ABSTRACT

Keeping in view the importance of mathematics, the ‘Education Commission’ (1964-66) recommended it as a compulsory subject for students at school level. The ‘National Policy of Education’ (1986), has also considered the importance of mathematics in general education and suggested that, “Mathematics should be visualized as a vehicle to train a child to think, reason, analyze and to articulate logically”.

In the field of education, it becomes a burning problem that the numbers of low achiever students in mathematics in the school level are constantly increasing. In spite of the pedagogic progress and efforts of teachers of mathematics, results in general are unsatisfactory. It is a fact that, despite its utility and importance, mathematics is perceived by most pupils as difficult, boring, not very practical, abstract etc. For most students, the subject is not a source of satisfaction, but rather one of frustration, discouragement and anxiety.

According to NCERT (2000), “experience has shown that the majority of students normally fail in mathematics at the end of class X”.

Students are losing interest in mathematics. This disinterest led them to fear for mathematics which is one of the causes of under achievement in the subject.

Researchers like Patel (1984), investigated on the factors responsible for poor achievement and found that attitude towards mathematics was significantly related to the mathematics achievement. Singh (1986) found attitudes of the students towards mathematics to be related to their mathematics achievement.

An interest may be regarded as a highly specific type of attitude. Interest is the key factor in achieving success in any task we perform. Whatever one learns, interest plays a dominant role in making him learn that thing. When a student attributes high value to a particular subject area, then it is said that the student has interest in that area (Schiefele, 1991). According to Gardener and Tamir (1989, a); the term ‘interest’ refers to engage in some types of activities rather than others. When we are interested in a particular phenomenon or activity we are favorably inclined to it and give time to it.

In Assam also, it has been observed that mathematics is one of the subjects in which a large number of students fail in high school leaving certificate (HSLC) examination run
by SEBA. Similarly, observations reveal that in case of secondary level final examination run by CBSE also, there is a large number of failures in mathematics. This is also the case for the schools of Guwahati.

Therefore, to raise the achievement level of students in Secondary examination, measures should be taken to enhance the achievement of students in mathematics. As it is well known that achievement in mathematics is dependent on the interest of the students in the subject. Hence, a study on interest of the students in mathematics is must needed.

This thesis is the outcome of our study to assess the influence of the factors such as gender of the students, socio-economic status of the parents of the students, institutional factors including teachers' educational qualifications, gender etc. on 'mathematics interest' of the upper primary students of Guwahati from both the SEBA and CBSE schools. The thesis contains total six chapters.

In the 1st chapter, importance of Mathematics in day to day life, History of Mathematics in India, Present day status of Mathematics in Indian Education system, Problems of Mathematics education in school education and motivation for our research topic is highlighted.

In survey studies, once data are collected, the most important objective of a statistical analysis is to draw inferences about the population using sample information. "How big a sample is required?" is one of the most frequently asked questions by the investigators. If the sample size is not taken properly, conclusions drawn from the investigation may not reflect the real situation for the whole population.

Therefore, in the 2nd chapter, we have discussed importance of the size of sample and the method of determination of a sample size along with the procedure of sampling in relation to our study. We further have discussed about the effect of bias in determination of sample.
Questionnaire containing a number of items is a valuable tool of collecting a wide range of information from a large number of individuals, often referred to as respondents. Adequate questionnaire construction is crucial to the success of a survey. Inappropriate questions, incorrect ordering of questions, incorrect scaling, or bad questionnaire format can make the survey valueless, as it may not accurately reflect the views and opinions of the participants. A useful method for checking a questionnaire and making sure it is accurately capturing the intended information is to pretest the ‘reliability’ and ‘validity’ of the questionnaire.

So, in the third chapter, we described different inventories and questionnaires which we used during our investigation. Different methods of testing the reliability and validity of the questionnaires were discussed and reliability and validity of the questionnaires were measured using appropriate methods. Further, in this chapter, it was shown how to formulate and determine the regression model, in other words how to form a relationship between the variables and to use the derived model for prediction.

In the 4th chapter, the ‘mathematics interest’ of upper primary school students was analyzed. Also, the effect of gender differences in ‘mathematics interest’ of school students of class VIII of different categories of schools such as Government SEBA (Secondary Education Board of Assam), Private SEBA and Private CBSE (Central Board of Secondary Education) was studied. Along with these, a comparative study of the relationship of ‘mathematics interest’ of male and female students with their inclusion in different types of schools such as normal co-educational school, only girls’ school, only boys’ school and co-educational schools segregated by gender was done.

Analysis was done using measures of central tendency, measures of variability, t-test and bar diagram.

In the 5th chapter, analysis of socio-economic status of upper primary school students was included. Here, we tried to find out the association and correlation between socio-economic status of the parents of sample students and interest of students in mathematics.
Also, we tried to study the effect of ‘socio-economic status’ of students of different category of schools such as Govt. SEBA (Secondary Education Board of Assam), Pvt. SEBA and Pvt. CBSE (Central Board of Secondary Education) schools on their ‘mathematics interest’.

For the analysis of this chapter the methods used were Pearson’s correlation coefficient, Chi square analysis, One way ANOVA. Along with these pie diagram, bar diagram and line graph were used.

**In the 6th chapter**, there are three sections. This chapter deals with the factors related to the institutions.

**Section 1**: We studied the ‘mathematics interest’ of the upper primary students of Guwahati studying in different categories of schools such as Govt. SEBA, Pvt. SEBA and Pvt. CBSE schools.

**Section 2**: We studied the ‘mathematics interest’ of the upper primary students of Guwahati studying in different types of schools such as normal co-educational schools, co-educational schools segregated by gender, Girls’ only schools and Boys’ only schools.

**Section 3**: In this section association between gender of teachers and interest of their students in mathematics, the association between qualification of teachers and interest of their students in mathematics and the effect of gender and qualifications of teachers on the ‘mathematics interest’ of their students were investigated.

Analysis was done with the help of pie diagram, bar diagram, Chi square analysis and one way ANOVA.

The **Bibliography** section contains a good number of references which are closely related to our research work.

At the end, in the **Appendix** section, different questionnaires and inventories which we used in our research are included.