nagaland, Mathematics is taught as a subject from Montessori to secondary schools as a compulsory subject.

9. Methodology of Study

In order to achieve the above-cited objective, the various aspects of the methodology had been followed are:

9.1 Population: All the students of IX and X standards studying in different secondary schools (Govt. & Private) of Kohima Town, registered to NBSE, Kohima was constituted the population of the study.

9.2 Sample and sampling technique: A sample consisting of 60 students belonging to different communities which includes Male and Female stratified random sampling basis from 6 schools i.e. 3 Government and 3 Private schools spread in Kohima Town, Nagaland.

9.3 Research Method/design: Descriptive survey method had been used in the present study

9.4 Tools to be used: Mathematics attitude scale (MAS), developed by Alli Imam & Tahira Khatun for 15⁺ years, with components:-

- **Usefulness of Mathematics.**
- **Confidence in learning Mathematics.**
- **Confidence in Engagement in Mathematics** was adopted by the Investigator for collecting data required for the present study.

9.5 Statistical techniques to be used: The statistical techniques like Mean, Standard Deviation, Z-score, t-test and appropriate statistical techniques had been used for analyzing and interpretation of the data.

10. Interpretation and Discussion of the Results

10.1 Comparison of Male and Female Students of Secondary School In Relation To Attitude towards Mathematics

Table No.: 10.1

Gender	N	Mean	Standard Deviation (S.D.)	Degree of freedom (Df)	t-value
Male	30	109.0	22.1	58	3.80**
Female	30	92.6	7.82		

****Significant difference at 0.05 level**

Interpretation:- As per the , the calculated value of t-test is 3.80 .After comparing it with the t value of t-test at 58 df and .05 level of significance difference which is 1.98 is smaller than the calculated value of the test .Hence the aforesaid Ho No 7.1.1 is rejected and it may be significantly on attitude towards Mathematics. So it can be concluded that

female students has less attitude towards mathematics with compare to male secondary students.

10.2 Comparison of Male and Female Students of Secondary School In Relation To Usefulness of Mathematics

Table No.: 10.2

Gender	N	Mean	Standard Deviation (S.D.)	Degree of freedom (Df)	t-value
Male	30	24.09	6.19	58	1.27*
Female	30	23.03	3.41		

* Not Significant difference at 0 .05 level

In the above table (Table no 10. 2), Male and Female Secondary Students are 30 and 30; the Mean are 24.09 and 23.03. The Standard Deviations are 6.19 and 3.41; the Degree of freedom (Df) is 58.

The t-value found is 1.27, which is below the base value (1.96). Therefore, the hypothesis has been accepted and that, “there is no significant difference between the Male and Female Secondary Students in relation to their usefulness of

Mathematics. So we can say that, both Male and Female Secondary Students has more or less same usefulness of Mathematics.

10.3 Comparison of Male and Female Students of Secondary School in Relation To Confidence in Learning Mathematics

Table No.: 10.3

Gender	N	Mean	Standard Deviation (S.D.)	Degree of freedom (Df)	t-value
Male	30	22.6	4.72	58	3.77**
Female	30	18.7	3.04		

** Significant difference at 0 .05 level

Interpretation: As per the , the calculated value of t-test is 3.77 .After comparing it with the t value of t-test at 58 df and .05 level of significance difference which is 1.98 is smaller than the calculated value of the test .Hence the aforesaid Ho No 7.1.3. is rejected and it may be significantly on attitude towards Confidence in Learning mathematics So it can be

concluded that Male students has more attitude towards Confidence in Learning mathematics with compare to Female secondary students.

10.4 Comparison of Male and Female Students of Secondary School in Relation to Confidence in Engagement in Mathematics

Table No.: 10.4

Gender	N	Mean	Standard Deviation (S.D.)	Degree of freedom (Df)	t-value
Male	30	22.5	5.30	58	2.77**
Female	30	18.5	5.67		

**** Not Significant difference at 0.05 level**

Interpretation: Analyzed from of the data given in Table No 10.04 indicates the Male secondary students (N=30) could achieve (M= 22.5) mean score for attitudes towards Mathematics while Female secondary students could get (M=18.5) .So the S.D and means score show difference and t –test value also (2.77) indicates that both groups were significantly different to each other even at the 0.05 significance level thus hypothesis No 7.1.4 rejected even at 0.05 level of significance So on the basis of above discussion it can be inferred that Male and Female students have significant difference in relation to their attitude towards Confidence in Engagement in Mathematics. “There is no significant difference between the Male and Female Students in relation to their attitude Confidence in Engagement in Mathematics” has been rejected.

11. Findings

- Comparison of Male and Female Secondary Students in relation to their attitude towards Mathematics. There is no significant difference between the Male and Female Secondary Students in relation to their attitude towards Mathematics. Which means, both the group (Male and Female) Secondary Students have significance difference in relation to attitude towards Mathematics. Male Secondary students have more attitudes compare to Female secondary students in relation to their attitude towards Mathematics.

- Comparison of Male and Female Secondary Students in relation to their usefulness of Mathematics. There is no significant difference between the Male and Female Secondary Students in relation to their usefulness of Mathematics. Which means, both the group (Male and Female) Secondary Students has more less same value relation to their usefulness of Mathematics.
- Comparison of Male and Female Secondary Students in relation to attitude towards Confidence in learning mathematics. There is no significant difference between the Male and Female Secondary Students in relation attitude towards Confidence in learning mathematics. Which means, both the group (Male and Female) Secondary Students have significance difference in relation to attitude towards Confidence in Learning mathematics. Male Secondary students has more attitude compare to Female secondary students in relation to their attitude towards Confidence in Learning mathematics
- Comparison of Male and Female Secondary Students in relation to their attitude towards Confidence in Engagement in Mathematics. There is no significant difference between the Male and Female Secondary Students in relation to their attitude towards Confidence in Engagement in Mathematics. Which means, both the group (Male and Female) Secondary Students have significance

difference in relation to attitude towards Confidence in Engagement in Mathematics. Male Secondary students has more attitude compare to Female secondary students in relation to their attitude towards Confidence in Engagement in Mathematics

12. Educational Implications of the Study

1. Attitude towards mathematics will play a very significant role in develop of logical efficiency to solve their personal as well as professional problems.
2. Attitude towards mathematics will help the Secondary students to make their own choices, to avoid hardship they deals during the selection of the course viz-a-viz to grow professionally in the subject of their own interests.

13. Conclusion

The main aim of this study was to study and compare the Attitude towards mathematics of the Secondary Students of Nagaland. In this study, the investigator tried to compare the Attitude towards mathematics of Secondary Students in terms of Gender.

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