

RELATIONSHIP BETWEEN PROBLEM-SOLVING ABILITY AND SELF-CONFIDENCE AMONG IX STANDARD STUDENTS IN ARIYALUR DISTRICT

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ABSTRACT

All the people in society from infancy to old are affected by one or the other problem. They need the knowledge and skill to solve the problem in their daily activities. The schools teach different subjects and how to handle the problems. In schools, students are taught concepts, rules and principles. They help the people in solving their problems. Students make use of their own life experiences, divergent thinking capacities and practical work experiences which help people to find a solution for the problem. This study examines the IX standard students' problem-solving ability and self-confidence. The researcher adapted the survey method and population consisting of 300 IX standard students using a simple random sampling procedure. The study found that there is a significant difference between the group of demographic variables of age, gender and type of school of IX standard students in the mean score of problem-solving ability. The study also reveals that there is a significant positive correlation between problem-solving ability and self-confidence of IX standard students.

Keywords: Problem-Solving Ability, Self-Confidence.

Introduction

Education has been considered the hallmark of a progressive society since ancient times and education is closely linked to a person's life chance, income and well-being. The focus of the educational process is to improve the performance of the student's problem-solving ability of students to be natural emotion that provides man's feeling and thoughts. It is the emotion that leads and accompanies his wish to leap to a higher state of existence Kierkegaard distinguished between horror and clear and then achievement is a thing that somebody has done successfully, especially using his / her own effort and skill.

Problem-Solving Ability

Problem-solving is a mental process that is the concluding part of the larger problem process that includes problem-finding and problem-shaping. Where a problem is defined as a state of desire for the reaching of a definite goal from a present condition that either is not directly moving towards the goal is for from it or needs more complex logic for finding a missing description of conditions or steps towards the goal considering the most complex of all intellectual functions, problem-solving has been defined as a higher-order cognitive process that requires the modulation and control of more routine or fundamental skills. Problem-solving has two major domains i.e., Mathematical problem-solving and personal problem-solving. Where, in the second, some difficulty or barrier is encountered, further problem-solving occurs when moving from a given state to a desired goal state is needed for either living organisms or an artificial intelligence system.

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Self-Confidence

“Self-Confidence” indicates having trust, faith or reliance on one’s behaviour. The other words which go with confidence are firmness and positive assumptions. Self-confidence is an attribute of self-concept.

The self is a composite of a person’s thoughts and feelings, strivings and hopes, fears and fantasies, his view of what he may become, and his attitudes pertaining to his worth. Self-confidence is a positive attitude oneself towards one’s self-concept.

Need and Significance of the Study

Problem-solving ability is an innate nature of the student. if he is able to perceive the problem then he can solve it easily. So, the investigator studied how information is processed in the minds of the student while solving problems. this meta-cognitive process includes all higher process like perception, thinking, attention, reasoning, creativity, and memory etc., Recent analysis of cognitive activity shows that cognitive activity as information processing, throwing new light on mathematical problem-solving as a cognitive activity. in this competitive world higher secondary students, particularly rural students have to improve their problem-solving skills with different methods of approach to solve the problem for their better development and competent with urban students.

Self-confidence is playing a vital role in the future of children. how these variables influence achievement. therefore, the investigator decided to carry out this important investigation. These research findings may bring out the influence of problem-solving ability and self-confidence. therefore, there is a lot of scope in this research. this research may bring out the reality in perfect situations and may suggest for the betterment of students. hence the researcher’s entitled topic is “Relationship Between Problem-Solving Ability and Self-Confidence among IX Standard Students in Ariyalur District”.

Statement of the Problem

The present study is entitled Relationship Between Problem-Solving Ability and Self-Confidence among XI Standard Students in Ariyalur District.

Objectives of the Study

- To find out the significant difference between/among the subgroups of demographic variables of IX standard students in the mean scores of problem-solving ability.
- To find out the correlation between problem-solving ability and self-confidence of IX standard students.

The Hypothesis of the Study

Following are the research hypotheses of the study.

- There is no significant difference between the groups of the age of IX standard students in the mean score of problem-solving ability.
- There is no significant difference between the groups of the gender of IX standard students in the mean score of problem-solving ability.
- There is no significant difference between the groups of the medium of instruction of IX standard students in the mean score of problem-solving ability.
- There is no significant difference between the groups of the types of school of IX standard students in the mean score of problem-solving ability.
- There is no significant correlation between the problem-solving ability and self-confidence of IX standard students.

Variables of the Study

Independent variable:

Problem-Solving Ability, Self-Confidence

Dependent variables:

Age, Gender, Medium of Instruction, Type of schools

Limitations of the Study

The present study has the following limitations,

The investigator selected three hundred ninth-standard students in Ariyalur district in Tamil Nadu, India, for the present study.

Only ten high schools are used for the present study.

Method of the Study

Considering the objectives and hypotheses of the study, the investigator selected the descriptive survey method for the present study.

Sample of the Study

The sample consisted of 300 students of government and matriculation secondary IX-standard students in Ariyalur district, Tamil Nadu, India.

Statistical Technique Used in the Study

The mean, standard deviation, t-test, F-test and correlation were used for analysing the data using SPSS 26.0 version.

Testing the Hypotheses**Hypothesis 1**

There is no significant difference between the groups of the age of IX standard students in the mean score of problem-solving ability.

This hypothesis was tested using a t-test.

Table 1

Sub-samples		N	Mean	S. D	SE _D	t'-Value
Age	Below -16	238	35.1933	16.6202	2.3095	2.8490*
	Above-16	62	29.3443	15.9550		

It is inferred from the above table no -1 shows that the calculated t-value (2.8490) is greater than the critical value of 2.59 at 0.01 level. Hence, the null hypothesis is rejected. Thus, there is a significant difference between below-16 years and above-16 years of IX standard students in the means score of problem-solving ability. It is inferred that the age groups of IX standard students determine their problem-solving ability.

Hypothesis 2

There is no significant difference between the groups of the gender of IX standard students in the mean score of problem-solving ability.

This hypothesis was tested using a t-test.

Table 2

Sub-samples		N	Mean	S. D	SE _D	t-Value
Gender	Boys	145	28.9034	14.6574	1.8330	5.491**
	Girls	155	38.9677	17.0627		

Table 2 shows that the calculated t-value (5.4910) is greater than the critical value of 2.59 at the 0.01 level. Hence, the null hypothesis is rejected. Thus, there is a significant difference between boys and girls of IX standard students in the mean score of problem-solving ability. The mean score of the problem-solving ability of girls is higher than that of boys. It is inferred that gender determines problem-solving ability.

Hypothesis 3

There is no significant difference between the groups of the medium of instruction of IX standard students in the mean score of problem-solving ability.

This hypothesis was tested using a t-test.

Table 3

Sub-samples		N	Mean	S. D	SE _D	t-Value
Gender	Tamil	159	35.0943	17.0672	1.9253	1.095
	English	141	32.9858	16.2578		

Table 3 shows that the computed 't' value of 1.9253 is less than the critical values of 3.81 and 2.62 at 0.01 and 0.05 levels respectively. Hence, it is not significant. Consequently, the null hypothesis is accepted. It can be said that there is no significant difference between Tamil medium and English medium IX standard students in the mean score of problem-solving ability. It is inferred that the medium of instruction does not a significant role in the problem-solving ability of IX standard students.

Hypothesis 4

There is no significant difference between the groups of the types of school of IX standard students in the mean score of problem-solving ability.

This hypothesis was tested using an F-test.

Table 4

Source of Variation	Sum of Squares	df	Mean-Variance of Squares	'F' value	Level of Significance
Between groups	11515.407	2	5757.703	23.802**	S
Within groups	71844.390	297	241.900		
Total	83359.797	299			

Table 4 shows that the computed 'F' value of 23.802 is less than the critical value of 3.78 at 0.01 level and greater than the critical value of 2.60 at 0.05 level hence it is significant at 0.05 level. Consequently, the null hypothesis is not accepted. It can be said that there is a significant difference among the groups of types of schools of IX standard students in the mean score of problem-solving ability. It is inferred that the types of schools play a significant role in the problem-solving ability of IX standard students.

Hypothesis 5

There is no significant correlation between the problem-solving ability and self-confidence of IX standard students.

This hypothesis was tested using Karl Pearson's Product Moment Coefficient of Correlation.

Table 5

Correlations		
	Problem-Solving Ability	Self-Confidence
Problem-Solving Ability	1	0.304**
Self-Confidence	0.304**	1

Since the level of significance is at 0.01 level, the null hypothesis is rejected.

Hence, it is concluded that there is a significant positive correlation between problem-solving ability and self-confidence. Since the sample correlation is positive, it indicates that if the problem-solving ability is more the self-confidence is also more and versa.

Findings of the Study

- There is a significant difference between the groups of the age of IX standard students in the mean score of problem-solving ability.
- There is a significant difference between the groups of the gender of IX standard students in the mean score of problem-solving ability.
- There is no significant difference between the groups of the medium of instruction of IX standard students in the mean score of problem-solving ability.
- There is a significant difference between the groups of the types of school of IX standard students in the mean score of problem-solving ability.
- There is a significant positive correlation between the problem-solving ability and self-confidence of IX standard students.

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