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PROBLEM SOLVING ABILITY OF IX GRADE STUDENTS IN RELATION TO THEIR ACHIEVEMENT IN SCHOOL SUBJECTS

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Abstract

The present study aimed at problem solving ability of IX grade students of Ludhiana in relation to their achievement in school subjects. To achieve the objectives of the study, standardize d test of Problem Solving Ability by Dubey (2008) and Previous year academic records of VIII grade students were used to assess the problem solving ability and academic achievement among IX grade students. A sample of 200 IX grade students was selected on the basis of random sampling method. Descriptive statistics was used to analysis the data. Results indicate that there is there is a significant relationship between problem solving ability and academic achievement of IX grade students. The present study also reveals thata significant relationship exists between problem solving ability and achievement in school subjects (i.e. Mathematics, Science, social science and English) of IX grade students.

Keywords: problem solving ability, Achievement

In today's world, Life is full of problems. Problem solving is a natural part of life. The nature of human problem solving methods has been studied by psychologists over the past 100 years. There are several method of studying problem solving, including introspection, behaviorism and experiment.

Some of the most successful people in business, government and private sector, in society with other people and indeed in life itself, are those who have capabilities to solve problems correctively and effectively. It is valuable to realize problem solving ability in one self and equally to perceive in others. We encounter simple problems everyday: finding lost keys, what to do when our car won't start etc. but there are also larger and more significant problems, such as getting education etc. Indeed, the most important kinds of human activity involve accomplishing goals without a script.

Beginning with the early experiment work of Gestalt in Germany (e.g. Dunker 1935), and continuing through the 1960's and 1970's, research on problem solving typically conducted relatively simple, laboratory tasks(e.g. dunker's “X-Ray” problem; Ewert and Lambert's 1932; “ disk” problem, later known as tower of Hanoi) that appeared novel tasks; they had defined optimal solutions, they were solvable with a relatively short time frame, researches could trace participants problem-solving steps, and so on. perhaps the best known and most impressive example of this line of research remains the work (Newell and Simon, 1972).

various studies show that there is always positive and effective relationship between individual and the problem solving ability like Paul has found that psychological wellbeing was related to higher social problem social ability. Dutt (1989) worked on effect of problem solving strategies on problem solving ability in science and also examined its relationship with certain cognitive and personality. Ramaa and Gourama (2002) conducted that V grade children have less problem solving ability in Arithmetic than in other fields. Kamaruddinand Hazni (2010) recommended that the students can improve their learningability if the teachers teach them with the implementation ofproblem solving. Jeotee (2012) found that male and female students have different reasoning skills; however, they do not differ in

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problem solving ability. In the similar way various studies show that there is always a positive and effective relationship between individual and the academic achievement. Here some studies like Kohli (1999) studied on self-learning modules in the achievement of students in Geography and found that students with low intelligence gained much more through the self-learning modules as compared to other students. Chen (2001) found different factor structures and different influences on achievement in mathematics. Khosa (2001) found that academic achievement and achievement motivation are positively correlated with each other. Ahuja (2002) concluded that there is marked difference in the achievement of the students when taught through the self-learning modules as compared to the conventional method of teaching. Bala (2006) studied that there is a significant difference in the mathematical achievement of students of arts and science group. It was further revealed that male and female differed significantly in their mathematical achievement.

In conclusion it was found that the average of the strategy teaching group achievement, attitude and problem solving was much higher than control group achievement.

OBJECTIVES

- To study the relationship between Problem Solving Ability and Achievement among IX grade students.
- To study the relationship between Problem Solving Ability and Achievement among IX grade students regard to a) Mathematics b) Science c) Social Studies d) English language.

METHOD

Descriptive survey method of investigation was to used to conduct the present study.

PROCEDURE

Research requires one have to proceed in a definite direction along well defined lines. While conducting any research work, researcher had to take many steps in well-organized manner. Systematic research in education surely saves time, energy and money and a lot of frustration can be avoided. The authenticity and reliability of any research is based upon the methodology adopted. There are numerous method and procedures to be applied for any study. But it is in the nature of the problem under investigation which determines the application of a particular method. The objective of the present study was to explore the study of problem solving ability in relation to academic achievement. To carry on the above said exploration and meet objective lines of the study, descriptive survey method was used. Mean, Standard Deviation, Pearson's product moment Correlation and Standard Error of Difference was to be employed to find out the nature of data. In order to find out the extent of relation t-test was employed. It was not more gathering of data but it went beyond it. It involved interpretation, comparison, measurement, classification, generalization and solution finding of educational problem.

SAMPLE

The present study was confined to 200 IX grade school students. The sample was to be taken randomly from the schools of Ludhiana district.

Discussion of Results

Table 1 Coefficient of Correlation between Problem Solving Ability and Academic Achievement among IX grade students

Total	r	Significant level
200	0.38**	Significant at 0.01 level

Above table shows that correlation between problem solving ability and academic achievement of IX grade students is significant at 0.01 level of significance. That means there exist a positive correlation between problem solving ability and academic achievement of IX grade students .Therefore, hypothesis stated that “There exists a significant relationship between problem solving ability and academic achievement of IX grade students” stand accepted. This may be due to their interest and positive attitude towards achievement which leads to problem solving ability.

Table 2: Coefficient of Correlation between Problem Solving Ability and achievement in Mathematics of IX grade students

Total students (200)	Problem Solving Ability	Significant level
Achievement (Mathematics)	0.41**	Significance at 0.01 level
Achievement (Science)	0.32**	Significance at 0.01 level
Achievement (Social Studies)	0.31**	Significance at 0.01 level
Achievement (English Language)	0.28**	Significance at 0.01 level

Above table shows that correlation between problem solving ability and achievement in Mathematics is significant at 0.01 level of significance of IX grade students. Thus, there exist a positive correlation between problem solving ability and achievement in Mathematics of IX grade students.

Above table shows that the correlation between problem solving ability and achievement in Science is significant at 0.01 level of significance of IX grade students. Thus, there exist a positive correlation between problem solving ability and achievement in Science of IX grade students.

Above table shows that the correlation between problem solving ability and achievement in Social Studies is significant at 0.01 level of significance of IX grade students. Thus, there exist a positive correlation between problem solving ability and achievement in Social studies of IX grade students.

Above table shows that the correlation between problem solving ability and achievement in English is significant at 0.01 level of significance of IX grade students. Thus, there exist a positive correlation between problem solving ability and achievement in English of IX grade students.

Therefore, the hypothesis stated as "There exists a significant relationship between Problem Solving Ability and Achievement among IX grade students regard to a) Mathematics b) Science c) Social Studies d) English language." stands accepted.Thus, tables show the positive relationship between Problem Solving Ability and achievement in Mathematics, achievement in Science, achievement in Social Studies and achievement in English language respectively of IX grade students.

CONCLUSIONS

On the basis of the statistical analysis of data, the following conclusions were drawn:

- The coefficient of correlation between problem solving ability and academic achievement was found to be positive and significant. Therefore a significant relationship was found between problem solving ability and academic achievement of IX grade students.
- The coefficient of correlation between problem solving ability and achievement in Mathematics is found to be positive and significant. This indicates that problem solving ability and achievement in Mathematics of IX grade students are correlated.
- The coefficient of correlation between problem solving ability and achievement in Science is found to be positive and significant. This indicates that problem solving ability and achievement in Science of IX grade students are correlated.
- The coefficient of correlation between problem solving ability and achievement in Social Studies is found to be positive and significant. This indicates that problem solving ability and achievement in Social Studies of IX grade students are correlated.
- The coefficient of correlation between problem solving ability and achievement in English is found to be positive and significant. This indicates that problem solving ability and achievement in English of IX grade students are correlated.

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