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"A STUDY ON PROBLEM SOLVING ABILITY OF HIGH SCHOOL STUDENTS"

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ABSTRACT

In the present study has conducted problem solving ability of high school students and the investigator has utilized stratified random sampling technique for selecting 819 samples from Villupuram district in Tamilnadu. He has analysed the data with help of SPSS and Descriptive analysis, Differential analysis and Post hoc statistical techniques were utilized in the present study. He found that male and female is significant difference in the problem solving ability and significant difference among the occupational status of parents (Farmer/ Govt. employee/ Private employee/ Others) in the problem solving ability of high school students.

KEYWORDS: *statistical techniques , strengths and weakness.*

INTRODUCTION

Problem Solving is the active effort to resolve a problem and occurs when a barrier blocks the path to a goal. A problem-solving model is systematic approach that reviews student strengths and weakness, identifies evidence-based instructional interventions, frequently collects data to monitor student progress, and evaluates the effectiveness of interventions implemented with the student. Problem solving is a model that first solves student difficulties within general education classrooms. If problem-solving interventions are not successful in general education classrooms, the cycle of selecting intervention strategies and collecting data is repeated with the help of building –level or grade-level intervention assistance or problem-solving team. Rather than relying primarily on test scores, the student's response to general education interventions becomes the primary determinant of his or her need for special education evaluation and services (Marston, 2002; Reschly & Tilly, 1999).

DEFINITION OF PROBLEM SOLVING ABILITY

Problem solving is reflective and creative. Regardless of the type of problem solving a class uses, problem solving focuses on knowing the issues, considering all possible factor and finding a solution. Because all ideas are accepted initially, problem solving allows for finding the best possible solution as opposed to the easiest solution or the first solution proposed.

OBJECTIVES OF THE STUDY

1. To find out whether there is any significant difference in the problem solving ability of high school students with respect to their:
a. Gender (Male/Female)
b. Occupational status of parents (Farmer/Govt.Employee./Private Employee/ Others)

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HYPOTHESES OF THE STUDY

1. There is no significant difference among the high school students problem solving ability with respect to their:
a) Gender (Male/Female)
b) Occupational status of parents (Farmer/Govt.Employee./Private Employee/ Others)

DESIGN OF THE STUDY

The researcher has designed the entire study and it has an unavoidable role of any research. It gives skeleton of the work and it provides planning stage of any research usually made logically visualizing its practicability. A good research design must be practical. The quality of a design of research is judged by the degree of accuracy attainable on the level of relevant evidence sought. In the present study, the investigator has followed Normative Survey Method.

According to **Best and Khan** (2006)) like the tools in a carpenter's box each research tool is appropriate in a given situation to accomplish a particular purpose. The Problem Solving Ability tool standardized by L.N. Dubey (2011) has been used in the present study.

Variables of the Study

Main Variable: Problem Solving Ability
Demographic Variables: Gender, Occupational Status of Parents

Sample and Sampling Technique of the Study

The investigator has utilized stratified random sampling technique for choosing the sample to the present study and he has selected 13 Self-financed and Government aided schools in the Villupuram district. Smart class room schools have been randomly selected by the investigator in the same district and the size of the sample is 819 standard IX students from high schools and higher secondary schools. It means that each individual of the population has equal chance or probability of selection for constituting a sample.

Statistical Techniques

The researcher has collected data from the sample and utilized the following statistical techniques for his research work.
1. Descriptive Analysis
2. Differential Analysis
3. Post hoc test

Null Hypothesis-1 (a)

"There is no significant difference between male and female students in their problem solving ability."

Table – 1
Gender – "t" test

Variable	Demographic Variable	N	Mean	S.D	't' value	Remarks
Problem Solving Ability	Male	420	13.26	1.56	0.65	Not Significant at 0.05 level
	Female	399	13.33	1.55		

The mean scores of the problem solving ability of male and female students of high schools are 13.26 and 23.33 and Standard deviations are 1.56 and 1.55 respectively.

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The calculated 't' value, 0.65, is lower than the table value 1.96, that is, no significant difference between the two mean scores at 0.05 level of significance and the null hypothesis is rejected.

Null Hypothesis – 1(b)

There is no significant difference among the high school students' problem solving ability with respect to their Occupational status of parents (Farmer/ Govt. Employee. / Private Employee/ Others).

Table – 2
Occupational status of Parents - ANOVA

Variable	Demographic variable	Source of Variation	Sum of Squares	df	Mean squares	'F' ratio	Remarks
Problem Solving Ability	Farmer/ Govt. Employee/ Private Employee / Others	Between Groups	62.443	3	20.814	8.79	**Significant at 0.05 level**
		Within Groups	1928.065	815	2.366		
		Total	**1990.508**	**818**			

Data with respect to the above hypothesis is analysed using one way ANOVA. The "F" ratio obtained value is 8.79. From the 'F' value table it was found that the value required for significance is 2.60. The obtained 'F' value is higher than the table value for significance at 0.05 levels. The null hypothesis is rejected. So, the researcher goes to 'post hoc test'.

Table -3 - Occupational Status of Parents - Post hoc Test

Demographic Variables	N	Mean	(I) Occupational Status of Parents	(J) Occupational Status of Parents	(I-J) Mean Difference	P Values	Significant at the 0.05 level
Farmer	239	13.29	Farmers	Govt.	0.346	0.233	NS
				Private	0.419*	0.034	S
				Others	0.200	0.593	NS
Government	129	13.64	Govt.	Private	0.766*	0.000	S
				Others	0.145	0.942	NS
Private	212	12.87	Private	Others	0.620*	0.000	S
Others	238	13.49					

* S – Significant   # NS – Not Significant

(i). Parents Occupations between Farmer and Government employee

From the table 4.26 indicates students of parents whose are farmer (M= 13.29) and government employee (M= 13.64). Students of parents who are farmer and government employee mean difference is 0.346. It is clear that the calculated 'p' value ('p' = 0.233) is greater than table value at the 0.05 level of significance. Hence, the **null hypothesis is accepted**.

(ii). Parents Occupations between Farmer and Private employee

From the table 4.26 indicates students of parents whose are farmer (M= 13.29) and private employee (M= 12.87). Students of parents who are farmer and private employee mean difference is 0.419*. It is clear that the calculated 'p' value ('p' = 0.034) is lower than table value at the 0.05 level of significance. Hence, the **null hypothesis is rejected**.

(iii). Parents Occupations between Farmer and Others

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From the table 4.26 indicates students of parents whose are farmer (M= 13.29) and others (M= 13.49). Students of parents who are farmer and others mean difference is 0.200. It is clear that the calculated 'p' value ('p' = 0.593) is higher than table value at the 0.05 level of significance. Hence, the **null hypothesis is accepted**.

(iv). Parents Occupations between Government employee and Private employee

From the table 4.26 indicates students of parents whose are government employee (M= 13.64) and private employee (M=12.87). Students of parents who are government employee and private employee mean difference is 0.766*. It is clear that the calculated 'p' value ('p' = 0.000) is lower than table value at the 0.05 level of significance. Hence, the **null hypothesis is rejected**.

(v). Parents Occupations between Government employee and other occupations

From the table 4.26 indicates students of parents whose are government employee (M= 13.64) and other occupation (M=13.49). Students of parents whose are government employee and other occupation mean difference is 0.145. It is clear that the calculated 'p' value ('p' = 0.942) is greater than table value at the 0.05 level of significance. Hence, the **null hypothesis is accepted**.

(vi). Parents Occupations between Private employee and other occupations

From the table 4.26 indicates students of parents whose are private employee (M=12.87) and other occupation (M=13.49). Students of parents whose are government employee and private employee mean difference is 0.620*. It is clear that the calculated 'p' value ('p' = 0.000) is less than table value at the 0.05 level of significance. Hence, the **null hypothesis is rejected**.

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