

STUDY OF PROBLEM SOLVING ABILITY AMONG ADOLESCENTS

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Abstract

The present study has been conducted to investigate problem solving ability among adolescents boys and girls. Problem solving ability is the ability to tackle the real life and new situations with fullest extent of foresight. Education not only stands for passing the exams but also the development of one's self for life, to handle new and problematic circumstances, to tackle odd situations and to face the problems tactfully. The present paper investigates problem solving ability among adolescents boys and girls in arts, commerce and science streams. Problem Solving Test developed by L.N. Dubey was administered. A sample of 200 students (100 boys and 100 girls) belonging to the class 1st year graduation from arts, science and commerce stream was taken from district Ludhiana. Statistical technique t-test was used to see the significance of difference between boys and girls in arts, commerce and science streams. Findings of the study revealed that there exists no significant difference in problem solving ability of adolescent boys and girls and also no significant difference exists in mean scores of problem solving ability of adolescents from arts, commerce and science streams.

Keywords: Problem solving ability, Adolescents

Problem solving ability is one such capacity which is a process of overcoming difficulties that appear to interface with the attainment of goal. Problem solving ability is a process, an activity whereby a best value is determined for an unknown, subject to specific set of conditions. It is a means by which an individual uses previously acquired knowledge, skills and understanding to satisfy the demands of an unfamiliar situation. Problem solving ability has been defined as higher order cognitive process that requires modulation and control of more routine in fundamental skills. Problem solving ability a reflective thinking is regarded as a type of mental activity towards which all simpler learning lead to. It requires ability to reason which all simpler learning lead to. It requires ability to reason which is the distinguishing characteristic of intellectual activity. Problem solving ability takes place as soon as the problem is perceived by the problem solver and is aimed at to reach the goal stated by the problem. Meyers (1980) problem solving ability may

be defined as a multiple step process where the problem solver must find relationships between past experiences (schema) and the problem at hand and then act upon a solution. Mayer suggested three characteristics of problem solving ability: (1) Problem solving ability is cognitive but is inferred from behaviour. (2) Problem solving ability results in behaviour that leads to a solution. (3) Problem solving ability is a process that involves manipulation of or operations on previous knowledge. Mayer and Wittrock (2006), problem solving is “cognitive processing directed at achieving a goal when no solution method is obvious to the problem solver”

Adolescence means the attainment of a mature individual and the development of the sex apparatus to make procreation possible mentally, a mature individual is one whose intelligence has reached its maximum growth. Accompanying mental maturity, it is justifiable to expect the emotional and social maturity will be attained.

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Jersild (1978) postulated definition of adolescence as span of years during which boys and girls move from childhood to adulthood- mentally, physically, emotionally and socially.

A study was conducted by Mohanty & Parida (2007) on scientific creativity and problem solving abilities of creative and non-creative students and found that sex had no significant impact on the development of problem solving ability of the high school students. The interaction result of sex and creativity on the problem- solving ability was found insignificant. Behra (2009) conducted a study on problem solving skills in mathematics learning. His Major finding was that there was no significant difference between the mean of performance of boys and girls within each ability group in any of the component skills. Another investigation was done by Bala (2010) on mathematical interest among high school students in relation to their gender and problem solving ability and findings were: (a) there was no significant effect of gender on mathematical interest among high school students (b) there was no significant interactional effect of problem solving ability and gender on mathematical interest among high school students. Kumari (2016) also conducted a study on problem-solving ability of senior secondary school students. The findings of the study showed that students of government and private schools do not differ significantly in their Problem-solving ability, there exists significant difference in problem-solving ability among senior secondary school students in relation to their stream and Problem-solving Ability of female students is higher than the male students.

An important goal of education is helping students learn how to think more productively by combining creative thinking (to generate ideas) and critical thinking (to evaluate ideas). Whenever you are thinking creatively and critically about ways to

increase the quality of life you are actively involved in problem solving. Problem solving ability helps an individual in the growth and development of his personality, making his life happier and wiser by appropriate adjustment. Students having higher abilities of problem solving are considered very useful members of society.

OBJECTIVES

- To find out the difference in problem solving ability of adolescent boys and girls.
- To find out the difference in problem solving ability of adolescent from arts, commerce and science streams

METHOD AND PROCEDURE

Design of the Study

T-test was employed to find out the difference of means of problem solving ability among adolescents on the bases of gender and the stream of their study at graduation level.

Sample of the Study

A sample of 200 students (100 boys and 100 girls) belonging to the class 1st year graduation from arts, science and commerce stream of district Ludhiana were taken.

Tool Used

Problem Solving Ability Test (PSAT) developed by Dr. L.N. Dubey (2006) was used to determine the level of problem solving ability among adolescents. The reliability calculated through split-half reliability coefficient was found to be 0.78 and the reliability also calculated through rational equivalence method was found to be 0.76. The validity of this scale was determined by finding correlation of scores with standardized test.

RESULT AND DISCUSSION

Results are interpreted in the light of statistical techniques and shown in Table 1, 2, 3 respectively.

Table 1: Significance of the Difference between Means of Problem Solving Ability of Adolescent Boys and Girls (N=200)

Group	Variable	N	M	S.D	SEM	t-ratio
Boys	Problem Solving Ability	100	11.09	2.39	0.23	0.81
Girls		100	11.40	2.96	0.29	

Table 1 revealed that the mean scores of problem solving ability of adolescent boys and girls as 11.09 and 11.40 respectively. The t-ratio was calculated as 0.81 which is not significant even at .05 level of confidence. This revealed that no significant difference exists between problem solving ability of

adolescent boys and girls.

Therefore the hypothesis **H1** stating that there will be no significant difference in problem solving ability of adolescent boys and girls is accepted.

Table 2: Mean scores of Adolescents from Arts, Commerce and Science streams on the variable of Problem Solving Ability

Area	Mean
Adolescents from Arts Stream	10.73
Adolescents from Commerce Stream	11.40
Adolescents from Science Stream	11.52

Table 3: Summary of Analysis of Variance for scores of Adolescents from Arts, Commerce and Science streams on the variable of Problem Solving Ability

Source of Variation	SS	df	MS	F-value
Between Groups	23.01	2	11.50	1.59ns
Within groups	1419.97	197	7.20	
Total	1442.99	199		

ns - not significant

Table 2 depicts that mean scores of Adolescents from Arts Stream, Adolescents from Commerce Stream and Adolescents from Science Stream are 10.73, 11.40, and 11.52 respectively. **Table 2** depicts the F-value after comparing problem solving ability of the groups of adolescents from arts, commerce and science streams. The sum of square between the groups is 23.01 and sum of squares within groups is 1419.97. The F-value obtained is 1.59 which is not significant at 0.01 level of confidence. This revealed that no significant difference exists between mean scores of problem solving ability of adolescents from arts, commerce and science streams.

Therefore the hypothesis **H2** stating that there will be no significant difference in mean scores of problem solving ability of adolescents from arts, commerce and science streams stands accepted.

CONCLUSION

- The present investigation was undertaken to investigate the problem solving ability among adolescents boys and girls in arts, commerce and science streams. The investigator reached at the following conclusions on the basis of the analysis and

interpretation of data:

- There exists no significant difference between problem solving ability of adolescents boys and girls. It reveals that adolescents boys and girls have equal problem solving ability.
- There is no significant difference exists between mean scores of problem solving ability of adolescents from arts, commerce and science streams.

EDUCATIONAL IMPLICATIONS

- Teachers should allow the students to clarify their doubts and facilitate the ways to solve the problem. They should give individual attention to the children which will help them to realize their hidden problem solving and reasoning abilities.
- Teachers should try to involve the students by assigning them different creative homework relating to new concepts of education so that they are able to introduce new ideas in their task and able to perform well and solve the problems.
- The child should be presented with the solving of practical life problems of

significance to him at the moment, rather than problems which have only future significance. The training for citizenship should essentially include training for solving problems. The democratic citizen of this country must be taught to think for himself.

SUGGESTIONS

- Other tools for measuring problem solving ability can also be used for data collection.
- Similar studies can be conducted on teachers, school children.
- A similar study with a large sample can be conducted to make findings more reliable.

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