Chapter-III

DESIGN OF THE STUDY

3.0 Introduction

The research design has been considered as a “blueprint” for research, dealing with at least four problems: what questions to study, what data are relevant, what data to collect, and how to analyze the results. It includes the description of the following

(i) Population
(ii) Sample
(iii) Tools and Data Collected
(iv) Method of the study
(v) Statistical Technique.

3.1 Population of the study

The population of the present study will comprise all the X Grade students in Government and Private Schools in Jowai Town as shown in Table 3.1

Table 3.1

No of Schools and No of X Grade Students in Jowai Town

<table>
<thead>
<tr>
<th>Sl.no</th>
<th>Management</th>
<th>No of schools</th>
<th>No of students</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>1.</td>
<td>Government Schools</td>
<td>2</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>2.</td>
<td>Private Schools</td>
<td>9</td>
<td>350</td>
<td>290</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>11</td>
<td>500</td>
<td>440</td>
</tr>
</tbody>
</table>
3.2 Sample of the Study

The sample of the present study will comprise of X Grade students of one Government School and one Private School in Jowai Town as given below

Table 3.2

No of Schools and No of X grade students under the sample.

<table>
<thead>
<tr>
<th>Sl.no</th>
<th>Management</th>
<th>No of schools</th>
<th>No of students</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Boys</td>
<td>Girls</td>
</tr>
<tr>
<td>1.</td>
<td>Government Schools</td>
<td>1</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>2.</td>
<td>Private Schools</td>
<td>1</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>2</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

3.3 Tools and Data Collected

To achieve the above foresaid objectives the investigator is intend to carry out the study by using the Problem Solving Ability (PSAT) Test by L.N.Dubey, as a tool for collecting necessary data.

3.4 Method of the study

This study follows a descriptive type of research methodology. Descriptive methodologies are designed to obtain pertinent and precise information concerning the current status of phenomena and whenever possible to draw valid general conclusions from the facts discovered.23

3.5 **Statistical Technique.**

The present study has used the following statistical technique for the analysis of the data.

1. **Mean:** The formula is given below

   \[ M = AM + \frac{\sum fx'}{N} \times i \]

   Where

   - \( M \) = Mean,
   - \( AM \) = Assumed Mean,
   - \( x' \) = Deviation score from the Mean,
   - \( N \) = Population,
   - \( i \) = class Interval.

2. **Standard Deviation, \( \sigma \):** The formula is given below

   \[ \sigma = i \times \sqrt{\frac{\sum fx'^2}{N} - \left( \frac{\sum fx'}{N} \right)^2} \]

   Where

   - \( \sigma \) = Standard Deviation,
   - \( i \) = Class Interval,
   - \( x' \) = Deviation score from the Mean,
   - \( N \) = Population.
3. **t-test**

\[ \sigma_D = \sqrt{\frac{\sigma_1^2 (N_1 - 1) + \sigma_2^2 (N_2 - 1)}{N_1 + N_2 - 2} \left( \frac{1}{N_1} + \frac{1}{N_2} \right)} \]

\[ \sigma_D = \sqrt{\frac{\sum x_1^2 + \sum x_1^2}{N_1 + N_2 - 2} \left( \frac{1}{N_1} + \frac{1}{N_2} \right)} \]

\[ t \text{ value} = \frac{D}{\sigma_D} \]

Where

- **D** = Difference between means
- **\( \sigma_D \)** = Difference between the standard deviations
- **N\(_1\), N\(_2\)** = Population
- **X\(_1\), X\(_2\)** = Scores