



IMPROVEMENT OF MATHEMATICS INTEREST

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Abstract

Mathematics has played a significant role in building our civilization. Education Commission (1964-66), National Policy on Education (1986) has underlined the importance Of Mathematics Education. Therefore, Mathematics is a compulsory subject at school level. If the students take interest in this subject then they can achieve better in Mathematics. But the fact is that there is more failure of students in Mathematics.

The Mathematics student teachers from the colleges of Education are tomorrow's Mathematics teachers. They have to develop and enhance Mathematics Interest of their students. If they have interest in Mathematics during their preservice training period, then it will be helpful to develop and enhance Mathematics Interest among their students. Keeping this view in mind, the researcher decided to test the student teachers' Mathematics Interest. He also decided to develop Mathematics Interest Enhancement Programme and study its effectiveness.

The objectives of present study are to test the Mathematics Interest of Mathematics student teachers, to compare the Mathematics Interest of student teachers according to their gender and medium, to develop Mathematics Interest Enhancement Programme and to study the effectiveness of the Programme.

Survey method was used to test the Mathematics Interest of Mathematics student teachers and the Experimental Method is used to study.

The population is the Mathematics student teachers from Colleges of Education. The sample for survey includes 200 Mathematics student teachers from five Colleges of Education, while the Experiment includes 100 student teachers from two Colleges of Education in Pune city.

Mathematics Interest Inventory, the researcher made tool will be used for the collection of data. The mean, standard deviation and t test are the statistical tools used for data collection.

The conclusions of this study are Mathematics Interest of student teachers is above average, Mathematics Interest of male and female student teachers is same, Mathematics Interest of English medium and Marathi medium student teachers is similar and The Mathematics Interest Enhancement Programme was effective.

Keywords: *Mathematics Interest, Improvement*



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1. Introduction:

Mathematics has played a significant role in building our civilization. Education Commission (1964-66), National Policy on Education (1986) has underlined

the importance of Mathematics Education. Therefore, Mathematics is a compulsory subject at school level. One of the major aims of teaching Mathematics is to create an enduring interest and faith in the subject. According to Tyron Edwards, to awaken the interest and kindle enthusiasm is the sure way to teach easy and successfully. Interest is the key factor in achieving success in any task we perform. It plays vital role in learning.

The proper foundation in Mathematics knowledge laid at school which depends on the interest of student in Mathematics. If the students take interest in this subject then they can achieve better in Mathematics. Mathematics plays a crucial role in the economic and social development of the country. It is the queen of all sciences and backbone of the civilization. Mathematics develops intellectual powers like logical thinking and reasoning. The knowledge of Mathematics is essential requirement to study the other sciences. It is a compulsory subject at school level. Mathematics is the subject which needs more interest to attain the required achievement. But the fact is that there is more failure of students in Mathematics at secondary level.

2. Need of the study:

Teachers play the vital role in the development of interest in Mathematics subject among their students during the teaching. Therefore they should have the profound interest in Mathematics. Pre-service training is the proper time to enhance the student teachers' interest in Mathematics. The Mathematics student teachers from the colleges of Education are tomorrow's Mathematics teachers. They have to develop and enhance Mathematics Interest of their students. If they have interest in Mathematics during their preservice training period, then it will be helpful to develop and enhance Mathematics Interest among their students. As the researcher is Teacher Educator, He decided to test the student teachers' Mathematics Interest. He also decided to develop Mathematics Interest Enhancement Programme and study its effectiveness. Therefore this research work is intended to develop a Mathematics Interest Enhancement Programme and study its effectiveness.

3. Statement of the Problem:

To develop the Mathematics Interest Enhancement Programme for Student Teachers and Study Its Effectiveness

4. Objectives of the Study:

The objectives of present study are-

1. To test the Mathematics Interest of Mathematics studentteachers.
2. To compare the Mathematics Interest of student teachers according to their gender and medium of instruction.
3. To develop Mathematics Interest Enhancement Programme.
4. To study the effectiveness of the Programme.

5. Assumptions:

1. At secondary school level, Mathematics is the difficult subject to the student.
2. Most of the students do not have interest in Mathematics at secondary level.
3. The majority of Mathematics Teachers' also have least interest in Mathematics.
4. Interest plays a vital role in the teaching and learning of mathematics content.
5. Mathematics Interest can be enhanced through the Programme.

6. Hypotheses:

Following research hypotheses and null hypotheses were decided for this study-

Research hypotheses

1. There will be difference in the Mathematics Interest of male and female student teachers.
2. There will be difference in the Mathematics Interest of student teachers from Marathi and English medium.
3. There will be difference in the Mathematics Interest of student teachers from control group and experimental group.

Null hypotheses

The null hypotheses for this study are,

1. There will be no significant difference in the Mathematics Interest scores of male and female student teachers.
2. There will be no significant difference in the Mathematics Interest scores of student teachers from Marathi and English medium.
3. There will be no significant difference in the Mathematics Interest scores of student teachers from control group and experimental group.

7. Research methodology:

7.1 Method of the research: Multi methods of research were used for the present work, which includes Survey Method, Product Development Method and Experimental Method.

Survey Method: For measuring the Mathematics interest of student teachers survey Method was used.

Product Development Method: For the development of Mathematics Interest Enhancement Programme for the Student Teachers the product development method was used.

Experimental Method: For studying the effectiveness of the Mathematics Interest Enhancement Programme the Experimental method was used. Two equivalent group posttestdesign was used for the experiment.

Variables: The Mathematics Interest Enhancement Programme for the Student Teachers is the Independent variable and Mathematics Interest is the Dependent variable for this research work.

7.2 Population and Sample

The population for this study was the Mathematics student teachers from Colleges of Education in Maharashtra.

The sample for survey includes 200 Mathematics student teachers from five different Colleges of Education in Pune city. These colleges were selected by random method of sampling while the student teachers were selected by purposive method of sampling.

For Experimental Method purposive sampling method was used in which 100 student teachers (50 in Control Group and 50 in Experimental Group) were selected from two Colleges of Education in Pune city.

7.3 Tool for data collection

The tool used for data collection was Mathematics Interest Inventory (MII).

This inventory was developed by the researcher in English and Marathi Language.

7.4 Statistical Techniques

The Mean, standard deviation and t test were the statistical tools used for data collection.

8. Scope Limitations and Delimitation:

Scope: The geographical scope of the present study is Pune city. The conclusions of the present research study will be applicable to Student teachers from English medium and Marathi medium Colleges of Education in Maharashtra.

Limitations: The conclusions of this research study are based on the responses given by student teachers to Mathematics Interest Inventory and Mathematics Interest Enhancement Programme.

Delimitations

- i. The present research study is delimited to the Mathematics Interest the student teachers.
- ii. Mathematics Interest Enhancement Programme is developed by the researcher.
- iii. Mathematics Interest Inventory is also developed by the researcher.
- iv. The sample is selected from Pune city only.

9. Procedure of the Study

- **A survey:** To test the Mathematics Interest of student teachers, the researcher conducted a survey of 200 teachers from five different colleges of Education in Pune city.
- **Development of Mathematics Interest Enhancement Programme:** To enhance the Mathematics Interest of the student teachers the Programme was developed by the researcher.
- **Experiment:** To study the effectiveness of Mathematics Interest Enhancement Programme, researcher conducted experiment. In that experiment, two equivalent group post test design was used.

First the Mathematics Interest Inventory was administered on the larger sample. Then the treatment in the form of Mathematics Interest Enhancement Programme was given to Experimental group and Mathematics Interest Inventory was administered both Control group and Experimental group to study the effectiveness of the Programme.

- **Interpretation of Mathematics Interest Inventory Scores**

The scores obtained with the help of the Mathematics Interest Inventory are interpreted as given in the following table.

Table No.1 Interpretation of Scores: Mathematics Interest Inventory

Sr. No.	Raw Scores	Mathematics Interest
1.	41 and above	Very High
2.	33 - 40	High
3.	25 - 32	Above Average
4.	17- 24	Average
5.	9 - 16	Low
6.	8 and below	Very Low

10. Data Analysis and Interpretation

10.1 Mathematics Interest of Student Teachers

Mathematics Interest Inventory was administered to the 200 teachers from five colleges of Education in Pune city. The Mean, Standard Deviation of the Mathematics Interest Inventory scores were calculated, similarly the means and Standard Deviation according to their gender and medium of instruction were calculated.

Table No.2 Mean, Standard Deviation of the Mathematics Interest Inventory scores

Sr. No.	Student Teachers	Numbers (N)	Mathematics score Mean (M)	Interest S.D.	Nature of Interest
1.	All	200	31.20	8.356	Above average
2.	Male	76	31.10	8.113	Above average
3.	Female	124	31.50	8.082	Above average
4.	English Medium	106	31.30	8.444	Above average
5.	Marathi Medium	94	31.40	7.685	Above average

From the Table No.2, the Mathematics Interest of all teachers is **above average**. The Mathematics Interest of male and female teachers is **above average**. The Mathematics Interest of English medium and Marathi medium student teachers is also **above average**.

10.2 Hypothesis testing

The researcher had decided to compare the Mathematics Interest of male and female Student Teachers and English medium and Marathi medium Student Teachers. He had also decided to study the effectiveness of the Mathematics Interest Enhancement Programme for Student Teachers accordingly three null hypotheses were stated. These hypothesis was tested by calculating means, standard deviation and t- value. The means, standard deviation and t- values are given in the table.

Table No. 3 Mean Standard deviation and t-value of Mathematics Interest

Hy. No.	Student Teachers	N	Mean	S.D.	t-value calculate	Null Hypothesis*
1	Male	76	31.10	8.113	0.730	Accepted
	Female	124	31.50	8.082		
2	English medium	106	31.30	8.444	0.461	Accepted
	Marathi medium	94	31.40	7.685		
3	Control Group	50	31.66	7.86	3.367	Rejected
	Experimental Group	50	38.40	5.624		

* t - value from table at 0.05 level is 1.98

From the Table No.3, it can be seen that the difference in the Mathematics Interest of the male and female student teachers, student teachers from Marathi and English medium is not significant therefore; the null hypothesis No.1 and null hypothesis No.2 were accepted. While the difference in the means of Mathematics Interest of student teachers from Control Group and Experimental Group is significant therefore, the null hypothesis No.3 was rejected. Thus the Mathematics Interest Enhancement Programme for Student Teachers is effective.

11. Conclusions:

1. Mathematics Interest of student teachers is above average.
2. Mathematics Interest of male and female student teachers is same.
3. Mathematics Interest of English and Marathi medium student teachers is similar.
4. The Mathematics Interest Enhancement Programme was effective.

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