



## A comparative study of problem solving ability of high school students of CBSE and state board schools of Aurangabad city

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### Abstract

Problem solving is cognitive process directed at achieving a goal when no solution method is obvious to the problem solver. In addition, problem solving is a set of skills, including those motivational aspects relevant to successful completion of solution. Problem solving is a form of learning in which the appropriate response must be discovered or, it is a process of overcoming difficulties that appear to interfere with the attainment of a goal. In this research, from five CBSE schools, 170 students (85 male and 85 female) were randomly selected. A standardized test of “problem solving Ability” by L.N Dubey was used for data collection. Mean, S.D, Range Table (According to Manual) and ‘t’ test were used to measure the level of significance in Problem solving ability.

**Keywords:** Problem solving ability, CBSE School, State Board School.

### Introduction

Society is not static. It is changing day by day. Not only the individual is facing numerous problems in the society but also the life of the individual has become complicated in the process of change. To overcome this situation, it is important to develop scientific attitude and problem solving ability among the students so that they may solve their problems and maintain balanced adjustment in the society when they grow up. Problem solving is the highest level of learning in the hierarchy proposed by Gagne. It is one of the methods which involves the use of process of reflective thinking or reasoning to solve the problem. In this method the teacher and pupils attempt in a conscious, planned and purposeful effort to arrive at some explanation or solution to some educationally significant difficulty. It is a planned attack upon a difficulty or perplexity for the purpose of finding a solution. Valentine Davis quotes that, “for the success of the problem solving we need the ability to see problems clearly, the power of analysis with keen discernment and the faculty to synthesize and draw conclusions with accuracy”.

### What is problem solving?

First we define what we mean by “problem solving”, because this term is used very broadly. The fairly specific definition of problem solving used for the purpose of this paper is drawn from the literature. “Problem solving is cognitive process directed at achieving a goal when no solution method is obvious to the problem solver”. In addition, problem solving is a set of skills, including those motivational aspects relevant to successful completion of solution. Note that this definition of

problem solving is based on the solver. If a person is an ‘expert’ in his field, than it is very likely that the tasks that are problem for students will only be an ‘exercise’ where the solution or path to solution is obvious, for an expert.

According Skinner “Problem solving is a process of overcoming difficulties that appear to interfere with the attainment of a goal, it is a procedure of making adjustment inspite of interferences”.

Wood Worth says “Problem solving behaviour occurs when there is an obstruction of some sort to the attainment of an objective”.

The responsibility of school becomes increasingly important to develop problem solving ability among the students so that they may solve their problems independently for better adjustment in the future complex society.

### Need of the study

In a rapidly changing technological era it is difficult to predict what knowledge students will need or what problems they will have to solve in twenty years. Now what they really need to know; it seems is how to learn the new information and skills that they will require throughout their lives. Problem solving is a form of learning in which the appropriate response must be discovered or, it is a process of overcoming difficulties that appear to interfere with the attainment of a goal. Therefore, it is very important that problem solving must be encouraged in school life, and this is the reason why researcher has selected this problem for the study.

**Objectives of the study**

1. To study problem solving ability of male students of VIII standard of CBSE and State Board Schools.
2. To study problem solving ability of female students of VIII standard of CBSE and State Board Schools.
3. To compare the problem solving ability of male and female students of VIII standard of CBSE and State Board Schools.
4. To Study the speed of problem solving ability among the students of VIII standard of CBSE and State Board Schools.
5. To Study the accuracy in problem solving of the students of VIII standard of CBSE and State Board Schools.

**Hypotheses**

1. There is no significant difference in the problem solving ability of male students of VIII standard of CBSE and State Board Schools.
2. There is no significant difference in the problem solving ability of female students of VIII standard of CBSE and State Board Schools.
3. There is no significant difference in the problem solving ability of the students of VIII standard of CBSE and State Board Schools.

**Population**

All the students of VIII standard of CBSE and State Board English medium Schools of Aurangabad city are the population for this study.

**Sample**

CBSE schools are very few in Aurangabad city, while there are many State Board English medium schools, these schools are divided into five zones. From each zone 34 students were randomly selected, in this way 170 students (85 male and 85 female) from State Board Schools were selected. From five CBSE schools, 170 students (85 male and 85 female) were randomly selected.

**Tools used in research**

A standardized test of “problem solving Ability” by L.N Dubey was used for data collection.

**Methodology**

Normative Survey Method was selected to study the problem solving ability of students of VIII standard of CBSE and State Board Schools. This method involves a systematic and comprehensive study of a particular community, organization, group, etc., with a view to analyse a social problem and the presentation of recommendations for its solution.

**Data collection**

For collection of data the researcher obtained the necessary permission from the selected schools. Before distributing the questionnaire and administering the test to the students, the researcher established cordial relationship with them to win their confidence and establish rapport. The purpose of the study was also briefly conveyed to them. The detailed instructions for how to give responses to the test items were then explained and doubts were clarified.

The same instructions were also printed on the first page of the test. The students were given 40 minutes for solving 20 problems in the test. After collection of data, the responses of the students were quantified by assigning scale values to the items and scores were systematically organized to facilitate ease of tabulation. The tabulation data was then analyzed using descriptive and inferential analyses.

**Analysis and interpretation**

Mean, S.D, Range Table (According to Manual) and ‘t’ test were used to measure the level of significance in Problem solving ability of VIII Standard students of CBSE and State Board Schools of Aurangabad city.

**Table 1:** Table showing Mean, S.D. and, ‘t’ value of the scores of Problem solving ability of male students of CBSE and State Board Schools.

Variable	N	DF	Mean	S.D	t-value	Table value at		Significant/Insignificant
						0.05 level	0.01 level	
CBSE	85	168	10.88	2.21	14.08	1.98	2.61	Significant at both level
State Board	85		6.25	2.28				

**Table 2:** Table showing Mean, S.D. and, ‘t’ value of the scores of Problem solving ability of female students of CBSE and State Board Schools.

Variable	N	DF	Mean	S.D	t-value	Table value at		Significant/insignificant
						0.05 level	0.01 level	
CBSE	85	168	9.18	2.5	9.72	1.98	2.61	Significant at both level
State Board	85		5.58	2.54				

**Table 3:** Table showing Mean, S.D. and, ‘t’ value of the scores of Problem solving ability of the students of CBSE and State Board Schools.

Variable	N	DF	Mean	S.D	t-value	Table value at		Significant/insignificant
						0.05 level	0.01 level	
CBSE	170	338	10.03	2.35	16.48	1.97	2.59	Significant at both level
State Board	170		5.91	2.41				

### Major findings

1. Table no. 1 reveals that 't' value of the scores of Problem Solving ability of male students of Standard VIII of Aurangabad city is 14.08 which is greater than table value at both 0.01 and 0.05 level. The difference in the score of problem solving ability of CBSE and State Board school students is significant; hence, hypothesis no. 1 is rejected. Table no. 1 also portrays that Mean score of Problem Solving ability of male students of CBSE schools is 10.88 which lies in high problem solving ability category in range table.
  2. Table no. 2 reveals that 't' value of the scores of Problem Solving ability of female students of Standard VIII of Aurangabad city is 9.72 which is greater than table value at both 0.01 and 0.05 level. The difference in the score of Problem Solving ability of CBSE and State Board school students is significant; hence, hypothesis no. 2 is rejected. Table no. 2 also portrays that Mean score of Problem Solving ability of female students of CBSE schools is 9.18 which lies in moderate problem solving ability category in range table.
  3. Table no. 3 reveals that 't' value of the scores of Problem Solving ability of students of Standard VIII of CBSE and State Board schools of Aurangabad city is 16.48 which is greater than table value at both 0.01 and 0.05 level. The difference in the score of Problem Solving ability of CBSE and State Board school students is significant; hence, hypothesis no. 3 is rejected. Table no. 3 also portrays that Mean score of Problem Solving ability CBSE school students is 10.03 which lies in high problem solving ability category in range table.
3. Chauhan SS. Advanced Educational Psychology, Vikas Publishing House Pvt. Ltd., New Delhi 1978-2007.
  4. Garrett HE, General Psychology, Eurasia Publishing House, New Delhi, p345. Mangal SK. Essentials of Educational Psychology, Prentice-Hall of India Pvt. Ltd 2008.

### Conclusion

After analysis and interpretation, the following conclusion was drawn

#### 1. Hypothesis H1

"There is no significant difference in the problem solving ability of male students of VIII standard of CBSE and State Board schools", is disapproved as the 't' value is 14.08 which is significant at both level of significance.

#### 2. Hypothesis H2

"There is no significant difference in the problem solving ability of female students of VIII standard of CBSE and State Board schools", is disapproved as the 't' value is 9.72 which is significant at both level of significance.

#### 3. Hypothesis H3

"There is no significant difference in the problem solving ability of students of CBSE and State Board schools", is disapproved as the 't' value is 16.48 which is significant at both level of significance.

### References

1. Best John W, Research in Education, Prentice- Hall of India private Limited, New Delhi – 110002
2. Buch MB. Fourth survey of Research in Education, National Council of Educational Research and training, New Delhi 1983-1988.