CHAPTER SIX

ANAYYSIS OF THE DATA

The present study involved a total of twelve objectives of which three were related to the survey study and nine objectives were related to the experiment. The data collected using appropriate methods was analysed using related statistics to each of the objectives and related conclusions are presented under the captions, Analysis of objective One, Analysis of objective Two, Analysis of Objective Three, Analysis of Objective Four, Analysis of Objective Five, Analysis of Objective Six, Analysis of Objective Seven, Analysis of Objective Eight, Analysis of objective Nine, Analysis of Objective Ten, Analysis of Objective Eleven, and Analysis of Objective Twelve.

6.0.0 INTRODUCTION

The survey conducted in the first part of the study revealed that the status of Business Competencies among Business Studies students was at an average level and suggested a need to strengthen the same. Accordingly, an experiment was conducted with a special strategy to strengthen the same. Thus, these two phases of the study revealed different results. These results were analysed and interpreted in order to come out with new insights and also to suggest further tasks in the present problem. The details related to these analyses and interpretations of the findings of the present study are summarised in the present chapter. The following paragraphs give the details with the analysis of the data related different objectives as well as the interpretations of the study. In the present study, the investigator had formulated twelve objectives.
The first objective was, “To validate the competencies related to Business Studies at the plus two level”. The analysis and interpretation of the objective was done using the percentagewise analysis.

The second objective was, “To study the status of Business competencies among the plus two students”. The analysis and interpretation of the objective was done using the descriptive statistics including Mean and Standard deviation, and the result is presented in the form of Table, Figures.

The third objective was, “To study whether there is any significant relationship between,

i. Business Aptitude and Business Competencies of students at the plus two level”

ii. Business Achievement and Business Competencies of students at the plus two level”.

The analysis and interpretation of the objective was done using descriptive statistics including Mean, Standard deviation, and inferential statistics, namely Product Moment Correlation ‘r’ test. The result is presented in the form of Tables.

The fourth objective was ‘To develop a Specially Designed Instructional Package to foster selected Business Competencies among the plus two students’. The details about the preparation of the instructional package and its various phases are given in Chapter five.

The fifth objective was, “To study whether there is any significant difference between the means scores of the pre-test on Business Achievement of the experimental and control group”. The analysis and interpretation of the objective was done using the descriptive statistics including Mean, Standard deviation, and inferential statistics, namely ‘t’ test. The result is presented in the form of Table.
The sixth objective was, “To study the effectiveness of the Specially Designed Instructional Package in relation to the traditional approach in fostering selected Business Competencies (Leadership and Communication) among the plus two students, after adjusting for the initial differences in Business Aptitude and Business Achievement”. The analysis and interpretation of the objective was done using the descriptive statistics, including Mean, Standard deviation, and inferential statistics, namely, ‘ANCOVA’ test. The result is presented in the form of Tables.

The Seventh objective was, “To study the effectiveness of Specially Designed Instructional Package in relation to the traditional Approach in fostering Leadership Competencies among the plus two students, after adjusting for the initial differences in Business Aptitude and Business Achievement”. The analysis and interpretation of the objective was done using the descriptive statistics, including Mean, Standard deviation, and inferential statistics namely, ‘ANCOVA’ test. The result is presented in the form of Tables.

The eighth objective was, “To study the effectiveness of Specially Designed Instructional Package in relation to the traditional approach in fostering Communication Competencies among the plus two students, after adjusting for the initial differences in Business Aptitude and Business Achievement”. The analysis and interpretation of the objective was done using the descriptive statistics, including Mean, Standard deviation, and inferential statistics namely, ‘ANCOVA’ test were used. The result is presented in the form of Tables.

The Ninth objective was, “To study the variational effect of the Specially Designed Instructional Package intended to foster Business Competencies among the plus two students with respect to Gender”. The analysis and interpretation of the objective was done using the descriptive statistics, including Mean, Standard deviation, and inferential statistics namely ‘t’ test. The result is presented in the form of Tables.
The Tenth objective was, “To study the variational effect of the Specially Designed Instructional Package intended to foster Leadership Competencies among the plus two students with respect to Gender”. The analysis and interpretation of the objective was done using the descriptive statistics, including Mean, Standard deviation, and inferential statistics namely ‘t’ test. The result is presented in the form of Tables.

The Eleventh objective was, “To study the variational effect of the Specially Designed Instructional Package intended to foster Communication Competencies among the plus two students with respect to Gender”. The analysis and interpretation of the objective was done using the descriptive statistics, including Mean, Standard deviation, and inferential statistics namely ‘t’ test. The result is presented in the form of Table and Figures.

The Twelfth objective was, “To study the whether there is any significant difference between the means scores of the pre-test and post-test of the experimental group students on Business Competencies”. The analysis and interpretation of the objective was done using the descriptive statistics, including Mean, Standard deviation, and inferential statistics namely ‘t’ test. The result is presented in the form of Table and Figures.

6.1.0 Analysis of Objective One

The first objective was, “To validate the competencies related to Business Studies at plus two level”.

The competencies related to Business Studies were found to be, Quest for knowledge, Decision Making, Planning, Relationship Management, Negotiation, Communication, achieving Integrity, Analytical Ability, Emotional Intelligence, Personality Development, Leadership, Motivation, Social Responsiveness, Ethics, Risk Taking, Adaptability, Empowering Others, Managing Change, Social
adjustment, Thoroughness, Self-confidence, Initiative, Stress Management, Flexibility and Entrepreneurial Orientation.

6.2.0 Analysis of Objective Two

The second objective was, “To study the status of Business Competencies among the plus two students”. The objective was analysed using descriptive statistics, namely, Mean and Standard Deviation (SD).

Norms

Plus two level students who exhibited more than \{M+1S.D\} were considered as having high Business Competencies. Plus two level students who exhibited less than \{M-1S.D\} were considered as having low Business Competencies. Plus two level students who exhibited scores between \{M+1S.D\} and \{M-1S.D\} were considered as having average Business Competencies. Table 6.1 shows the frequencies of the Scores on the Business Competencies of the plus two level students.

Tables 6.1

Table showing the frequencies of scores on Business Competencies of the Plus Two Students

<table>
<thead>
<tr>
<th>Business Competencies Levels</th>
<th>Number of the Plus Two Students</th>
<th>Status of Business Competencies In %</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Level</td>
<td>66</td>
<td>22%</td>
</tr>
<tr>
<td>Average Level</td>
<td>194</td>
<td>64.8%</td>
</tr>
<tr>
<td>Low Level</td>
<td>40</td>
<td>13.33%</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>100%</td>
</tr>
</tbody>
</table>
Table 6.1 and Figure 6.1 shows that majority of the plus two level students fall at an average Business Competencies level (64.8%) and just 22% plus two level students only fall under the high percentage of Business Competencies. It can also be seen that less than quarter (13.33%) of the plus two level students fall under the low level Business Competencies.

**Conclusion related to Objective Two**

Majority of the students at the plus two level are found to be at average level in relation to Business Competencies and very few of the sample exhibited high level Business Competencies.

**6.3.0 Analysis of Objective Three**

The third objective was, “To study whether there is any significant relationship between,

i) Selected Business Competencies and Business Aptitude of students.

ii) Selected Business Competencies and Business Achievement of students”.

Figure 6.1: showing the percentages of frequencies of score on Business Competencies
i) To study whether there is any significant relationship between Selected Business Competencies and Business Aptitude of students.

In order to find out the extent of relationship between selected Business Competencies and Business Aptitude, the data was analysed and interpreted using the Product-moment correlation ‘r’ and a null hypothesis was formulated for this objective.

**Hypothesis One**

**H1**: “There is no significant relationship between selected Business Competencies and Business Aptitude among the plus two level students”.

Product Moment Correlation ‘r’ was employed to test the research hypothesis. The value of ‘r’ was set at 0.621636 for the level of significance at 0.01 level with df =298. The result is given in Table 6.2

**Table 6.2**

Table showing the Mean, SD, and ‘r’ value and the level of significance

<table>
<thead>
<tr>
<th>Variables</th>
<th>Size</th>
<th>Mean</th>
<th>S.D</th>
<th>‘r’</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Competencies</td>
<td>300</td>
<td>59.70</td>
<td>18.76</td>
<td>0.621636</td>
<td>Significant at 0.01</td>
</tr>
<tr>
<td>Business Aptitude</td>
<td>300</td>
<td>64.99</td>
<td>12.38</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the Table 6.2, it is clear that ‘r’ value between Selected Business Competencies and Business Aptitude among the plus two level students is positive and significant at 0.01 level.

The above Table indicates that ‘r’ value is 0.621, through which, it can be concluded that there is a significant relationship between the two variables, i.e., Selected Business Competencies and Business Aptitude of plus two level students. Thus, in the light of the findings, the null hypothesis formulated is rejected.
ii) The objective was to “To study whether there is any significant relationship between selected Business Competencies and Business Achievement among the plus two level students”

In order to find out the extent of relationship, the data was analysed and interpreted using the Product-moment correlation ‘r’ and a null hypothesis was formulated for this objective.

**Hypothesis Two**

**H2**: “There is no significant relationship between Selected Business Competencies and Business Achievement among plus two level students”.

Product Moment Correlation ‘r’ was employed to test the research hypothesis. The value of ‘r’ was set at 0.678292 for the level of significance at 0.01 level with df =300. The result is given in Table 6.3.

**Table 6.3**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Size</th>
<th>Mean</th>
<th>S.D</th>
<th>‘r’</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Competencies</td>
<td>300</td>
<td>59.70</td>
<td>18.76</td>
<td>0.666738</td>
<td>Significant at 0.01</td>
</tr>
<tr>
<td>Business Aptitude</td>
<td>300</td>
<td>59.76</td>
<td>18.80</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From Table 6.3, it is clear that ‘r’ value between the selected Business Competencies and Business Achievement among the plus two level students is positive and significant at 0.01 level.

The above table indicates that the ‘r’ value is 0.667, by which it can be concluded that there is a positive relationship between the two variables, i.e., Selected Business Competencies and Business Achievement of plus two level students. Hence, in the light of the findings, the null hypothesis is rejected.
Conclusion related to Objective Three

The analysis of the findings revealed that there is a significance relationship between,

i. Selected Business Competencies and Business Aptitude of the students at plus two level.

ii. Selected Business Competencies and Business Achievement among the students.

6.4.0 Analysis of Objective Four

To study objective four namely, “To develop a Specially Designed Instructional Package to foster Selected Business Competencies among the plus two level students”. The investigator prepared a Specially Designed Instructional Package and the details of the preparation are given in Chapter five under captions 5.1.0 to 5.17.

6.5.0 Analysis of Objective Five

The fifth objective was, “To study whether there is any significant difference between the mean scores of the pre-test on Business Achievement of the experimental and control group”.

In order to find out the significant difference, the data was analysed and interpreted using the ‘t’ test and a null hypothesis was formulated for this objective.

Hypothesis Three:

H3: “There is no significant difference between the mean scores of the pre-test on Business Competency of the experimental and control group”.
The results of the data are given in Table 6.4

**Table 6.4**

Table showing ‘t’ test results related to the pre-test scores on Business Achievement of the Experimental and Control group.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>25</td>
<td>55.6</td>
<td>10.185</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>25</td>
<td>48.08</td>
<td>10.735</td>
<td>1.80</td>
<td>Not significant at 0.01 level</td>
</tr>
</tbody>
</table>

From Table 6.4 it is observed that ‘t’ value of 1.80 is not significant at 0.01 level with a table value for df 23. This indicates that the mean scores of the pre-test on the Business Achievement of experimental and control group does not significantly differ.

In the light of these findings, the null hypothesis, i.e., “There is no significant difference between the mean scores of the pre-test of Business Competencies of experimental and control group”, is retained.

**Conclusion Related to Objective Five**

There is no significant difference between the means scores of the pre-test of the experimental and control groups on Business Achievement.

**6.6.0 Analysis of Objective Six**

The sixth objective was, “To study the effectiveness of the Specially Designed Instructional Package (Experimental treatment) in relation to the traditional approach in fostering Business Competencies (Leadership and Communication) among the plus two students, after adjusting for the initial differences in Business Aptitude and Business Achievement”.
The interpretation of the data was done using descriptive statistics, namely, Mean, Standard Deviation, and Inferential Statistics which includes Mean of differences, Standard Deviation of the difference and ANCOVA value is represented in the form of Tables and Figures.

**Analysis of co-variance of the post-test scores**

The investigator as per the research design administered the pre-tests on the sample of the study on the dependent variable, viz., selected Business Competencies, prior to the experiment. On the conclusion of the experiment, a parallel test was administered on the sample as post-tests. The scores of post-test were taken as criterion measures (Y) and scores of Business Aptitude and Business Achievement as co-variates (X1, X2). Separate analyses for two different Selected Business Competencies were done applying the analysis of Co-variance technique (ANCOVA). The details of this analysis are reported in the subsequent subsections.

**ANCOVA test on selected Business Competencies**

The objective of the analysis was as follows:

“To study the effectiveness of the Specially Designed Instructional Package (Experimental treatment) in relation to the traditional Approach in fostering Business Competencies (Leadership and Communication) among the plus two students after adjusting for the initial differences in Business Aptitude and Business Achievement”.

In order to find out the effectiveness of the Specially Designed Instructional Package, a hypothesis was formulated, namely, “There is a significant mean difference in Business Competencies scores between the students undergoing instructions through specially designed instructional package and students taught through the traditional treatment, after adjusting for the initial differences in Business Aptitude and Business Achievement’.
In order to test the research hypothesis it was changed into a null hypothesis.

**Hypothesis Four**

**H4**: “There is no significant mean difference in Business Competencies scores between the students undergoing instructions through the Specially Designed Instructional Package and students taught through the traditional treatment, after adjusting for the initial differences in Business Aptitude and Business Achievement”.

The data related to this hypothesis was calculated by analysis of covariance. The results of the data are given in Table 6.5, 6.6 and 6.7.

The summary of ANCOVA for the Post-test Business Competencies scores of the experimental and control groups by considering Business Aptitude and Business Achievement as Co-variates, is shown in Table 6.5

**Table 6.5**

**Table showing the Sums, Means, and the SD’s of the Criterion variable**

*(Post-test Score on Selected Business Competencies)*

<table>
<thead>
<tr>
<th>groups</th>
<th>CRITERION VARIABLE</th>
<th>CO-VARIATES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Post-test Scores of Business Competencies</td>
<td>Scores on Business Aptitude</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Experimental</td>
<td>25</td>
<td>1828</td>
</tr>
<tr>
<td>Control</td>
<td>25</td>
<td>1357</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>3185</td>
</tr>
</tbody>
</table>
Table 6.6
Table showing the sums of squares and cross products in deviation form of the criterion variable Y (Post-test scores) on developing Selected Business Competencies and the co-variates (Scores of Business Aptitude and Business Achievement) and Regression Co-efficient of Co-variates

<table>
<thead>
<tr>
<th>Sources of Variation</th>
<th>Y²</th>
<th>X1²</th>
<th>X2²</th>
<th>X1Y</th>
<th>X2Y</th>
<th>X1X2</th>
<th>Regression co-efficient of Business Aptitude</th>
<th>Regression co-efficient of Business Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within</td>
<td>465.88</td>
<td>3017</td>
<td>4495.68</td>
<td>-25.78</td>
<td>211.2</td>
<td>664.76</td>
<td>-0.02</td>
<td>0.05</td>
</tr>
<tr>
<td>Total</td>
<td>5029.8</td>
<td>4197.9</td>
<td>6079.28</td>
<td>2261.14</td>
<td>2963.92</td>
<td>1960.76</td>
<td>0.37</td>
<td>0.37</td>
</tr>
</tbody>
</table>

Table 6.7
Table showing the analysis of covariance for differences in the scores on selected Business Competencies (Post-test scores) between the Experimental and Control groups

<table>
<thead>
<tr>
<th>Sources of variation</th>
<th>df</th>
<th>Sum of squares</th>
<th>Mean squares</th>
<th>F</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>1</td>
<td>2642.01</td>
<td>2642.01</td>
<td>267.41</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Within</td>
<td>46</td>
<td>454.60</td>
<td>9.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>3096.61</td>
<td>65.9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6.7 indicates that the f-value for df 47 is 267.41, which is more than the Table value (7.42) Hence, the null hypothesis formulated was rejected and the alternative hypothesis was accepted. Thus, it can be concluded that there is a significant difference between the mean of scores of the experimental and control
group on Selected Business Competencies. This implies that the experimental group has outperformed the traditional treatment group in developing Business Competencies after the experimental treatment.

The analysis further implies that the experimental group is significantly more effective than the control group in fostering Business Competencies.

**Conclusion related to objective Six**

Instruction using the Specially Designed Instructional Package is significantly more effective than the traditional treatment in fostering Business Competencies among the plus two level Students.

6.7.0 Analysis of Objective Seven

The objective of the analysis was as below.

“To study the effectiveness of the Specially Designed Instructional Package (Experimental Treatment) in relation to the traditional approach in fostering Leadership Competencies among plus two students after adjusting for the initial differences in Business Aptitude and Business Achievement”.

In order to find out the effectiveness of the Specially Designed Instructional Package, the hypothesis was formulated, namely, “There is a significant mean difference in Leadership Competencies scores between the students undergoing instructions through the Specially Designed Instructional Package and students taught through the traditional treatment, after adjusting for the initial differences in Business Aptitude and Business Achievement”.

In order to test the research hypothesis, it was changed into a null hypothesis.

**Hypothesis Five**

H5: “There is no significant mean difference in Leadership Competencies scores between the students undergoing instructions through the Specially Designed
Instructional Package and students taught through the traditional treatment, after adjusting for the initial differences in Business Aptitude and Business Achievement”.

The data related to this hypothesis has been calculated by analysis of covariance. The results of the data are given in Tables 6.8, 6.9, and 6.10.

Summary of ANCOVA for the Post-test Leadership Competencies scores of the experimental and control group by considering Business Aptitude and Business Achievement as Co-variates, is shown in Table 6.8.

**Table 6.8**

Table showing the Sums, Means, and the SD’s of the criterion variable (Selected Leadership Competencies Post-test scores)

<table>
<thead>
<tr>
<th>GROUPS</th>
<th>CRITERION VARIABLE</th>
<th>CO-VARIATES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Post-test Scores of Leadership Competencies</td>
<td>Scores on Business Aptitude</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Experimental</td>
<td>25</td>
<td>1882</td>
</tr>
<tr>
<td>Control</td>
<td>25</td>
<td>1415</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>3297</td>
</tr>
</tbody>
</table>
Table 6.9
Table showing the sums of squares and cross products in deviation form of the criterion variable Y (Post –test scores) on developing Selected Leadership Competencies and the co-variates (Scores of Business Aptitude and Business Achievement) and regression Co-efficient of Covariates

<table>
<thead>
<tr>
<th>Sources of Variation</th>
<th>Y²</th>
<th>X1²</th>
<th>X2²</th>
<th>X1Y</th>
<th>X2Y</th>
<th>X1X2</th>
<th>Regression Co-efficient of Business Aptitude</th>
<th>Regression Co-efficient of Business Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within</td>
<td>1355.04</td>
<td>3017</td>
<td>4255.2</td>
<td>-68.68</td>
<td>87.68</td>
<td>523.48</td>
<td>-0.027</td>
<td>0.024</td>
</tr>
<tr>
<td>Total</td>
<td>5716.82</td>
<td>4197.92</td>
<td>6079.28</td>
<td>2136.12</td>
<td>2908.36</td>
<td>1960.76</td>
<td>0.34</td>
<td>0.37</td>
</tr>
</tbody>
</table>

Table 6.10
Table showing the analysis of Co-variance for differences in the scores on selected Leadership Competencies (Post-test scores) between the Experimental and Control groups

<table>
<thead>
<tr>
<th>Sources of variation</th>
<th>df</th>
<th>Sum of squares</th>
<th>Mean squares</th>
<th>F</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>1</td>
<td>2563.37</td>
<td>2651.69</td>
<td>87.28</td>
<td>Significant at 0.01</td>
</tr>
<tr>
<td>Within</td>
<td>46</td>
<td>1351.08</td>
<td>29.37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>3914.45</td>
<td>83.29</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6.10 indicates that the f-value for df 47 is 87.28, which is more than the table value (7.42). Hence, the null hypothesis formulated was rejected and the alternative hypothesis was accepted. Thus the analysis shows that there is a significant difference between the mean of scores of experimental and control groups on Selected Leadership Competencies. This implies that the experimental group has outperformed the traditional treatment group in developing Leadership Competencies after the experimental treatment.
Conclusion related to Objective Seven

Instructions’ using the Specially Designed Instructional Package is significantly more effective than the traditional treatment in fostering Leadership Competencies among the plus two level students.

6.8.0 Analysis of Objective Eight

The objective of the analysis was as below.

“To study the effectiveness of the Specially Designed Instructional Package (Experimental Treatment) in relation to the traditional approach in fostering Communication Competencies among Plus Two students after adjusting for the initial differences in Business Aptitude and Business Achievement”.

In order to find out the effectiveness of the Specially Designed Instructional Package, a hypothesis was formulated, namely, “There is a significant mean difference in Communication Competencies scores between the students undergoing instructions through Specially Designed Instructional Package and students taught through traditional treatment after adjusting for the initial differences in Business Aptitude and Business Achievement”.

In order to test the research hypothesis it was changed into a null hypothesis.

Hypothesis Six

H6: “There is no significant mean difference in Communication Competencies scores between the students undergoing instructions through s Specially Designed Instructional Package and students taught through traditional treatment after adjusting for the initial differences in Business Aptitude and Business Achievement”.

The data related to this hypothesis has been calculated by analysis of covariance. The results of the data are given in Tables 6.11, 6.12 and 6.13.
Summary of ANCOVA for the Post-test Communication Competencies scores of the experimental and control groups by considering Business Aptitude and Business Achievement as Co-variates, is shown in Table 6.11

**Table 6.11**

Table showing the Sums, Means, and the SD’s of the criterion variable (Selected Communication Competencies Post-test scores)

<table>
<thead>
<tr>
<th>Groups</th>
<th>Criterion variable</th>
<th>Co-variates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Post-test scores of Communication Competencies</td>
<td>Scores on Business Aptitude</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Experimental</td>
<td>25</td>
<td>1773</td>
</tr>
<tr>
<td>Control</td>
<td>25</td>
<td>1298</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>3071</td>
</tr>
</tbody>
</table>

**Table 6.12**

Table showing the Sums of squares and cross products in deviation form of the criterion variable Y (Post-test scores) on developing Selected Communication Competencies and the co-variates (scores of Business Aptitude and Business Achievement) and regression Co-efficient of Co-variates

<table>
<thead>
<tr>
<th>Sources of Variation</th>
<th>Y²</th>
<th>X¹²</th>
<th>X²²</th>
<th>X¹Y</th>
<th>X²Y</th>
<th>X¹X²</th>
<th>Regression co-efficient of Business Aptitude</th>
<th>Regression co-efficient of Business Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within</td>
<td>1131.68</td>
<td>3017</td>
<td>4255.2</td>
<td>149.24</td>
<td>150.48</td>
<td>523.48</td>
<td>0.396</td>
<td>0.396</td>
</tr>
<tr>
<td>Total</td>
<td>5644.18</td>
<td>4197.92</td>
<td>6079.28</td>
<td>2386.16</td>
<td>3019.48</td>
<td>1960.76</td>
<td>0.04</td>
<td>0.369</td>
</tr>
</tbody>
</table>
Table 6.13
Table showing the Analysis of Covariance for differences in the scores on selected Communication Competencies (Post-test Scores) between the Experimental and Control groups

<table>
<thead>
<tr>
<th>Sources of variation</th>
<th>df</th>
<th>Sum of squares</th>
<th>Mean squares</th>
<th>F</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>1</td>
<td>2483.03</td>
<td>2483.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within</td>
<td>46</td>
<td>1102.04</td>
<td>23.96</td>
<td>103.63</td>
<td>Significant at 0.01</td>
</tr>
<tr>
<td>total</td>
<td>47</td>
<td>3585.07</td>
<td>76.28</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6.13 indicates that the f-value for df 47 is 103.63, which is more than the table value (7.42). Hence the null hypothesis formulated was rejected and the alternative hypothesis was accepted. Thus it can be concluded that there is a significant difference between the mean of scores of the experimental and control group on selected Communication Competencies.

This implies that the experimental group has outperformed the traditional treatment group in developing Communication Competencies after the experimental treatment. The analysis further implies that the experimental group is significantly more effective than the control group in fostering Communication Competencies.

Conclusion related to Objective Eight

Instructions’ using the Specially Designed Instructional Package is significantly more effective than the traditional treatment in fostering Communication Competencies among the plus two level students.
6.9.0 Analysis of Objective Nine

The objective of the analysis was as below.

“To study the variational effect of the Specially Designed Instructional Package is intended to foster selected Business Competencies among the plus two students with respect to Gender”.

In order to study the variational effect of the Specially Designed Instructional Package a hypothesis was formulated, namely, “There is a significant mean difference in the post test scores of Boys and Girls student of experimental group on selected Business Competencies”.

In order to test the research hypothesis, it was changed into a null hypothesis.

Hypothesis Seven

H7: ‘There is no significant mean difference in the post-test scores of Boys and Girls students of the experimental group on selected Business Competencies”. The results of the data are given in Table 6.14.

Table 6.14

Table showing ‘t’ test results related to the Post-test scores on selected Business Competencies of Boys and Girls after the experimental treatment

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>10</td>
<td>71.85</td>
<td>2.3</td>
<td>1.8</td>
<td>Not significant at 0.01 level</td>
</tr>
<tr>
<td>Girls</td>
<td>15</td>
<td>73.9</td>
<td>3.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
From the Table 6.14, it can be observed that the ‘t’ value of 1.8 is not significant at 0.01 level with a table value for df 23. This indicates that the mean scores of Girls on selected Business Competencies after the treatment does not significantly differ from the mean scores on selected Business Competencies of Boys.

This shows that the treatment has not brought any differential effect in relation to Gender. In the light of these findings the null hypothesis, i.e., “There is no significant mean difference in the post test scores of Boys and Girls students of experimental group on selected Business Competencies”, is retained. This implies that the treatment is equally effective for both Boys and Girls.

However, it is observed that the mean scores of selected Business Competencies of Girls (73.9) is higher than the mean scores of selected Business Competencies of Boys (71.85).

**Conclusion related to Objective Nine**

The experimental treatment was not resulted in any differential effect in relation to the post-test scores of selected Business Competencies of Boys and Girls. Therefore, the Specially Designed Instructional Package can be used equally for Boys and Girls to foster Business Competencies.

**6.10.0 Analysis of Objective Ten**

The objective of the analysis was,

“To study the variational effect of the Specially Designed Instructional Package is intended to foster selected Leadership Competencies among the plus two students with respect to Gender”.

In order to study the variational effect of the Specially Designed Instructional Package intended to foster Leadership Competencies, a hypothesis was formulated, namely, “There is a significant mean difference in the post test
scores of Boy and Girl students of experimental group on selected Leadership Competencies”.

In order to test the research hypothesis, it was changed into a null hypothesis.

**Hypothesis Eight:**

**H8**: ‘There is no significant mean difference in the post-test scores of Boys and Girls students of the experimental group on selected Leadership Competencies. The results of the data are given in table 6.15.

**Table 6.15**

Table showing ‘t’ test results related to Post-test scores on selected Leadership Competencies of Boys and Girls after Experimental Treatment.

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>10</td>
<td>73.9</td>
<td>3.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Girls</td>
<td>15</td>
<td>76.2</td>
<td>5.14</td>
<td>1.31</td>
<td>Not significant at 0.01 level</td>
</tr>
</tbody>
</table>

From Table 6.15 it is observed that ‘t’ value of 1.31 is not significant at 0.01 level with a table value for df 23. This indicates that the mean scores of girls on selected Leadership Competencies after the treatment was not significantly differ from the mean scores on selected Leadership Competencies of Boys.

This shows that the treatment was not resulted any differential effect in relation to Gender. In the light of these findings the hypothesis, i.e., “There is no significant differential effect of the experimental treatment in the mean scores of selected Leadership Competencies of Boys’ and Girls’” is retained. The analysis further implies that the treatment is equally effective for both Boys and Girls.
However, it is observed that the mean scores of Selected Leadership Competencies of Girls (76.2.) is higher than the mean scores of Selected Leadership Competencies of Boys (73.9). It may be concluded that the experimental treatment was not resulted any differential effect in relation to the scores of selected Leadership Competencies of Girls and Boys.

**Conclusion related to Objective Ten**

The experimental treatment has not resulted in any differential effect in relation to the post test scores of Leadership Competencies of Boys and Girls. Therefore the Specially Designed Instructional Package can be used equally for the Boys and Girls to foster Leadership Competencies.

**6.11.0 Analysis of Objective Eleven**

The objective of the analysis was as below.

“To study the variational effect of the Specially Designed Instructional Package intended to foster selected Communication Competencies among the plus two students with respect to Gender”.

In order to study the variational effect of the Specially Designed Instructional Package intended to foster Communication Competencies, a hypothesis was formulated, namely, “There is a significant mean difference in the post test scores of Boy and Girl students of experimental group on Selected Communication Competencies”.

In order to test the research hypothesis, it was changed into a null hypothesis

**Hypothesis Nine:**

**H9:** “There is no significant mean difference in the post-test scores of Boy and Girl students of the experimental group on selected Communication Competencies”.

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The results of the data were given in table 6.16

Table 6.16

Table showing ‘t’ test results related to Post-test Scores on Selected Communication Competencies of Boys and Girls after the Experimental Treatment.

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>10</td>
<td>69.8</td>
<td>0.96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Girls</td>
<td>15</td>
<td>71.67</td>
<td>1.43</td>
<td>1.09</td>
<td>Not significant at 0.01 level</td>
</tr>
</tbody>
</table>

From the table 6.17, it is observed that ‘t’ value of 1.9 is not significant at 0.01 level with a table value for df 23. This indicates that the mean scores of Girls on selected Communication Competencies after the treatment does not significantly differ from the mean scores on selected Communication Competencies of Boys.

This shows that the treatment was not brought any differential effect in relation to Gender. In the light of these findings the hypothesis, i.e. “There is no significant differential effect of the experimental treatment in the mean scores of selected Communication Competencies of Boys’ and Girls’”, is retained. This implies that the treatment is equally effective for both Boys and Girls.

However, it is observed that the mean scores of selected Communication Competencies of Girls (71.67) is higher than the Mean scores of selected Communication Competencies of Boys (69.8). It may be concluded that the experimental treatment has not resulted in any differential effect in relation to the scores of selected Communication Competencies of Girls and Boys.
Conclusion related to Objective Eleven

The experimental treatment did not result in any differential effect in relation to the post test scores of the Communication Competencies of Boys and Girls. Therefore the Specially Designed Instructional Package can be used equally for the Boys and Girls to foster Communication Competencies.

6.12.0 Analysis of Objective Twelve

The twelfth objective was, “To study whether there is any significant difference between the means scores of the pre-test and post-test of the experimental group on Business Competencies”.

In order to study the significant difference between the means scores of pre-test and post-test of experiment group on Business Competencies, a hypothesis was formulated, namely, “There is a significant difference means difference in the scores of pre-test and post test on Business Competencies of experimental group”.

In order to test the research hypothesis, it was changed into a null hypothesis

Hypothesis Ten:

H10: ‘There is no significant difference means difference in the scores of the pre-test and the post-test on Business Competencies of the experimental group’.

The results of the data are given in table 6.17

Table 6.17
Table showing ‘t’ test results related to the Pre-test and Post-test Scores on the Business Competency of the Experimental group.

<table>
<thead>
<tr>
<th>Experimental</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>25</td>
<td>48.88</td>
<td>5.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-test</td>
<td>25</td>
<td>73.1</td>
<td>3.17</td>
<td>20.07</td>
<td>significant at 0.01 level</td>
</tr>
</tbody>
</table>
From Table 4.4 it is observed that ‘t’ value of 20.07 is significant at 0.01 level with a Table value for df 23. This indicates that the mean scores of the pre-test and the post-test on Business Competencies of the experimental group significantly differ.

In the light of these findings, the hypothesis, i.e., “There is significant difference between the mean scores of the pre-test and the post-test of experimental group”, is retained and the null hypothesis is rejected.

**Conclusion related to objective Twelve:**

There is a significant difference between the means scores of the pre-test and post-test of the experimental group on Business Competencies’’ and hence the Specially Designed Instructional Package is effective in developing Business Competencies among the plus two level students.