ISSN–2277- 8721

EIIRJ Electronic International Interdisciplinary Research Journal

Volume–XI, Issue– VI Nov – Dec 2022

OPEN ACCESS Original Research Article

STUDY ON ATTITUDE OF SCHOOL STUDENTS TOWARDS THEIR PROBLEM-SOLVING SKILLS

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Abstract:

Problem Solving is an essential life skill required for effective learning and holistic development of students. 20th century educators have devoted their attention towards developing the problem-solving skills in their students and thus there is a need to understand the levels of effectiveness of problem solving methods used by the students. The study was aimed to determine the effectiveness of problem solving among students of VII and X Standard from a Mumbai suburban school and how gender affects the level of problem solving. The results reveal that there is no difference in the levels of effectiveness of the problem-solving methods applied by both males and females students of the two sections

Keywords: *Problem solving, Gender, School Students*

Introduction:

Students develop problem-solving skills at different rates; nevertheless, it is authoritative that students learn to tackle problems with grit and creativity, extremely as they learn to cope with breakthrough or resolved conflict. Moreover, problem solving is one of the most mandatory skills for students to develop, because it prepares them to face progressively complex academic and interactive issues as they mature. Specific consistently encounter complications in all fields. New methods and strategies should be enlarging to solve problems speedily and productively (Posamentier, 1998). Individuals' skill of problem solving is interconnected to their compress on the problem and self-evaluation (Heppner, Baumgardner and Jackson, 1985). Problem solving skills will help us to resolve problems in not only academic life but in all parts of life. Students that have learned the problem solving process can be successful in all fields of life by using these skills and finding solutions to individual problems and adversity. 20th-century educators have devoted much of their attention to strive to define and teach problem-solving skills. Problem solving is perhaps the key characteristic that makes us human. As a rule, the individual did not have all the information available, so it was impossible for him to pursue the problem as a whole. The strategies reviewed provide tangible guidance for teacher education programs regarding how to promote future teachers' problem-solving skills and the problems we encounter daily. This article consists of two main parts. Part 1 focuses on strategies required to help pre service teachers to be better problem solvers, and Part 2 summarizes approaches to introduce pre-service teachers to the methods of teaching problem solving. The strategies reviewed provide a tangible guidance for teacher education programs regarding how to promote future teachers' problem-solving skills. The teaching effect evaluations indicated that this teaching method effectively improved students' practical abilities. Essentially, education is the learning process to expand students' potential and cultivate their ability to adapt to—and improve—their environment. To improve the practical effect of an information system security course for students majoring in information security, a teaching method based on the theory

ISSN–2277- 8721

EIIRJ Electronic International Interdisciplinary Research Journal

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of inventive problem solving the curriculum goals should be life-centered to develop individuals' potential, cultivate scientific knowledge and skills, and help students adapt to the demands of modern life. Education aims to deliver basic knowledge, cultivate physical and mental development, inquiry, and reflection, and create healthy citizens through activities involving interaction between individuals, individuals and society, and society and nature.

Review of Related Literature:

Adolescence, the turning point at the transitional stage of life prior to full maturity, results from the rapid changes in the physical, cognitive, social, and emotional development. According to Schvaneveldt and Adams (1983), this is a period of development, but it is a period with limited experiences in terms of cognitive processes of decision-making and problem solving skills. During childhood, almost all decisions are given to them by adults. In the second decade of life, it is believed that they are either not ready or too inexperienced to carry such responsibility. Kaur and Gupta (1998) conducted a study on problem solving behavior of eight class students in relation to their creativity. It was found that high achiever boys in problem solving were found to be more creative in comparison to low achiever boys. High achiever girls and low achiever girls in problem solving ability do not differ significantly on creativity. No significant difference exists between high achiever boys and low achiever girls in problem solving ability in relation to creativity.

Ganandevan (2006) found out that the problem solving ability of higher secondary students was low. The male and female students and the students residing in rural and urban areas differ in problem solving ability. Mohanty, Parida and Jena (2007) studied scientific creativity and problem solving abilities of creative and non-creative students. It was revealed that sex had no impact on development of problem solving ability. Problem solving ability is not affected by scientific creativity. The interaction of results of sex and creativity: sex and locality and that of locality and creativity on the problem solving ability were found insignificant. There exist significant interaction among sex, locality and creativity on the development of problems solving ability of students. Gupta (2013) conducted a study on problem solving ability and academic achievement among the students belonging to Scheduled Tribe and Scheduled Caste categories. Significant differences were reported in the problem solving ability of boys and girls of both the categories. Kaur (2014) concluded that in problem solving ability Boys and girls did not differ significantly in social warmth, enthusiasm, boldness, self-sufficiency, and competition dimensions of personality. But she found that the students studying in private schools had better problem solving ability and similarly the boys had better problem solving ability than that of the girls.

Singh (2015) conducted a study on the attitude towards mathematics of secondary school students in relation to problem solving ability. It was found that there was a significant relationship between attitude towards mathematics and problem solving ability of the 10th class students. Total 60 students of class VIII were taken as sample size for the study. Results expressed that students taught through cooperative learning Jigsaw Strategy (Mean = 70.83, N= 60) achieved remarkably higher problem solving as compared to traditional methods of teaching (Mean = 69.73, N =60). The research found problem solving disposition is independent of interaction between treatment classes and gender. Mawaddah et al. (2018) conducted a study to measure students' mathematical critical thinking skills based on gender developed tools. Was verified by 4 experts. Four students were selected from 30 students of the year in one of the junior high schools in Banda. The tools used in this study are problem solving skills in interviews . Research found that there are gender differences in mathematical problem solving skills as problem solving skills of females are slightly better than of male students. Research suggests developing tools that would improve the problem solving of both male and female students. Saputriet al (n.d) conducted a research study to find out about problem solving skills in biology learning of senior high

ISSN–2277- 8721

EIIRJ Electronic International Interdisciplinary Research Journal

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OPEN ACCESS Original Research Article

school students Descriptive method was used for the study. 297 students of standard XII of a senior high selected through purposive sampling technique were taken as a sample size for the study. The findings on problem solving skills and self-Regulation Were In Good Criterion.

Methodology and Sample of the Study:

A descriptive survey was carried out to study how students do problem solving methods among school students. A convenient sampling technique was used for data collection for this purpose; data was collected from 60 students. The problem solving method was scored on a 5 point rating scale .The questions which were asked were 24. Out of total students 41 were male and 19 were female Also out of total students, 20 were of seventh standard and 40 were tenth standard and 21 students' mothers were employed, remaining 39 were unemployed. The following Table 1.1 depicts the sample size.

Table 1.1: **Sample Size for Present Study**

	Number	Percentage
All Students	60	100%
Males	42	70.00%
Females	18	30.00%

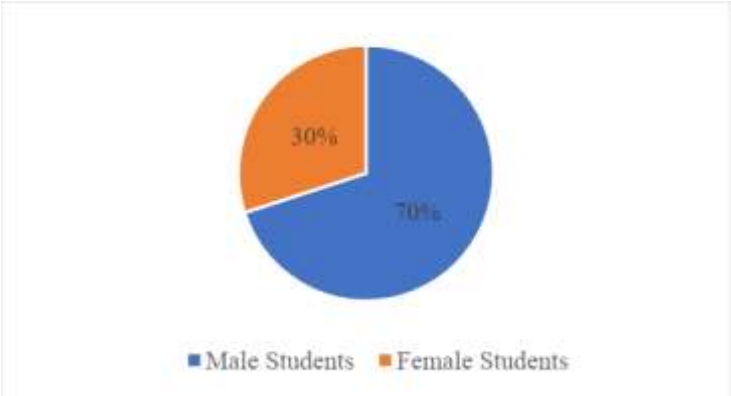

Figure 1.1: **Pie-Chart Depicting the Gender of the Students for Present Study**

The total sample consisted of 60 Students out of which 70.00 % Students were Males and 30.00 % Students were Females

Hypothesis Testing and Interpretation of Data:

1. There is no significant difference in the attitude of school students towards problem solving methods
2. There is no significant difference in the attitude of school students towards problem solving methods based on gender.

Table: 1.2 Relevant Descriptive Statistics

	N	Mean	Median	Mode	Standard Deviation	Skewness	Kurtosis
Students	60	70.07	69	71	8.98	1.00	2.57

ISSN–2277- 8721

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The above table 1.2 shows relevant descriptive statistical measures that were used to test Hypothesis 1.

Hypothesis 1: The Mean for Higher Secondary School students was found to be 70.07, Median was found to be 69, Mode was found to be 71 and Standard Deviation was found to be 8.98. The distribution is positively skewed as Skewness value is found to be 1.00. The Kurtosis is found to be 2.57 which is positive and thus the distribution is Leptokurtic.

The table 1.3 below shows relevant inferential statistics for testing Hypothesis 2.

Table 1.3 Inferential Data Analysis

	N	Mean	*t* value	*p* value	LoS
Males	42	69.74	0.29	0.77	NS
Females	18	70.83			

Hypothesis 2: The t value for male and female school students was found to be positive 0.29 and the p value was found to be 0.77 which is greater than 0.01 and 0.05, thus it is not significant Therefore, null hypothesis is accepted. There is no significant difference in the attitude of school students towards problem solving methods based on gender.

Scope and Delimitations of the Study:

The proposed study was conducted and the data was collected from school students, college students were not taken into consideration. The effect of gender on Problem Solving skill was studied in the present study, other variables affecting Problem Solving Methods like family structure, urban-rural area, cognitive skills, intelligence etc were excluded. A descriptive survey method was adopted, other methodology of research like observation, interviews, case-study were not carried out. Schools located in urban areas were considered, schools located in rural areas were not considered. English medium Schools were included, those belonging to vernacular medium schools were excluded.

Discussion and Conclusion:

The present study revealed that both boys and girls school students had similar attitude towards their problem solving skills. Gender had no role in affecting the problem solving abilities among school students. The study of Sebastian (2017) showed that male and female students have no significant difference in conceptual difficulties in problem solving but male students have higher computational understanding than female students in problem solving. Sirait, Sutrisno,Balta and Mason (2017) found that most of students have the same attitudes and approaches inproblem solving. Thus the results of most of studies are quite scattered and are in disagreement and need to relook it from the perspective of gender. Contradictory results were obtained by Astur, Purton, Zaniewski, Cimadevilla and Markus(2016) found that problem solving ability is more in males as compared to their female counterparts. The results of the present study are in conformity with the results obtained by Ajai andImoko (2015), Sebastian 2017) and Mason (2017).The study suggests that the gender have no significant bearing on the problem solving ability of the secondary students. The unsatisfied wants or desires creates uneasiness in the mind that derives the individual to make efforts and motivates him to use his language and abilities such as observation, prediction, and inference to surmount the difficulties that interfere in the progress towards his goal of problem solving

ISSN–2277- 8721

EIIRJ Electronic International Interdisciplinary Research Journal

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OPEN ACCESS Original Research Article

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Cite This Article:

**** Shaikh, T. & ** Koyalkar, S. (2022)*** Study on Attitude of School Students towards their Problem-Solving Skills, ***Electronic International Interdisciplinary Research Journal,*** *Volume No. XI, Issue-VI, 248-252.*