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A Study of Problem-Solving Ability among Meritorious School Students of Varanasi District

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Abstract

The present paper focused on problem-solving ability among meritorious school students. Problems are the real facts of life. Youth today faces different challenges in life in the changed world. Problem-Solving Ability may be said to be a deliberate and purposeful act on the part of an individual. The main aim of this study is to analyze the problem-solving ability among meritorious school students and find out whether gender, school-board and locality of school influenced the problem-solving ability of meritorious school students or not. The sample for the present study comprised of 120 meritorious school students (obtained 75% or above 75% in U.P. Board or 9 or more than 9 CGPA in CBSE in class X) and are presently studying in class 11th of CBSE and U.P. Board schools from both urban and rural area of Varanasi district. The findings of the study revealed that there is very low problem-solving ability among meritorious school students. Meritorious boys showed higher problem-solving ability than girls. Meritorious students from urban areas have more problem-solving ability than rural area and meritorious students of CBSE and U.P. Board do not differ significantly in their problem-solving ability.

Keywords: Ability, problem-solving ability, meritorious school students

1. Introduction

Problems are the real facts of life. Everyone in this world has them. Problems haunt people everyday. In general, the state of tension is created in mind when an individual faces a problem. So, it is very necessary to develop the ability to solve problems. Solving a problem is a complex cognitive process that characterizes one of the most intelligent human activities which involves the use of some novel methods, higher thinking and systematic planned steps for the realization of set goals.

Problem-Solving governs the ability to effectively solve problems of a personal and interpersonal nature. It entails the ability to identify and define problems as well as to generate and implement potentially effective solutions. It is multi-phasic in nature and includes the ability to go through the following process.

- (1) Sensing a problem and feeling confident as well as motivated to deal with it effectively;
- (2) Defining and formulating the problem as clearly as possible which necessitates gathering relevant information;
- (3) Gathering as many solutions as possible;
- (4) Implementing one of the solutions after weighing the pros and cons of each possible solution and choosing the best course of action.

People who are adept at problem-solving are often conscientious, disciplined, methodological and systematic in persevering and approaching challenging situations.

According to "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 in spite of interferences."

According to "Problem-Solving is a cognitive processing directed at achieving a goal when no solution method is obvious to the problem solver".

Problem-Solving Ability may be said to be a deliberate and purposeful act on the part of an individual. It helps in the realization of the set goals or objectives by inverting some novel methods or systematically following some planned step for removal of the interferences and obstacles when usual methods like trial and error, habit formation and conditioning fail.

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It is the framework or pattern within which creative thinking and reasoning take place. It is the ability to think and reason in different complex situations. People who have learned effective problem-solving techniques are able to solve problems at higher level of complexity than more intelligent people who have not such training.

It is highly correlated with intelligence, reasoning ability and mathematical ability.

Youth today faces different challenges in life in the changed world. Growing pace of the modern life poses enormous demands and challenges on youth. The situation facing young people in today's world clearly shows that acquisition of knowledge through academic education is not sufficient to prepare adolescents to cope up with the intricate real life issues.

The aim of education is to prepare an individual for constructive living, one who seeks maximum satisfaction with the bounds of social norms. Life, as ever, can not be forced into a framework. A mind that has been trained in factual knowledge may be incapable of meeting life with its variety, its depth and heights.

Today when globalization determines the pattern of our lives, the challenges facing by young generation intensified significantly.

According to - Problem-Solving is synonymous with the concept of overcoming.

Individuals who solve the problems efficiently are stated that they are people who think independently and creative, who has social capability, who have self confidence and they can tolerate ambiguities.

“Meritorious Students” are those who achieve a goal in life. In school, meritorious students are remarkably identified through their academic excellence like get high marks and good grades and often motivated by the desire to get high praise to reach the excellence. Meritorious students have been recognized and identified by the government, non-government and schools. For their development and progression, government of India has formulated many policies both from central as well as state level.

Meritorious students are not limited in only the schools of urban area but academic excellence is also found to be acquired by the students of the schools in rural areas. Societal progression is dependent on these meritorious students. In this regard development of Problem-Solving Ability should be the primary concern.

2. Review of Related Literature

Some researches have been done to find out the problem-solving ability among students Ganandevan (2006)^[3], found that the problem-solving ability of higher secondary school students is low. While Sharma (2007)^[7] found that higher secondary students have shown average problem-solving ability.

Ganandevan (2006)^[3]; found that the boys and girls and the students residing at rural and urban area differ significantly in their problem-solving ability. While found that Boy and Girl students caused significant difference and the students residing at rural and urban area caused no significant difference of their Problem-Solving ability.

The aim of this study is to find out the Problem-Solving Ability among meritorious school students.

This study also investigates whether the difference of Problem-Solving Ability is found among students on the basis of their gender, location and school-board.

3. Statement of the Problem

A Study of Problem – Solving Ability Among Meritorious School Students of Varanasi District.

4. Objectives of the Study

The study envisaged the following objectives:

- (i) To study the extent of Problem-Solving Ability among meritorious school students in respect to-
 - (a) Gender
 - (b) Locality of School (Urban & Rural)
 - (c) School-Board
- (ii) To compare the level of Problem-Solving Ability among meritorious school students in respect to-
 - (a) Gender
 - (b) Locality of School (Urban & Rural)
 - (c) School-Board

5. Hypothesis of the Study

- (i) There is high level of Problem-Solving Ability exists among meritorious school students.
- (ii) There is no significant difference in Problem-Solving Ability among meritorious school students in respect to -
 - (a) Gender
 - (b) Locality of School(Urban & Rural)
 - (c) School-Board

6. Operational Definitions

➤ Problem-Solving Ability

Problem-Solving is a cognitive processing directed at achieving a goal when no solution is obvious to the problem solver.

➤ Meritorious School Students

Meritorious School Students refers to those students studying in class XI (2015-16) and who have secured-

- 75% or above 75% in U.P. Board or
- Obtained 9 or more than 9 CGPA in CBSE in class Xth Examination.

7. Research Method

To achieve the objectives of the study, the Survey Method has been used.

8. Sources of Data

Data has been collected from primary as well as secondary sources.

School students of different boards of Varanasi District were taken as primary source. School officials and school records of meritorious students were taken as secondary sources.

9. Population

In present study, all the Meritorious Students of XI standard of U.P. Board and CBSE of Varanasi district were taken as population.

10. Sample and Sampling

The sample for the present study were taken as 120 meritorious school students (obtained 75% or above 75% in U.P. Board or 9 or more than 9 CGPA in CBSE in class X) and are presently studying in class 11th of CBSE and U.P. Board schools from both urban and rural area of Varanasi district.

Random Sampling and Purposive Sampling Method were used for the present study. Random Sampling has been used

to select the schools of U.P.Board and CBSE Both of rural and urban areas of Varanasi district. Purposive sampling has been used to select the meritorious students from selected sample schools.

11. Research Tool

The following tool was used for collection of data-

- **Problem-solving ability test-** Standardized by, L.N. Dubey (2011)

This test is in Hindi and English both and contains TWENTY unsolved problems. Each problem has four

alternative answers. Out of these four answers only one is correct. For each correct answer one mark should be given. In the end all the marks should be added. The minimum mark is ONE and maximum marks are TWENTY. There is no negative marking.

- **Meritorious students-**Information blank-Self-Made To select meritorious students among the students.

12. Techniques of Data Analysis

In the present study, Mean, S.D. and ‘t’-test are used to analyze the data.

Table 1: Different Levels of Problem - Solving Ability and Percentage of Meritorious School Students.

Different Levels of Problem - Solving Ability	No. of Students	(%) of Students
Very High Ability	1	1
High Ability	8	7
Average Ability	8	7
Low Ability	13	10
Very Low Ability	90	75
Total	120	100

Table- 1 show the different levels of Problem-Solving Ability ranging from Very High Ability to Very Low Ability and Percentage of Meritorious School Students lie under these levels. It is evident from the Table that 75% of

students have very low ability, 7% of students have average and 7% of students have high ability and only 1% has very high ability of problem-solving.

Table 2: Different Levels of Problem - Solving Ability and Percentage of Boys & Girls.

Different Levels of Problem - Solving Ability	No. of Boys	(%) of Boys	No. of Girls	(%) of Girls
Very High Ability	1	2	Nil	Nil
High Ability	7	12	1	2
Average Ability	6	11	2	3
Low Ability	10	8	3	5
Very Low Ability	32	57	58	90
Total	56	100	64	100

With respect to the entire sample, scores ranges from very low to very high level of problem-solving ability are categorized. It has been revealed that 57% of Boys showed very low, 8% possessed low, 11% possessed average, 12% possessed high and 2% showed very high level of problem-solving ability. In case of Girls, 90% have very low ability, 5% have low, 3% possessed average, 2% showed high and none of the girls have very high level of problem-solving ability.

The percentage of meritorious students having high problem-solving ability is low. In upper case criteria 14% of boys are having high problem-solving ability and only 2% of girls are having high problem-solving ability whereas in lower case criteria 65% of boys are having low problem-solving ability and 95% of girls are having low problem-solving ability.

Table 3: Mean, S.D. & ‘t’-value of Problem - Solving Ability in respect to Gender.

Gender	N	M	S.D.	S.E.	't' Value	Level of Significance
Boys	56	9.23	4.47	0.72	4.34	.01 Level
Girls	64	6.10	3.32			
df = 118						

Table- 3 shows that the total numbers of Boys are 56 and Girls are 64. The Mean score of Problem-Solving Ability of Boys and Girls are 9.23 and 6.10 respectively and Standard Deviation values are 4.47 and 3.32 respectively. It is evident from the Table that the calculated ‘t’ value of problem –solving ability score of Boys and Girls for df 118 comes out to be 4.34 which is greater than the Table value 2.62 and is significant at 0.01 level. It is inferred from this

that there is significant difference in the level of problem-solving ability in respect to Gender of meritorious students. Thus, the Null Hypothesis “there is no significant difference in problem-solving ability among meritorious school students in respect to gender” is not accepted. As Mean Score of problem-solving of boys is more, that is why boys have more problem-solving ability than girls.

Table 4: Mean, S.D. & ‘t’-value of Problem - Solving Ability in respect to Locality of School.

Locality of School	N	M	S.D.	S.E.	't' Value	Level of Significance
Urban	60	9.83	3.70	0.63	7.19	.01 Level
Rural	60	5.30	3.36			
df = 118						

Table- 4 shows that the total number of students from urban area is 60 and from rural area is 60. The Mean Score of Problem-Solving Ability of students from urban and rural area is 9.83 and 5.30 respectively and Standard Deviation values are 3.70 and 3.36 respectively.

It is evident from the Table that the calculated 't' value of problem-solving ability test score of students from urban and rural areas for df 118 comes out to be 7.19 which is

greater than the Table value 2.62 and is significant at 0.01 level of significance. It is inferred from this that there is significant difference in the level of problem-solving ability in respect to locality of school (urban & rural). Thus the null hypothesis i.e. "there is no significant difference in problem-solving ability among meritorious school students in respect to locality of school" is not accepted.

Table 5: Mean, S.D. & 't'-value of Problem - Solving Ability in respect to School - Board.

School - Board	N	M	S.D.	S.E.	't' Value	Level of Significance
CBSE	60	8.23	3.36	0.74	1.79	.01 Level
U.P.	60	6.90	4.82			
df = 118						

Table- 5 shows that the total number of students from CBSE is 60 and from U.P. Board is also 60. The Mean score of Problem-Solving Ability of students from CBSE and U.P. Board are 8.23 and 6.90 respectively and Standard Deviation values are 3.36 and 4.82 respectively.

It is evident from the table that the calculated 't' value of problem-solving ability test score of students from CBSE and U.P. Board for df 118 comes out to be 1.79 which is less than the table value 2.62 and is not significant at 0.01 level of significance. It is inferred from this that there is no significant difference in the level of Problem-Solving ability in respect to School-Board. Thus the null hypothesis i.e. 'there is no significant difference in Problem-Solving Ability among meritorious school students in respect to school- board is accepted.

13. Findings

- i) Majority of the meritorious students showed very low level of problem-solving ability.
- ii) There is significant difference exists in Problem-solving ability of boys and girls. It is found that the problem-solving ability of boys is higher than the girls.
- iii) There is significant difference exists in problem-solving ability of students from urban area and rural area.
- iv) There is no significant difference exists in Problem-Solving Ability of students from CBSE and from U.P. Board.

14. Conclusion

From the findings of the present study, it is observed that most of the meritorious school students have very low level of problem-solving ability. It means achievements in academic level do not inculcate problem-solving ability. The curriculum and course pattern needs some change. Problem-solving is an individual process which requires various strategies to tackle.

Proper Teaching Methodology used in classroom by teachers, emphasis on understanding in spite of rote learning, through moderate motivation, encouraging divergent thinking can help students to develop their problem-solving ability. Educational planners and policy makers must take some initiative to improve the problem solving ability among students.

Education in today's world should not simply be about acquiring high scores or degrees. It is more about being able to apply acquired abilities in a real world.

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