SUMMARY

1. Introduction:

Mathematics holds an important place in schools. for giving a place in curriculum there is no special need of evaluation and testing of it. Mathematics also helps to develop the child as social and intellectual citizens, like other subjects. It has its own disciplinary values. In addition to these, mathematics also develops those qualities which can be developed by other subjects. Napoleon also remarked that, “The progress and improvement of Mathematics is linked to the prosperity of the state”.

The Learning to solve problems is the principal reason for studying Mathematics, Learning math is a journey full of freeways, detours, dead ends, and sidetrips. The journey is what we learn from, where we gain the confidence and knowledge needed to succeed as mathematicians. The journey is more important than the destination. In fact, the journey never ends. Any idea can be expanded and we can always search further.

There is a serious drawback in the field of education especially the science education, most of the students after their class X exam they opted for arts subject. The reason for this may vary, but one of the reasons is that the students they don’t like math and they feel that it is very tough. Students holding such beliefs (that mathematics is a tough subject) may not even attempt to solve a problem that involves too much complexity.

Thus, the investigator therefore feels the need to take an in-depth study into the above mentioned facts and since no study in this particular area was found so far, the investigator has therefore decided to take up the present study.

2. Needs and Justification of the Study

Students in mathematics classes that do not emphasize problem solving are being deprived, as well, of the feelings of exhilaration and empowerment that come from mastering a difficult problem. They are not developing the tools and the confidence they will need to tackle the types of problems that will occur in their working and personal lives. They often fail to gain a deeper conceptual
understanding that comes from constructing one’s own mathematical truths through deep thinking.

Whether or not this is true can only be ascertained by conducting a research on the marks that are allotted from their half yearly marks and from the standardized tool given by the investigator. By comparing the marks obtained from these two tests, the investigator can reached to the conclusion on the ability of the students to solve problems in Mathematics.

Thus, the investigator therefore feels the need to take an in-depth study into the above mentioned facts and since no study in this particular area was found so far, the investigator has therefore decided to take up the present study.

3. Statement of the Problem.

The problem under consideration is stated as follows:

“A Study of the Academic Achievement in Mathematics in relation to the Problem Solving Ability of X class students in Jowai Town.”

4. Operational Definition of the key Terms Used

The present study involves three key terms, viz., ‘Academic Achievement’, ‘Mathematics’ and Problem solving Ability.’ These are defining as follows:

**Academic Achievement:** refers to the half yearly examination marks of X Grade students in Mathematics as obtained in their half yearly examination conducted by their respective schools.

**Mathematics:** is a science of numbers and their operations, interrelations, combinations, generalizations and abstractions of space configurations and their structure, measurement, transformation and generalization. Mathematics is a process of enquiry and coming to know, adding to the sum of knowledge. Mathematics is not a finished product, for its results remain open to revision.
Problem solving Ability:

Problem solving is the frame-work or pattern within which creative thinking and reasoning take place. It is the ability to think and reason on given levels of complexity. People who have learned effective problem solving techniques are able to solve problems at higher levels of complexity than more intelligent people who have not such training.

5. Objectives of the study:

The present study aims to fulfill the following objectives:

I. To find out the problem solving ability of class X students studying in Secondary Schools of Jowai Town.
II. To find out the mathematics marks obtained by class X students studying in Secondary Schools of Jowai Town.
III. To find out the difference between the mathematics marks obtained by boys and girls in X grade examination.
IV. To find out the difference between the problem solving ability obtained by X grade boys and girls.
V. To find out the difference between the problem solving ability of high and low achievers boys.
VI. To find out the difference between the problem solving ability of high and low achievers girls.

6. Hypothesis under the Study:

I. There is no significant difference between the mathematics marks obtained by boys and girls in X grade examination.
II. There is no significant difference between the problem solving ability obtained by X grade boys and girls.
III. There is no significant difference between the problem solving ability of high and low achievers boys.
IV. There is no significant difference between the problem solving ability of high and low achievers girls.
7. **The Delimitation of the study:**

The study will be delimited to the two Secondary Schools in Jowai Town.

8. **Design of the study**

I. **Population of the study**

The population of the present study comprise all the 940 X grade students studying two Government and nine Private Schools in Jowai Town.

II. **Sample of the Study**

The sample of the present study comprise of 200 X Grade students (100 boys and 100 girls) of one Government School and one Private School in Jowai Town.

III. **Tools and Data Collected**

To achieve the above foresaid objectives the investigator is intending to carry out the study by using the Problem Solving Ability (PSAT) Test by L.N.Dubey, as a tool for collecting necessary data.

IV. **Method of the study**

This study follows a descriptive type of research methodology. Descriptive methodologies are designed to obtain pertinent and precise information concerning the current status of phenomena and whenever possible to draw valid general conclusions from the facts discovered.

V. **Statistical Technique.**

The present study has used the following statistical technique for the analysis of the data.

(a) Mean and SD

(b) t – test
9. **Analysis and interpretation of data**

This chapter deals with the analysis of data and its interpretation. The data for the study was collected from the records of the school concerned.

The hypotheses-wise findings are as follows:

- There is no significant difference between the mathematics marks obtained by boys and girls in X grade examination.
- There is a significant difference between the problems solving ability obtained by X grade boys and girls.
- There is a significant difference between the problems solving ability of high and low achievers boys.
- There is a significant difference between the problems solving ability of high and low achievers girls.

10. **Findings, conclusions, implications and recommendations.**

The results and findings that emerged as a result of this study are indeed baffling, the scores in mathematics marks obtained by boys and girls in X grade examination do not show any tendencies to favor either boys or girls. While the scores in problem solving ability test obtained by boys and girls show the tendency to favor the male students. The scores in problem solving ability test obtained by high and low achievers boys indicates that there is a difference between the problems solving ability of high and low achievers boys. And the scores in problem solving ability test obtained by high and low achievers girls also indicates that there is a difference between the problems solving ability of high and low achievers girls.

The results and findings that emerged from this study are as follows:

- The scores in the mathematics half yearly marks obtained by boys and girls in X grade examination does not differ much. After the investigation, the investigator found that the girls paid more attention than the boys. So the teacher needs to pay more attention to the boys like remedial teaching, extra classes to encourage boys to work and perform better.
• The scores in the problem solving ability test obtained by boys and girls does not differ much. After the investigation, the investigator found that the boys paid more attention than the girls. So the teacher needs to pay more attention to the girls in the form of remedial teaching, extra classes to encourage them to work and perform better.

• The present study shows that high achievers boys perform better as compared to the low achievers boys in mathematics subject in X grade examination. Therefore, more attention should be paid to the low achievers boys in the form of special classes, remedial teaching, extra classes etc. which will go a long way in encouraging the boys to work and perform better.

• The present study shows that high achievers girls perform better as compared to the low achievers girls in mathematics subject in X grade examination. Therefore, more attention should be paid to the low achievers girls in the form of special classes, remedial teaching, extra classes etc. which will go a long way in encouraging the girls to work and perform better.

• A single pattern of examination and grading system should be followed both at the national as well as state level. This will eliminate any bias in terms of scores between boys and girls.

• Question setting and evaluation programmed should be introduced to every teacher.

• Mathematics plays a vital role in each and every individual, especially in the competitive exams and in job examinations. So, mathematics should be made compulsory subject in the school.