CHAPTER III

METHODOLOGY
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3.01 Research Method

Research is to see what others have seen but to think what is not thought. It is a systematic study which demands a clearly chalked out methodology. Perfection of methodology ensures the objectivity of findings leading to draw logical conclusion of the study. Research involves the quest for answer to unsolved problems.

Educational research involves the elements of observation, description and analysis of what happens under certain circumstances. All educational research methods can be classified into three basic categories considering that all studies in the field of education fall under one or a combination of three methods. These methods are-

i) Historical Method.

ii) Descriptive Method

iii) Experimental Method.

i) **Historical Method:** Historical method describes what happened in the past. It involves investigation, record, analysis and interpretation of the past events. This process is helpful to understand the past, present and to anticipate the future by discovering generalization. The bibliographical research, legal research etc. are the main types of historical research. It can be used to study the history of ideas, the history of institutions and organizations etc. Historical method has a great value in the field of educational research. With the help of this process it is easy to know and understand educational achievements and trends of the past.
which provides an essential knowledge to gain perspective on present and future direction.

**ii) Descriptive Method:** This is the most widely used research method in education. Descriptive method attempts to describe and interpret what exist at present in the form of conditions, practices, process, trends, effects, attitude, beliefs etc. Descriptive research studies are designed to obtain pertinent and precise information concerning the current studies of phenomena and whenever possible to draw valid general conclusion from the fact discovered. It deals with the relationship between variables, the testing of hypotheses and the development of generalization, principles or theories that have universal validity. Descriptive research investigates phenomena in their natural setting and involves measurement, classification, analysis, comparison and interpretation. Descriptive studies may be classified in the following three categories –

a) **Survey studies**

b) **Interrelationship studies**

c) **Developmental studies**

a) **Survey studies**

Survey studies are conducted to collect detailed description of existing phenomena to employ data to justify current conditions and practices in order to furnish guidance in the justification or improvement of present status. A survey as a method of research involves systematic collection, analysis, interpretation and reporting of pertinent facts concerning an enterprise, an institution and a population and some aspects thereof.
b) Interrelationship studies

The studies that endeavour to discover relationship between various facts of the existing phenomena are called interrelationship studies. They attempt to trace relationship between facts that will provide deeper insight into the existing phenomena.

c) Developmental studies

Developmental studies are used for investigating the characteristics of children and the ways in which these characteristics change with growth and development. Such studies are concerned with the present status and interrelationship as a function of time.

iii) Experimental Method: The experimental research describes what will be when certain variables are carefully controlled or manipulated. It provides for much control and therefore establishes a systematic and logical association between manipulated factors and observed effects. Experimental research is characterized by control, manipulation, observation and replication. Control refers to the extent to which different factors in an experiment are accounted for. Manipulation refers to a deliberate operation of the conditions by the researcher. Observation is used to evaluate the overt behaviour of individual in controlled and uncontrolled situation. Replication is a matter of an overall experimental design.

3.02 Research consideration for the present study

The present study demands the application of Descriptive Survey Study (method). This is the most widely used research method in education. The word ‘survey’ indicates the gathering of data regarding current conditions. Survey is defined as ‘that branch of social scientific investigation that studies large and
small population (or universe) by selecting and studying samples chosen from the population to discover the relative incidence, distributions and interrelations of sociological and psychological variables. Survey studies are conducted to collect detailed description of existing phenomena to employ data to justify current conditions and practices in order to furnish guidance in the justification or improvement of the present status. The major characteristics of survey method are that; it is essentially cross sectional and gathers data from a relatively large number of cases. It deals with clearly defined problems and has definite objectives. It involves systematic collection, analysis and interpretation.

The present problem “A study on Rural-Urban disparity of Assamese medium secondary schools of Kamrup district with special reference to the Teachers’ Job Satisfaction and Academic Achievement of the Students” needs descriptive or normative survey method of study as it is aimed to assess the job satisfaction level of the teachers and the academic achievement of the students. It may be considered as interrelated type study as the study aims to discover the relationship between the Rural and the Urban teachers’ job satisfaction, the Government and the Private school teachers’ job satisfaction, Academic Achievement of the Students in Rural and Urban school students, Academic Achievement of the Students in Government and Private school and to discover the relationship between Teachers’ Job Satisfaction and Academic achievement of the Students.

3.03 Research Design

Research design is the conceptual structure within which research is conducted. It constitutes the blueprint for the collection, measurement and
analysis of data. Research design is needed for the smooth sailing of the various research operations, thereby making research as efficient as possible. Choosing design for a study basically involves selecting the most appropriate methods and techniques to solve the particular problem under investigation. Keeping in view the objective of the study the present study was designed as a descriptive study and normative survey method was adopted as the appropriate means for gathering the data essential for the study. The population of the study has been defined as the Assamese medium secondary schools of Kamrup district of Assam. The field study was conducted in the district with the help of a standardized scale (DJSS) and a self structured Data Gathering Schedule.

At the very beginning of the field study the list of secondary schools (Recognized by the SEBA) was collected from the “Directory of Secondary schools/Madrassas recognized by the Board of Secondary Education, Assam” (recognized upto 2007) and Inspector of schools, Kamrup district circle. The list of unrecognized schools was also collected from SEBA.

In order to obtain a representative sample from these schools two strata random sampling technique has been used. At the first strata the Rural and Urban schools, Government and Private schools were enlisted. At the other strata teachers of these schools were selected considering both Male and Female teachers from each school. Then the job satisfaction level of the teachers and academic achievement of the students were assessed through the responses given by the teachers working in the schools concerned and with the help of the Data Gathering Schedule.
Teachers' Job Satisfaction and Academic Achievement of the Students, these two variables are considered as the main variables of the present study. Teaches' job satisfaction is the dependent variable which is studied in relation to the variables like Location of the school (Rural-Urban), Management type of school (Government and Private) and Sex (Male-Female). Academic Achievement of the Students is the dependent variable which is studied in relation to the variables like Location of the school (Rural-Urban) and Management type of school (Government and Private). But while studying the relationship between the Teachers' Job Satisfaction and Academic Achievement of the Students, Teachers' Job satisfaction is taken as the independent variable.

3.04 Description of the population of the study

The population of the present study is the Assamese medium secondary schools of Kamrup (undivided/educational) district. The total number of Assamese medium secondary schools of Kamrup district is 466. Kamrup is centrally located district of Assam and the hub of all important activities and center of education and learning. The total area of the district is 4345 sq/km. To the eastern side the districts of Darrang and Morigoan are situated. Goalpara and Nalbari districts are situated in the western side of the district. The state of Meghalaya lies on the southern side of Kamrup district and to the north of the district Baksha is situated.

A Map of Assam is presented in Figure 3.01 where the location of Kamrup district (the place of field work) in Assam is shown. In Figure 3.02 a Map of Kamrup District as the place of field work is shown.
Figure: 3.01
Showing Location of Kamrup District in Assam as the place of field work

Figure: 3.02
Showing Kamrup District as the place of field work
Kamrup district has two sub-divisions (Rangia and Guwahati) and fifteen
revenue circles. The total literacy rate of the district is 74.69%, male 81.24% and
female 67.31% (as per 2001 census). Now Kamrup district is divided into two
districts Kamrup Metropolitan district and Kamrup (rural) district. The
educational administration of the district is not divided till now. So the present
study covers both the districts.

The first Assamese medium secondary school of Kamrup district which is
also the first secondary schools of Assam was established in 1834. This school is
now known as Cotton Collegiate Govt. Higher Secondary School. The Directory
of Secondary Schools recognized by the Board of Secondary Education, Assam
(SEBA) has recorded 407 Assamese medium secondary schools in Kamrup
district (recognized up to 1.1.2008). These schools are categorized as
Government, Provincialised, Non Provincialised Public and Non Provincialised
Private schools. Some of the Unrecognised schools are also considered for the
present study. The Unrecognized schools are also divided into two types Public
and Private. The Unrecognized Public Schools are not selected for the present
study as there is no sufficient number of such schools.

The Government schools are fully financed and directly managed and
maintained by the state Government where as Provincialized schools are not
directly managed and maintained by government, but receive maintenance grant
from the government. In case of these Provincialized school buildings are non
Government but employees are deemed to be government in the sense that they
came under the same concrete rule like Government schools. Therefore,
provincialized schools are brought under the term ‘Government Schools’ for the
present study. Thus all the Assamese medium secondary schools under ‘Directorate of Secondary Education, Assam’ are considered as Government Schools. In Kamrup district number of Government Schools fully financed and managed by the state government is five (T.C. Girls HSS, Cotton Collegiate HSS, Dispur Govt. H.S. School, Gopal Boro HSS and Uzan Bazar Girls’ High School). The majority of the schools termed as Government Schools are Provincialised schools.

For the present study Non-Provincialized Schools are categorized as private schools. Non-Provincialized Schools are divided into two types- Non-Provincialized public and Non-Provincialized private. Non-Provincialized Public Schools are recognized by the SEBA and the state Government but they are not provincialized by the Government of Assam but likely to be Provincialized. Public establish these schools with a hope for getting its Provincialization by the Government. These schools get financial grants from the Government which is not regular in nature. On the other hand Non-Provincialized private schools are established by people or group of people which are owned, run and managed by the private bodies and agencies having their own ideologies. This type of schools is not established to get provincialization. As both these types of schools are Non-Provincialized schools hence these schools are categorized as private schools for the present study. Some of the Unrecognized Schools are also included under this category ‘Private Schools’.

The management of Non-Provincialised Private School enjoys greater freedom in organization and planning of their financial and in carrying out their programs as compared to a rather fixed or rigid pattern in Government and
Provincialized schools. Private Schools which started in urban areas are now expanding day by day even in rural areas. But in comparison to the urban areas the number of Private Schools is limited in rural areas. Some of the Private Schools are recognized by SEBA which is listed in the directory. But a majority of the Private Schools are being unrecognized category; it is difficult to obtain an official list of these schools. However, since the Board implements the system of registration of students for appearing in HSCLC Examination it is now possible to get number of privately managed schools. Thus from the record available in the registration branch of SEBA, the number of Private Schools is found which is 59. Some of the Private Schools are also there which are managed by religious organization, receiving grant-in-aid from the state Government. These schools are also considered as ‘Private Schools’ in this study.

3.05 Sample and Sampling Procedure

The sample for the present study was selected in two stages. Firstly 100 schools were selected from the district (Kamrup) by adopting stratified random sampling process giving due representation to the location and management pattern. These schools were selected in such a way that they were spread across various locations in the district. This was done to get the holistic view of the schools situated in the district.

In the second stage the teachers were selected from the said schools as respondent to find out the level of job satisfaction of the teachers. Ten teachers were selected from each school, out of which five teachers were male and five teachers were female. Thus 1000 Assamese medium secondary school teachers were selected as the respondents for the study.
**Criterion for sample selection:**

In selection of the schools for the sample following aspects were taken into consideration:

i. Schools were selected in such a way that they were spread across various locations in Kamrup district.

ii. Schools were selected from both Rural and Urban areas.

iii. Both Private Schools as well as Government Schools were selected for the study.

iv. Secondary Schools recognized by and registered under SEBA got representation in the sample.

v. Some of the unrecognized Private Schools were also selected for the present study.

vi. As there are no sufficient number of Unrecognized Non-Provincialized Public Schools, so no representation was given to this category of schools in the sample.

vii. From every sample schools 10 teachers were selected (five male and five female)

Two strata representation of the sample of the study are presented in table 3.01 and 3.02.

| Table: 3.01 |
| Sample Schools |

<table>
<thead>
<tr>
<th>Type of schools</th>
<th>Management</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Urban</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

103
The following Flow Chart shows the Sample Schools.

Figure: 3.03
Distribution of sample schools
### Table: 3.02
Distribution of Sample Teachers

<table>
<thead>
<tr>
<th>Type of schools</th>
<th>Management</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Govt.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>250 Male</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td>250 Female</td>
<td></td>
</tr>
<tr>
<td></td>
<td>125 Male</td>
<td></td>
</tr>
<tr>
<td></td>
<td>125 Female</td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>250 Male</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td>250 Female</td>
<td></td>
</tr>
<tr>
<td></td>
<td>125 Male</td>
<td></td>
</tr>
<tr>
<td></td>
<td>125 Female</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>500 Male</td>
<td>1000</td>
</tr>
<tr>
<td></td>
<td>500 Female</td>
<td></td>
</tr>
</tbody>
</table>

The following Flow Chart shows the Sample Teachers.
3.06 Research Tools

In the present study the following tools are used-

a) Dixit Job Satisfaction Scale for secondary school teachers (DJSS) developed by Dr. Meera Dixit.

b) Self developed Data Gathering Schedule.

c) Interviews.

3.07 Description of the Tools

**Dixit Job satisfaction scale (DJSS)** for Secondary Teachers by Dr Meera Dixit: Job satisfaction scale developed by Dr. Meera Dixit is a tool which can be used for measuring degree of job satisfaction of the secondary school teachers. This is a Likert type five point scale which was developed to measure satisfaction
with different aspects of job. Before construction of the scale various available
measure of job satisfaction, concerned literature and some experts on the subject
were consulted. The items of the scale were formulated keeping in view the nature
and conditions of primary and secondary teachers, on the basis of the information
gathered from the teachers themselves. Thus a preliminary form of a Likert type
five point scale having 58 items was constructed. This form was given to twelve
experts. Four lecturers in Education at the Lucknow University, two of the
principals of degree colleges, two principals of intermediate colleges, one head
mistress of a primary school, one reader from psychology department of Lucknow
University and two high school teachers. They were to judge whether the items
measured related to job satisfaction or not. The items on which 80% agreement
was found were included in the scale. Items were arranged at random and pre-
testing was done on 100 individuals from different institutions of Lucknow city.

**Validity:** Item validity (discrimination value) was found out by item test
correlation method using Pearson’s ‘r’ taking 25% highest scores and 25% lowest
scores and finally calculating ‘t’ value for the items of the scale separately. The
items which were insignificant had to be dropped in the final form. Initially there
were 58 items of which 6 items had to be deleted as they were not found to be
discriminatory in item analysis. Distribution of the items in the final form is
presented in Table 3.03.
Table: 3.03

Distribution of items in the final form of Dixit Job Satisfaction Scale

<table>
<thead>
<tr>
<th>Job factors</th>
<th>Items no (s)</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Intrinsic aspects of the job</td>
<td>1,11,25,30,35,46,52</td>
<td>7</td>
</tr>
<tr>
<td>b) Salary, Promotional avenues and service conditions</td>
<td>3,12,19,20,31,34,45,50</td>
<td>8</td>
</tr>
<tr>
<td>c) Physical facilities</td>
<td>2,10,24,29,36,43,48,49,51</td>
<td>9</td>
</tr>
<tr>
<td>d) Institutional plans and policies</td>
<td>4,13,26,38,40,47</td>
<td>6</td>
</tr>
<tr>
<td>e) Satisfaction with authorities</td>
<td>5,14,21,27,32,41</td>
<td>6</td>
</tr>
<tr>
<td>f) Satisfaction with social status and family welfare</td>
<td>8,9,17,18,23</td>
<td>5</td>
</tr>
<tr>
<td>g) Rapport with students</td>
<td>7,15,22,28,33,39</td>
<td>6</td>
</tr>
<tr>
<td>h) Relationship with co-workers</td>
<td>6,16,37,42,44</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>52</td>
</tr>
</tbody>
</table>

**Reliability:** Reliability of the scale was determined by split-half method. The test was first divided into two equivalent values and the correlation is calculated which is shown in table 3.04. From the reliability of the split-half test, the self correlation of the whole test was calculated by using spearman Brown Prophecy formula test-retest method which is shown in table 3.05.
Table: 3.04
Reliability of the test by split half method

<table>
<thead>
<tr>
<th>Version of the form</th>
<th>N</th>
<th>R</th>
<th>Index of Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>English version</td>
<td>100</td>
<td>.85</td>
<td>.92</td>
</tr>
<tr>
<td>Hindi version</td>
<td>100</td>
<td>.87</td>
<td>.93</td>
</tr>
</tbody>
</table>

Table: 3.05
Reliability of the test by test-retest method

<table>
<thead>
<tr>
<th>Version of the form</th>
<th>N</th>
<th>R</th>
<th>Index of Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>English version</td>
<td>100</td>
<td>.75</td>
<td>.86</td>
</tr>
<tr>
<td>Hindi version</td>
<td>100</td>
<td>.76</td>
<td>.87</td>
</tr>
</tbody>
</table>

Administration of the test: It is a self-administered scale and can be used for groups of any reasonable size. It may also be used individually. The instructions are printed on the scale form. No time limit should be given for this questionnaire. However usual time for most of the groups to finish it would be one hour. Before administering the questionnaire, it is advisable to emphasize orally that replies should be checked as quickly as possible and frankness and sincere cooperation is required. The group should be assured that their answers would be kept in strict confidence. It should be emphasized that each and every item should be answered and that there is no right and wrong answer. So the group should give the frank opinion.

Scoring: The scoring of the scale is on a five point scale from one to five (1 to 5). For the response of ‘Strongly Disagree’ scoring is 1 and for ‘Disagree’ it
is 2, for ‘Undecided’ 3 marks are allotted and for ‘Agree’ the scoring is 4 and for ‘Strongly Agree’ it is 5.

3.08 Preparation of Assamese version of the scale

Since the teachers of the Assamese medium schools were selected as sample teachers, most of the teachers were proficient in Assamese language; Assamese translation of the DJSS was prepared by the investigator to make the study free from language biasness. For this purpose the statement of the questionnaire was translated into Assamese and this translated version was administered to 50 bilingual groups of teachers who are proficient in both the languages. After a gap of one month the original scale was administered to the same group. The criterion validity was found to be 0.79.

3.09 Procedure for collection of Data

The investigator visited the sample schools personally and tried to establish a good rapport with the principals and the headmasters. With their help the questionnaires were distributed to five male teachers and five female teachers of each sample school. They were requested to give their free opinion, and assured that it would be kept confidentially. Most of the teachers took one hour to give back their completed questionnaire.

Required information and records of academic performance of the students in the sample schools were collected with the help of the Data Gathering Schedule prepared by the investigator. Headmasters and the principals were requested to provide the information. They usually took the help of the clerks to fill up the schedule used for the purpose.
3.10 Data treatment and statistical techniques used

The collected data were scored as per the instruction given in the Test Manual. For overall degree of Teachers' job satisfaction, each teacher's scores were calculated and on the basis of the norms given in the Test Manual the job satisfaction level was determined. The scores of the teachers were also categorized on the basis of the location of the schools (Rural-Urban), type of management (Government-Private) and on the basis of the sex (Male-Female). Under all these categories teachers' scores were calculated and the comparison was made within each group of categories.

In order to find out the Academic Achievement of the Students in Assamese Medium secondary schools of Kamrup district each sample school's average pass percentage of the students in HSLC examination from 2003 to 2007 was found out with the help of the Data Gathering Schedule. The average pass percentage of the students in HSLC examination results of five consecutive years (2003 to 2007) was considered as the index of Academic Achievement of each sample school. And the average pass percentage of the students in HSLC examination from 2003 to 2007 in 100 sample schools was considered as Academic Achievement of the students in Assamese medium secondary schools of Kamrup district. The Academic Achievement of the Students in these schools was categorized on the basis of the location (Rural and Urban) and the type of management (Government and Private) of the schools and a comparative study was made.
All data were analyzed with the help of computer using SPSS. In the interpretation and analysis of the collected data following statistical techniques have been used –

i. Table

ii. Percentage

iii. Diagrams and Graphical Representation

iv. ANOVA

v. Chi-Square ($x^2$) test.

vi. Pearson’s Correlation

i) **Table**: A table is a systematic method of presenting statistical data, according to some classification of subject matter. In the present study tables are used on different occasions to enable one to comprehend and interpret masses of data rapidly and grasp significant details and relationships at a glance.

ii) **Percentage**: The use of percentage makes comparison easier. In the present study to compare the teachers’ Job Satisfaction in the five Levels of Job Satisfaction simple percentage is used.

iii) **Diagram and graphical representation**: Diagrams and graphs are vital aids that represent the data in simple and readily comprehensible form. They are usually more attractive, fascinating and impressive than the numerical data. They are usually easier to read and interpret.

   For the present study Flow charts, Bar diagram, Line graph and Pie-diagrams were used to present different data on different occasions.

iv) **ANOVA**: The analysis of variance frequently referred to by the contraction ANOVA is a statistical technique specially designed to test the significance of two
or more than two means. In the present study ANOVA was used to test the significant difference between the means of two different groups.

v) **Chi-Square test:** with the help of Chi-Square test one can find out whether two or more attributes are associated or not. Chi-square test is a non-parametric test. This test is used with discrete data in the form of frequencies or data that can be transformed into frequencies. Chi-square test has been applied in the present study to find out association of variables like location (Rural-Urban), management type of schools (Govt.-Pvt.), sex (Male-Female) in different levels of job satisfaction.

vi) **Pearson’s correlation:** it is a method of correlation. When the distribution of the variables is uni-model and their variances are approximately equal, Pearson’s Correlation method can be used. In the present study it is used to find out the relationship between Teachers’ Job satisfaction and Academic Achievement of the students.

Thus the collected data were statistically analyzed keeping in view the objectives and hypotheses of the study for finding the important trends in them.