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Analysis and Interpretation of Data

6.1 Introduction
The previous chapter was dealt with construction and standardization; Validity and reliability of the scale. Now the investigator proceeds with the analysis and interpretation of data.

6.2 Data collection
The data collection is the most important phase in research study. After finalizing the tool the scale was administered on the teachers of Gujarat state.

6.3 Analysis and Interpretation
6.3.1 Analysis:
Analysis of data means studying the tabulated material in order to determine innate facts or meanings. According to the B.N. Pandey and R.C. Mohanty (2003), “Identification of appropriate analysis technique is extremely important. Very few situations cause as much “weeping and gnashing of teeth” as collecting data only to find out that there is no appropriate analysis or that the analysis that is appropriate requires sophistication beyond the researcher’s level of statistical competence.”
Data analysis means the selection of descriptive or inferential statistical method to decide the level of significance and testing of the hypothesis.
The data collected through this scale being raw scores was unable to give any information regarding the variables. Therefore it needs to be systematically arranged.
The investigator has used Mean, Standard Deviation, Standard Error of the mean and t-test as statistical formulae for analysis and interpretation.
With reference to the present study 1000 teachers from the schools of Gujarat state were selected. The data was classified as mentioned:
Table- 6.3.1
Significance test of Male and Female teachers

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>338</td>
<td>348.39</td>
<td>52.80</td>
<td>0.57</td>
</tr>
<tr>
<td>Females</td>
<td>672</td>
<td>350.41</td>
<td>53.43</td>
<td></td>
</tr>
</tbody>
</table>

Interpretation

- From table-1, it is clear that the $t_{cat} = 0.57$ which is less than $t_{0.05} = 1.96$. This indicates that the difference is not significant. Thus, the hypothesis that there is no significant difference between the mean scores of the self-confidence of the Male and Female teachers of Gujarat will not be rejected at 0.05 levels. It is clarify that male and female teachers do not differ in their self-confidence.

![Bar chart showing self-confidence levels for Male and Female teachers]
Table-6.3.2

Significance test of Granted and Non Granted school teachers

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Granted</td>
<td>360</td>
<td>348.25</td>
<td>52.73</td>
<td>0.63</td>
</tr>
<tr>
<td>Nongranted</td>
<td>640</td>
<td>350.56</td>
<td>53.17</td>
<td></td>
</tr>
</tbody>
</table>

Interpretation

- From table-2, it is clear that the $t_{\text{cal.}}=0.63$ which is less than $t_{0.05}=1.96$. This indicates that the difference is not significant. Thus, the hypothesis that there is no significant difference between the mean scores of the self-confidence of the teachers of Gujarat belonging to different Types of schools will not be rejected at 0.05 level. It is clarify that granted and non granted teachers do not differ in their self confidence.
Table-6.3.3
Significance test of CBSE and GSEB Boards teachers

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBSE</td>
<td>200</td>
<td>352.66</td>
<td>51.29</td>
<td>0.87</td>
</tr>
<tr>
<td>GSEB</td>
<td>800</td>
<td>349.00</td>
<td>53.42</td>
<td></td>
</tr>
</tbody>
</table>

**Interpretation**

- From table-3, it is clear that the $t_{cat} = 0.87$ which is less than $t_{0.05} = 1.96$. This indicates that the difference is not significant. Thus, the hypothesis that there is no significant difference between the mean scores of the self-confidence of the teachers of Gujarat belonging to different Boards of schools will not be rejected at 0.05 level. It is clarify that CBSE and GSEB Board teachers do not differ in their self-confidence.
Table 6.3.4
Significance test of Open and Other Category teachers

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>284</td>
<td>351.62</td>
<td>57.53</td>
<td>0.71</td>
</tr>
<tr>
<td>Other</td>
<td>726</td>
<td>348.98</td>
<td>51.11</td>
<td></td>
</tr>
</tbody>
</table>

Interpretation

- From table-4, it is clear that the $t_{cal}=0.71$ which is less than $t_{0.05}=1.96$. This indicates that the difference is not significant. Thus, the hypothesis that there is no significant difference between the mean scores of the self-confidence of the teachers of Gujarat belonging to different Categories will not be rejected at 0.05 level. It is clarify open and other category teachers do not differ in their self confidence.

6.4 Conclusion
In the present chapter, the investigator has explained need of analysis and interpretation of data. The collected data was systematically organized. Than the investigator has analyzed and interpreted the data through statistical techniques mean, standard deviation and testing the
hypothesis by using the t value which is \( t_{0.05} = 1.96 \) and \( t_{0.01} = 2.58 \). From the analysis and interpretation the overall inference of research is brought and based on that generalization is done. On the basis of interpretation, suggestion and scope for further research are given in next chapter.