



## A Study of Attitude of Mathematics Teachers Towards IX Class Text Book

### KEYWORDS

Attitude, Mathematics, Teachers, Sex, Management, In – service programmes.

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### ABSTRACT

*In order to help teachers select the proper textbooks, much research has been done to evaluate different textbooks. However, very little research is devoted to evaluating the textbooks used at the secondary school level. The main objective of the present study is to study the influence of sex, management, in – service programmes on the attitude of teachers towards IX class mathematics text book. Attitude towards IX class mathematics text book questionnaire was developed by Vogel B. Louis was adopted. A sample of 160 mathematics teachers representing all categories of schools is selected in Chittoor District of Andhra Pradesh by following the standardized procedures. 't' – test and ANOVA ('F' – test) were employed for analysis of the data. Sex, management, in – service programmes have significant influence on the attitude of teachers towards IX class mathematics text book.*

### INTRODUCTION

The design of education has mainly been controlled by professional teachers who decide what and how to teach. Therefore, it is not surprising to discover that the selection of textbooks in the school education is traditionally based on the preferences of the teachers. If the teacher of a manufacturing class likes a book or has been accustomed to using a certain book, it is likely that he or she would continue to use that book for a long period of time.

The constructivist in the field of educational psychology believes that learning really takes place when the student can construct the new information into his original cognitive system. In other words, students' needs have to be met in order to reach the goal of meaningful learning. Therefore, it is sensible to incorporate students' desires when considering the selection of textbooks in order to meet their needs.

For many mathematics teachers, the textbook is their primary guide to implementing of mathematics textbooks with three basic propositions:

Good textbooks can play a central role in improving mathematics education for all students.

The quality of mathematics textbooks should be judged mainly on their effectiveness in helping students to achieve important mathematics learning goals for which there is a broad national consensus.

An in-depth analysis of much more than a textbook's content coverage would be required to evaluate whether there is potential for students actually learning the desired subject matter.

We live in a mathematical world. Whenever we decide on purchase, chosen an insurance or health plan, or use a spreadsheet, we rely on mathematical understanding. The World Wide Web, CD-ROMs, and other media disseminate vast quantities of quantitative information. The level of mathematical thinking and problem solving needed the workplace, which has increased dramatically.

In such a world, those who understand and can do mathematics will have opportunities that others do not. Mathemati-

cal competence opens doors to productive futures. A lack of mathematical competence closes those doors.

Students have different abilities, needs, and interests. Yet everyone needs to be able to use mathematics in his or her personal life, in the workplace, and in further study. All students deserve an opportunity to understand the power and beauty of mathematics. Students need to learn a new set of mathematics basis that enable them to compute fluently and to solve problems creatively and resourcefully.

Principles and standards for School Mathematics describes a future in which all students have access to rigorous, high-quality mathematics instruction, including three years of high school mathematics. Knowledgeable teachers have adequate support and on going acceded to professional development. The curriculum is mathematically rich, providing students with opportunities to learn important mathematical concepts and procedures with understanding. Students have access to technologies that broaden and deepen their understanding of mathematics. More students pursue educational paths that prepare them for lifelong work as mathematicians, statisticians, engineers, and scientists.

### Review of Literature

Joshi (1972) found a need to increase clear and easy understanding. Pictures in the textbook, and the pictorial illustrations should be accompanied by definite descriptions and instructions regarding what to look for. Weight age should be given to the objectives of developing mathematical skills and appreciation of skills. And weightage for the knowledge objective should be reduced proportionately.

Tharyani (1978) found that the textbook with the new curriculum of the Maharashtra state is out of time with the social, economic, philosophical, psychological and educational requirements of students and society. The programmers of work experience, included in the curriculum were not properly integrated with the programmed of general education.

Benjamin Paul (1980) found that most of the activities that are given in the mathematics textbooks at primary level are demons ratable. But ways and means to improve the material is not clearly mentioned.

Ghorai (1980) has found that the new curriculum of secondary education was quite heavy in its content and lacked balance. He also suggested that teaching aids and equipment should be provided to teachers for better teaching. In textbooks, there should be a provision for association between teaching and learning.

Bach (1986) felt that content analysis of textbook at different levels demands complete change. According to him, the writing, editing and publication of textbooks require exploration and sustained research. The researchers in the above area shall provide much needed guidelines in planning, analysing content and curriculum developing techniques and tools of teaching, writing and publication of textbook as well.

Rama Krishna (2008), investigated that management has significant influence on the attitudes of mathematics teachers towards IX class text book used in Andhra Pradesh

**Scope of the Study:** The main intention of the study is to find the relation of attitudes of mathematics teachers towards IX class text book with sex, management and in – service programmes.

**Objective of the Study:** To study the influence of sex, management and in – service programmes on the attitudes of mathematics teachers towards IX class text book.

**Hypothesis of the study:** Sex, management and in – service programmes do not have significant influence on the attitudes of mathematics teachers towards IX class text book.

#### Tools for the Study

The “Spot Check Opinion Scale” for high school mathematics text – books developed by Vogel B. Louis has been selected to evaluate the effectiveness of IX class mathematics textbook. Each Statement was arranged on a five point scale Strongly Agree, Agree, Doubtful, Disagree, and Strongly Disagree as suggested by Likert (1932)

Personal data regarding the school teachers – 1. Teacher's Name, 2. Sex, 3. Management, 4. in – service programmes.

#### Data Collection

The sample for the investigation consisted of 160 mathematics teachers. The stratified random sampling was applied. The investigator personally visited schools with the permission of the head masters of the schools. The teachers who attended to the school on the day of collection of data are considered for the purpose of the investigation. It was provided to the concerned teachers of the school. The teachers were given necessary instructions about the instruments and motivated to respond genuinely to all the items. The attitudes towards mathematics text book questionnaire and personal data sheet were administered. The data on each variable in the investigation is properly coded to suit for computer analysis. The analysis was carried out on the basis of objectives of the investigation and hypotheses formulated by employing appropriate statistical techniques. The inferential statistical technique ‘t’ test and ‘F’ test was employed to test hypotheses.

## RESULTS AND DISCUSSION

### 1. Sex

The relationship of attitudes of mathematics teachers towards mathematics text book with their sex is studied in the present investigation. On the basis of sex, the school teachers are divided into two groups. The male teachers form with the Group – I and Group – II forms with the female teachers. The attitudes of mathematics teachers towards mathematics text book of the two groups were analyzed accordingly. The attitudes of mathematics teachers towards mathematics text book for the two groups were tested for significance by employing ‘t’ - test. The following hypothesis is framed.

### Hypothesis – 1

There would be no significant impact of ‘sex’ on the attitudes of mathematics teachers towards mathematics text book.

The above hypothesis is tested by employing ‘t’ - test. The results are presented in **Table – 1**.

**Table – 1: Influence of sex on the attitudes of mathematics teachers towards mathematics text book**

S. No.	Sex	N	Mean	S.D.	‘t’ - Test
1.	Male	115	260.60	18.52	2.105*
2.	Female	45	266.64	15.38	

\* Indicates significant at 0.05 level

It is found from the Table – 1 that the computed value of ‘t’ (2.105) is greater than the critical value of ‘t’ (1.98) for 1 and 158 df at 0.05 level of significance. Hence the Hypothesis – 1 is rejected at 0.05 level. Therefore it is concluded that the sex has significant influence on the attitudes of mathematics teachers towards mathematics text book.

### 2. Management

The relationship of attitudes of mathematics teachers towards mathematics text book with their management is studied in the present investigation. On the basis of management, the school teachers are divided into two groups. The Government school teachers form with the Group – I and Group – II forms with the Private school teachers. The attitudes of mathematics teachers towards mathematics text book of the two groups were analyzed accordingly. The attitudes of mathematics teachers towards mathematics text book for the two groups were tested for significance by employing ‘t’ - test. The following hypothesis is framed.

### Hypothesis – 2

There would be no significant impact of ‘management’ on the attitudes of mathematics teachers towards mathematics text book.

The above hypothesis is tested by employing ‘t’ - test. The results are presented in **Table – 2**.

**Table – 2: Influence of management on the attitudes of mathematics teachers towards mathematics text book**

S. No.	Management	N	Mean	S.D.	‘t’ - Test
1.	Government	126	260.62	17.76	2.380*
2.	Private	34	268.53	17.05	

\* Indicates significant at 0.05 level

It is found from the Table – 2 that the computed value of ‘t’ (2.380) is greater than the critical value of ‘t’ (1.98) for 1 and 158 df at 0.05 level of significance. Hence the Hypothesis – 2 is rejected at 0.05 level. Therefore it is concluded that the management has significant influence on the attitudes of mathematics teachers towards mathematics text book.

### 3. In – service programmes attended

The relationship of attitudes of mathematics teachers towards mathematics text book with their in service programmes attended is studied in the present investigation. On the basis of in service programmes attended, the school teachers are divided into two groups. The teachers who attended in service programmes form with the Group – I and Group – II indicated by those who are not attending in in-service pro-

grammes. The attitudes of mathematics teachers towards mathematics text book of the two groups were analyzed accordingly. The attitudes of mathematics teachers towards mathematics text book for the two groups were tested for significance by employing 't' - test. The following hypothesis is framed.

### Hypothesis – 3

There would be no significant impact of 'in service programmes attended' on the attitudes of mathematics teachers towards mathematics text book.

The above hypothesis is tested by employing 't' - test. The results are presented in **Table – 3**.

**Table – 3: Influence of in service programmes attended on the attitudes of mathematics teachers towards mathematics text book**

S. No.	In service programmes attended	N	Mean	S.D.	't' - Test
1.	Attended	118	260.42	18.07	2.369*
2.	Not attended	42	267.57	16.31	

\* Indicates significant at 0.05 level

It is found from the Table – 3 that the computed value of 't' (2.369) is greater than the critical value of 't' (1.98) for 1 and 158 df at 0.05 level of significance. Hence the Hypothesis – 3 is rejected at 0.05 level. Therefore it is concluded that the

in service programmes attended has significant influence on the attitudes of mathematics teachers towards mathematics text book.

**Findings:** There is significant influence of sex, management and in – service programmes at 0.05 level on the attitudes of mathematics teachers towards mathematics text book.

**Conclusions:** In the light of the findings presented in preceding pages, the following conclusions are drawn.

Sex, Management and In – service programmes have significant influence on the attitudes of mathematics teachers towards mathematics text book.

### EDUCATIONAL IMPLICATIONS

Sex has highly influenced the attitudes of mathematics teachers towards mathematics text book. The administrators have to provide facilities for the female teachers.

Management has highly influenced the attitudes of mathematics teachers towards mathematics text book. The administrators have to provide employment facilities for the Private school teachers.

In – service programmes attended has highly influenced in the attitudes of mathematics teachers towards mathematics text book. The administrators have to provide in - service programmes. Seminars and extempore programmes are arranged among teachers.

In addition to above, administrators should try to create betterment life among mathematics teachers.

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