

## PROBLEM SOLVING ABILITY IN MATHEMATICS AMONG PRIMARY SCHOOL STUDENTS WITH RESPECT TO LOCATION

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### Abstract

*Problem solving ability plays an important role in the subject of mathematics. Problem solving ability in mathematics is perhaps one of the most difficult abilities for students to develop. It takes practice and many students are easily frustrated when they don't see a solution to a problem right away. The most important thing for any problem solver to remember is to think critically, not giving up easily and trying other approaches. In mathematics all the exercises are based on problem solving ability, without this ability nobody can perform well in mathematics. Students without conceptual knowledge of the subject matter will find it difficult to solve problem. Both problem solving skills of an individual and learning of contents are interrelated with each other. The present study was conducted on 120 primary school children from Medchal district of Telangana State. The result reveals that there was a significant difference in problem solving ability in mathematics among primary school children with respect to locality.*

**Key Words:** *Problem Solving ability, Primary Education, Mathematics.*



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### Introduction

Problem solving is a skill everyone uses throughout life. Good problem solvers know the anatomy of a problem. They know that a problem contains facts, a question and a setting. Problem solving in mathematics is a complex process which requires an individual who is engaged in a mathematical task to coordinate and manage domain-specific and domain-general pieces of knowledge. It is generally believed that mathematics is a difficult subject, but any student of average intelligence can learn this subject. It is also assumed that its learning requires special ability and intelligence, and therefore, most of the students try to avoid the trouble of studying this subject thinking that they are not competent enough to learn

mathematics. But students can acquire problem solving ability by developing positive attitude towards mathematics.

Problem solvers are extremely perseverant when solving problems. Problem solving skills promote learning. Moreover, these skills are considered as one of the essential conditions for learning. Problem solving does not mean just solving a problem. It requires long time and patience. Problem solving has been regarded as a form of complex learning. In a problem situation, we do not have a readymade response to overcome the obstacles and reach the goal. We have to organize and adapt our perceptual, cognitive, verbal and motor responses to arrive at the correct response which will solve the problem. It is generally assumed that the problem solving ability comes late with intelligence. So, we can say, the more intelligent a man, the more is his problem solving ability. Mathematics is the only subject in the school curriculum in which testing is done wholly by making pupils solves problems. The primary goal of teaching and learning mathematics is to develop the ability to solve a wide variety of complex mathematics. Problem solving in mathematics can be described as ‘thinking and working mathematically’.

*The mathematical problem solving ability also has two major components.*

- ❖ Understanding problems
- ❖ Problem solving skills

**a) Understanding problems:** Understanding problems is the basic component of mathematical problem solving ability. In mathematics students usually have word problems. They have problem in understanding mathematical problems. For the solution of this type of problems, read the problem several times so that you really get what’s going on with the problem.

**b) Problem solving skills:** Problem solving skills is based on reasoning ability. Problem solving skills make a person able to compute the problems. In social problems we have many solutions to a problem but in mathematical problems we have only one solution to a problem. So, mathematical problem solving skills are very specific. Different individuals may show different strengths and weaknesses in these major components of mathematical problem solving ability. Problem solving also has been used to motivate students sparking their interest in a specific mathematical topic by providing a contextual (real-world) example of its use.

### Objectives of the Study

1. To find the problem solving ability in among school students with respect to location.

### Hypothesis of the Study

**Hypothesis 1:** There will be no significant difference in problem solving abilities among school students with respect to location.

### .Sample of the Study

The total students from schools in urban area were 60 and from rural area were 60. The total sample for the study was 120 comprising of rural and urban area students.

### Tools for data collection

Problem Solving Ability in Mathematics (2018) by Roma Ralhan. This scale consists 26 Items. This study was conducted by using quantitative methods of data gathering by the researcher through field visit to the Medchal district of Telangana State.

### Procedure for Scoring

Problem Solving Ability in Mathematics can be scored manually. For every right answer one mark is to be given and zero mark should be assigned for every wrong answer.

### Reliability & Validity

The reliability coefficient was calculated by using Product Moment method correlation. The correlation was found to be 0.82 which was significant at 0.01 level of significance.

For the present test content and concurrent validity was established.

### Analysis and Interpretation

**Hypothesis 1:** There will be no significant difference in problem solving abilities between urban schools and rural area schools children.

To test the above hypothesis t-test was employed on the sample.

**Table No. 1**

#### Distribution of problem Solving Ability among school students with respect to location

Problem Solving Ability	Location	N	Mean	SD	t	Sig.	Df
	Urban	60	29.33	4.65			
	Rural	60	28.12	4.88			
	<b>Total</b>	<b>120</b>	<b>28.73</b>	<b>4.77</b>			

From the above given table, out of the total of 120 students, 60 were from urban area and the other 60 were from rural area. The mean score obtained for students from urban area was

29.33 and for students from rural areas were 28.12. The obtained t value 3.88 with a df 1 & 118 was found to be statistically significant at .05 level of significance.

It is clear from the table that distribution of scores of location in the problem solving ability among 3<sup>rd</sup> and 4<sup>th</sup> class school students sample was found to be normal, as the t value was significant.

Hence, the hypothesis 1, which states that 'There will be no significant difference of the problem solving ability between urban and rural schools children', is **rejected**.

Therefore, it can be concluded that location influences problem solving ability among primary school students. Based on the mean scores it may be observed that urban school students were better than rural school students in the problem solving ability and it was statistically proved.

Urban students are more exposed to vast environment / surroundings around, which is very much helpful for them to gain more knowledge and understanding as compared with rural students. Sending children to the school, facilitating positive educational environment and sparing some time by parents for their educational needs helps the urban students to understand the importance of education and provide appropriate information on educational matters and also building their problem solving ability whereas rural children lack in suitable facilities at home, helpful for their studies. They also feel insecure as their studies at home environment may be not appropriate for building confidence for his / her future life.

### **Findings**

1. There was a significant difference in problem solving ability among primary school children with respect to location.

### **Conclusion**

Problem solving in mathematics is a fruitful exercise for the development of one's mental faculties as the process of problem solving involves the scientific method of thinking and reasoning. A thorough understanding of mathematical concepts is essential for solving problems in mathematics. A student having good problem solving ability, will be able to properly adjust in the class as well as at home. The result of the present study reveals that there was a significant difference in problem solving ability among primary school students with respect to location.

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