CHAPTER V

ANALYSIS AND INTERPRETATION OF THE DATA
ANALYSIS AND INTERPRETATION OF THE DATA

The set of data collected is considered as a base upon which the structure of the research rests, the analysis and interpretation is considered the wheel of the whole research machinery, without which data and other material have no specific function to perform. It involves breaking down existing complex factors into simplex and putting the parts together in new arrangement for the purpose of the interpretation. In the words of Wolfe (1956) “The process of analysis and synthesis of the collected data is the foundation stone of all specific methods”. Thus analysis and interpretation give shape and form to objectives of the study.

An overview of the problem, its design and the actual procedure employed by the researcher to collect the data about various predictive and criterion variables have been discussed in the earlier chapters.

The aim of the present study was to study the development of teaching competency of the language pupil-teachers through micro-teaching approach. Thus, analysis and interpretation of the data was done to attain the objectives of the study.

Thus, the present chapter has been organized under following heads:-

5.1 TO STUDY THE TEACHING COMPETENCY OF THE LANGUAGE PUPIL TEACHERS (PRIOR TO THE TRAINING)

The hypothesis that was framed to study the teaching competency of language pupil teachers was that “There is no significant difference among the student teachers of language group so far as teaching
competence is concerned.” To test this hypothesis t-test was applied. The difference of mean scores of experimental and control group (pre-test) on Teaching Competence Assessment Scale was computed. Its significance was, then, tested, by using the t-test. Table 5.1.1 Showing the significance of the difference among the student teachers of language group so far as teaching competence is concerned.

Table 5.1.1 The mean, S.D., S.E_{MD} and ‘t’ value of experimental and control group( prior to the training)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Categories</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>S.E_{MD}</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Experimental</td>
<td>50</td>
<td>61.65</td>
<td>15.84</td>
<td>3.01</td>
<td>0.86*</td>
<td>98</td>
</tr>
<tr>
<td>2.</td>
<td>Control</td>
<td>50</td>
<td>59.05</td>
<td>14.21</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Not Significant at 0.05 and 0.01 level of significance

From the above table, it is clear that as the calculated value of ‘t’ was less than the tabulated value of 1.98 at 0.05 level and 2.63 at 0.01 level of significance for 98 degree of freedom, the observed value of ‘t’ (t = 0.86) was not significant. Hence the difference between the means of teaching competency scores of experimental group and control group of language pupil teachers was not significant. Hence no adequate grounds existed for rejecting the null hypothesis.

Therefore, Null hypothesis (1) “There is no significant difference among the student teachers of language group so far as teaching competence is concerned.” was accepted.

Hence, it could be inferred that there is no significant difference among the pupil teachers of language group so far as teaching competence is concerned. This means the student teachers of language
group did not differ in their teaching competency level markedly. Both the groups were found similar in their competency towards teaching, showing thereby that the experimental group and control group had same competency about the teaching.

5.2 TO STUDY THE EFFECT OF TRAINING AMONG THE PUPIL TEACHERS IN TEACHING SKILL OF REINFORCEMENT USING MICRO-TEACHING IN SIMULATED CONDITION

To study the effect of training among the pupil teachers in teaching skill of reinforcement using microteaching technique through observation schedule in simulated condition, the difference of mean scores of experimental and control group on Teaching Competence Assessment Scale was computed. Its significance was, then, tested, by using the t-test. Table 5.2.1 Showing the significance of the difference among the student teachers of language group in teaching skill of Reinforcement using microteaching approach in simulated condition.

Table 5.2.1 The Mean, S.D. and $S_{EMD}$ and ‘t’ value of experimental and control group (Teaching competence assessment scale)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Categories</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>S.E$_{MD}$</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Experimental Group</td>
<td>50</td>
<td>67.40</td>
<td>5.15</td>
<td>2.13</td>
<td>3.94*</td>
<td>98</td>
</tr>
<tr>
<td>2.</td>
<td>Control Group</td>
<td>50</td>
<td>59.05</td>
<td>14.21</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at 0.05 and 0.01 level of significance

As the calculated value of ‘t’ was found to be greater than the tabulated value of 1.98 at .05 level and 2.63 at 0.01 level of significance for 98 degree of freedom, the observed value of ‘t’ (t = 3.94) was significant at 0.05 and at 0.01 level of significance. Hence at 0.05 and
0.01 level of significance the null hypothesis number (2) "There is no significant difference among the student teachers of language group in teaching skill of Reinforcement using microteaching in simulated condition" was rejected. Hence, it may be inferred that there was significant difference among the pupil teachers of language group in teaching skill of Reinforcement using microteaching approach in simulated condition.

This means experimental and control group were found differ in their teaching competency at both the level of significance. Showing thereby that microteaching approach had an effect on the pupil-teachers of language group of experimental group in teaching skill of Reinforcement using micro-teaching approach. There was an effect of training of micro teaching approach given to the experimental group of pupil teachers of language group in simulated condition.

However, a significant difference was found in the competency of experimental and control group indicating that skill of reinforcement had developed the competency of pupil teachers of language group using micro-teaching approach in simulated condition.

5.3 **TO STUDY THE EFFECT OF TRAINING AMONG THE PUPIL TEACHERS IN TEACHING SKILL OF PROBING QUESTIONING USING MICRO-TEACHING IN SIMULATED CONDITION**

The hypothesis that was framed to study the effect of training among the language pupil teachers in teaching skill of probing questioning using microteaching in simulated condition was that "There is insignificant difference among the pupil teachers of language group in teaching skill of probing questioning using microteaching technique in simulated condition." To test this hypothesis t-test was applied. The difference of mean scores of experimental and control group on Teaching Competence Assessment Scale was computed. Its significance was, then,
tested, by using the t-test. Table 5.3.1 Showing the significance of the difference among the pupil teachers of language group in teaching skill of Probing Questioning using microteaching approach in simulated condition.

**Table 5.3.1** : The mean, S.D, $SE_{MD}$, and ‘t’ ‘value of experimental and control group (Teaching competence assessment scale)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Categories</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>$SE_{MD}$</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Experimental Group</td>
<td>50</td>
<td>66.82</td>
<td>8.35</td>
<td>2.33</td>
<td>3.33*</td>
<td>98</td>
</tr>
<tr>
<td>2.</td>
<td>Control Group</td>
<td>50</td>
<td>59.05</td>
<td>14.21</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at 0.05 and 0.01 level of significance

As the calculated value of ‘t’ was found to be greater than the tabulated value of 1.98 at 0.05 level and 2.63 at 0.01 level of significance for 98 degree of freedom, the observed value of ‘t’ ($t = 3.33$) was significant at .05 and .01 level of significance. Hence at both the level of significance null hypothesis number (3) was rejected.

Thus it may be inferred that there was significant difference between the experimental and control groups in teaching skill of probing questioning using microteaching approach in stimulated condition at .05 and at .01 level of significance.

This means experimental and control group were found differ in their teaching competency. Showing thereby that microteaching approach had an effect on the competency score of language group pupil teachers of experimental and control group in teaching skill of probing question using micro-teaching approach. Hence, there was an effect of training of micro-teaching approach given to the experimental group of pupil
teachers of language group, indicating that teaching skill of probing questioning had developed the competency of experimental group of pupil teachers of language group using microteaching approach in simulated condition.

5.4 **TO STUDY THE EFFECT OF TRAINING AMONG THE PUPIL TEACHERS IN TEACHING SKILL OF STIMULUS VARITION USING MICRO-TEACHING IN SIMULATED CONDITION**

To study the effect of training among the pupil teachers in teaching skill of stimulus variation using microteaching technique through observation schedule in simulated condition, the difference of mean scores of experimental and control group on Teaching Competence Assessment Scale was computed. Its significance was, then, tested, by using the t-test. Table 5.4.1 Showing the significance of the difference among the student teachers of language group in teaching skill of stimulus variation using microteaching approach in simulated condition

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Categories</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>S.E MD</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Experimental Group</td>
<td>50</td>
<td>73.72</td>
<td>5.53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Control Group</td>
<td>50</td>
<td>59.05</td>
<td>14.21</td>
<td>2.15</td>
<td>6.79*</td>
<td>98</td>
</tr>
</tbody>
</table>

* Significant at 0.05 and 0.01 level of significance

As the calculated value of ‘t’, was found to be greater than the tabulated value of 1.98 at 0.05 level of significance and also greater than 2.63 at 0.01 level of significance for 98 degree of freedom, the observed value of ‘t’ (t = 6.79) was significant at both the level of significance.
Hence at 0.01 level of significance and at 0.05 level the null hypothesis number (4) "There was no significant difference among the pupil-teachers of language group in the teaching skill of stimulus variation using microteaching technique in simulated condition" was rejected. Thus, it may be inferred that there was significant difference among the experimental and control group of pupil-teachers of language group in teaching skill of stimulus variation using microteaching approach in simulated condition. Experimental and control groups were found different in their competency towards teaching. Showing thereby that there was a definite effect of microteaching approach given to the experimental group of pupil-teachers of language group.

However, a significant difference was found in the competency of experimental and control group indicating that teaching skill of stimulus variation had developed the competency of experimental group of pupil-teachers of language group using microteaching approach in simulated condition.

5.5 TO STUDY THE EFFECT OF TRAINING AMONG THE PUPIL TEACHERS IN TEACHING SKILL OF ILLUSTRATION WITH EXAMPLES USING MICRO-TEACHING IN SIMULATED CONDITION

To study the effect of training among the pupil teachers in teaching skill of illustration with examples using microteaching technique through observation schedule in simulated condition. The difference of mean scores of experimental and control group on Teaching Competence Assessment Scale was computed. Its significance was, then, tested, by using the t-test. Table 5.2.1 Showing the significance of the difference among the pupil teachers of Language group in teaching skill of illustration with examples using microteaching approach in simulated condition.
Table 5.5.1 The mean, SD, $S_{EMD}$ and ‘t’ value of experimental and control group (Teaching competence assessment scale)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Categories</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>$S_{EMD}$</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Experimental</td>
<td>50</td>
<td>77.35</td>
<td>5.59</td>
<td>2.16</td>
<td>8.48*</td>
<td>98</td>
</tr>
<tr>
<td>2.</td>
<td>Control</td>
<td>50</td>
<td>59.05</td>
<td>14.21</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at 0.05 and 0.01 level of significance

As the calculated value of ‘t’ was found to be greater than the tabulated value of 1.98 at .05 level of significance and 2.63 at 0.01 level of significance. For 98 degree of freedom the observed value of ‘t’ (t = 8.48) was significant at 0.05 and 0.01 level.

Hence at 0.05 and 0.01 level of significance the null hypothesis number (5) “there is no significant difference the pupil teachers of language group in teaching skill of illustration with examples using micro-teaching approach in simulated condition” was rejected. Thus it may be inferred that there was a significant difference among the experimental and control group of pupil-teachers of language group in teaching skill of illustration with examples, using micro-teaching approach in simulated condition. Experimental and control groups were found to be differ in their competency, showing thereby that there was a definite effect of micro-teaching approach given to the experimental group of pupil-teachers of language group.

However, a significant difference was found in the competency of experimental and control group is of pupil-teachers of language group indicating that teaching skill of illustration with examples had developed competence in experimental group of pupil-teachers of language group using micro-teaching approach in simulated conditions.
TO STUDY THE EFFECT OF TRAINING AMONG THE PUPIL TEACHERS IN TEACHING SKILL OF EXPLAINING USING MICRO-TEACHING IN SIMULATED CONDITION

The hypothesis that was framed to study the effect of training among the language pupil teachers in teaching skill of explaining using microteaching in simulated condition was that “There is insignificant difference among the pupil teachers of language group in teaching skill of explaining using microteaching technique in simulated condition.” To test this hypothesis t-test was applied. The difference of mean scores of experimental and control group on Teaching Competence Assessment Scale was computed. Its significance was, then, tested, by using the t-test. Table 5.6.1 Showing significance of the difference among the pupil teachers of language group in teaching skill of explaining using microteaching approach in simulated condition.

Table 5.6.1 The mean, SD, $SE_{MD}$ and ‘t’ value of experimental and control group (Teaching competence assessment scale)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Categories</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>S.E_{D}</th>
<th>T</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Experimental Group</td>
<td>50</td>
<td>82.64</td>
<td>6.76</td>
<td>2.22</td>
<td>10.59*</td>
<td>98</td>
</tr>
<tr>
<td>2.</td>
<td>Control Group</td>
<td>50</td>
<td>59.05</td>
<td>14.21</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at 0.05 and 0.01 level of significance

As the calculated value of ‘t’ was found to be greater than the tabulated value of 1.98 at 0.05 level of significance and 2.63 at 0.01 level of significance. For 98 degree of freedom the observed value of ‘t’ ($t = 10.59$) was significant at both the level of significance.

Hence at 0.05 level of significance and at 0.01 level of significance the null hypothesis number (6) was rejected.
Thus, it may be inferred that there was a significant difference among the experimental and control group of pupil-teacher of language group in teaching skill of explaining using microteaching approach in simulated condition at .05 and .01 level of significance. Experimental and control group were found different in their competency towards teaching. Showing thereby that there was a definite effect of training of microteaching approach given in the experimental group of the pupil-teacher of language group.

A significant difference was found in the competency of experimental and control groups of pupil-teachers of language group indicating that teaching skill of explaining had developed the competency in experimental group using microteaching approach in simulated condition.

5.7 TO STUDY THE EFFECT OF TRAINING AMONG THE PUPIL TEACHERS IN THE DEVELOPMENT OF TEACHING COMPETENCY THROUGH MICRO-TEACHING IN SIMULATED CONDITION

The hypothesis that was framed to study the teaching competency of language pupil teachers was that "There is no significant difference among the pupil-teachers of language group on the development of teaching competence through microteaching approach in simulated condition." To test this hypothesis t-test was applied. The difference of mean scores of experimental and control group on Teaching Competence Assessment Scale was computed. Its significance was, then, tested, by using the t-test. Table 5.7.1 Showing the significance of the difference among the pupil-teachers of language group on the development of teaching competence through micro-teaching in simulated condition including all five teaching skills in summative form.
Table 5.7.1 The mean, SD, $S_{EMD}$ and ‘t’ value of experimental and control group (Teaching competence assessment scale)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Categories</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>$S_{EMD}$</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Experimental Group</td>
<td>50</td>
<td>69.376</td>
<td>12.3</td>
<td></td>
<td>2.619</td>
<td>2.27*</td>
</tr>
<tr>
<td>2.</td>
<td>Control Group</td>
<td>50</td>
<td>63.426</td>
<td>13.83</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at 0.05 level of significance
* Not Significant at 0.01 level of significance

As the calculated value of ‘t’ was found to be greater than the tabulated value of 1.98 at .05 level of significance and less than 2.63 at 0.01 level of significance. For 98 degree of freedom the observed value of ‘t’ ($t = 2.27$) was significant at 0.05 level of significance and not significant at 0.01 level of significance.

Hence at 0.05 level of significance the null hypothesis was rejected and at .01 level of significance the hypothesis was accepted.

Thus, it may be inferred that there was a significant difference in the competency scores of experimental and control group of the pupil-teachers of language group on developing teaching competence using micro-teaching approach in simulated condition at 0.05 level of significance. But at 0.01 level of significance there was no significant difference in the competency of the experimental and control group among the pupil-teacher of language group using micro-teaching approach.

This mean experimental and control groups were found similar in their teaching competency at .01 level of significance. Showing thereby that training of micro-teaching approach had no effect on the competency of experimental and control groups of the pupil teachers of language group. But at 0.05 level of significance there was an effect of training of micro-teaching approach given to the experimental group of the pupil-
teachers of language group. However a significant difference was found in the competency of experimental and control groups on development of teaching competency. The experimental group showed a better and favourable attitude on developing teaching competency through microteaching approach in simulated condition.

5.8 **TO STUDY THE EFFECT OF TRAINING AMONG THE PUPIL TEACHERS IN THE DEVELOPMENT OF TEACHING COMPETENCY THROUGH MICRO-TEACHING IN REAL CLASSROOM SITUATION**

To study the effect of training among the pupil teachers in the development of teaching competency through microteaching technique in real classroom situation, the difference of mean scores of experimental and control group on Teaching Competence Assessment Scale was computed. Its significance was, then, tested, by using the t-test. Table 5.8.1 showing the significance of the difference among the pupil-teachers of language group in developing teaching competency through microteaching approach in real classroom situation including all five teaching skills in summative form.

**Table 5.8.1 The mean, SD, \( SE_{MD} \) and \( \text{‘t’} \) value of experimental and control group (Teaching competence assessment scale)**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Categories</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>( SE_{D} )</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Experimental Group</td>
<td>50</td>
<td>78.40</td>
<td>9.91</td>
<td>2.32</td>
<td>4.65*</td>
<td>98</td>
</tr>
<tr>
<td>2.</td>
<td>Control Group</td>
<td>50</td>
<td>67.596</td>
<td>13.07</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at 0.05 and 0.01 level of significance

As the calculated value of \( \text{‘t’} \) was found to be greater then the tabulated value of 1.98 at .05 level of significance and 2.63 at 0.01 level of significance. For 98 degree of freedom the observed value at \( \text{‘t’} \) (\( t = 4.65 \)) was significant at both the level of significance.
Hence at 0.05 level and 0.01 level of significance null hypothesis
"there is no significant difference in developing teaching competence
among the pupil teachers of language group through microteaching in real
class room situation" was rejected.

Thus, it may be inferred that there was a significant difference in
the competency scores among the experimental and control group of
pupil teachers of language group developing teaching competency using
microteaching approach in real class room condition.

This means and control groups of pupil-teachers of language
groups were found significantly different at 0.05 and 0.01 level on
developing teaching competency. Hence there was an effect of training of
microteaching approach on the experimental group of pupil-teachers of
language group.

The results showed that experimental group of pupil-teacher of
language group was better after using microteaching approach so far as
teaching competency was concerned in real class room situation.

5.9 **TO COMPARE THE TEACHING COMPETENCY AMONG
LANGUAGE PUPIL TEACHERS BETWEEN BEFORE AND
AFTER MICRO-TEACHING CYCLE**

To compare the teaching competency of language pupil teachers
between before and after the micro teaching cycle the difference of mean
scores has been studied for the pupil teachers of language group on
different items of Baroda General Teaching Competence scale. The raw
scores of teaching competency of language pupil teachers of before and
after the micro teaching cycle have been taken. The raw scores with their
values of mean, standard deviation, standard error of difference and ‘t’
values for pupil teachers of Language on all the twenty one items of
B.G.T.C. scale have been given in the table 5.9.1.
<table>
<thead>
<tr>
<th>S. No.</th>
<th>Item No.</th>
<th>MD</th>
<th>SD&lt;sub&gt;D&lt;/sub&gt;</th>
<th>SE&lt;sub&gt;MD&lt;/sub&gt;</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1.80</td>
<td>1.27</td>
<td>.23</td>
<td>7.82*</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>1.56</td>
<td>1.07</td>
<td>.19</td>
<td>8.21*</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>1.83</td>
<td>1.20</td>
<td>.22</td>
<td>8.31*</td>
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<td>4</td>
<td>1.46</td>
<td>1.33</td>
<td>.24</td>
<td>6.08*</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>1.56</td>
<td>1.10</td>
<td>.20</td>
<td>7.80*</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>1.73</td>
<td>1.25</td>
<td>.22</td>
<td>7.86*</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>1.73</td>
<td>1.28</td>
<td>.23</td>
<td>7.52*</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>1.56</td>
<td>1.19</td>
<td>.21</td>
<td>7.42*</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>1.63</td>
<td>1.18</td>
<td>.21</td>
<td>7.76*</td>
</tr>
<tr>
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<td>10</td>
<td>1.73</td>
<td>1.25</td>
<td>.22</td>
<td>7.86*</td>
</tr>
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<td>11</td>
<td>1.80</td>
<td>1.37</td>
<td>.25</td>
<td>7.20*</td>
</tr>
<tr>
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<td>12</td>
<td>1.63</td>
<td>1.27</td>
<td>.23</td>
<td>7.08*</td>
</tr>
<tr>
<td>13</td>
<td>13</td>
<td>1.50</td>
<td>1.19</td>
<td>.21</td>
<td>7.14*</td>
</tr>
<tr>
<td>14</td>
<td>14</td>
<td>1.40</td>
<td>1.10</td>
<td>.20</td>
<td>7.00*</td>
</tr>
<tr>
<td>15</td>
<td>15</td>
<td>1.50</td>
<td>1.13</td>
<td>.20</td>
<td>7.50*</td>
</tr>
<tr>
<td>16</td>
<td>16</td>
<td>1.20</td>
<td>1.12</td>
<td>.20</td>
<td>6.00*</td>
</tr>
<tr>
<td>17</td>
<td>17</td>
<td>1.40</td>
<td>1.06</td>
<td>.19</td>
<td>7.36*</td>
</tr>
<tr>
<td>18</td>
<td>18</td>
<td>1.56</td>
<td>1.25</td>
<td>.22</td>
<td>7.09*</td>
</tr>
<tr>
<td>19</td>
<td>19</td>
<td>1.86</td>
<td>1.35</td>
<td>.24</td>
<td>7.75*</td>
</tr>
<tr>
<td>20</td>
<td>20</td>
<td>1.56</td>
<td>.97</td>
<td>.17</td>
<td>9.17</td>
</tr>
<tr>
<td>21</td>
<td>21</td>
<td>1.73</td>
<td>1.20</td>
<td>.21</td>
<td>8.23*</td>
</tr>
</tbody>
</table>

* Significant at 0.01 level of significance
The discussion of item-wise change in the behaviour of pupil teachers of Language have been given in the following paras.

The first item is *writing of the objectives appropriately*. The difference of mean scores has been studied. The value of $MD$, $SD_D$ and $SE_{MD}$ have come 1.80, 1.27 and 0.23 respectively. The ‘t’ ratio has come 7.82, which is significant at .01 level of significance. This means that before and after microteaching, pupil teachers have significant difference and the behaviour of pupil teachers of language has changed during the process of Microteaching. This means that Microteaching has greatly influenced the teaching competency of language pupil teachers on the first item of B.G.T.C. Thus, the objectives written by pupil teachers of language group after training were appropriate, clearly stated relevant to the content adequate and attainable.

The second item is concerned to the *selection of appropriate content*. The pupil teachers showed significant difference between mean scores of before and after microteaching cycle. The $MD$, $SD_D$ and $SE_{MD}$ have come 1.56, 1.07 and .19 respectively. After calculating, the ‘t’ ratio have come 8.21. This is a significant value at .01 level of significance. This means that there occurs a significant change in the behaviour of pupil teachers after training through microteaching on this item. This means that after training the content selected was appropriate, relevant and adequate with respect to the objectives of the lesson and accurate.

For the item *proper organization of content*, the pupil teachers of before and after microteaching have shown a significant difference between the mean scores. The $MD$, $SD_D$ and $SE_{MD}$ have come 1.83, 1.20 and .22 respectively. The ‘t’ value have come Significant. This shows that there is a desirable change in the behaviour of pupil teachers through microteaching on this item. This shows that after the process of
microteaching, the content selected by pupil teachers was properly organized, logical. Continuity and psychological in organization this means that through the process of microteaching the pupil teachers have organized their content properly, logical, in continuity and psychologically.

For the item, selection of appropriate audio-visual material, there occur a significant difference between the mean scores of this item between before and after microteaching. The, $M_D$, $SD_D$ and $SE_{MD}$ have come 1.46, 1.33 & 0.24 respectively. The $t'$ value has come 6.08. This value is significant at .01 level of significance. This shows that the change in the behaviour of pupil teachers is greatly significant. This means that after the process of Microteaching, the pupil teachers have learnt a lot of the selection and appropriate use of audio-visual material. After training through Microteaching the audio-visual material chosen by the pupil teachers of were appropriate, suited to the public and content adequate and necessary for attaining the objectives.

The next item is concerned to the skill of introducing a lesson. Proper and effective introduction of the lesson is most important part of teaching. For this item the differences of mean scores have been studied. The raw scores of before and after microteaching cycle with their values of mean, standard deviation, standard error of difference and $t'$ value for this item have been presented in the table No. 5.9.1. The $MD$, $SD_D$ and $SE_{MD}$ have come 1.56, 1.10 & .20 respectively. The value of $t'$ have come 7.80, which is significant value at .01 level. This reveals that microteaching significantly effects the behaviour of pupil teachers. This shows that pupil teachers of language have shown change in behaviour after micro teaching cycle. This means that after treatment pupil have introduced their lesson effectively and pupils were made ready
emotionally & from knowledge point of view to receive the new lesson continuity in statements for question and used appropriate technique.

The next item is concerned to the **skill of questioning**. Questions are the base of a good and effective teaching. A teacher must get proper command on the skill of questioning. It can be achieved through proper training and practice. The difference between before and after microteaching cycle observation has been studied by Baroda General Teaching Competence scale. The value of MD, SD, and SE have come 1.73, 1.25 and .22 respectively. After calculating the value of ‘t’ have come 7.86. This is a significant value at .01 level of significance. This indicates that pupil teachers have changed their behaviour for this item through the process of microteaching. Thus, this item plays very important role in changing the behaviour pattern of pupil teachers of language group. Thus after training the question putted by the pupil teachers were appropriate well structured, properly put adequate in number and made pupils to participate.

For the item **critical awareness** has brought about in pupils with the help of probing questions, the difference of mean scores between before and after observations has been studied. The raw scores with their values of MD, SD, and SE have come 1.73, 1.28 and .23. The value of ‘t’ have come 7.52. This is a significant value at .01 level. This confirms that a significant difference exists between before and after microteaching cycle. This means that there occurs a change in the behaviour of pupil teachers of language group on this item of B.G.T.C. scale during the process of microteaching. Thus after the process of microteaching, the pupil teachers of language group modified their behaviour towards the item i.e. critical awareness was brought about in pupil with the help of probing questions, promoting seeking further information, refocusing redirection and increasing critical awareness.
For item 8 i.e. concepts and principles were explained under understanding brought about with the help of clear inter related meaningful statement, to create set, to conclude statement, which had relevancy, continuity appropriate vocabulary, explaining links fluency and had no vague words and phrases. The difference of mean scores of before and after microteaching observation have come 1.56. The value of standard deviation and standard error of difference are 1.19 and .21 respectively. The 't' test have been used and the 't' have come 7.42. This is a significant value at .01 level of significance. The significant value of 't' confirms the existence of significant difference between mean scores of both the observations. This means that a change in the behaviour of pupil teachers of Language group have occurred towards this item through the process of microteaching. This change of behaviour is in positive direction, it means that pupil teachers of Language group have an improvement in their behaviour towards the explaining skill through the practice of microteaching.

For the item concepts and principles were illustrated with the help of appropriate examples through appropriate media (verbal and Non-verbal, simple relevant to the content and interest level of pupils) the difference means score of both the observation have come 1.63. The values of SD_D and SE_MD are 1.18 & .21 respectively. The 't' value have come out 7.76. This is a significant value at .01 level of significance value of 't' confirms the change in the behaviour of Language group pupil teachers. This means that a difference has occurred between the scores studied for before and after microteaching cycle. The scores of after microteaching cycle are higher. This means that change of behaviour have come in positive direction and Language group pupil teachers have showed an improvement in their behaviour towards this item through the process of microteaching. This indicates that after
training Language group pupil teachers illustrate concepts and principles
with the help of appropriate examples through appropriate media.

For the item **securing pupils attention**, the difference of mean
scores has been studied between before and after microteaching cycle.
The raw scores, mean, standard deviation, standard error of difference
and value of ‘t’ have given in the table No. 5.9.1. The difference of mean
is 1.73. The $\text{SD}_D$ and $\text{SE}_{MD}$ have come 1.25 and .22. After computation
the value of $t$ have come 7.86, which is significant at .01 level of
significance. This indicates a desirable modification of the behaviour
through the process of microteaching. This means pupil teachers of
Language group have changed their behaviour on the item i.e. pupils
attention was secured maintained by varying stimuli like movements,
gestures, changing speech pattern forcussing, changing interaction styles,
pausing and oral-visual switching observing and responding behaviour of
pupils.

The next item is concerned to the **skill of using deliberate silence
and non verbal cues**. The mean difference in both observations is 1.80.
The computed value of $\text{SD}_D$ and $\text{SE}_{MD}$ have come 1.37 and .25. The value
of ‘$t$’ come 7.20. This value is significant at .01 level of significance. The
significant value of ‘$t$’ indicates a difference between the mean
observations. This means that there occur a significant and desirable
change in the behaviour of pupil teachers of Language group through the
process of microteaching on the item deliberate silence and non verbal
cues were used to increase pupil participation.

For the item **use of verbal and non verbal reinforcers** the value of
mean difference have come 1.63, for finding the value of ‘$t$’, standard
deviation and standard error of difference have been computed. The $\text{SD}_D$
and $\text{SE}_{MD}$ have come 1.27 and .23 respectively. The value ‘$t$’ is 7.08. This
is a significant value at .01 level of significance. This shows a significant difference between mean scores of before and after microteaching cycle observations. Thus, there occur a clear cut modification of behaviour after training through microteaching. This desirable change of behaviour occurs on the item pupils participation responding and inviting was encouraged using verbal and non verbal reinforcers.

For the item speed of presentation of ideas was appropriate matched with the rate of pupil’s understanding and there was proper but getting of time the difference of mean scores has been studied. The mean of difference have come 1.50. The SD\textsubscript{D} and SE\textsubscript{MD} have been calculated and their values come 1.19 and .21 respectively. The value of ‘t’ is 7.14. This is a significant value at .01 level of significance. The significant value of ‘t’ confirms the existence of significant difference between the mean scores of before and after microteaching cycle observations. This means that a desirable modification of behaviour of pupil teachers of Language group have occurred on this item during the process of microteaching.

The next item of B.G.T.C. scale is pupils participated in the classroom and responded to the teacher and initiated by giving their own ideas and reacting to other ideas. The difference of mean scores have been studied. The before and after microteaching cycle observations have been taken for the purpose of study. The difference of mean have come 1.40. The SD\textsubscript{D} and SE\textsubscript{MD} have come 1.10 and .20 respectively. The value of ‘t’ has come 7.0. This is a significant value at .01 level of significance. The significant value of ‘t’ means that the before and after microteaching cycle observation the pupil teacher’s behaviour shows a clear cut modification trend of behaviour during the microteaching. Thus pupil teachers of Language group have hanged their behaviour on this item after training.
The item fifteenth of B.G.T.C. scale is concerned to the black board work. Black board is the essential part of teaching. The difference of mean scores between before and after microteaching cycle observation has come 1.50. The standard deviation and standard error of difference have come 1.13 and .20 respectively. After calculating the value of ‘t’ has come 7.50. This is a significant value at .01 level of significance. The significant value of ‘t’ confirms the significance of mean difference between before and after microteaching cycle observations. This means that behaviour of pupil teachers Language group have changed significantly and their performance on this item improves after training through microteaching in comparison to before training i.e. the black board work was good, legible, neat, appropriateness of the content written and adequate.

For the item the closure was achieved appropriately main points of the lesson were consolidated, Present knowledge opportunities were provided for applying present knowledge and the present knowledge was linked with future assignment. The difference of mean scores between both observations has come 1.20. The calculated values of standard deviation and standard error of difference have come 1.12 and .20. The value of ‘t’ is 6.0. This value is highly significant at .01 level of significance. This means that both the observations have a significant difference and pupil teachers have changed behaviour during the process of micro teaching. Thus the behaviour of pupil teachers of Language group have changed significantly through microteaching session. This means that after the process of microteaching pupil teachers of Language group have achieved the closure appropriately and linked the present knowledge with future assignment.

The next item is the assignment given to the pupils was appropriate, suited to individual differences, relevant to the content taught
and adequate for the study of development of teaching skills, the difference of mean scores of before and after microteaching cycle observation. MD, SD_D and SE_MD values are 1.4, 1.06 and .19 respectively. After computing the ‘t’ value have come 7.36. This value of ‘t’ is significant at .01 level of significance. This means that both the observation have a significant difference and the value of mean of post observation is definitely higher than the value of mean for pre observation. This indicates a clear cut change of behaviour of pupil teachers of Language group on this item through the process of microteaching. This shows that after treatment through microteaching, the assignment given by pupil teachers of Language group was appropriate suited to Individual differences relevant to the content taught and adequate.

For the item pupil’s progress towards the objectives of the lesson was checked and the procedure of evaluation were appropriate, relevant to the objectives valid, reliable and objective the ‘t’ ratio is 7.09. This is significant at .01 level. The significant value of ‘t’ shows that there is significant difference between the mean scores of pre and post observations. This means that behaviour of pupil teachers Language group have changed significantly during the process of microteaching. Thus microteaching has greatly influenced the behaviour of pupil teachers and modifies their behaviour. This means that after the pupil treatment that means in post observations the pupil teachers of Language group have checked the progress of pupils towards the objectives of the lesson. The procedure used for the purpose of evolution were appropriate and relevant to the objectives. They used valid, reliable and objective methods for checking the pupils progress.

The next item is concerned to the diagnosis of pupils difficulties. The difference of mean scores between before and after microteaching
cycle observation has been studied to find the development of teaching skills of pupil teachers of Language group. For this item the raw scores of before and after microteaching cycle observations with their values of mean difference, Standard deviation and standard error of difference. The value of ‘t’ for this item have come 7.75. This is a significant value of .01 level of significance. The significant value of ‘t’ indicates the existence of clear difference between the mean scores of both observation. The significant difference of mean indicates a clear cut behaviour modification trend of pupil teachers of Language group through the process of microteaching. The change in the behaviour after training shows that pupil teachers of Language group diagnosed the pupils difficulties in understanding a concept or principle for this purpose they used questioning and other suitable remedial methods step by step. They showed a positive effect of training on their behaviour.

The next item is related to the observing & identifying the attending or non attending behaviour of pupils. During the process of teaching both attending and non attending behaviour of pupils should be recognized. It can be done by practice for this item the value of ‘t’ have come 9.17 which is significant at .01 level of significance. The significant value of ‘t’ indicates that there is a significant difference between the mean scores of before and after microteaching cycle observations. This change in the mean scores indicates a clear cut pattern of behaviour modification of pupil teachers for the item during the process of microteaching. This means that through microteaching in the post observation the pupil teachers of Language group have used their skill of recognizing attending and non attending behaviour of pupils. They rewarded attending behaviour and gave directions to eliminate no attending behaviours and accepted pupil’s feelings and ideas, used non verbal cues to recognize pupil’s attending and non-attending behaviours.
The last stage of B,G,T,C. scale is managerial and the item is related to the maintaining of discipline in the class. Discipline in the class is most important for securing pupil’s attention in the teaching learning process. The difference of mean scores has been studied for the purpose of studying the change in the behaviour of pupil teachers. For this item the value of ‘t’ have come 8.23 this is a significant value at .01 level of significance. The significant value of ‘t’ indicates that the mean score observed for post observation is definitely high than the mean scores of pre observation. This means there occur a behaviour modification pattern in pupil teachers of Language group towards this item of B,G,T,C. during the practice of microteaching. This shows that pupil teachers of Language group have maintained discipline in their class, pupils followed their’s instructions that were not related to content.

From the above description and by observing the values of ‘t’ on different item of B,G,T,C. scale for pupil teachers of Language group we see that there was a significant difference between the mean scores of before and after microteaching cycle observation. Hence the Null hypothesis “ There is no significant difference in teaching competency of language pupil teachers between before and after the micro teaching cycle.” This shows a positive change in the behaviour of pupil teachers of Language group on all the 21 items of B,G,T,C. during the practice of microteaching.

Thus we can see that the highest value of ‘t’ have come for the item is related to the observing and identifying the attending or non attending behaviour of pupils. This means that pupil teachers of Language group have used their skill of recognizing attending and non attending behaviour of pupils through the process of microteaching.

The second highest ‘t’ value 8.31. For the item proper organization of content. This means that through the process of microteaching, the
pupil teachers of Language group have organized their content properly logical in continuity and psychologically.

For the item is related to the maintaining of discipline in the class the ‘t’ value is highest. This means there occur a behaviour modification pattern in pupil teachers of Language group. This shows that pupil teachers of Language group have maintained discipline in their class, pupils followed teacher’s instructions that were not related to Content.

For the item content selected was appropriate relevant and adequate with respect to the objectives of the lesson and accurate. This means that pupil teachers of Language group have selected appropriate content with respect to their objectives through the process of microteaching.

From the table No. 5.9.1 we can also see the lowest values of ‘t’. The lowest values of ‘t’ are 6.00, 6.08, 7.00 and 7.08. The lowest value of ‘t’ for the achievement of closure. This means that after the process of microteaching pupil teachers of Language group have achieved the closure appropriately and linked the present knowledge with future assignment. The value of 6.08 have come for the item shows that the change in the behaviour of pupil teachers of Language group is greatly. Through the process of microteaching, the pupil teachers of Language group have learnt a lot of in the selection and appropriate use of audio-visual material.

The value of t for the pupil teachers of Language group have come 7.00. This value come for the item pupils participated in the classroom and responded to the teacher and initiated by giving their own ideas and reacting to other ideas.

The value 7.08 have come for the item use of verbal and non verbal reinforces shows the desirable change of behaviour occurs on the item pupils participation responding and initiating was encouraged. Thus we see that the ‘t’ values for all the twenty one items of B.G.T.C. scale are
significant at .01 level of significance, which shows that the behaviour modification pattern of pupil teachers of Language group moved in a positive direction through the process of microteaching.

5.10 TO STUDY THE ATTITUDE TOWARDS THE MICROTEACHING AMONG THE PUPIL TEACHERS OF LANGUAGE GROUP

The hypothesis that was framed to study the Attitude towards microteaching of language pupil teachers was that “There is no significant difference in attitude towards microteaching among the pupil-teachers of language group” To test this hypothesis t-test was applied. The difference of mean scores of experimental and control group on Ahluwalia Teacher Attitude Inventory was computed. Its significance was, then, tested, by using the t-test. Table 5.10.1 the significance of the difference in attitude of pupil-teachers of language group towards the microteaching comprising five teaching skills in summative form (integrated).

Table 5.10.1 The mean, SD, SE_D and ‘t’ value of experimental and control group (post—test)(Teacher Attitude Inventory).

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Categories</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>S.E_D</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Experimental Group</td>
<td>50</td>
<td>83.53</td>
<td>3.10</td>
<td>0.52</td>
<td>11.70*</td>
<td>98</td>
</tr>
<tr>
<td>2.</td>
<td>Control Group</td>
<td>50</td>
<td>77.45</td>
<td>4.02</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at 0.05 and 0.01 level of significance

As the calculated value of ‘t’ was greater than the table value of 1.98 at 0.05 level of significance and 2.63 at 0.01 level of significance. For 98 degree of freedom the observed value at ‘t’ (t = 11.70) was significant at both the level of significance.
Hence at 0.05 and 0.01 level of significance the null hypothesis "There is no significant difference in attitude towards microteaching among the pupil-teachers of language group" was rejected.

Hence, it may be inferred that there was significant difference among the pupil teacher of language group of experimental and control group at both the level of significance. Thus experimental and control groups were found different in their attitude towards the teaching showing thereby that there was a definite effect of treatment given to them.

Hence it may be inferred that there was a significant difference in the attitude of experimental and control group of pupil-teachers of language group at 0.05 and 0.01 level of significance. This showed that the experimental and control group of pupil teachers of language group were found different in their attitude towards microteaching showing that there was a definite effect of microteaching approach comprising all five teaching skills through post-test on the attitude of experimental group of pupil-teachers of language group.

The experimental group indicated better and favourable attitude towards microteaching approach in developing teaching competency among the pupil-teachers of language group.