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INVESTIGATIONS AND ANALYSIS OF PROBLEM-SOLVING ABILITY OF HALBA AND MADIYA STUDENTS

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Abstract

In the current research, the problem solving ability (PSA) of Halba and Madiya college students of Bastar, Chhattisgarh has been studied. This study was performed in the Bastar, Chhattisgarh region by the random selection of students studying in the Government College. A group of 80 adolescents (40 boys and 40 girls) were taken voluntarily to participate in the study. The age of the students were maintained between 18-21 years to maintain the uniformity in the sampling. The data were analyzed statistically by applying T-test to verify the hypothesis. Our research data revealed that there is no significant difference in problem solving ability of Halba and Madiya students studying in higher education. The results showed that boys had better problem solving ability compared to the girl's students.

Key Words: Problem Solving Ability (PSA), Halba, Madiya, Basatar, Tribal, Chhattisgarh.

Introduction

Problem is a situation where an obstacle arises in the way of achieving the individual and the goal. Problem-solving is the ability to analyze, diagnose, and effectively deal with problems. Whether the problem is straightforward and "slow" or nonlinear and "wicked," skilled problem solvers have a natural tendency to seek out and help others move toward solutions.¹ Nowadays we must learn to become collaborative problem-solving facilitators rather than problem-solvers. Problem-solving ability is a multidimensional ability that utilizes conceptual thinking, planning and organization, and creativity, among other skills. Problem solving ability can be acquired in any area of life.² This is first achieved through the guidance and support of family and environment in the pre-school period and this process continues throughout life through formal education in school.³ The main goal of education is to create people who are capable of doing new things and not just repeating what other generations have done who are creative inventors and researchers. The second goal is to create minds that can be critical, think logically and cannot accept whatever is given to them. Problem solving is a process i.e. problem solving involves applying cognitive processes to cognitive representations in the cognitive system of the problem solver.⁴ Problem solving is individual i.e. problem solving depends on the knowledge and skills of the problem solver. Problem solving is the framework within which creative thinking and reasoning occurs. It is a process of removing obstacles that appear to hinder the achievement of goals.⁵ One of the major responsibilities of education is to develop the ability of problem solving and creativity. Success, efficiency and happiness in life largely depend on these abilities. A child is not born with these abilities rather he has to develop these abilities during his lifetime with the help of his parents, teachers and the society at large.⁶ Heppner and Krauskopf (1987) define problem solving as the cognitive and affective behavioral processes that an individual undertakes to reconcile complex internal and external desires.⁷

Review of literature

Paswan S.K. & Singh A.K. (2019) reported the problem solving ability among the Hindu and Muslim college students. A group of 120 adolescents (60 boys & 60 girls) recruited to participate in the study. The data were collected using problem solving ability test by Dubey. To test the hypothesis 't' test was calculated statistically. Result showed that there was no significant difference between Hindu and Muslim college students in their problem solving ability. Result indicated that boys had better problem solving ability as compared to girls.



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Zheng Zhu (2007) reported a literature that there is significant gender differences in mathematical Problem solving favouring the male students. Strategy applied in the report showed a reflection of different patterns in Mathematical problem solving between male and female genders. They explained that problem solving behavior could be related to cognitive Abilities, together with psychological characteristics and mediated by experience and Education. Many complex variables including biological, psychological and environmental variables are revealed to contribute to gender differences in Mathematical problem solving in some specific areas. This article suggests that the combined influence of all affective variables may account for the gender differences in Mathematical problem solving patterns.

Obunge Jessey Ilama (2021) the study examined gender difference and Problem Solving abilities of senior secondary school students in mathematics. The population of the study involved all senior secondary school students in Port-Harcourt local government area. Six secondary schools (two co-educational, two exclusively boys and two, exclusively girls) in Port Harcourt participated in this study. Sample size of 373 students was determined with the aid of Taro Yamane's formula. Simple random sampling technique was employed. Five Problem-Solving Test in Mathematics" (PSTM) questions on quadratic equation were developed by the researcher and administered to the students to ascertain their problem solving abilities in mathematics. The instrument/apparatus was pre-tested, using test-retest method and obtained a reliability of 0.82 using Pearson Product Moment Correlation formula. Data were analyzed by simple mean to answer research questions 1 and 2. Student t-test score was used to test the null hypothesis at 0.05 level of significance. Results of the findings revealed that only about 11% of the total students scored 50% and above. 89% of the students scored below 50%, which shows a very poor performance generally by the students, indicating low problem-solving ability. It further revealed that the male students had higher mean scores in mathematics than the female students. Their t-test score shows a significant difference, which shows that there is a significant difference between male and female problem solving abilities in mathematics. Thus, the study concluded that male students had higher Problem Solving abilities in mathematics than female students in Port Harcourt. Based on the findings, the study recommended that, all students at all levels should be encouraged to actively participate in mathematics classes and activities because mathematics is a subject required by everyone in the society as it is the bedrock of economic and technological development of nations. Also, mathematics stake holders should focus more on problem-solving in mathematics with special attention to very essential topics such as algebra.

Methodology

Objective: The objective of current work include followings

1. To study the Problem Solving Ability of Halba and Madiya tribal students.
2. To study the Problem Solving Ability of girls and boys students of Halba and Madiya tribals.

Hypotheses: The hypothesis of present work include followings

1. The problem solving ability of Halba and Madiya college students could be similar.
2. The problem solving ability could be similar for girls and boys students of Halba and Madiya tribals.

The Sample: Sample of the present study consisted of Halba and Madiya respondents studying in the different colleges of Bastar, Chhattisgarh. Total 80 students were randomly selected for the study and divide in 40 boys and 40 girl's student for the study.

Tools: Problem Solving Ability Test was constructed by *Garg (1986)*. Published by *Agra Psychological Research Cell*. There are 22 items in this test. Each question has four alternative answers. Only one of these four answers is correct. There is 1 mark for the correct answer and 0 marks for the wrong answer. The maximum marks will be 22 and the minimum marks will be 0. This is a standardized test. The reliability of the test is 0.791 and the validity of the test is 0.723.

Process: The instructions related to the problem solving ability test was given to both the boys and girls groups. The total allowed time to solve the questionnaire was 42 minutes without discussion with fellow students appearing for the test.



Thereafter, the test paper was taken back from all the students within the stipulated time. The scoring was done as per the related work manual. The mean, SD and t - value of the obtained scores were calculated to meet the hypotheses of the study.

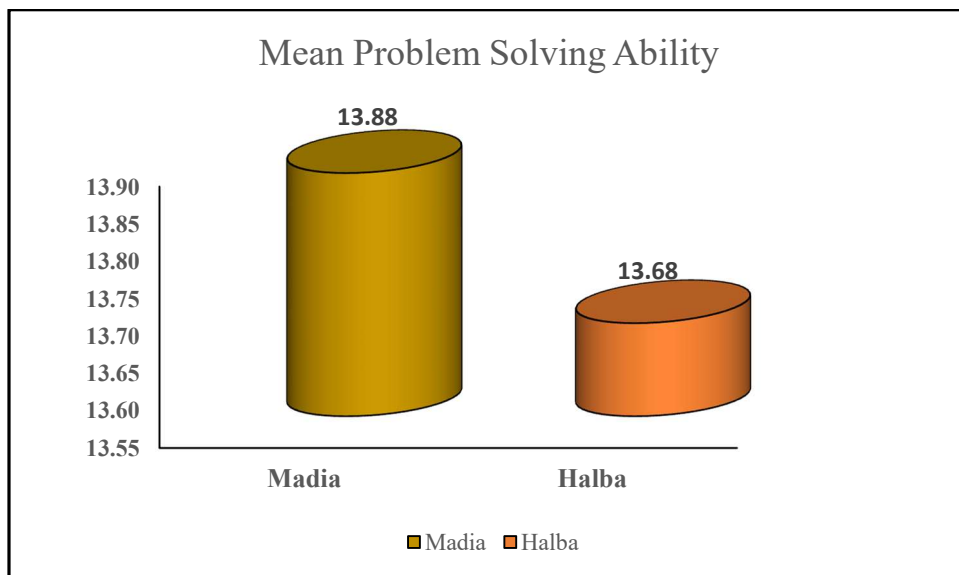
Statistical Analysis: Data is by analyzed using statistical techniques like mean, SD and T - Test. Bar diagrams graphs were drawn to make the results transparent.

Result and Discussion:

Table 01 Mean scores on problem solving ability among Halba and Madiya Students

Problem Solving Ability	Mean	Std. Deviation	T-value	P-Value	Remarks
Madia	13.88	2.652	0.354	0.725	N.S.
Halba	13.68	2.401			

Figure 01 Mean scores on problem solving ability among Halba and Madiya Students



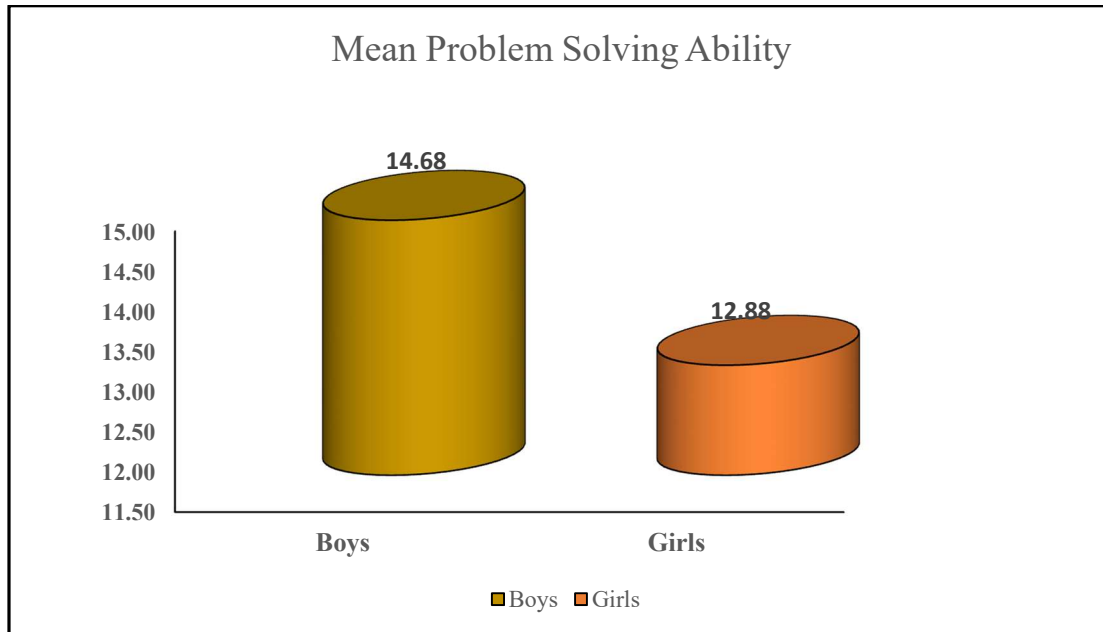
It is clear from the above table and figure that, the average marks among Halba and Madiya students were found to be 13.68 and 13.88 respectively. The score of t-test was found to be 0.354 which is not significant. Therefore, the null hypothesis that there is no significant difference in problem-solving ability between Halba and Madia college students of Bastar is accepted here.

Table 02 Mean scores on problem solving ability among Boys and Girls

Problem Solving Ability	Mean	Std. Deviation	T-value	P-Value	Remarks
Boys	14.68	2.712	3.408	0.001	H.S.
Girls	12.88	1.951			



Figure 02 Mean scores on problem solving ability among Boys and Girls



It is clear from the above table and figure that the average marks of male and female students were found to be 14.68 and 12.88 respectively. The score of t-test was found to be 3.408 which are significant. Therefore, the hypothesis that significant differences were found in problem-solving ability between boy and girl college students in Bastar is accepted here.

The discussion of the results begins by examining the comparison between boys and girls. The average score for boys and girls was 14.68 and 12.88 respectively. Problem-solving ability was found to be higher in boys. Similarly, when comparing Halba and Madiya students, the average score is 13.68 and 13.88 respectively. The problem-solving ability of Madiya students is slightly higher here. However, the t-test score of 0.354 is not a significant difference.

No significant differences were found in problem-solving abilities between students of cultural backgrounds. Overall, these findings emphasize patterns that contribute to problem-solving ability among college students. Although there may be differences in faculty and gender, cultural background does not indicate differences in problem-solving ability. Future research may focus on ways to improve problem-solving skills in college students and try to reduce the gap between gender and students of different streams in the Bastar region.

Conclusion:

1. Halba and Madiya college students showed almost similar level of problem solving ability
2. Boys showed better problem solving ability as compared to girls.

Limitation:

Following are the main limitation of present work

1. Due to the lack of social awareness regarding research, sampling was limited between the two tribal District of Chhattisgarh



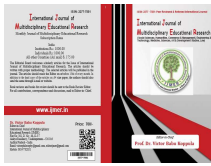
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2. The sample for the study has been analyzed among college students.
3. The study constituted only between Halba and Madiya tribals.

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