Chapter-4

Analysis and interpretation of data

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Chapter-4

Analysis and interpretation of data

4.1 Introduction:

Analysis of data means studying the organized material in order to discover the inherent facts. The data are studied from as many angles as possible to explore the new facts. Analysis requires alertness, flexibility and open mind on the part of the investigator.

According to Wilkinson and Bhandarkar,

“Analysis of data involves a number of closely related operations that are performed with the purpose of summarizing the collected data and organizing these in such a manner that they will yield answer to the research questions or suggest hypothesis or questions if no such questions or hypothesis has initiated the study. Some scholars are of the opinion that processing of data is one under analysis of data.”

Analysis of data is the most skilled task of all the stages of the research. It is a task calling for the researcher’s own judgment and skill. It should be done by researcher himself and should not be entrusted to require a familiarity with the background of the survey and with all its stages.

The analysis does not necessarily be statistical one, both quantitative and non-quantitative method can be used.

According to Wolef,

“The discovery of order in the phenomena of nature, not withstanding their complexity and apparent confusion is rendered possible by the
processes and synthesis which is the foundation stone to all scientific methods.”2

Ones Data are collected the analysis is done as the prefixed plan. Then the researcher proceeds to the stage of interpreting the results. Interpretation is not a routine and mechanical process; it emphases the meaningful, logical and critical examination of the fact obtained after analysis. It is extremely useful and important part of the study because it makes possible the use of collected data statistical facts have by themselves no utility. It is the interpretation that makes it possible for us to utilize collected data lies in its proper interpretation. It provides certain conclusions about the problem under study.

4.2 Need for analysis of data:

Analysis of data is a process of inspecting, cleaning, transforming, and modelling data with the goal of discovering useful information, suggesting conclusions, and supporting decision making. Data analysis has multiple facets and approaches, encompassing diverse techniques under a variety of names, in different business, science, and social science domains.

“Data mining is a particular data analysis technique that focuses on modeling and knowledge discovery for predictive rather than purely descriptive purposes.”3

❖ Data analysis can offer the following benefits:

- Structuring the findings from survey research or other means of data collection
- Break a macro picture into a micro one
• Acquiring meaningful insights from the dataset
• Basing critical decisions from the findings
• Ruling out human bias through proper statistical treatment

4.3 Analysis and interpretation of data:

In this section the results pertaining to demographic variables have been presented. The demographic variables considered in the present study are sex. The present investigation intends to study the influence of Task-packages on teaching of Sanskrit in 6th and 7th standard students of Gujarati medium schools of Kheda district. It is also intends the influence of the different methods of teaching on demographic variables. There are seven hypotheses pertaining to demographic variables. These entire hypotheses are tested in this section. Results are interpreted immediately after each hypothesis is tested keeping in view of the problem under investigation. After testing each hypothesis the results pertaining to the influence of variables on the method of teaching and achievements as well as components of different methods are presented.
Hypotheses Related to Standard 6th A Division:

**Ho1.** There will be no significant difference between the mean values of scores of students of Experimental group and Controlled group on the Achievement Test.

In order to test the first hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.1.

**Table 4.1**

**Significant difference between the mean scores of Students of Experimental group and Controlled group on the Achievement Test**

<table>
<thead>
<tr>
<th>Ho1</th>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>STD-6 ALL</td>
<td>Experimental</td>
<td>60</td>
<td>15.53</td>
<td>1.74</td>
<td>5.921</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>SCHOOL-A</td>
<td>Controlled</td>
<td>60</td>
<td>11.05</td>
<td>5.6</td>
<td></td>
<td>Degree of freedom= 118</td>
</tr>
</tbody>
</table>

By observing the Table 4.1 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses Experimental group is 15.53 and 1.74 respectively. The mean and the standard deviation for the students of Controlled group is 11.05 and 5.60 respectively. The value of t-ratio between the students of experimental and controlled group is 5.921. This value is greater than 2.58. Thus, there is significance difference between the mean values of scores of students of Experimental group and Controlled group on the
Achievement Test at significance level of 0.01. Thus, the first hypothesis is rejected. Mean difference is very clear from graph: A.

Hence the achievement of the students of Experimental group (15.53) is higher than that of the students of Controlled group (11.05).

**Graph: A - Significant difference between the mean scores of Students of Experimental group and Controlled group on the Achievement Test**
**Ho2.** There will be no significant difference between the mean values of scores of male students of Experimental group and Controlled group on the Achievement Test.

In order to test the second hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.2.

**Table 4.2**

**Significant difference between the mean scores of Male Students of Experimental group and Controlled group on the Achievement Test**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>30</td>
<td>15.77</td>
<td>1.76</td>
<td>5.462</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>29</td>
<td>9.86</td>
<td>5.56</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By observing the Table 4.2 it seems that in the present study, 30 male students of Experimental group and 29 male students of Controlled group has given the responses on the Achievement Test. The mean and the standard deviation for the male students of Experimental group is 15.77 and 1.76 respectively. The mean and the standard deviation for the male students of Controlled group is 9.86 and 5.56 respectively. The value of t-ratio between the male students of experimental and controlled group is 5.462. This value is greater than 2.58. Thus, there is significance difference between the mean values of scores of male students of...
Experimental group and Controlled group on the Achievement Test at significance level of 0.01. Thus, the second hypothesis is rejected. Mean difference is very clear from graph:

Hence the achievement of the male students of Experimental group (15.77) is higher than that of the male students of Controlled group (9.86).

Graph: B - Significant difference between the mean scores of Male Students of Experimental group and Controlled group on the Achievement Test
**Ho3.** There will be no significant difference between the mean values of scores of female students of Experimental group and Controlled group on the Achievement Test.

In order to test the third hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.3.

**Table 4.3**

**Significant difference between the mean scores of Female Students of Experimental group and Controlled group on the Achievement Test**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>30</td>
<td>15.3</td>
<td>1.73</td>
<td>3.029</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>31</td>
<td>12.16</td>
<td>5.49</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Degree of freedom= 59**

By observing the Table 4.3 it seems that in the present study, 30 female students of Experimental group and 31 female students of Controlled group has given the responses on the Achievement Test. The mean and the standard deviation for the female students of Experimental group is 15.30 and 1.73 respectively. The mean and the standard deviation for the female students of Controlled group is 12.16 and 5.49 respectively. The value of t-ratio between the female students of experimental and controlled group is 3.029. This value is greater than 2.58. Thus, there is significance difference between the mean values of scores of female
students of Experimental group and Controlled group on the Achievement Test at significance level of 0.01. Thus, the third hypothesis is rejected. Mean difference is very clear from graph: C. Hence the achievement of the female students of Experimental group (15.3) is higher than that of the female students of Controlled group (12.16).

Graph: C - Significant difference between the mean scores of Female Students of Experimental group and Controlled group on the Achievement Test
Ho4. There will be no significant difference between the mean values of scores of knowledge aspect on Achievement Test of students of Experimental group and Controlled group.

In order to test the fourth hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.4.

**Table 4.4**

*Significant difference between the mean scores of Knowledge aspect on Achievement Test of Students of Experimental group and Controlled group*

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>60</td>
<td>3.32</td>
<td>0.59</td>
<td>2.444</td>
<td>Significant at 0.05 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>60</td>
<td>2.75</td>
<td>1.69</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Degree of freedom= 118**

By observing the Table 4.4 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on knowledge aspect on Achievement Test. The mean and the standard deviation for the students of Experimental group is 3.32 and 0.59 respectively. The mean and the standard deviation for the students of Controlled group is 2.75 and 1.69 respectively. The value of t-ratio between the students of experimental and controlled group is 2.444. This value is greater than 1.96. Thus, there is significance difference between
the mean values of scores of students of Experimental group and Controlled group of knowledge aspect on the Achievement Test at significance level of 0.05. Thus, the fourth hypothesis is rejected. Mean difference is very clear from graph: D.

Hence the achievement on knowledge aspect of the students of Experimental group (3.32) is higher than that of the students of Controlled group (2.75).

Graph: D - Significant difference between the mean scores of Knowledge aspect on achievement Test of Students of Experimental group and Controlled group
**Ho5.** There will be no significant difference between the mean values of scores of Comprehension aspect on Achievement Test of students of Experimental group and Controlled group.

In order to test the fifth hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.5.

**Table 4.5**

**Significant difference between the mean scores of Comprehension aspect on Achievement Test of Students of Experimental group and Controlled group**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>60</td>
<td>3.62</td>
<td>1.15</td>
<td>3.2</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>60</td>
<td>2.9</td>
<td>1.29</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By observing the Table 4.5 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on Comprehension aspect on Achievement Test. The mean and the standard deviation for the students of Experimental group is 3.62 and 1.15 respectively. The mean and the standard deviation for the students of Controlled group is 2.90 and 1.29 respectively. The value of t-ratio between the students of experimental and controlled group is 3.200. This value is greater than 2.58. Thus, there is significance difference between
the mean values of scores of students of Experimental group and Controlled group of Comprehension aspect on the Achievement Test at significance level of 0.01. Thus, the fifth hypothesis is rejected. Mean difference is very clear from graph: D.

Hence the achievement on Comprehension aspect of the students of Experimental group (3.62) is higher than that of the students of Controlled group (2.90).

Graph: E - Significant difference between the mean scores of comprehension aspect on achievement Test of Students of Experimental group and Controlled group
**H06.** There will be no significant difference between the mean values of scores of Application aspect on Achievement Test of students of Experimental group and Controlled group.

In order to test the sixth hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.6.

### Table 4.6

**Significant difference between the mean scores of Application aspect on Achievement Test of Students of Experimental group and Controlled group**

<table>
<thead>
<tr>
<th></th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GROUP</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>60</td>
<td>4.4</td>
<td>0.92</td>
<td>5.312</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>60</td>
<td>3.03</td>
<td>1.77</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By observing the Table 4.6 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on Application aspect on Achievement Test. The mean and the standard deviation for the students of Experimental group is 4.40 and 0.92 respectively. The mean and the standard deviation for the students of Controlled group is 3.03 and 1.77 respectively. The value of t-ratio between the students of experimental and controlled group is 5.312. This value is greater than 2.58. Thus, there is significance difference between
the mean values of scores of students of Experimental group and Controlled group of Application aspect on the Achievement Test at significance level of 0.01. Thus, the sixth hypothesis is rejected. Mean difference is very clear from graph: F.

Hence the achievement on Application aspect of the students of Experimental group (4.40) is higher than that of the students of Controlled group (3.03).

Graph: F - Significant difference between the mean scores of Application aspect on achievement Test of Students of Experimental group and Controlled group
**H07.** There will be no significant difference between the mean values of scores of Skill aspect on Achievement Test of students of Experimental group and Controlled group.

In order to test the seventh hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.7.

**Table 4.7**

**Significant difference between the mean scores of Skill aspect on Achievement Test of Students of Experimental group and Controlled group**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>60</td>
<td>4.2</td>
<td>0.95</td>
<td>7.801</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>60</td>
<td>2.37</td>
<td>1.55</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By observing the Table 4.7 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on Skill aspect on Achievement Test. The mean and the standard deviation for the students of Experimental group is 4.20 and 0.95 respectively. The mean and the standard deviation for the students of Controlled group is 2.37 and 1.55 respectively. The value of t-ratio between the students of experimental and controlled group is 7.801. This value is greater than 2.58. Thus, there is significance difference between...
the mean values of scores of students of Experimental group and Controlled group of Skill aspect on the Achievement Test at significance level of 0.01. Thus, the seventh hypothesis is rejected. Mean difference is very clear from graph: G.

Hence the achievement on skill aspect of the students of Experimental (4.20) group is higher than that of the students of Controlled group (2.37).
Hypotheses Related to Standard 7th A Div

**Ho8.** There will be no significant difference between the mean values of scores of students of Experimental group and Controlled group on the Achievement Test.

In order to test the eighth hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.8.

**Table 4.8**

**Significant difference between the mean scores of Students of Experimental group and Controlled group on the Achievement Test**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>STD-7 ALL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>60</td>
<td>16.12</td>
<td>1.92</td>
<td>7.754</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>60</td>
<td>11.17</td>
<td>4.56</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By observing the Table 4.8 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on the Achievement Test. The mean and the standard deviation for the students of Experimental group is 16.12 and 1.92 respectively. The mean and the standard deviation for the students of Controlled group is 11.17 and 4.56 respectively. The value of t-ratio between the students of experimental and controlled group is 7.754. This value is greater than 2.58. Thus, there is significance difference between the mean values of
scores of students of Experimental group and Controlled group on the Achievement Test at significance level of 0.01. Thus, the eighth hypothesis is rejected. Mean difference is very clear from graph: Hence the achievement of the students of Experimental group (16.12) is higher than that of the students of Controlled group (11.17).

Graph: H - Significant difference between the mean scores of Students of Experimental group and Controlled group on the Achievement Test
**Ho9.** There will be no significant difference between the mean values of
scores of male students of Experimental group and Controlled group on
the Achievement Test.

In order to test the ninth hypothesis, the data is analysed by computer
programme SPSS for windows and t-ratio has been calculated. The result
of the hypothesis is given in Table 4.9.

**Table 4.9**

**Significant difference between the mean scores of Male Students of
Experimental group and Controlled group on the Achievement Test**

<table>
<thead>
<tr>
<th>STD-7 MALE</th>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCHOOL-A</td>
<td>Experimental</td>
<td>26</td>
<td>16.27</td>
<td>1.99</td>
<td>4.844</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td></td>
<td>Controlled</td>
<td>23</td>
<td>10.74</td>
<td>5.15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By observing the Table 4.9 it seems that in the present study, 26 male
students of Experimental group and 23 male students of Controlled group
has given the responses on the Achievement Test. The mean and the
standard deviation for the male students of Experimental group is 16.27
and 1.99 respectively. The mean and the standard deviation for the male
students of Controlled group is 10.74 and 5.15 respectively. The value of
t-ratio between the male students of experimental and controlled group is
4.844. This value is greater than 2.58. Thus, there is significance
difference between the mean values of scores of male students of
Experimental group and Controlled group on the Achievement Test at significance level of 0.01. Thus, the ninth hypothesis is rejected. Mean difference is very clear from graph: I.

Hence the achievement of the male students of Experimental group (16.27) is higher than that of the male students of Controlled group (10.74).

Graph: I - Significant difference between the mean scores of Male Students of Experimental group and Controlled group on the Achievement Test
Ho10. There will be no significant difference between the mean values of scores of female students of Experimental group and Controlled group on the Achievement Test.

In order to test the tenth hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.10.

**Table 4.10**

**Significant difference between the mean scores of Female Students of Experimental group and Controlled group on the Achievement Test**

<table>
<thead>
<tr>
<th>H010</th>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>STD-7 FEMALE</td>
<td>SCHOOL-A</td>
<td>Experimental</td>
<td>34</td>
<td>16</td>
<td>1.89</td>
<td>5.987 Significant at 0.01 level</td>
</tr>
<tr>
<td></td>
<td>Controlled</td>
<td>37</td>
<td>11.43</td>
<td>4.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Degree of freedom= 69

By observing the Table 4.10 it seems that in the present study, 34 female students of Experimental group and 37 female students of Controlled group has given the responses on the Achievement Test. The mean and the standard deviation for the female students of Experimental group is 16.00 and 1.89 respectively. The mean and the standard deviation for the female students of Controlled group is 11.43 and 4.20 respectively. The value of t-ratio between the female students of experimental and controlled group is 5.987. This value is greater than 2.58.
Thus, there is significance difference between the mean values of scores of female students of Experimental group and Controlled group on the Achievement Test at significance level of 0.01. Thus, the tenth hypothesis is rejected. Mean difference is very clear from graph: J.

Hence the achievement of the female students of Experimental group (16.00) is higher than that of the female students of Controlled group (11.43).

**Graph: J - Significant difference between the mean scores of Female Students of Experimental group and Controlled group on the Achievement Test**
**Ho11.** There will be no significant difference between the mean values of scores of knowledge aspect on Achievement Test of students of Experimental group and Controlled group.

In order to test the eleventh hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.11.

**Table 4.11**

**Significant difference between the mean scores of Knowledge aspect on Achievement Test of Students of Experimental group and Controlled group**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Experimental</strong></td>
<td>60</td>
<td>3.42</td>
<td>0.69</td>
<td>4.841</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td><strong>Controlled</strong></td>
<td>60</td>
<td>2.48</td>
<td>1.32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By observing the Table 4.11 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on knowledge aspect on Achievement Test. The mean and the standard deviation for the students of Experimental group is 3.42 and 0.69 respectively. The mean and the standard deviation for the students of Controlled group is 2.48 and 1.32 respectively. The value of t-ratio between the students of experimental and controlled group is 4.841. This value is greater than 2.58. Thus, there is significance difference
between the mean values of scores of students of Experimental group and Controlled group of knowledge aspect on the Achievement Test at significance level of 0.01. Thus, the eleventh hypothesis is rejected. Mean difference is very clear from graph: K.

Hence the achievement on knowledge aspect of the students of Experimental group (3.42) is higher than that of the students of Controlled group (2.48).

Graph: K - Significant difference between the mean scores of Knowledge aspect on Achievement Test of Students of Experimental group and Controlled group
**Ho12.** There will be no significant difference between the mean values of scores of Comprehension aspect on Achievement Test of students of Experimental group and Controlled group. Mean difference is very clear from graph: L.

In order to test the twelfth hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.12

**Table 4.12**

**Significant difference between the mean scores of Comprehension aspect on Achievement Test of Students of Experimental group and Controlled group**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
<th>Degree of freedom=118</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>60</td>
<td>3.88</td>
<td>1.11</td>
<td>5.485</td>
<td>Significant at 0.01 level</td>
<td></td>
</tr>
<tr>
<td>Controlled</td>
<td>60</td>
<td>2.70</td>
<td>1.25</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By observing the Table 4.12 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on Comprehension aspect on Achievement Test. The mean and the standard deviation for the students of Experimental group is 3.88 and 1.11 respectively. The mean and the standard deviation for the students of Controlled group is 2.70 and 1.25 respectively. The value of t-ratio between the students of experimental and controlled group is 5.485.
This value is greater than 2.58. Thus, there is significance difference between the mean values of scores of students of Experimental group and Controlled group of Comprehension aspect on the Achievement Test at significance level of 0.01. Thus, the twelfth hypothesis is rejected. Mean difference is very clear from graph: K.

Hence the achievement on Comprehension aspect of the students of Experimental group (3.88) is higher than that of the students of Controlled group (2.70).

Graph: L - Significant difference between the mean scores of Comprehension aspect on Achievement Test of Students of Experimental group and Controlled group
**Ho13.** There will be no significant difference between the mean values of scores of Application aspect on Achievement Test of students of Experimental group and Controlled group.

In order to test the thirteenth hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.13.

**Table 4.13**

**Significant difference between the mean scores of Application aspect on Achievement Test of Students of Experimental group and Controlled group**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>60</td>
<td>4.55</td>
<td>0.79</td>
<td>5.602</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>60</td>
<td>3.23</td>
<td>1.64</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By observing the Table 4.13 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on Application aspect on Achievement Test. The mean and the standard deviation for the students of Experimental group is 4.55 and 0.79 respectively. The mean and the standard deviation for the students of Controlled group is 3.23 and 1.64 respectively. The value of t-ratio between the students of experimental and controlled group is 5.602. This value is greater than 2.58. Thus, there is significance difference
between the mean values of scores of students of Experimental group and Controlled group of Application aspect on the Achievement Test at significance level of 0.01. Thus, the thirteenth hypothesis is rejected. Mean difference is very clear from graph: M.

Hence the achievement on Application aspect of the students of Experimental group (4.55) is higher than that of the students of Controlled group (3.23).

Graph: M - Significant difference between the mean scores of Application aspect on Achievement Test of Students of Experimental group and Controlled group
**H014.** There will be no significant difference between the mean values of scores of Skill aspect on Achievement Test of students of Experimental group and Controlled group.

In order to test the fourteenth hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.14.

**Table 4.14**

**Significant difference between the mean scores of Skill aspect on Achievement Test of Students of Experimental group and Controlled group**

<table>
<thead>
<tr>
<th>H014</th>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>STD-7 SKILL</td>
<td>SCHOOL-A</td>
<td>Experimental</td>
<td>60</td>
<td>4.27</td>
<td>0.94</td>
<td>6.397 Significant at 0.01 level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Controlled</td>
<td>60</td>
<td>2.75</td>
<td>1.58</td>
<td></td>
</tr>
</tbody>
</table>

Degree of freedom=118

By observing the Table 4.14 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on Skill aspect on Achievement Test. The mean and the standard deviation for the students of Experimental group is 4.27 and 0.94 respectively. The mean and the standard deviation for the students of Controlled group is 2.75 and 1.58 respectively. The value of t-ratio between the students of experimental and controlled group is 6.397. This value is greater than 2.58. Thus, there is significance difference between
the mean values of scores of students of Experimental group and Controlled group of Skill aspect on the Achievement Test at significance level of 0.01. Thus, the fourteenth hypothesis is rejected. Mean difference is very clear from graph: N.

Hence the achievement on Skill aspect of the students of Experimental group (4.27) is higher than that of the students of Controlled group (2.75).

Graph: N - Significant difference between the mean scores of Skill aspect on Achievement Test of Students of Experimental group and Controlled group
Hypotheses Related to Standard 6th B Division:

**Ho15.** There will be no significant difference between the mean values of scores of students of Experimental group and Controlled group on the Achievement Test.

In order to test the fifteenth hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.15.

**Table 4.15**

**Significant difference between the mean scores of Students of Experimental group and Controlled group on the Achievement Test**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>60</td>
<td>16.67</td>
<td>1.68</td>
<td>6.622</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>60</td>
<td>12.25</td>
<td>4.88</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By observing the Table 4.15 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on the Achievement Test. The mean and the standard deviation for the students of Experimental group is 16.67 and 1.68 respectively. The mean and the standard deviation for the students of Controlled group is 12.25 and 4.88 respectively. The value of t-ratio between the students of experimental and controlled group is 6.622. This value is greater than 2.58. Thus, there is significance difference between
the mean values of scores of students of Experimental group and Controlled group on the Achievement Test at significance level of 0.01. Thus, the fifteenth hypothesis is rejected. Mean difference is very clear from graph: O.

Hence the achievement of the students of Experimental group (16.67) is higher than that of the students of Controlled group (12.25).

Graph: O - Significant difference between the mean scores of Students of Experimental group and Controlled group on the Achievement Test
**Ho16.** There will be no significant difference between the mean values of scores of male students of Experimental group and Controlled group on the Achievement Test.

In order to test the sixteenth hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.16.

**Table 4.16**

**Significant difference between the mean scores of Male Students of Experimental group and Controlled group on the Achievement Test**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>32</td>
<td>16.84</td>
<td>1.59</td>
<td>6.95</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>27</td>
<td>11.52</td>
<td>3.7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By observing the Table 4.16 it seems that in the present study, 32 male students of Experimental group and 27 male students of Controlled group has given the responses on the Achievement Test. The mean and the standard deviation for the male students of Experimental group is 16.84 and 1.59 respectively. The mean and the standard deviation for the male students of Controlled group is 11.52 and 3.70 respectively. The value of t-ratio between the male students of experimental and controlled group is 6.950. This value is greater than 2.58. Thus, there is significance difference between the mean values of scores of male students of
Experimental group and Controlled group on the Achievement Test at significance level of 0.01. Thus, the sixteenth hypothesis is rejected. Mean difference is very clear from graph: P.

Hence the achievement of the male students of Experimental group (16.84) is higher than that of the male students of Controlled group (11.52).

Graph: P - Significant difference between the mean scores of Male Students of Experimental group and Controlled group on the Achievement Test
**Ho17.** There will be no significant difference between the mean values of scores of female students of Experimental group and Controlled group on the Achievement Test.

In order to test the seventeenth hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.17.

**Table 4.17**

**Significant difference between the mean scores of Female Students of Experimental group and Controlled group on the Achievement Test**

<table>
<thead>
<tr>
<th>H017</th>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>STD-6 FEMALE</td>
<td>Experimental</td>
<td>28</td>
<td>16.5</td>
<td>1.77</td>
<td>3.51</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>SCHOOL-B</td>
<td>Controlled</td>
<td>33</td>
<td>12.85</td>
<td>5.68</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Degree of freedom=59

By observing the Table 4.17 it seems that in the present study, 28 female students of Experimental group and 33 female students of Controlled group has given the responses on the Achievement Test. The mean and the standard deviation for the female students of Experimental group is 16.50 and 1.77 respectively. The mean and the standard deviation for the female students of Controlled group is 12.85 and 5.68 respectively. The value of t-ratio between the female students of experimental and controlled group is 3.510. This value is greater than 2.58.
Thus, there is significance difference between the mean values of scores of female students of Experimental group and Controlled group on the Achievement Test at significance level of 0.01. Thus, the seventeenth hypothesis is rejected. Mean difference is very clear from graph: Q. Hence the achievement of the female students of Experimental group (16.50) is higher than that of the female students of Controlled group (12.85).

Graph: Q - Significant difference between the mean scores of Female Students of Experimental group and Controlled group on the Achievement Test
**Ho18.** There will be no significant difference between the mean values of scores of knowledge aspect on Achievement Test of students of Experimental group and Controlled group.

In order to test the eighteenth hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.18.

**Table 4.18**

**Significant difference between the mean scores of Knowledge aspect on Achievement Test of Students of Experimental group and Controlled group**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>60</td>
<td>3.77</td>
<td>0.49</td>
<td>1.129</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Controlled</td>
<td>60</td>
<td>3.6</td>
<td>1.03</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By observing the Table 4.18 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on knowledge aspect on Achievement Test. The mean and the standard deviation for the students of Experimental group is 3.77 and 0.49 respectively. The mean and the standard deviation for the students of Controlled group is 3.60 and 1.03 respectively. The value of t-ratio between the students of experimental and controlled group is 1.129. This value is less than 1.96. Thus, there is no significance difference
between the mean values of scores of students of Experimental group and Controlled group of knowledge aspect on the Achievement Test at significance level of 0.05. Thus, the eighteenth hypothesis is not rejected. Difference is minor from graph:R. Hence the achievement on knowledge aspect of the students of Experimental group is same as of the students of Controlled group.

**Graph: R - Significant difference between the mean scores of Female Students of Experimental group and Controlled group on the Achievement Test**
Ho19. There will be no significant difference between the mean values of scores of Comprehension aspect on Achievement Test of students of Experimental group and Controlled group.

In order to test the nineteenth hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.19.

**Table 4.19**

**Significant difference between the mean scores of Comprehension aspect on Achievement Test of Students of Experimental group and Controlled group**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>60</td>
<td>4.32</td>
<td>0.79</td>
<td>5.938</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>60</td>
<td>3.25</td>
<td>1.14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By observing the Table 4.19 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on Comprehension aspect on Achievement Test. The mean and the standard deviation for the students of Experimental group is 4.32 and 0.79 respectively. The mean and the standard deviation for the students of Controlled group is 3.25 and 1.14 respectively. The value of t-ratio between the students of experimental and controlled group is 5.938. This value is greater than 2.58. Thus, there is significance difference.
between the mean values of scores of students of Experimental group and Controlled group of Comprehension aspect on the Achievement Test at significance level of 0.01. Thus, the nineteenth hypothesis is rejected. Difference is very clear from graph:S.

Hence the achievement on Comprehension aspect of the students of Experimental group (4.32) is higher than that of the students of Controlled group (3.25).

**Graph: S - Significant difference between the mean scores of Comprehension aspect on Achievement Test of Students of Experimental group and Controlled group**
**H020.** There will be no significant difference between the mean values of scores of Application aspect on Achievement Test of students of Experimental group and Controlled group.

In order to test the twentieth hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.20.

### Table 4.20

**Significant difference between the mean scores of Application aspect on Achievement Test of Students of Experimental group and Controlled group**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>60</td>
<td>4.2</td>
<td>0.97</td>
<td>5.112</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>60</td>
<td>3.33</td>
<td>1.79</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By observing the Table 4.20 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on Application aspect on Achievement Test. The mean and the standard deviation for the students of Experimental group is 4.20 and 0.97 respectively. The mean and the standard deviation for the students of Controlled group is 3.33 and 1.79 respectively. The value of t-ratio between the students of experimental and controlled group is 5.112. This value is greater than 2.58. Thus, there is significance difference between the mean values of scores of students of Experimental group and
Controlled group of Application aspect on the Achievement Test at significance level of 0.01. Thus, twentieth hypothesis is rejected. Difference is very clear from graph:T.

Hence the achievement on Application aspect of the students of Experimental group (4.2) is higher than that of the students of Controlled group (3.33).

Graph: T - Significant difference between the mean scores of Application aspect on Achievement Test of Students of Experimental group and Controlled group
**Ho21.** There will be no significant difference between the mean values of scores of Skill aspect on Achievement Test of students of Experimental group and Controlled group.

In order to test the twenty first hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.21.

**Table 4.21**

<table>
<thead>
<tr>
<th>Significant difference between the mean scores of Skill aspect on Achievement Test of Students of Experimental group and Controlled group</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>60</td>
<td>4.16</td>
<td>0.93</td>
<td>7.78</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>60</td>
<td>2.27</td>
<td>1.51</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Degree of freedom=118

By observing the Table 4.21 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on Skill aspect on Achievement Test. The mean and the standard deviation for the students of Experimental group is 4.16 and 0.93 respectively. The mean and the standard deviation for the students of Controlled group is 2.27 and 1.51 respectively. The value of t-ratio between the students of experimental and controlled group is 7.780. This value is greater than 2.58. Thus, there is significance difference between
the mean values of scores of students of Experimental group and Controlled group of Skill aspect on the Achievement Test at significance level of 0.01. Thus, the twenty first hypotheses is rejected. Mean difference is very clear from graph:U.

Hence the achievement on Application aspect of the students of Experimental group (4.16) is higher than that of the students of Controlled group (2.27).

Graph: U - Significant difference between the mean scores of Skill aspect on Achievement Test of Students of Experimental group and Controlled group
Hypotheses Related to Standard 7th B Div

**Ho22.** There will be no significant difference between the mean values of scores of students of Experimental group and Controlled group on the Achievement Test.

In order to test the twenty second hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.22.

**Table 4.22**

**Significant difference between the mean scores of Students of Experimental group and Controlled group on the Achievement Test**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>60</td>
<td>16.3</td>
<td>1.91</td>
<td>7.915</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>60</td>
<td>11.63</td>
<td>4.15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By observing the Table 4.22 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on the Achievement Test. The mean and the standard deviation for the students of Experimental group is 16.30 and 1.91 respectively. The mean and the standard deviation for the students of Controlled group is 11.63 and 4.15 respectively. The value of t-ratio between the students of experimental and controlled group is 7.915. This value is greater than 2.58. Thus, there is significance difference between
the mean values of scores of students of Experimental group and Controlled group on the Achievement Test at significance level of 0.01. Thus, the twenty second hypothesis is rejected. Mean difference is very clear from graph: V.

Hence the achievement of the students of Experimental group (16.30) is higher than that of the students of Controlled group (11.63).

Graph: V - Significant difference between the mean scores of Students of Experimental group and Controlled group on the Achievement Test
There will be no significant difference between the mean values of scores of male students of Experimental group and Controlled group on the Achievement Test.

In order to test the twenty third hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.23.

**Table 4.23**

Significant difference between the mean scores of Male Students of Experimental group and Controlled group on the Achievement Test

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>23</td>
<td>16.48</td>
<td>2.02</td>
<td>5.188</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>34</td>
<td>11.74</td>
<td>4.73</td>
<td>5.188</td>
<td></td>
</tr>
</tbody>
</table>

By observing the Table 4.23 it seems that in the present study, 23 male students of Experimental group and 34 male students of Controlled group has given the responses on the Achievement Test. The mean and the standard deviation for the male students of Experimental group is 16.48 and 2.02 respectively. The mean and the standard deviation for the male students of Controlled group is 11.74 and 4.73 respectively. The value of t-ratio between the male students of experimental and controlled group is 5.188. This value is greater than 2.58. Thus, there is significance difference between the mean values of scores of male students of
Experimental group and Controlled group on the Achievement Test at significance level of 0.01. Thus, the twenty third hypotheses is rejected. Mean difference is very clear from graph: W.

Hence the achievement of the male students of Experimental group (16.48) is higher than that of the male students of Controlled group (11.74).

Graph: W - Significant difference between the mean scores of Male Students of Experimental group and Controlled group on the Achievement Test.
Ho24. There will be no significant difference between the mean values of scores of female students of Experimental group and Controlled group on the Achievement Test.

In order to test the twenty fourth hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.24.

Table 4.24

Significant difference between the mean scores of Female Students of Experimental group and Controlled group on the Achievement Test

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>37</td>
<td>16.19</td>
<td>1.85</td>
<td>6.514</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>26</td>
<td>11.50</td>
<td>3.33</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Degree of freedom=61

By observing the Table 4.24 it seems that in the present study, 37 female students of Experimental group and 26 female students of Controlled group has given the responses on the Achievement Test. The mean and the standard deviation for the female students of Experimental group is 16.19 and 1.85 respectively. The mean and the standard deviation for the female students of Controlled group is 11.50 and 3.33 respectively. The value of t-ratio between the female students of experimental and controlled group is 6.514. This value is greater than 2.58.
Thus, there is significance difference between the mean values of scores of female students of Experimental group and Controlled group on the Achievement Test at significance level of 0.01. Thus, the twenty fourth hypothesis is rejected. Mean difference is very clear from graph: X.

Hence the achievement of the female students of Experimental group (16.19) is higher than that of the female students of Controlled group (11.50).

Graph: X - Significant difference between the mean scores of Female Students of Experimental group and Controlled group on the Achievement Test
**Ho25.** There will be no significant difference between the mean values of scores of knowledge aspect on Achievement Test of students of Experimental group and Controlled group.

In order to test the twenty fifth hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.25.

**Table 4.25**

**Significant difference between the mean scores of Knowledge aspect on Achievement Test of Students of Experimental group and Controlled group**

<table>
<thead>
<tr>
<th></th>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experimental</td>
<td>60</td>
<td>3.2</td>
<td>0.79</td>
<td>3.988</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td></td>
<td>Controlled</td>
<td>60</td>
<td>2.18</td>
<td>1.12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Degree of freedom=118**

By observing the Table 4.25 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on knowledge aspect on Achievement Test. The mean and the standard deviation for the students of Experimental group is 3.20 and 0.79 respectively. The mean and the standard deviation for the students of Controlled group is 2.18 and 1.12 respectively. The value of t-ratio between the students of experimental and controlled group is 3.988. This value is greater than 2.58. Thus, there is significance difference between the mean values of scores of students of Experimental group and
Controlled group of knowledge aspect on the Achievement Test at significance level of 0.01. Thus, the twenty fifth hypothesis is rejected. Mean difference is very clear from graph:Y.

Hence the achievement on knowledge aspect of the students of Experimental group (3.20) is higher than that of the students of Controlled group (2.18).

Graph: Y - Significant difference between the mean scores of Knowledge aspect on Achievement Test of Students of Experimental group and Controlled group
**Ho26.** There will be no significant difference between the mean values of scores of Comprehension aspect on Achievement Test of students of Experimental group and Controlled group.

In order to test the twenty sixth hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.26.

**Table 4.26**

**Significant difference between the mean scores of Comprehension aspect on Achievement Test of Students of Experimental group and Controlled group**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>60</td>
<td>4.02</td>
<td>1.07</td>
<td>5.717</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>60</td>
<td>2.82</td>
<td>1.23</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By observing the Table 4.26 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on Comprehension aspect on Achievement Test. The mean and the standard deviation for the students of Experimental group is 4.02 and 1.07 respectively. The mean and the standard deviation for the students of Controlled group is 2.82 and 1.23 respectively. The value of t-ratio between the students of experimental and controlled group is 5.717. This value is greater than 2.58. Thus, there is significance difference
between the mean values of scores of students of Experimental group and Controlled group of Comprehension aspect on the Achievement Test at significance level of 0.01. Thus, the twenty sixth hypothesis is rejected. Mean difference is very clear from graph:Z.

Hence the achievement on Comprehension aspect of the students of Experimental group (4.02) is higher than that of the students of Controlled group (2.82).

Graph: Z - Significant difference between the mean scores of Comprehension aspect on Achievement Test of Students of Experimental group and Controlled group
Ho27. There will be no significant difference between the mean values of scores of Application aspect on Achievement Test of students of Experimental group and Controlled group.

In order to test the twenty seventh hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.27.

**Table 4.27**

**Significant difference between the mean scores of Application aspect on Achievement Test of Students of Experimental group and Controlled group**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>60</td>
<td>4.58</td>
<td>0.77</td>
<td>6.037</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>60</td>
<td>3.17</td>
<td>1.65</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Degree of freedom=118

By observing the Table 4.27 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on Application aspect on Achievement Test. The mean and the standard deviation for the students of Experimental group is 4.58 and 0.77 respectively. The mean and the standard deviation for the students of Controlled group is 3.17 and 1.65 respectively. The value of t-ratio between the students of experimental and controlled group is 6.037. This value is greater than 2.58. Thus, there is significance difference between the mean values of scores of students of Experimental group and
Controlled group of Application aspect on the Achievement Test at significance level of 0.01. Thus, the twenty seventh hypotheses is rejected. Mean difference is very clear from graph:AA. Hence the achievement on Application aspect of the students of Experimental group (4.58) is higher than that of the students of Controlled group (3.17).

Graph: AA - Significant difference between the mean scores of Application aspect on Achievement Test of Students of Experimental group and Controlled group
**Ho28.** There will be no significant difference between the mean values of scores of Skill aspect on Achievement Test of students of Experimental group and Controlled group.

In order to test the twenty eighth hypothesis, the data is analysed by computer programme SPSS for windows and t-ratio has been calculated. The result of the hypothesis is given in Table 4.28.

**Table 4.28**

**Significant difference between the mean scores of Skill aspect on Achievement Test of Students of Experimental group and Controlled group**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number (N)</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>60</td>
<td>4.28</td>
<td>0.92</td>
<td>6.037</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Controlled</td>
<td>60</td>
<td>3.17</td>
<td>1.37</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By observing the Table 4.28 it seems that in the present study, 60 students of Experimental group and 60 students of Controlled group has given the responses on Skill aspect on Achievement Test. The mean and the standard deviation for the students of Experimental group is 4.28 and 0.92 respectively. The mean and the standard deviation for the students of Controlled group is 3.17 and 1.37 respectively. The value of t-ratio between the students of experimental and controlled group is 5.244. This value is greater than 2.58. Thus, there is significance difference between the mean values of scores of students of Experimental group and
Controlled group of Skill aspect on the Achievement Test at significance level of 0.01. Thus, the twenty eighth hypothesis is rejected. Mean difference is very clear from graph:AB.

Hence the achievement on Application aspect of the students of Experimental group (4.28) is higher than that of the students of Controlled group (3.17).

Graph: AB - Significant difference between the mean scores of Skill aspect on Achievement Test of Students of Experimental group and Controlled group
4.4 Conclusion:

After data collection researcher has used various techniques for analysis researcher has found the result after using t test and find out the result according to ‘t’ value after that researcher has also analyzed both the teaching methods and conclude the findings of it. Researcher has used graphical presentation for better presentation. In this chapter researcher has present both mathematical as well as geometrical presentation.

In next chapter-5 research abstract, conclusion of the studies, educational implied or resulting meaning and instructions etc. discussion have been adopted.
End Notes

