

***DATA PRESENTATION,
ANALYSIS AND
INTERPRETATION***

CHAPTER – IV

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction:

The analysis of data is the heart and soul of any research work. If the collective data are systematically arranged analyzed through appropriate scientific and statistical technique include gathering, organizing, analyzing and interpreting numerical data and draw conclusions.

Interpretation of data refers to that important part of the investigator, which is associated with the drawing of inference from the collected facts after an analytic study because it makes possible the use of collected data. Statistical facts by themselves have no utility. It is the interpretation that makes it possible for us to utilize collected data lies in its proper interpretation. It provides certain conclusion about the problem under study. Keeping the objectives of the study in view the data is collected and interpreted one by one.

4.2 Data Presentation, Analysis and Interpretations:

This part of the study deals with the analysis, presentation and interpretation of data. Since, the study's main objective is to find out the relationship between change of medium of instruction and achievement in Mathematics. Quantitative analysis of data is done by the investigator for deriving conclusions.

The investigator collected data from the two tests. The test given to the students having 14 questions related with Geometrical portion and word problem based on expressions. The data is shown in the table given below. Statistics is applied on this data and hypotheses are tested.

HYPOTHESIS 1:

H₀1: There is no significant difference between change of medium of instruction and achievement in Mathematics of boys’.

To test the above hypothesis ‘t’ statistic is used.

Table No 1: A table showing mean, S.D. and ‘t’ value for boys of grade VIII.

BOYS (N=15)

Variable	Mean	S.D.	‘t’ Value
Test I	9	5.54	2.36 *
Test II	14.34	6.80	

-df = 28,

0 Not significant

* Significant at 0.05 level

Critical value at 0.05 level = 2.05

** Significant at 0.01 level

Critical value at 0.01 level = 2.76

Explanation:

The mean of Test I is found to be 9 and that of Test II is found to be 14.34.

The calculated value of ‘t’ for Test I and Test II of boys of grade VIII is found to be 2.36.

Interpretation:

The calculated value of ‘t’ is greater than that of table value of ‘t’ at 0.05 level of significance and less than that of 0.01 level of significance. Hence our Null Hypothesis (H₀1) is rejected at 0.05 level of significance.

Conclusion:

There is significant difference between change of medium of instruction and achievement in Mathematics of boys.

HYPOTHESIS 2:

H₀2: There is no significant difference between change of medium of instruction and achievement in Mathematics of girls’.

To test the above hypothesis ‘t’ statistic is used.

Table No 2: A table showing mean, S.D. and ‘t’ value for girls of grade VIII.

GIRLS (N=40)

Variable	Mean	S.D.	‘t’ Value
Test I	13.125	7.20	0.30 ⁰
Test II	12.62	7.51	

-df = 78,

0 Not significant

* Significant at 0.05 level

Critical value at 0.05 level = 1.99

** Significant at 0.01 level

Critical value at 0.01 level = 2.64

Explanation:

The mean of Test I is found to be 13.125 and that of Test II is found to be 12.62. The calculated value of ‘t’ for Test I and Test II of girls of grade VIII is found to be 0.30.

Interpretation:

The calculated value of ‘t’ is less than that of table value of ‘t’ at both the levels i.e. at 0.05 level of significance and 0.01 level of significance. The value of ‘t’ is not significant at both levels. Hence our Null Hypothesis (H₀2) is not rejected.

Conclusion:

There is no significant difference between change of medium of instruction and achievement in Mathematics of girls.

HYPOTHESIS 3:

H₀3: There is no significant difference between change of medium of instruction and achievement in Mathematics of students.

To test the above hypothesis ‘t’ statistic is used.

Table No 3: A table showing mean, S.D. and ‘t’ value for students of grade VIII.

STUDENTS (N=55)

Variable	Mean	S.D.	‘t’ Value
Test I	12	7.00	0.80 ⁰
Test II	13.1	7.36	

-df = 108,

0 Not significant

* Significant at 0.05 level

Critical value at 0.05 level = 1.98

** Significant at 0.01 level

Critical value at 0.01 level = 2.63

Explanation:

The mean of Test I is found to be 12 and that of Test II is found to be 13.1.

The calculated value of ‘t’ for Test I and Test II of students of grade VIII is found to be 0.80.

Interpretation:

The calculated value of ‘t’ is less than that of table value of ‘t’ at both the levels i.e. at 0.05 level of significance and 0.01 level of significance. The value of ‘t’ is not significant at both levels. Hence our Null Hypothesis (H₀3) is not rejected.

Conclusion:

There is no significant difference between change of medium of instruction and achievement in Mathematics of students.

HYPOTHESIS 4:

H₀ 4: There is no significant difference in the final result of previous year (VII Std.) and first term examination of current year (VIII Std) in Mathematics of boys’.

To test the above hypothesis ‘t’ statistic is used.

Table No 4: A table showing mean, S.D. and ‘t’ of final result of grade VII and first term result of grade VIII in Mathematics.

BOYS (N=15)

Variable	Mean	S.D.	‘t’ Value
VII Std. (Final)	76.66	8.45	5.35 **
VIII Std. (First Term)	56.33	12.09	

-df = 28,

0 Not significant

* Significant at 0.05 level.

Critical value at 0.05 level = 2.05

** Significant at 0.01 level.

Critical value at 0.01 level = 2.76

Explanation:

The mean of VII Std. is found to be 76.66 and that of VIII Std. is found to be 56.33. The calculated value of ‘t’ of final result of grade VII & first term result of grade VIII of boys is found to be 5.35.

Interpretation:

The calculated value of ‘t’ is greater than that of table value of ‘t’ at both the levels i.e. at 0.05 level of significance and 0.01 level of significance. The value of ‘t’ is significant at both level. Hence our Null Hypothesis (H₀4) is rejected.

Conclusion:

There is difference between the final result of previous year (VII Std.) and first term result of current year (VIII Std.) in Mathematics of boys.

HYPOTHESIS 5:

H₀ 5: There is no significant difference in the final result of previous year (VII Std.) and first term examination of current year (VIII Std) in Mathematics of girls’.

To test the above hypothesis ‘t’ statistic is used.

Table No 5: A table showing mean, S.D. and ‘t’ of final result of grade VII and first term result of grade VIII in Mathematics.

GIRLS (N=40)

Variable	Mean	S.D.	‘t’ Value
VII Std. (Final)	67.5	10.88	4.61 **
VIII Std. (First Term)	48.38	23.85	

-df = 78,

0 Not significant

* Significant at 0.05 level.

** Significant at 0.01 level.

Critical value at 0.05 level = 1.99

Critical value at 0.01 level = 2.64

Explanation:

The mean of VII Std. is found to be 67.5 and that of VIII Std. is found to be 48.38. The calculated value of ‘t’ of final result of grade VII & first term result of grade VIII of boys is found to be 4.61.

Interpretation:

The calculated value of ‘t’ is greater than that of table value of ‘t’ at both the levels i.e. at 0.05 level of significance and 0.01 level of significance. The value of ‘t’ is significant at both level. Hence our Null Hypothesis (H₀5) is rejected.

Conclusion:

There is difference between the final result of previous year (VII Std.) and

HYPOTHESIS 6:

H₀ 6: There is no significant difference in the final result of previous year (VII Std.) and first term examination of current year (VIII Std) in Mathematics of students.

To test the above hypothesis ‘t’ statistic is used.

Table No 6: A table showing mean, S.D. and ‘t’ of final result of grade VII and first term result of grade VIII in Mathematics.

STUDENTS (N=55)

Variable	Mean	S.D.	‘t’ Value
VII Std. (Final)	70	11.05	6.69**
VIII Std. (First Term)	48.31	21.4	

-df = 108,

0 Not significant

* Significant at 0.05 level.

Critical value at 0.05 level = 1.98

** Significant at 0.01 level.

Critical value at 0.01 level = 2.63

Explanation:

The mean of VII Std. is found to be 70 and that of VIII Std. is found to be 48.31. The calculated value of ‘t’ of final result of grade VII & first term result of grade VIII of boys is found to be 6.69.

Interpretation:

The calculated value of ‘t’ is greater than that of table value of ‘t’ at both the levels i.e. at 0.05 level of significance and 0.01 level of significance. The value of ‘t’ is significant at both level. Hence our Null Hypothesis (H₀6) is rejected.

Conclusion:

There is difference between the final result of previous year (VII Std.) and first term result of current year (VIII Std.) in Mathematics of students.

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