Chapter-IV
Data Analysis and Interpretations
After collecting data, the investigator analysed the data as it was difficult to explain the raw data because raw data gathered on certain tests have no meaning rather it is heap of certain facts or observation. Keeping in view the objectives of the study and their corresponding hypotheses, the data was statistically processed using appropriate design and technique. Hence, after the data has been collected this must be processed an analysed to draw proper inference.

Statistics is a good tool in the hands of a research. It can help in attaining some objectives only if one is clear about the theoretical basis of the variables and their relationship so it is necessary to interpret the result obtained statistically. It is only then one can give meaning and direction to research. According to Good, Barr and Scates (1941), “The process of interpretation is essentially, one of stating what the results show? What they mean? What is their significance? What is the answer of the original problem?” That is all the limitations of the data must enter into and become the part of interpretation of the result.

Thus, the analysis of data means studying the tabulated material in order to determine inherent factors or meanings. It involves bracking down the existing complex factors into simpler parts and putting the parts together in new arrangement for the purpose of interpretation.

As it is of much importance to get a sum correctly solved. It is also equally important to interpret it correctly. Interpretation is the most important step in the total research process. It calls for a critical examination of the results of one’s analysis in the light of all limitations of data gathered. Thus analysis and interpretations of data help researchers to attack the related problems with appropriate statistical techniques to avoid the unnecessary
labour. The data was analysed with the help of mean, S.D. and 't' test, One-Way ANOVA, Product Moment Correlation, Point Biserial Correlation and Partial Correlation as to find out the significance of difference between the means of various groups taken at a time and also to find correlation between variables.

The focus of the present study has been on obtaining a comprehensive and comparative picture of the teacher competency of the preservice teachers in relation to their academic qualification and emotional intelligence. As such the analysis has been conducted for preservice teachers', the data obtained has been analysis and interpreted in this chapter.

4.1 Data Pertaining:
Objective 1: To find out the relationships between teaching competency and academic qualifications of pre-service teachers.

Hypothesis 1: There is no significant relationships between teaching competency and academic qualifications of pre-service teachers.

To find the correlation between these two variables the investigator applied point biserial correlation between these two variables because here one variable is continuous and other variable is naturally dichotomous. Because here the students with postgraduate academic qualifications were given ‘2’ score and the students with graduate qualification were assigned with ‘1’ score arbitrarily.

| Table 4.1 |
|---|---|---|---|---|
| Teaching Competency Scores for P.G. and graduate B.Ed. students | Standard Deviation for the entire group | \( p = \) proportion of cases in higher group | \( q = \) proportion of cases in lower group | \( r_{p, bis} = \) coefficient of point biserial correlation |
| Post Graduate | 111.02 | 14.04 | .468 | - | .6457 |
| Graduate | 102.50 | - | .530 | .6457 |

Coefficient of point biserial correlation is .6457.
**Frequency Distribution of Teaching Competency Scores of Pre-Service Teachers**

![Histogram showing the frequency distribution of teaching competency scores](image1.png)

*Teaching Competency Fig. 4.1*

**Frequency Distribution of Academic Qualifications of Pre-Service Teachers**

![Bar chart showing the frequency distribution of academic qualifications](image2.png)

*Academic Qualifications Fig. 4.2*
Interpretation of Coefficient of Correlation:

A point biserial r may be tested against null hypothesis with the help of the table. There are (N-2) degrees of freedom in the correlation table. To test the \( r_{pbis} \) of 0.6457 calculated, we enter table with 998 degree of freedom to find that r must be 0.062 in order to be significant at the .05 level, and 0.081 to be significant at the .01 level.

Critical value of r at 5% levels of significance = .062
Critical value of r at 1% levels of significance = .081

Our computed r value 0.6457 is greater than critical r value (.081) at 1% level of significance.
Our computed r value 0.6457 is greater than critical r value (.062) at 5% level of significance.

So we can safely reject the null hypothesis at 1% level of significance and can say that teaching competency of preservice teachers is significantly correlated to academic qualification at 1% level of significance for 998 degrees of freedom.

Thus, we can safely reject the null hypothesis at 5% level of significance and can say that teaching competency of preservice teachers is significantly correlated to academic qualification at 5% level of significance for 998 degrees of freedom.

Objective 2: To find out the relationships between teaching competency and emotional intelligence of pre-service teachers.

Hypothesis 2: There is no significant relationship between teaching competency and emotional intelligence of pre-service teachers.

To find the correlation between these two variables the investigator applied product moment correlation between these two variables because here both the variables are continuous and normally distributed.
Table 4.2

Correlation between Teaching Competency and Emotional Intelligence

<table>
<thead>
<tr>
<th>Variables</th>
<th>Correlation</th>
<th>Teaching Competency</th>
<th>Emotional Intelligence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Competency</td>
<td>Pearson Correlation</td>
<td>.474</td>
<td>.474</td>
</tr>
<tr>
<td>N</td>
<td>1000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Intelligence</td>
<td>Pearson Correlation</td>
<td>.474</td>
<td>.474</td>
</tr>
<tr>
<td>N</td>
<td>1000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Coefficient of product moment correlation is .474.

Frequency Distribution of Teaching Competency Scores of Pre-Service Teachers

Fig. 4.3
Frequency Distribution of Emotional Intelligence Scores of Pre-Service Teachers

Interpretation of Coefficient of Correlation:

A product moment $r$ may be tested against null hypothesis with the help of the table. There are $(N-2)$ degrees of freedom in the correlation table. To test the $r$ of .474 calculated, we enter table with 998 degree of freedom to find that $r$ must be .062 in order to be significant at the .05 level, and .081 to be significant at the .01 level.

- Critical value of $r$ at 5% levels of significance = .062
- Critical value of $r$ at 1% levels of significance = .081

Our computed $r$ value .474 is greater than critical $r$ value (.081) at 1% level of significance.

Our computed $r$ value .474 is greater than critical $r$ value (.062) at 5% level of significance.
So we can safely reject the null hypothesis at 1% level of significance and can say that teaching competency of preservice teachers is significantly correlated to emotional intelligence at 1% level of significance for 998 degrees of freedom.

Thus, we can safely reject the null hypothesis at 5% level of significance and can say that teaching competency of preservice teachers is significantly correlated to emotional intelligence at 5% level of significance for 998 degrees of freedom.

**Significance of Coefficient of Correlation:**

To points will be taken into consideration for this purpose:

1. Size of Sample
2. Value of Coefficient of Correlation

**Computation of its Standard Error**

\[ \sigma_r = \frac{1-r^2}{\sqrt{N}} \]

\( r = .474, N = 1000 \)

\[ \sigma_r = \frac{1-(.474)^2}{\sqrt{1000}} = .0245 \]

Interval at 5% level of confidence is

\( r \pm 1.96 \times \sigma_r \)

\( = .474 \pm 1.96 \times .0245 \)

\( = .474 \pm .0480 \)

\( = .426 \) to \( .5372 \)

Interval at 1% level of confidence is

\( r \pm 2.58 \times \sigma_r \)

\( = .474 \pm 2.58 \times .0245 \)

\( = .474 \pm .0632 \)

\( = .4108 \) to \( .5372 \)
95% coefficient of correlation of the population will lie in this confidence interval i.e. .426 to .522. Only 5% chances are there to vary. 99% coefficient of correlation of the population lie in this confidence interval i.e. .4108 to .5372 only 1% chances are there to be beyond the interval.

**Objective 3:**

To find the relation between teaching competency of pre-service and their academic qualification by partialling out the effect of emotional intelligence.

**Hypothesis 3:**

There is no significant relation between teaching competency of pre-service teachers and their academic qualification by partialling out the effect of emotional intelligence.

Here we are calculating the correlation between teaching competency and academic qualification by partialling out the effect of emotional intelligence. Formula for computing the partial correlation coefficient between teaching competency and academic qualification is –

\[
r_{123} = \frac{r_{12} - r_{13} \cdot r_{23}}{\sqrt{1 - r_{13}^2} \sqrt{1 - r_{23}^2}}
\]

- \(r_{12}\) = Coefficient of correlation between teaching competency and academic qualification.
- \(r_{13}\) = Coefficient of correlation between teaching competency and emotional intelligence.
- \(r_{23}\) = Coefficient of correlation between academic qualification and emotional intelligence.
Table 4.3
Partial Correlation Coefficient Controlling for Emotional Intelligence

<table>
<thead>
<tr>
<th>Variables</th>
<th>Correlation</th>
<th>Teaching Competency</th>
<th>Academic Qualification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Competency</td>
<td>Partial correlation</td>
<td>1.000</td>
<td>.0540</td>
</tr>
<tr>
<td>Sig. – 2 tailed</td>
<td></td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Qualification</td>
<td>Partial correlation</td>
<td>.0540</td>
<td>1.0000</td>
</tr>
<tr>
<td>Sig. – 2 tailed</td>
<td></td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Value of Partial correlation coefficient is 0.0540

Significance of Partial Correlation Coefficient:

The significance of 1st and 2nd order partial correlation ‘r’ can be tested by using ‘t’-distribution.

\[
t = \sqrt{\frac{N - 2 - K}{1 - r^2}}
\]

K = order of partial r
r = value of partial correlation
N = Total frequency in the sample study.

Degree of freedom = N-2-K

\[
t = 0.0540 \sqrt{\frac{1000 - 2 - 1}{1 - 0.002916}}
\]

\[
t = 0.0540 \sqrt{\frac{1000 - 2 - 1}{1 - 0.002916}}
\]

\[
t = 0.0540 \sqrt{\frac{1000 - 2 - 1}{1 - 0.002916}}
\]

\[
t = 0.0540 \times 31.62 = 1.70
\]
Critical 't'- value at 5% level of significance for 998 degree of freedom = 1.96. Critical 't'- values at 1% level of significance for 998 degrees of freedom = 2.58. Our calculated 't'- values is 1.70 is less than critical 't'-value at 5% level of significance. So we can accept null hypothesis at 5% level of significance. Thus we can conclude that teaching competency of pre service teachers is not significantly correlated with their academic qualification, when the effect of emotional intelligence is partialled out.

**Coefficient of Determination of r:**

We calculate coefficient of determination of r by calculating \( r^2 \) and then multiplying it by 100. Coefficient of determination of represents the percentage of variation in one variable due to another variable.

\[
\begin{align*}
    r^2 &= (.0540)^2 \times 100 \\
    &= .2916
\end{align*}
\]

**Conclusion**

0.2916 percent variation in teaching competency of pre service teachers is determined by their academic qualification.

**Objective 4:**

To find the relation between teaching competency of pre-service teachers and their emotional intelligence by partialling out the effect of academic qualification.

**Hypotheses 4:**

There is no significant relation between teaching competency of pre-service teachers and their emotional intelligence by partialling out the effect of academic qualification.

Here we are calculating correlation between teaching competency and emotional intelligence by partialling out the effect of academic qualification. Here partial correlation is used.
Table 4.4
Partial Correlation Between Teaching Competency and Emotional Intelligence Controlling for Academic Qualification.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Correlation</th>
<th>Teaching Competency</th>
<th>Emotional Intelligence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Competency</td>
<td>Partial correlation</td>
<td>1.000</td>
<td>.3866</td>
</tr>
<tr>
<td></td>
<td>Sig. – 2 tailed</td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td>Emotional Intelligence</td>
<td>Partial correlation</td>
<td>.3866</td>
<td>1.0000</td>
</tr>
<tr>
<td></td>
<td>Sig. – 2 tailed</td>
<td>1000</td>
<td>1000</td>
</tr>
</tbody>
</table>

Value of partial correlation coefficient is 0.3866

Significance of Partial Correlation Coefficient:

The significance of 1st and 2nd order partial correlation ‘r’ can be tested by using ‘t’-distribution.

\[ t = r \sqrt{\frac{N - 2 - K}{1 - r^2}} \]

K = order of partial r
r = value of partial correlation
N = Total frequency in the sample study.
Degree of freedom = N-2-K

\[ t = .3866 \sqrt{\frac{1000 - 2 - 1}{1 - (.3866)^2}} \]

\[ t = .3866 \sqrt{\frac{997}{1 - .1494}} \]

\[ t = .3866 \sqrt{\frac{997}{.8506}} \]

\[ = .3866 \times 34.23 = 13.23 \]

Critical ‘t’- value at 5% level of significance for 998 degree of freedom = 1.96.
Critical ‘t’- values at 1% level of significance for 998 degrees of freedom = 2.58.

Our calculated ‘t’- values is 13.23 is greater than critical ‘t’ value 2.58 at 1% level of significance. So we can reject null hypothesis at both level of significance and can conclude that correlation between teaching competency and emotional intelligence is quite significant irrespective of their academic qualifications.

**Calculation of Determination Value:**

Coefficient of determination of r represent the percent of variation in one variable due to another and it is calculated by computation of \( r^2 \times 100 \)

\[
r^2 \times 100 = (.3866)^2 \times 100 \\
= 14.94
\]

14.94 percent variation in teaching competency is determined by their emotional intelligence.

**Objective 5:**
To compare the teaching competency between graduate pre-service teachers and post-graduate pre-service teachers.

**Hypothesis 5:**
There is no significant difference in teaching competency between graduate pre-service teachers and post-graduate pre-service teachers.

Here we are computing the significance of the difference between two sample means i.e. teaching competency scores of post graduation pre service teachers and graduate pre service teachers, so here I applied ‘t’-test.

Total no. of pre-service teachers in sample = 1000

Post graduation = 470, graduate = 530
Table – 4.5

Significance of difference between Means of Teaching Competency Score of Postgraduate Pre-service and Graduate Teachers (‘t’-test)

<table>
<thead>
<tr>
<th>Academic Qualifications</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Standard Error</th>
<th>$\sigma_D$</th>
<th>‘t’-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post graduate</td>
<td>470</td>
<td>11.02</td>
<td>12.10</td>
<td>0.5599</td>
<td></td>
<td>0.8410</td>
</tr>
<tr>
<td>Graduate</td>
<td>530</td>
<td>102.50</td>
<td>14.45</td>
<td>0.6277</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Teaching Competency Scores of Postgraduate Preservice Teachers

Fig. 4.5
Teaching Competency Scores of Graduate Pre-Service Teachers

Interpretation of ‘t’-value

Critical ‘t’-value at 5% level of significance for 998 degree of freedom = 1.96.

Critical ‘t’-values at 1% level of significance for 998 degrees of freedom = 2.58.

Our computed ‘t’-value is much greater than 1.96 as well as 2.58, the critical values required to reach 5% and 1% levels of significance respectively. We can reject null hypothesis at both the levels of significance and can conclude that difference between the means of two samples can not be attributed to some chance factors or sampling fluctuations. This difference is quite trustworthy and dependable to say that the post graduate pre service
teachers are more competent in teaching than graduate pre service teachers at .05 and .01 levels of significance.

**Objective 6 :**

To compare the teaching competency between graduate pre-service teachers and post-graduate pre-service teachers belonging to arts stream.

**Hypothesis 6 :**

There is no significant difference in teaching competency between graduate pre-service teachers and post-graduate pre-service teachers belonging to arts stream.

Here 't'-test was used to see the significance of the difference between two sample means i.e. Art Post graduate pre service teachers and art Graduate Pre service teachers.

Total Art Pre service teachers = 500

**Table – 4.6**

<table>
<thead>
<tr>
<th>Pre-service teachers</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Standard Error</th>
<th>$\sigma_D$</th>
<th>‘t’-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post graduate</td>
<td>223</td>
<td>109.61</td>
<td>14.33</td>
<td>.9621</td>
<td>1.2632</td>
<td>5.396</td>
</tr>
<tr>
<td>Graduate</td>
<td>277</td>
<td>102.81</td>
<td>13.62</td>
<td>.81.87</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Critical ‘t’- value at 5% level of significance for 498 degree of freedom = 1.96.

Critical ‘t’- values at 1% level of significance for 498 degrees of freedom = 2.59.

Our calculated ‘t’- values is 5.396 is much greater than 1.96 and 2.59, the critical values required to reach 5% and 1% levels of significance respectively. Thus we can reject null hypothesis at both the levels of significance and can conclude that Art post graduate pre service teachers are
more competent in teaching than Art graduate pre service teachers. The difference between the means of two samples can not be attributed to chance factors or some sampling fluctuations.

**Objective 7:**

To compare the teaching competency between graduate pre-service teachers and post-graduate pre-service teachers belonging to science stream.

**Hypothesis 7:**

There is no significant difference in teaching competency between graduate pre-service teachers and post-graduate pre-service teachers belonging to science stream.

Here we are computing the significance of difference between the means of two groups i.e. teaching competency scores of science post graduate pre service teachers and science graduate pre service teachers. So we used ‘t’-test here.

**Table – 4.7**

<table>
<thead>
<tr>
<th>Pre-service teachers</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Standard Error</th>
<th>$\sigma_D$</th>
<th>‘t’-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post graduate</td>
<td>99</td>
<td>112.30</td>
<td>10.68</td>
<td>1.07</td>
<td>1.9082</td>
<td>5.42</td>
</tr>
<tr>
<td>Graduate</td>
<td>101</td>
<td>102.00</td>
<td>15.97</td>
<td>1.58</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Critical ‘t’- value at 5% level of significance for 198 degree of freedom = 1.97.

Critical ‘t’- values at 1% level of significance for 198 degrees of freedom = 2.60.

Our calculated ‘t’- values is much greater than 1.97 as well as 2.60, the critical values required to reach 5% and 1% levels of significance respectively. Thus we can reject null hypothesis at 5% and 1% levels of significance and can
conclude that the difference between the means of two samples can not be attributed to chance factors or some sampling fluctuations. This difference is quite trustworthy and dependable to say that the science post graduate pre service teachers are more competent in teachers are more competent in teaching as compared to science graduate pre service teachers at 5% and 1% levels of significance.

**Objective 8:**

To compare the teaching competency between graduate pre-service teachers and post-graduate pre-service teachers belonging to Commerce stream.

**Hypothesis 8:**

There is no significant difference in teaching competency between graduate pre-service teachers and post-graduate pre-service teachers belonging to commerce stream.

Here we are computing the teaching competency scores of two sample means so ‘t’-test was used to see the significance of difference between means of two sample i.e. Science post graduate pre service teachers and science graduate pre service teachers.

**Table – 4.8**

<table>
<thead>
<tr>
<th></th>
<th>Pre-service teachers</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Standard Error</th>
<th>σD</th>
<th>‘t’-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post graduate</td>
<td>148</td>
<td>11.44</td>
<td>12.49</td>
<td>1.03</td>
<td>1.587</td>
<td></td>
<td>5.816</td>
</tr>
<tr>
<td>Graduate</td>
<td>152</td>
<td>102.25</td>
<td>14.93</td>
<td>1.21</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Critical ‘t’- value at 5% level of significance for 298 degree of freedom = 1.97.
Critical ‘t’- values at 1% level of significance for 298 degrees of freedom = 2.59.

Our calculated ‘t’- values is much greater than 1.97 as well as 2.59, the critical values required to reach 5% and 1% levels of significance respectively. So we can reject null hypothesis at 5% and 1% levels of significance. Thus we can conclude that the difference between the means of two samples can not be attributed to chance factors or some sampling fluctuations. This difference is quite trustworthy and dependable to say that the commerce post graduate pre service teachers are more competent in teaching than commerce graduate pre service teachers.

**Objective 9 :**

To compare the teaching competency between graduate pre-service teachers belonging to arts, science and commerce streams.

**Hypothesis 9 :**

There is no significant difference in teaching competency between graduate pre-service teachers belonging to art, science and commerce streams.

Here we are computing the significance of difference between the means of three samples for one variable. So one way ANOVA was used.

**Table – 4.9**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>Degree of Freedom</th>
<th>Means square variance</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Group</td>
<td>62</td>
<td>2</td>
<td>31</td>
<td>.1455</td>
</tr>
<tr>
<td>Within Group</td>
<td>112332</td>
<td>527</td>
<td>213.15</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>122394</td>
<td>529</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significance of difference between Means of Teaching Competency Scores of Art, Commerce and Science Graduate Pre-service Teachers (One Way ANOVA)

Art Graduate P.S.T. = 277

Commerce Graduate P.S.T. = 152

Science Graduate P.S.T. = 101
Teaching Competency Scores of Art Graduate Pre-Service Teachers

Fig. 4.9

Teaching Competency Scores of Commerce Graduate Pre-Service Teachers

Fig. 4.10
Teaching Competency Scores of Science Graduate Pre-Service Teachers

Fig. 4.11

Interpretation of F-value
Critical ‘F’-value for $df_1 = 2$ and $df_2 = 527$

‘F’ at .05 = 3.01
‘F’ at .01 = 4.65

Our calculated ‘f’-values 0.1455 is less than the tabled ‘f’ value at .05 and .01 levels of significance for 2 degrees of freedom for greater sample mean square values and for 527 degrees of freedom for smaller sample mean square values. We can accept null hypothesis at .05 and .01 levels of significance. We may confidently say that differences between means are not significant and therefore there is no need for further testing with the help of ‘t’-test. As a result the given difference in sample means being insignificant, can only be attributed to some chance factors or sampling fluctuations.
Objective 10:

To compare the teaching competency between post-graduate pre-service teachers belonging to arts, science and commerce streams.

Hypothesis 10:

There is no significant difference in teaching competency between post-graduate pre-service teachers belonging to art, science and commerce streams.

Here we are computing the significance of difference between means of three samples for one variable. So one way ANOVA was used.

Table – 4.10

Significance of difference between Means of Teaching Competency Scores of Art, Commerce and Science Post Graduate Pre-service Teachers (One Way ANOVA)

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>Degree of Freedom</th>
<th>Means square variance</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Group</td>
<td>346</td>
<td>2</td>
<td>173</td>
<td></td>
</tr>
<tr>
<td>Within Group</td>
<td>68284</td>
<td>465</td>
<td>146.8</td>
<td>1.17</td>
</tr>
<tr>
<td>Total</td>
<td>68630</td>
<td>467</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Teaching Competency Scores of Art Post Graduate Pre-Service Teachers

Teaching Competency Score of Commerce Postgraduate Pre-Service Teachers
Teaching Competency Scores of Science Post Graduate Pre-Service Teachers

**Fig. 4.14**

**Interpretation of F-value**

Critical ‘F’- value for \( df_1 = 2 \) and \( df_2 = 465 \)

‘F’ at .05 = 3.01

‘F’ at .01 = 4.65

Our calculated ‘f’- values is less than the tabled ‘f’ value at .05 and .01 levels at significance for 2 degrees of freedom for greater mean square variance and 465 degrees of freedom for smaller mean square variance. Now we can accept null hypothesis at .05 and .01 levels of significance and can confidently say that differences between means are not significant and therefore there is no need for further testing with ‘t’-test. As a result the given difference in sample means being insignificant, can only be attributed to some chance factors or sampling fluctuations.
Objective 11:

To compare the difference in teaching competency between high emotionally intelligent and low emotionally intelligent pre-service teachers.

Hypothesis 11:

There is no significant difference in teaching competency between high emotionally intelligent and low emotionally intelligent pre-service teachers.

Here we are computing the two groups on teaching competency scores. The two groups, one bring high emotionally intelligent and other is low emotionally intelligent. So 't' test is used

The B.Ed. students who scored more than 67 marks on Mangal's Emotional Intelligence Inventory were considered high emotionally intelligent and those who scored less than 67 mark were considered low emotionally intelligent for the present investigation.

Table – 4.11

Significance of Difference between Means of Teaching Competency Score of High and Low Emotionally Intelligent Pre-Service Teachers ('t'-test)

<table>
<thead>
<tr>
<th>Pre-service teachers</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Standard Error</th>
<th>( \sigma_D )</th>
<th>'t'-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Emotionally Intelligent</td>
<td>508</td>
<td>112.80</td>
<td>9.87</td>
<td>.44</td>
<td>.7932</td>
<td>15.44</td>
</tr>
<tr>
<td>Low Emotionally Intelligent</td>
<td>492</td>
<td>100.55</td>
<td>14.63</td>
<td>.66</td>
<td></td>
<td></td>
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Teaching Competency Scores of High Emotionally Intelligent Pre-Service Teachers

Teaching Competency

Fig. 4.15

Teaching Competency Scores of Low Emotionally Intelligent Pre-Service Teachers

Teaching Competency

Fig. 4.16
**Interpretation of ‘t’ value**

Critical ‘t’- value at 5% level of significance for 993 degree of freedom = 1.96.

Critical ‘t’- values at 1% level of significance for 993 degrees of freedom = 2.58.

Our calculated ‘t’- values is much greater than table values required to reach 5% and 1% levels of significance respectively. This value is significant at both the levels of significance. So we can reject null hypothesis and can conclude that the difference between the means of two samples can not be attributed to some chance factors or other sampling fluctuations. This difference is quite trustworthy and dependable to say that the high emotionally intelligent pre service teachers are more competent in teaching than low emotionally intelligent pre service teachers at .05 and .01 levels of significance.