CHAPTER-III

METHODOLOGY OF THE STUDY

3.0. Introduction

Research methodology is the procedure which is designed and adopted in solving a research problem. According to Lokesh Koul, “Methodology of educational research describes the various steps of plan or attack to be adopted in solving a research problem”. This chapter explains the methodology used in finding out the level of “Job satisfaction and teacher effectiveness of secondary school teachers of Assam in relation to some variable”. The study focuses on the secondary school teachers teaching in selected three districts of Assam. This chapter is discussed in following heads:

3.1 Research Design

3.2 Population of the study

3.3 Sample of the Study

3.4 Description of the Field

3.5 Research Tools

3.6 Data Collection

3.7 Procedure of Data Analysis

3.1. Research Design

The purpose of any research in any discipline is to find out answers to questions through the application of scientific procedures. The effectiveness of research study depends on how it is being planned and carried out by the investigator.
Therefore, selecting an appropriate method of research is an important task on the part of the researcher. The present research study is based on descriptive cum normative survey method of educational research. The descriptive research or normative survey has undoubtedly been the most popular and widely used research methods in education. Descriptive research studies are designed to obtain pertinent and precise information concerning the current status of phenomena and wherever possible, to draw valid general conclusion from the fact discovered. It is concerned with the analysis of the relationship between non-manipulated variables, the testing of hypotheses and development of generalizations, principles or theories that have universal validity and extending its conclusions beyond the sample observed. Survey method in education involves the collection of information from a specific population by making use of highly standardized tools and then analysis these collected information and draw the conclusion or testing the hypotheses. In order to test the hypotheses, the study is planned to execute in four phases:

*Phase one:* selection of population of the study.

*Phase two:* selection of sample involved in the study.

*Phase three:* selection of Standardized Teacher Job Satisfaction Scale and Teacher Effectiveness Scale to measure the selected variables.

*Phase four:* prepare the procedure for collection of the data using standardized tools and analysis of data using appropriate statistical procedure to find out the significance of difference between the different variables.

### 3.2. Population of the Study

The term ‘population’ signifies the total number of aspects for which the information are collected and the investigations conducted. The entire group from which the sample has been taken is known as the population. In other words, a population is usually defined as “all the members of any well-defined class of people,
events or objects. Defining a population means finding the limits in terms of one or more of its various aspects. The **target population** of the present study consisted of gender, teacher training, settlement, management and teaching subject of secondary school teachers of Lakhimpur, Dhemaji and Sonitpur districts of Assam.

### 3.3. Sample of the Study

It is impossible and impracticable to obtain information from a large population in a district or a state. Hence, the investigator collects information from a few carefully selected units drawn from a population. If these sample units represent accurately the characteristics of the population, generalization based on the data obtained from them may be applied to the entire group. The process of selecting the true representatives is termed as sampling. A small representation of the population considered for a research study is known as sample of the study. Generally a research study is undertaken to make generalization about the population. But it would be an expensive for a researcher to collect evidence from the entire population, in terms of time, money, effort and manpower. Therefore, sampling is used in research study as it is a process by which a relatively small number of individuals or measures of individuals, object or events is selected and analysed in order to find out something about the entire population from which it was selected. It helps to reduce expenditure, save time and energy, permit measurement of greater scope, or produce greater precision and accuracy. So far the sampling procedure is concerned for the present study researcher used cluster sampling procedure for collection of data from the teachers of selected secondary schools of three selected districts, namely, Lakhimpur, Dhemaji and Sonitpur of Assam.
Table 3.1 Indicating District wise distribution of secondary school and teachers in study area

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>District</th>
<th>Total schools</th>
<th>Total teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lakhimpur</td>
<td>357</td>
<td>3919</td>
</tr>
<tr>
<td>2</td>
<td>Dhemaji</td>
<td>253</td>
<td>2727</td>
</tr>
<tr>
<td>3</td>
<td>Sonitpur</td>
<td>287</td>
<td>2574</td>
</tr>
</tbody>
</table>

Source: Official Record (Office of the Inspector of Schools, 2014)

Table 3.1 indicates the total number of schools and teachers available in the three selected districts. On the basis of the total secondary schools, a sample of 570 teachers from all the three districts is selected randomly by adopting cluster sampling technique. Care was taken to give proper representation of the three districts covered in the present study. The final sample was selected through the following four phases;

First phase

Out of 27 districts of Assam 10% districts were selected and the selected districts are Lakhimpur, Dhemaji and Sonitpur. These three districts were selected on the basis of both the highest and the lowest number of secondary schools, teachers, and H.S.L.C. result of last three years etc. comparing to the other districts. In Lakhimpur district it is seen that there are no such industries where educated youth can engaged themselves. Therefore, a large portion selects teaching profession as a last option for their livelihood. There are 357 secondary schools (both govt. and private) in Lakhimpur district, and the numbers of secondary schools in Dhemaji and Sonitpur districts are 253 and 287 respectively. Again, Dhemaji is continuously making record over last four years by securing highest passing percentage in HSLC examination. Is this happen due to the teacher’s job satisfaction and effectiveness? Though Lakhimpur district is a flood affected area and economically backward than Sonitpur district the passing percentage in HSLC examination in last three years are
higher than Sonitpur district. This is due to the teacher’s effectiveness and job satisfaction or not. (Source: office of the Inspector of schools)

Second phase

In the second phase, researcher selected 40% blocks from each three selected districts for the purpose of depth study. There are six educational blocks in Lakhimpur, five in Dhemaji and six educational blocks in Sonitpur district. And investigator selected two educational blocks from each three districts.

Table: 3.2 Showing District wise Selected Block

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Name of District</th>
<th>Name of Block (40%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lakhimpur</td>
<td>Narayanpur Block</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bihpuria Block</td>
</tr>
<tr>
<td>2</td>
<td>Dhemaji</td>
<td>Machkhowa Block</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bordoloni Block</td>
</tr>
<tr>
<td>3</td>
<td>Sonitpur</td>
<td>Gohpur Block</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Helem Block</td>
</tr>
</tbody>
</table>

Source: Official Record (Office of the Inspector of Schools, 2014)
Third phase
In the third phase ten secondary schools were randomly selected from each block of three districts i.e. Lahkimpur, Dhemaji and Sonitpur.

Table: 3.3 Indicating Block Wise Selected Schools

<table>
<thead>
<tr>
<th>Name of the Block</th>
<th>No. of selected school</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narayanpur</td>
<td>10</td>
</tr>
<tr>
<td>Bihpuria</td>
<td>10</td>
</tr>
<tr>
<td>Machkhowa</td>
<td>10</td>
</tr>
<tr>
<td>Bordoloni</td>
<td>10</td>
</tr>
<tr>
<td>Gohpur</td>
<td>10</td>
</tr>
<tr>
<td>Helem</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: Official Record (Office of the Inspector of Schools, 2014)

Forth phase
In the fourth phase investigator selected all the teachers of selected schools for the sample. The following criteria were taken into account for selection of the sample:

i) The first consideration was the inclusion of both male and female secondary school teachers from the selected area.

ii) The second consideration was the inclusion of both trained and untrained secondary school teachers for the study.

iii) The third consideration was the inclusion of both govt. and private secondary school teachers for the study.

iv) The fourth consideration was the inclusion of both rural and urban secondary school teachers for the study.

v) The fifth consideration was the inclusion of both science and arts secondary school teachers for the study.
The bifurcation of the selected sample of secondary school teachers is shown as under:

**District-I: Lakhimpur**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Teaching Sub</th>
<th>Teacher Training</th>
<th>Settlement</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>F</td>
<td>Sc</td>
<td>Arts</td>
<td>T</td>
</tr>
<tr>
<td>148</td>
<td>97</td>
<td>76</td>
<td>169</td>
<td>49</td>
</tr>
<tr>
<td>196</td>
<td>135</td>
<td>110</td>
<td>175</td>
<td>70</td>
</tr>
</tbody>
</table>

**District-II: Dhemaji**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Teaching Sub</th>
<th>Teacher Training</th>
<th>Settlement</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>F</td>
<td>Sc</td>
<td>Arts</td>
<td>T</td>
</tr>
<tr>
<td>93</td>
<td>52</td>
<td>43</td>
<td>102</td>
<td>10</td>
</tr>
<tr>
<td>135</td>
<td>75</td>
<td>70</td>
<td>85</td>
<td>60</td>
</tr>
</tbody>
</table>

**District-III: Sonitpur**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Teaching Sub</th>
<th>Teacher Training</th>
<th>Settlement</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>F</td>
<td>Sc</td>
<td>A</td>
<td>T</td>
</tr>
<tr>
<td>95</td>
<td>85</td>
<td>56</td>
<td>124</td>
<td>38</td>
</tr>
<tr>
<td>142</td>
<td>85</td>
<td>95</td>
<td>120</td>
<td>60</td>
</tr>
</tbody>
</table>
3.4. Description of the Field

The area of the present study was three districts namely Lakhimpur, Dhemaji and Sonitpur of Assam. Lakhimpur district is situated in the eastern part of India, on the Northeast corner of Assam, located near the mighty Brahmaputra River. The district lies between 26° 48 and 27° 53 Northern attitude and 93.42 and 94.20 east longitude and 93 42’and 94 20’east latitude. The district covers an area of 2,277 sq.km. According to census report 2011, the total population of Lakhimpur district is 88,910 and literacy rate of this district is 69.59%. There are 350 secondary schools in Lakhimpur district and 3,919 teachers working in these schools out of which 3,123 are male and 794 are female. There are six educational blocks in Lakhimpur district and the researcher selected two blocks (40%), i.e. Narayanpur and Bihpuria block for the study.

Dhemaji district is one of the districts situated in the remote corner of North East India, on the north bank of river Brahmaputra. The boundaries of the district are the hilly range of Arunachal Pradesh to the North and the East, Lakhimpur district in the West and the river Brahmaputra in the South. The district covers an area of 3,235 sq.km and the total population is 688,077 (2011 census). The literacy rate of this district is 72.70. There are 253 secondary schools in Dhemaji district and 2,727 teachers working in these schools out of which 2,178 are male and 549 are female. There are five educational blocks in this district and the researcher selected two blocks (40%) for the study. The selected blocks are Machkhowa and Bordoloni block.

Sonitpur is an administrative district in the state of Assam in India. It stands among the largest district of Assam. In the term of area Sonitpur is the second largest district of Assam after Karbi Anglong. It is spread over an area of 5324 sq.km on the northern bank of Brahmaputra. The population of this district are 19, 24,110 as per 2011 census. The head quarter are locating at Tezpur. There are 287 secondary
schools in Sonitpur district and 2574 teachers working in these schools out of which 2018 are male and 556 are female teachers. The literacy rate of this district is 67.34. There are six educational blocks in Sonitpur district and the researcher selected two blocks (40%), i.e. Gohpur and Helem block for the study.

3.5. Research Tools

The research tools selected for this study were the self-rating scales for Job satisfaction level and teacher effectiveness of secondary school teachers. For this purpose investigator has used standardized “Job Satisfaction Scale” developed by Dr. Amar Singh and Dr. T.R. Sharma (1986) and “Teacher Effectiveness Scale” developed by Dr. Promod Kumar and Dr. D.N. Mutha(1999).

3.5.1. Job Satisfaction Scale

Job Satisfaction Scale developed by Dr. Amar Singh and Dr. T. R. Sharma, contains 30 statements. Each statement has five alternatives from which a respondent has to choose any one which candidly expresses his/her response.

The following chart shows the connection of different items with different areas constituting the scale:

i. Job-intrinsic statement(factors inherent in the job)
   a) Job concrete statements such as excursions, place of posting, working condition:
      Statement Number: 6, 11, 13, 19, 23, 25
   b) Job abstract statements such as cooperation, democratic function etc.
      Statement Number: 8, 15, 16, 17, 21, 27.

ii. Job-extrinsic statements (factor residing outside the job)
   a) Psycho-social such as intelligence, social circle:
      Statement Number: 1, 3, 4, 7, 12, 26, 30.
   b) Economic such as salary, allowance etc.:
Statement Number: 2, 5, 9, 18, 20.

c) Community / Nation growth such as quality of life, National Economy:

Statement Number: 10, 14, 22, 24, 28, 29.

3.5.2. Standardized Scale

The scale in its totality or in parts depending upon requirements can be administered to any category of professionals. It is comprehensive and omnibus in nature. Job satisfaction scale developed by Dr. Amar Singh and Dr.T.R. Sharma (1986) is a standardized scale for job satisfaction for any workers.

3.5.3. Scoring Method

The scale has both positive and negative statements. Items at Sl. No. 4, 13, 20, 21, 27, 28 are negative and all other statements are positive. It is a 5- point Scale. The positive statements carry a weight age of 4, 3, 2, 1 and 0 and the negative statements carry 0, 1, 2, 3 and 4. The total score gives a quick measure of satisfaction/dissatisfaction of a worker towards his job. Maximum satisfaction score of the JSS is 120.

3.5.4. Reliability and Validity

The test-retest reliability worked out to be 0.978 with N=52 and a gap of day. The coefficient of correlation was 0.812 (N=52).

3.5.5. Uses of Scale

The scale is brief, reliable, and valid and has administrative facility. It is easily score able. It can be administered to any category of workers. Each of the 30 statements has been provided with suitable alternatives characterized by the nature of statement. All statements are clear, distinct and concept based. The following table shows the degree of satisfaction among workers.
Table: 3.4 Showing Degree of satisfaction among teachers

<table>
<thead>
<tr>
<th>SCORE</th>
<th>DEGREE OF SATISFACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>74 or above</td>
<td>Extremely satisfied</td>
</tr>
<tr>
<td>63-73</td>
<td>Very satisfied</td>
</tr>
<tr>
<td>56-62</td>
<td>Moderately satisfied</td>
</tr>
<tr>
<td>48-55</td>
<td>Not satisfied</td>
</tr>
<tr>
<td>47 or below</td>
<td>Extremely dissatisfied</td>
</tr>
</tbody>
</table>

Source: Job Satisfaction Scale

3.5.6. Teacher Effectiveness Scale

Teacher Effectiveness Scale’ developed by Dr. Promod Kumar and Dr. D.N. Mutha contains 69 items. These items belonged to the following teaching behavior categories:

1. Academic:
   i. Information source (items- 2,3,24,57)
   ii. Motivator (5, 6, 44, 68)
   iii. Teaching skills (41,42, 43, 45, 47,50,51)

2. Professional:
   i. Co-curricular activities (29,30, 31)
   iii. Professional knowledge (1, 32, 33,34,40,55)
   iv. Class-room management (16,52,53, 54)

3. Social:
   Relationship with pupils, fellow teachers, principals and parents (7, 9, 11, 12, 15, 21, 22, 23, 25, 26, 28)

4. Emotional:
   Adviser and Guide (4, 8, 19, 27, 46, 48, 49, 56)
5. Moral:

Disciplinarian /moral (10, 13, 17, 20, 60, 61, 62, 64, 65, 69)

6. Personality:

Personality characteristics (14, 18, 35, 36, 37, 38, 39, 53, 59, 63, 66, 67)

3.5.7. Scoring Method

All the 69 items of the scale are positively worded. Items are given a score of 5, 4, 3, 2 and 1 for ‘strongly agree’, ‘agree’, ‘undecided’, ‘disagree’ and ‘strongly disagree’ respectively. The sum of these values gives the teacher-effectiveness score for the subject. The total score varies from 69 to 345, showing least teacher-effectiveness to highest teacher effectiveness. The following table shows the degree of effectiveness among the workers.

3.5.8. Reliability and Validity

The scale is highly reliable and valid. The Split-half reliability (correlating the odd/ even items) of the scale is found to be 0.67 (N-100) with an index of reliability of 0.82 and the test-retest reliability of the scale is found to be 0.75 (N-50) with an index of reliability .85 with two months interval time.

**Table: 3.5 Showing Degree of effectiveness among teachers**

<table>
<thead>
<tr>
<th>Score</th>
<th>Degree of effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>312 &amp; above</td>
<td>Most effective</td>
</tr>
<tr>
<td>301 to 311</td>
<td>More effective</td>
</tr>
<tr>
<td>277 to 300</td>
<td>Average</td>
</tr>
<tr>
<td>266 to 276</td>
<td>Low effective</td>
</tr>
<tr>
<td>Lowest to 265</td>
<td>Least effective</td>
</tr>
</tbody>
</table>

*Source: Teacher Effectiveness Scale*
3.6. Data Collection

Data were collected through the process of personal visit to the sample schools. Firstly, investigator explained the purpose for which the study was being conducted. Both the scales were provided personally to all the sample teachers and requested to respond to the statement honestly. The answer sheets were collected personally. Then scoring was done using scoring methods discussed earlier. Scores were tabulated, analyzed and interpreted.

To enriched the collected materials from the field the researcher has consulted the libraries of various universities i.e., Gauhati University, Dibrugarh University, North Eastern Hill University, Rajiv Gandhi University etc. The researcher also collected statistical data, document from various departments like Director of Census, Inspector of Schools and Director of Public Information etc.

3.7. Procedure of Data analysis

The collected data was classified and tabulated according to the objectives of the study and was analysed by using the following statistical procedure.

3.7.1. Descriptive statistics

The descriptive statistical measures are used to describe the characteristics of a sample or population in totality. The means of the scores for the statements towards the job satisfaction and teacher effectiveness were calculated by means of descriptive statistics, viz., Mean, Standard Deviation. The mean is the sum of separates scores or measures divided by their number or the average scores. The formula used for calculating Mean is \( M = \frac{\sum x}{N} \). Again the standard deviation is regarded as a most stable and reliable measures of variability as it employs mean for its computation. It is the square root of the average of the square of deviations of each score from the mean. The formula used for calculating standard deviation is \( S.D. = \sqrt{\frac{\sum x^2}{N}} \).
3.7.2. Inferential statistics

The descriptive statistical measures limit generalizations to the particular group of observed individuals. Inferential statistics are useful to a researcher in making generalizations or interferences about populations from the observations of the characteristics of samples. T-test and correlation are two widely used inferential statistics. The t-test is used to measure the significance of the difference between two sample independent means. In the present study the data were analysed with the help of t-test to find out the difference between male/female, trained/untrained, rural/urban, private/govt., science/arts teachers of secondary schools regarding their job satisfaction and effectiveness.

The formula used for calculating ‘t’ is

\[ t = \frac{M_1 - M_2}{\sqrt{\frac{Q_1^2}{N_1} + \frac{Q_2^2}{N_2}}} \]

Again correlation is used to measure the relationship between the job satisfaction and effectiveness of secondary school teachers with regards to some variables i.e. male/female, trained/untrained, rural/urban, private/govt., science/arts teacher. The formula used in computing correlation is

\[ r = \frac{N(\sum xy) - (\sum x)(\sum y)}{\sqrt{(N\sum x^2 - (\sum x)^2)(N\sum y^2 - (\sum y)^2)}} \]

In order to analyze the collected data and testing the hypotheses the researcher used the SPSS – version.