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Comparison of the Problem solving ability of Higher secondary students of English and Hindi medium schools of, district Dehradun

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Abstract*: One of the most important single variable, as acknowledged by all the researchers which affect the schooling, is the quality of behavior called intelligence.It is observed through researches that an intelligent person can solve the problems easily. Some problems are constantly faced by everyone in this world. We all have some needs and motives that ought to be satisfied. To achieve these needs for this purpose, definite goals or aims are set. In an attempt to realize these goals, one experiences obstacles, and interference's.It poses a problem for him for the attainment of these objectives that needs 3 serious attention and deliberate efforts on his part to overcome these obstacles or interference's. For this purpose, one has to set oneself to think, reason, and apply intelligence and proceed systematically in a scientific manner. This whole activity discussed above is known as problem-solving ability. In the present study the researcher has studied the problem-solving ability of English and Hindi medium higher secondary students of Dehradun. For the present study 300 English and 300 Hindi medium higher secondary girls were taken. For the collection of data Problem Solving Ability Test by Roop Rekha Garg (Hindi/English) for age group 12 to 19 years was used. The present study found the problem solving ability of English and Hindi medium schools higher secondary students of district, Dehradun reveals that that the students of higher secondary of English Medium schools are far more capable of solving the problems as compared to the students of higher secondary of Hindi Medium schools.*

Key Words: *Problem solving ability, Higher Secondary , English and Hindi medium schools.*

1. INTRODUCTION:

Problem-solving is a complex process that involves discovering, analyzing, and solving problems.

According to **Kantowski (1980):** "A problem is a situation for which the individuals who confront has no algorithm that will guarantee a solution. That person's relevant knowledge must be put together in a new way to solve the problem".

According to **Wooodworth and Marquis**: " Problem-solving behaviour occurs in novel or difficult situation in which a solution is not obtainable by the habitual methods of applying concepts and principles derived from past experiences in very familiar situation".

According to **Skinner**: "Problem-solving is a process of overcoming difficulties that appears to interfere with the attainment of a goal. It is a procedure of making adjustment in spite of interference's".

Stages of Problem Solving:

Effective problem solving usually involves working through several steps or stages, such as those outlined below:

1. Problem Identification :This stage involves understanding of the problem or difficulty that needs to be solved. For overcoming of difficulties or obstacles for achievement of goals, the nature and defining of the problem is essential in this stage.

2. Structuring the Problem :This stage involves the structuring of goals or motives to be achieved. This stage gives the individual a deeper understanding of the problem for which he should try to collect all the relevant information and then analyse it properly. Then structure it into various sequential steps.

3. Looking for Possible Solutions: During this stage, you will look for a wide range of possible courses of action, but with little attempt to evaluate them at this stage. Any information you have gathered should be verified e.g., finding out the source of the information and how it was collected.

4. Making a Decision: This stage involves careful analysis of the different possible courses of action and then selecting the best solution for implementation.
5. Implementation: Once the correct solution is selected it should be implemented to find the outcome. During implementation, various difficulties might arise especially if identification or structuring of the original problem was not carried out properly.
6. Monitoring/Seeking Feedback: The last stage in problem solving is reviewing of the outcomes of the problem, which includes seeking feedback as to the success of the outcomes of the chosen solution. This is the final stage concerned with checking out whether the solution or conclusion drawn is successful or not.

Higher Secondary Girls: Higher Secondary students are those who are studying in class XIIth of various English and Hindi medium schools of Dehradun.

English medium schools: English medium schools are the ones which use English as a primary medium of instruction.

Hindi medium schools: Hindi medium schools are the ones which use Hindi as a primary medium of instruction

2. LITERATURE REVIEW:

The review of literature revealed that most of the studies were found conducted in all the countries like some of them done are **Christ, A., Becker, N., Kroner, S. (2020), Bjork, Maria, I., Crane, Claudine, B., (2013), Saygili, G. (2012), Brad, A. (2011)** explored relations between problem solving ability and performance of students only in secondary school, but this relation was masked by reasoning. Various researches were done earlier but this research of problem solving ability on the higher secondary students of English and Hindi medium schools was missing. So, the researcher found this field interesting to conduct the research in.

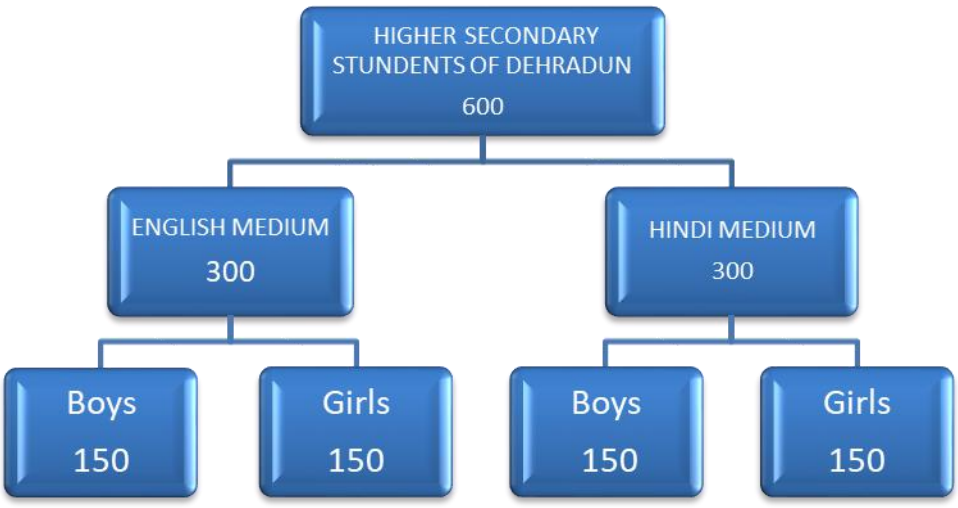
3. OBJECTIVES / AIMS:

To compare the problem-solving ability of higher secondary students studying in English and Hindi medium schools of District, Dehradun.

4. METHODOLOGY:

The present study involves a descriptive method in which the researcher is studying the problem-solving ability of higher secondary students studying in schools of district, Dehradun.

Population and sample for the study:



For the present study, the population comprises of higher secondary students of schools of district, Dehradun, studying in English and Hindi medium schools. For the present study 300 English and 300 Hindi medium higher secondary students were taken of district, Dehradun.

Sampling technique:

Using the simple random sampling technique, to ensure the randomization of the samples and generalization of the findings were done. They were used to collected data for the present study.

Hypothesis:

1. To compare the problem-solving ability of higher secondary students of English and Hindi medium schools.

Tool used for study:

For the collection of data Problem Solving Ability Test by Roop Rekha Garg (Hindi/English) for age group 12 to 19 years was used. After gathering data though random sampling method, the data was shifted to an excel sheet and then the data analysis was done using SPSS Statistics Software 23.

5. RESULT:

Table No. 1.1. Significance of comparison between English and Hindi medium higher secondary students based on the Problem solving ability (PSA)

Variables	English medium Students			Hindi medium students			Df	t-value	p	Level of Significance
Problem Solving Ability (PSA) Scores	N	Mean	S.D.	N	Mean	S.D.				
	300	12.61	2.5336	300	10.0667	1.8239	598	14.11081	>0.05	S

Fig. No.1.1. Comparison between Mean of Problem Solving Ability (PSA) based onmedium of the schools

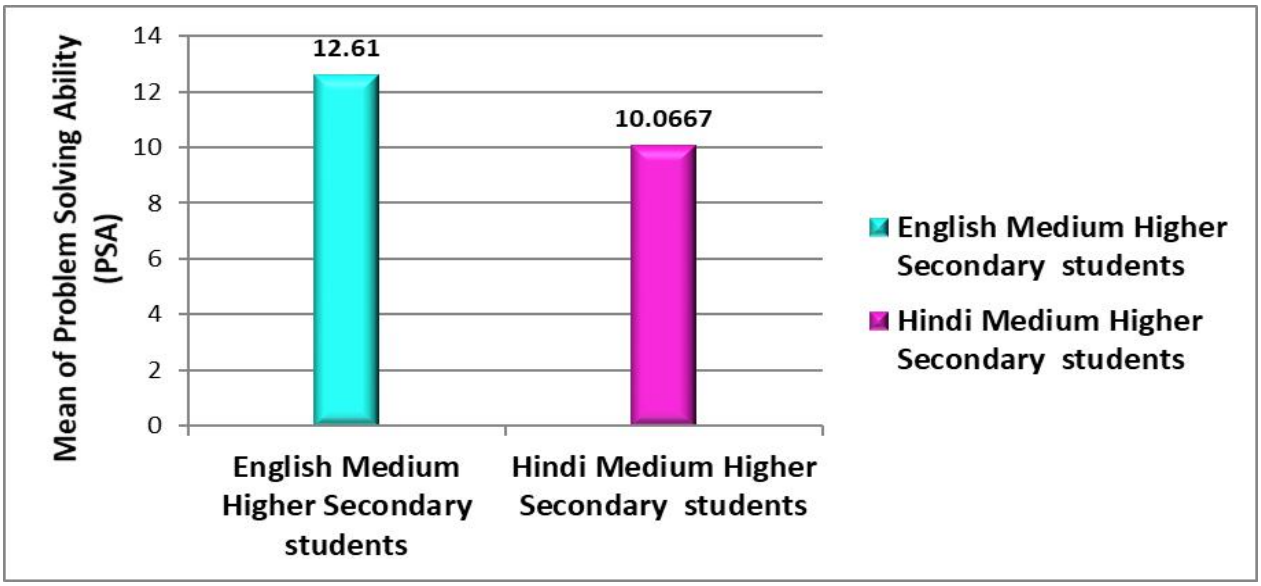


Fig. No. 1.2. Distribution of Mean of Problem Solving Ability (PSA) based on medium of the schools

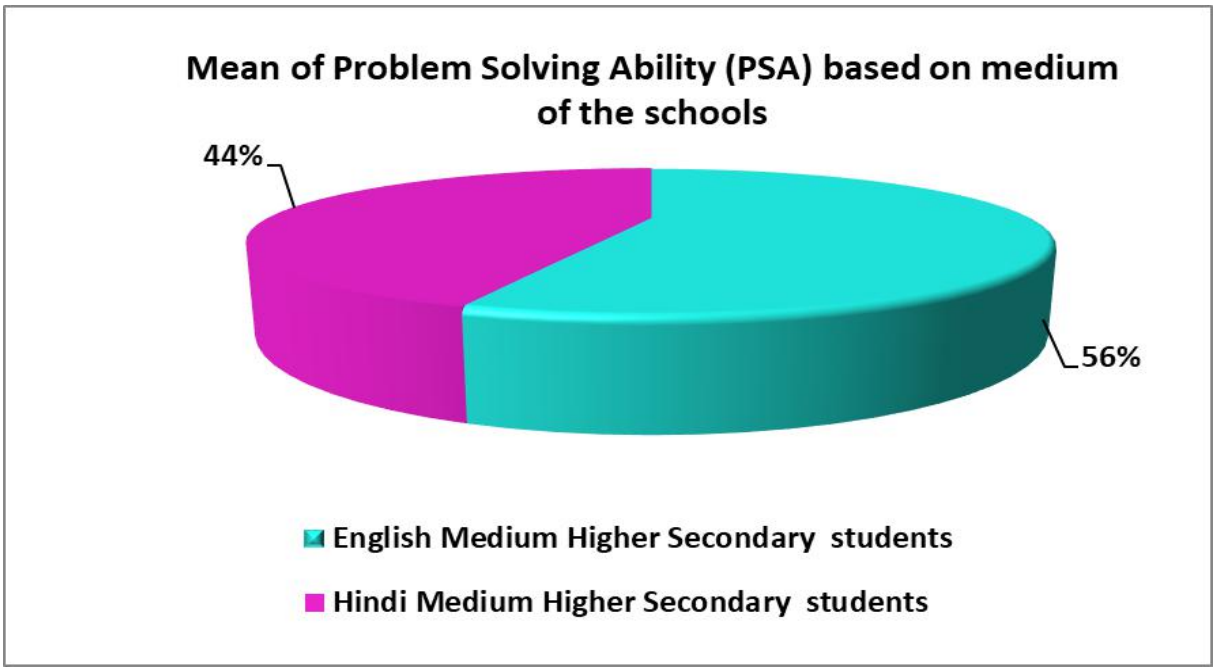


Figure. No. 2.1.Comparison between S.D. of Problem Solving Ability (PSA) based on medium of the schools

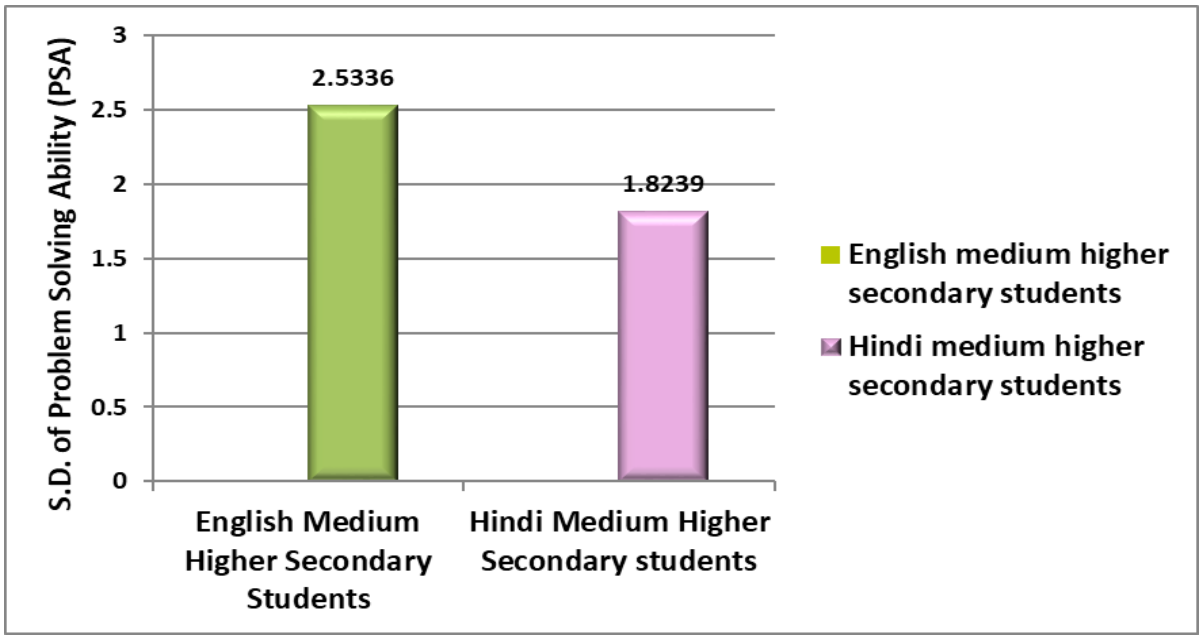
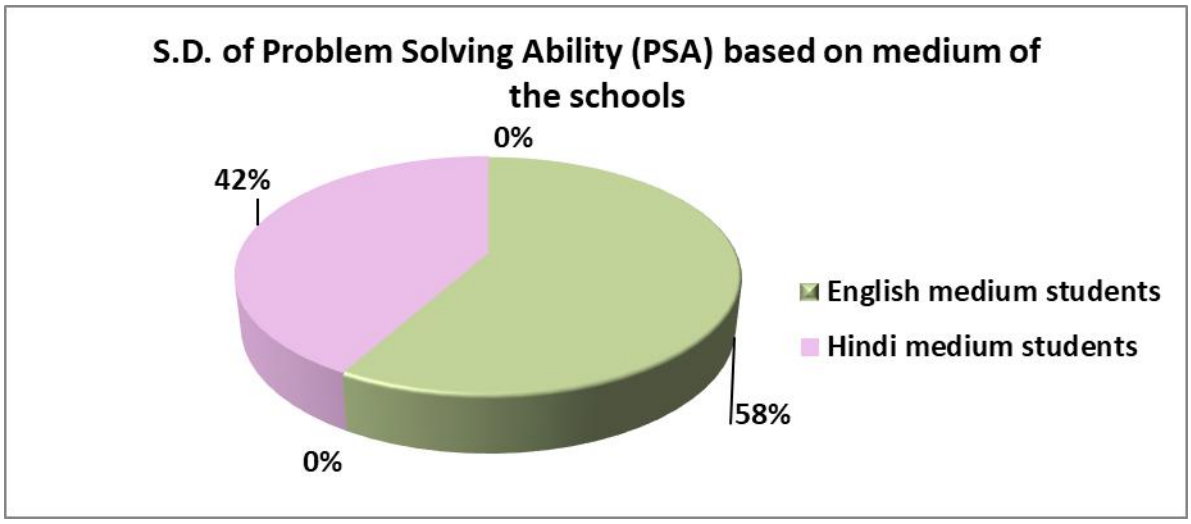


Fig. No. 2.2 Distribution of S.D. of Problem Solving Ability (PSA) based on medium of the schools



6. DISCUSSION:

From Table No. 1.1. it is evident that for the higher secondary students of English and Hindi mediumschools, the problem solving ability scores of the mean are 12.61 and 10.0667 with standard deviations as 2.5336 and 1.8239 respectively. The t-ratio between the two groups comes out to be 14.11081 and p-value > 0.05 which is significant at 0.05 level. This confirms that English medium higher secondary students outperform Hindi medium higher secondary students in Problem Solving Ability (PSA).

Gupta, S. (1991) revealed that the students from the non-deprived home environment were more extroverts, intelligent, creative, and higher achievers than the deprived ones. With reference to the sampled population, it is traced that the students going to Hindi medium schools are from rural areas usually belonging to low groups, who rarely have an augmentedor an encouraging home environment. As a result, they face problems in solving abstract tasks related to mathematics. The second factor that obstructs the problem solving abilities of Hindi medium school students is mathematical language. **Asuquo, A.A. (1991)** established that cognitive abilities were most effective in enhancing student's ability to understand the language of Mathematics and for that home background factors exerted a positive, significant, and direct effect on their ability to understand mathematical language.

Similarly, **Mainka, G.K. (1983)** established in her study that mathematical concepts developed better with pupils good in language and did not develop to their fullest form with pupils poor in language.

When compared English medium higher secondary students are far more ahead of Hindi medium higher secondary students when taken into consideration the role of family background and cognitive abilities on the problem solving abilities of an individual. In the comparison of mean scores of Problem Solving Ability (PSA) of English and Hindi medium higher secondary students reveals that the English medium students are more competent in solving the problem than Hindi medium higher secondary students. Therefore there is a significant difference between the ability of problem solving of higher secondary students ofEnglish and Hindi medium schools. The Mean and S.D. for both the mediums are plotted in the form of bar graphs and pie charts in Figure Nos. 1.1., 1.2., 2.1., and 2.2.

Therefore, the hypothesis No.1, "*There will be no significant difference between theability of problem solving of higher secondary students of English and Hindi medium schools*", is rejected.

4. CONCLUSION / SUMMARY:

The present study of **e**ffect of English and Hindi medium schools on problem solving ability of higher secondary students of district, Dehradun reveals that that the higher secondary students of English Medium schools are far more capable of solving the problems as compared to the higher secondary students of Hindi Medium schools. The study revealed that the English medium students were more extroverts, intelligent, creative, and higher achievers from rich families than deprived students and the other it was totally opposite scenario in Hindi medium students. The study showed that the students going to Hindi medium schools are from rural areas usually belonging to low-income groups, who seldom have an augmented or an encouraging home environment. As a result, they do not have the capability and talent to solve the problem easily and quickly. Mathematical concepts are better developed in who were good in language, so English medium students were able to solve the problems easily. On the other hand, Hindi medium students had a problem in solving mathematical items as their mathematical concepts are not developed to their fullest.

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