



International Journal of Research in Academic World



Received: 10/March/2023

IJRAW: 2023; 2(4):16-19

Accepted: 07/April/2023

Class XI Students in Aizawl City's Problem-Solving Skills with Regard to Gender: A Study

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Abstract

Problem-solving ability is a crucial skill for individuals to navigate complex situations and achieve success in various domains of life. It involves the capability of students to analyze and find solutions to challenges. It involves the ability of students to adapt to different situations and to identify the nature of a problem, as well as to determine the appropriate methods for resolving it. This study was conducted to study the problem-solving ability among higher secondary school students in Aizawl city. The sample consists of 160 students from six different Higher Secondary Schools in Aizawl city in which three schools are Government schools and the other three are Private schools. Problem-solving ability test (PSAT) developed by L.N. Dubey was used as a tool for data collection. The findings of the study reveal that the level of problem-solving ability among higher secondary school students in Aizawl city was very low. Out of 160 students, there are 123 students who scored Very Low Ability in problem-solving ability test and there are no students who scored Very High Ability. Also, the finding of the study reveals that there is no significant difference between male and female higher secondary school students in their problem-solving ability.

Keywords: Problem-solving ability, higher secondary students, Aizawl city, gender

Introduction

Problem-solving involves the application of principles and facts to explain and solve new phenomena or predict consequences from known conditions. Problem-solving ability is the process of finding solutions to difficult or complex issues. Bala and Shaafiu (2015) [3] stated that problem-solving ability can be developed in students to help them effectively deal with problems that they faced daily. The ability involves critical thinking skills, analytical skills, creative thinking ability and logical reasoning of the student towards a problem that is presented in current situation or within their daily life.

Rationale

Problem-solving ability is the ability of the students to analyse and to solve the problems. It is the ability of the students to adjust themselves in every situation and it helps the students to know what the problem is and how to solve it. Thus, to find out the level of Problem-solving ability of the students is very important that the Problem-solving ability helps the students in their thinking skills to approach various problems in their life and in their studies. Problem-solving ability is a crucial skill for individuals to navigate complex situations and achieve success in various domains of life. In the context of education, problem-solving skills are essential for academic achievement and future career prospects.

However, studies have shown that there are gender differences in problem-solving ability, with males typically outperforming females in this domain. Therefore, this study aims to investigate the problem-solving ability among higher secondary school students in Aizawl city in relation to gender.

Objectives of the Study

1. To find out the level of problem-solving ability of Higher Secondary School students in Aizawl City.
2. To find out the level of problem-solving ability of higher secondary school male students in Aizawl city.
3. To find out the level of Problem-solving ability of higher secondary school female students in Aizawl city.
4. To study the problem-solving ability of higher secondary school students in relation to gender.

Null Hypothesis

There is no significant difference in the level of problem-solving ability between male and female students of higher secondary schools in Aizawl city.

Research Methodology

Research Design: Descriptive survey method was adopted to study the level of Problem-solving ability of higher secondary school students in Aizawl city.

Population and Sample: The population of the study comprise of all the class XI students from higher secondary schools in Aizawl city. The sample of the study consisted of 160 students of Class XI from six higher secondary schools in Aizawl city.

Tools: The investigator used the Problem-solving Ability Test (PSAT) designed by L.N. Dubey.

Data Analysis: The collected data were analysed using statistical techniques like mean, percentage and standard deviation. For the comparison of the variables, t-test was used.

Analysis and Interpretation

1. Problem-Solving Ability of Higher Secondary School Students in Aizawl City

In order to find out the level of Problem-solving ability of Higher Secondary School students in Aizawl city the scores obtained from the scale are analyzed and interpreted in accordance with the norms provided in the manual of the scale and the finding are presented in the following table:

Table 1: Level of Problem-solving ability of higher secondary school students.

S. No.	Level of Problem-Solving Ability	No. of Students	Percentage	Average Score
1	Very High Ability	0	0	7.80
2	High Ability	2	1.25	
3	Average Ability	14	8.75	
4	Low Ability	21	13.13	
5	Very Low Ability	123	76.87	

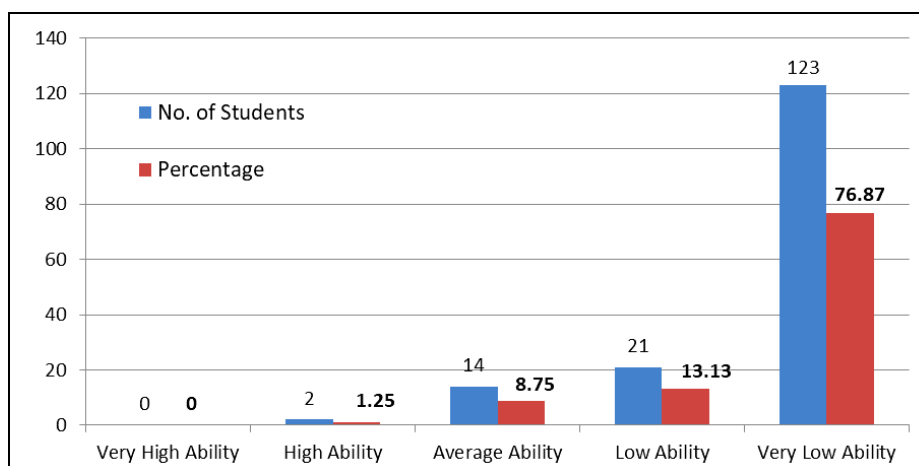


Fig 1: Percentage scores of higher secondary school students of Aizawl city.

Analysis of the table and the figure show that there are no students who scored very high Problem-solving ability and there are only two students who scored high on Problem-solving ability. Among 160 students, 8.75% scored average ability while 13.13% score low ability. There are 123 students i.e., 76.87% who scored very low Problem-solving ability. The average score is 7.80 which lies under the very low ability according to the interpretation given by L.N. Dubey.

accordance with the norms provided in the manual of the scale and the finding are presented in the following table:

Table 2: Level of Problem-solving ability of higher secondary school male students

S. No.	Level of Problem-Solving Ability	No. of Students	Percentage	Average Score
1	Very High Ability	0	0	7.42
2	High Ability	1	1.32	
3	Average Ability	5	6.58	
4	Low Ability	4	5.26	
5	Very Low Ability	66	86.84	

2. Level of Problem-Solving ability of Higher Secondary School Male Students in Aizawl City

In order to find out the level of Problem-solving ability of Higher Secondary School male students in Aizawl city the scores obtained from the scale are analyzed and interpreted in

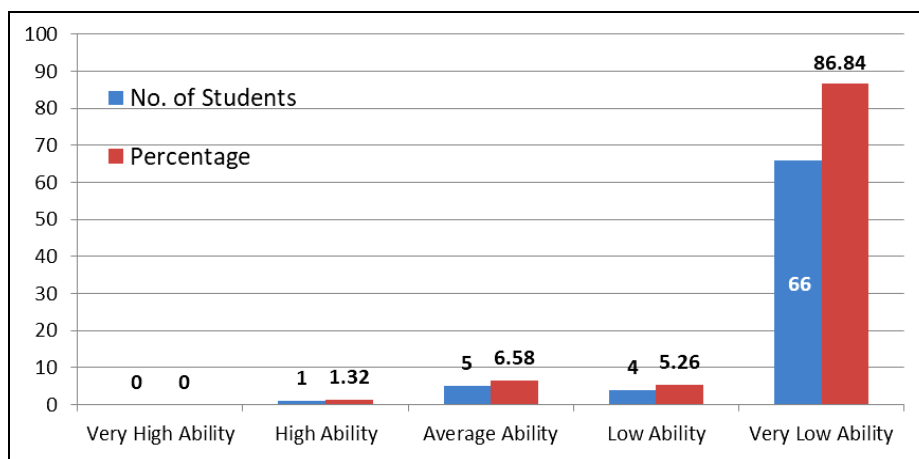


Fig 2: Percentage scores of higher secondary school male students of Aizawl city.

Analysis of the table and the figure show that there are no students who scored very high Problem-solving ability and there is only one student who scored high on Problem-solving ability. Among 76 students, 66 students i.e. 86.84% score very low Problem-solving ability. This means that almost all the male students have a very low ability in Problem-solving. There are only five students who scored average ability and four students who scored low ability. The average score of male students is 7.42.

3. Level of Problem-Solving ability of Higher Secondary School Female Students in Aizawl City

In order to find out the level of Problem-solving ability of Higher Secondary School male students in Aizawl city the scores obtained from the scale are analyzed and interpreted in

accordance with the norms provided in the manual of the scale and the finding are presented in the following table:

Table 3: Level of Problem-solving ability of higher secondary school female students.

S. No.	Level of Problem-solving Ability	No. of Students	Percentage	Average Score
1	Very High Ability	0	0	8.15
2	High Ability	1	1.19	
3	Average Ability	9	10.71	
4	Low Ability	17	20.24	
5	Very Low Ability	57	67.86	

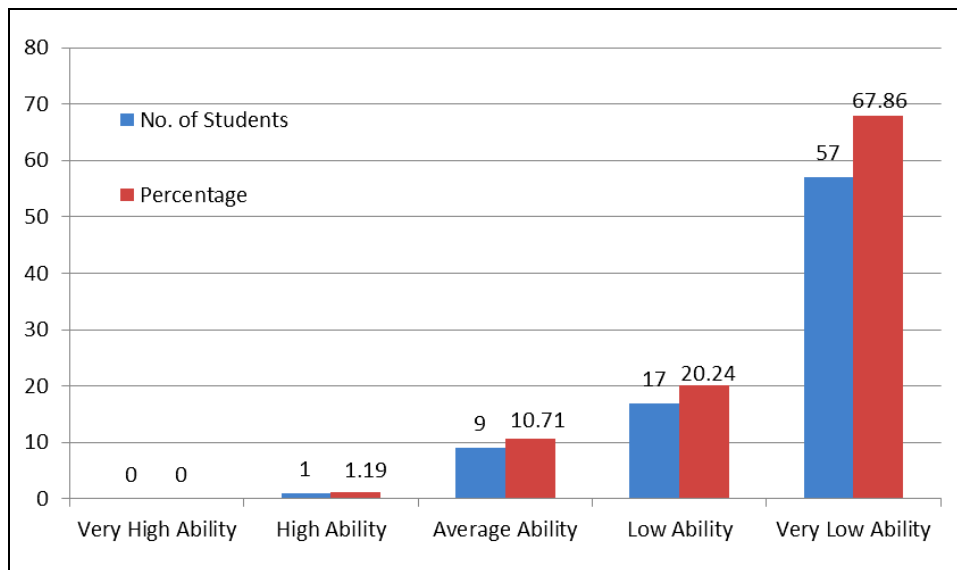


Fig 3: Percentage scores of higher secondary school female students of Aizawl city.

Analysis of the table and the figure show that there are no students who scored very high Problem-solving ability and there is only one student who scores high on Problem-solving ability. Among 84 students, 57 students i.e., 67.86% scored very low Problem-solving ability. There are nine students who scored average ability and seventeen students who scored low ability. The average score of female students is 8.15.

4. Comparison between Problem-Solving Ability of Secondary School Students in Relation to Gender

To compare the Problem-solving ability of male and female students, the mean and standard deviation were calculated and the mean differences were tested by using the t test. The details are given in the table below:

Table 4: Comparison of Problem-solving ability of male and female students

Gender	N	Mean	SD	t-value	Level of Significant
Male	76	7.42	2.79	1.69	Not Significant
Female	84	8.15	2.73		

The above table shows the result for the comparison between male and female students of higher secondary schools in their level of Problem-solving ability. The mean value for male and female students is 7.42 and 8.15 respectively. The table shows that the calculated t-value 1.69 is smaller than the critical value at 0.05 level of confidence.

Therefore, the null hypothesis no. 1, “there is no significant difference in the level of Problem-solving ability between male and female students of higher secondary schools” is accepted. This finding shows that male and female students of higher secondary school do not significantly different in their Problem-solving ability.

Findings

1. The average score of the students is 7.80 which lies under Very Low Ability on problem-solving ability. There are 123 students out of 160 students i.e., 76.87% who score very low problem-solving ability. Among 160 students, 8.75% score average ability while 13.13% score low ability. There are no students who score very high problem-solving ability and there are only two students who score high on problem-solving ability.
2. The average score of male students is 7.42 which lies under the level of very low problem-solving ability. Among 76 students, 66 students i.e., 86.84% score very low Problem-solving ability. This means that almost all the male students have a very low ability in Problem-solving.
3. The average score of female students is 8.15 which lies under the level of very low problem-solving ability. Among 84 students, 57 students i.e., 67.86% scored very low Problem-solving ability.
4. There is no significant difference in the level of problem-solving ability between male and female students of higher

secondary schools. Thus, male and female students are not differ significantly in their problem-solving ability.

Conclusion

From the study conducted, it can be concluded that the level of problem-solving ability among higher secondary school students in Aizawl city is very low. There is no significant difference in the level of problem-solving ability between male and female students of higher secondary schools. In conclusion, the study on problem-solving ability among higher secondary school students in Aizawl city highlights the need for continued efforts to improve problem-solving skills among students. This is crucial for their academic success, as well as their future careers and personal development. By implementing effective strategies and approaches, educators can help students develop strong problem-solving abilities and equip them with the skills necessary to thrive in a rapidly changing world.

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