



A Study of Reasoning Ability of students of Standard 9 in context of different variables

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1. Introduction

Education plays an important role in shaping the career of individuals. The quality of education helps people to earn recognition and respect in the society. Unquestionably education is both socially and personally a crucial part of human life. However the inequalities in the standards of education are still a major issue that needs to be solved as early as it could be. The importance of education in our life can't be ignored at any price. In India education is the only way to acquire knowledge. Intelligence is the ability to solve any problems and to adapt to and learn from life's everyday experiences. The ability to solve problems and the capacity to adapt and learn from experiences includes characteristics such as creativity and personalities. The mental abilities that enable one to adapt to, shape, or select one's environment, the ability to judge, comprehends, and reasons, the ability to understand and deal with people, objects, and symbols. The ability to act purposefully, thinks rationally, and deals effectively with the environment.

2. Definition of Reasoning

According to Merriam Webster dictionary,

“Reasoning is the use of reason; especially: the drawing of inferences or conclusions through the use of reason”

According to Dictionary.com,

“Reasoning is the process of forming conclusions, judgments, or inferences from facts or premises.”

3. Types of Reasoning

There are different types of reasoning. Following are few main types of Reasoning.

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|------------------------|----------------------------|
| 1. Deductive reasoning | 5. Critical thinking |
| 2. Inductive reasoning | 6. Counterfactual thinking |
| 3. Abductive reasoning | 7. Intuition |
| 4. Backward induction | |

In present study, the researcher had studied the reasoning ability of students of standard 9 in context of different variables.

4. Objectives

1. To study the reasoning ability of students of standard 9.
2. To study the reasoning ability of students of standard 9 in context of area.
3. To study the reasoning ability of students of standard 9 in context of gender.

5. Hypotheses

Ho₁ : There is no significant difference between mean scores of Reasoning Ability Test of students of standard 9 of east and west area.

Ho₂ : There is no significant difference between mean scores of Reasoning Ability Test of students of standard 9 of east and west area.

6. Research method

The researcher had used survey method for this study.

7. Population of the study

The present study was performed on the students of standard 9 of Mehsana city. Therefore, the students studying in standard 9 of Mehsana city are population of this study.

8. Sample of the study

The researcher had chosen 300 students of standard 9 from east and west area of Mehsana city. The sample of this study is as below.

Table 1: Sample of the study

Area/Gender	East	West	Total
Boys	75	75	150
Girls	75	75	150
Total	150	150	300

The researcher had chosen 75 boy and 75 girls from east area and 75 boys and 75 girls from west area as a sample.

9. Research tool

The researcher had constructed a Reasoning Ability Test for the students of standard 9. There are 35 items in this test. Each item has 4 responses out of which only 1 item is true while 3 items are false. The tool was sent to the experts for their suggestions and as per suggestions obtained by them, the tool was amended.

10. Techniques of Statistical Analysis

Mean, standard deviation, standard error of deviation and critical ration (t) was found for data analysis.

11. Data analysis

The researcher had found out t-test for data analysis. The results of data analysis are as follows.

Ho₁ There is no significant difference between mean scores of Reasoning Ability Test of students of standard 9 of east and west area.

Table 2: Mean, SD, SED and t value of students

Area	N	M	SD	SED	MD	t
East	150	20.83	2.48	0.39	1.74	4.46
West	150	22.57	3.12			

df	0.05	0.01
298	1.97	2.59

From above table, it is seen that for df=298, calculated t-value is higher than table t-value at both the level. Moreover, mean score of students of west are more than that of students of east area. Therefore, it is concluded that reasoning ability of students of west area is higher than that of west area.

Ho₂ There is no significant difference between mean scores of Reasoning Ability Test of students of standard 9 of east and west area.

Table 3: Mean, SD, SED and t value of students

Gender	N	M	SD	SED	MD	t
Boys	150	22.49	3.27	0.48	0.56	1.16
Girls	150	21.93	3.62			

df	0.05	0.01
298	1.97	2.59

From above table, it is seen that for df=298, calculated t-value is lower than table t-value at both the level. Therefore, the hypothesis is not rejected and there is no significant

difference between mean score of reasoning ability test of boys and girls. Thus, boys and girls of standard 9 of Mehsana city have equal reasoning ability.

12. Findings

1. Students of west are of Mehsana city has higher reasoning ability than that of students of east area.
2. Boys and girls of Mehsana city are having equal reasoning ability.

13. Conclusion

Reasoning ability is much important and effective on scholastic achievement of students. So, as educators, teachers must work on improvement of students reasoning ability. In present study the researcher had studied the reasoning ability of students of standard 9. The researcher had constructed a small reasoning ability test to study the reasoning ability of students.

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