Reasoning Ability among High School Students

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Abstract: The psychological aspect of reasoning often studies how people think, and is usually defined as the process of inferring conclusions to find the ways people use to solve problems and make an informed decision. Reasoning is an amalgamation of psychology, philosophy, linguistics, cognitive science, artificial intelligence, logic, and probability theory.

Reasoning is generally a process of controlled thinking as an association which initiates with some problem of interest to be reasoned and is directed towards solving it. It differs from ordinary imagination that the result of reasoning is supposed to be checked with some outside criteria, that is, they are supposed to have an element of accurateness while such accurateness is generally not required in imagination.

There are two different kinds of reasoning-

1. INDUCTIVE REASONING
2. DEDUCTIVE REASONING

Inductive reasoning usually leads to reaching out to conclusions from premises. It helps an individual in forming generalizations from specific information. While in contrast to that, in deductive reasoning, we make use of conclusions to arrive at a specific set of information. Reasoning starts with some unsolved problem; it is thus imperative to train students to reason and at the same time make them conscious of problems to be solved. Certain brain storming sessions can be conducted to encourage students to reason and at the same time develop mental stamina to persist for long time in face of not finding the answers.

The scoring of the obtained data was done on the basis of the scoring key given in the manual. If all the responses were correct and corresponding with the ones given in the manual, then a score of 1 was given. In this way the scoring was done.

Results and Discussion: The following is the result and interpretation of the present research with respect to the hypotheses.

H1: There will be high reasoning ability among students belonging to commerce section in comparison to students belonging to science section.

TABLE NO.1

Student Group	N	Mean	SD	t-ratio	df	Level of significance
Commerce Section	50	78.6	8.5	3.70	98	P>0.01* SIGNIFICANT
Science Section	50	72.02	8.3			

*Table value at 0.05 level=1.98 and at 0.01 level=2.63

This table shows the mean, standard deviation (SD), t-ratio, degree of freedom (df) and level of significance of reasoning ability among +2 students of commerce section in comparison to +2 students of science section. Table no.1 shows the mean and SD of commerce students is 78.6 and 8.5 respectively and the mean and SD of science students is 72.02 and 8.3 respectively. The obtained t-value is 3.70 which is greater than the value of df (98) at 0.01 level, thus proving that there is a significant difference between the reasoning ability of the above mentioned two groups.

H2: There will be high reasoning ability among students of science section in comparison to arts section.

TABLE NO.2

Student Group	N	Mean	SD	t-ratio	df	Level of Significance
Science Section	50	72.02	8.3	3.32	98	P>0.01* SIGNIFICANT
Arts Section	50	66.58	8.2			

*Table value at 0.05 level=1.98 and at 0.01 level=2.63

This table shows the mean, standard deviation (SD), t-ratio, degree of freedom (df) and level of significance of reasoning ability among +2 students of science section in comparison to +2 students of arts section.

Table no.2 shows the mean and SD of science students is 72.02 and 8.3 respectively and the mean and SD of arts students is 66.58 and 8.2 respectively. The obtained t-value is 3.32 which is greater than the value of df (98) at 0.01 level, thus proving that there is a significant difference between the reasoning ability of the above mentioned two groups.

Conclusion: We can say that there is a higher reasoning ability among students belonging to commerce section in comparison to students belonging to science section. Hence, the first hypothesis of the study was proven Furthermore, there is a higher reasoning ability among students belonging to science section in comparison to students belonging to arts section. In students who lack reasoning ability certain training can significantly enhance the reasoning ability. Some brain games can be used to help improve the reasoning ability. Encouraging environment should be provided well in curriculum. In the future, the study can be conducted on a large sample and then the obtained result can be generalized and proper steps should be taken to enhance the reasoning ability.

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