CHAPTER-III

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This section explains the design of the study in detail. The size and selection of the sample, the variables and the controls employed, the sources of data, the tools and methods of gathering data, the reliability of instruments selected or constructed and the statistical procedures used in the analysis are carefully described in this part. The objective of this section is to provide an explanation that will enable the reader to repeat the investigation—reproducing the exact condition of the original study to check its findings.

The methodology followed in this study is discussed in detail under following sub-heads—

3.1. Objectives:

1. To identify institution related problems of the students at +2 stage in the context of-
   
a) Teacher
   
b) Peer group
c) Management

2. To find out the psychological problems of students at +2 stage under different management, i.e.
   a) Higher Secondary School
   b) Degree College.

3. To find out the social problems of students at +2 stage under different management, i.e.
   a) Higher Secondary School
   b) Degree College.

4. To find out the adjustment level of higher secondary students in relation to their-
   a) Academic improvement
   b) Academic consistency
   c) Academic deterioration
   d) Academic fluctuation

5. To study the impact of family and its location (rural/urban) on the academic achievement of students at +2 stage.
6. To study the relationship between psycho-social adjustment problems and academic achievement of students at +2 stage.

3.2. Hypotheses:

As per objectives of the present study the following hypotheses have been formulated.

\( H_0 \) There is the effect of family pattern and its location on academic achievement of students at +2 stages. Therefore, the Null-hypotheses to be tested are as-

\[ H_0 (i) \text{ Mean achievement scores of the group belonging to rural joint family does not differ significantly from that of urban joint family.} \]

\[ H_0 (ii) \text{ Mean achievement score of the group belonging to rural nuclear family does not differ significantly from that of urban nuclear family.} \]

\[ H_0 (iii) \text{ Mean achievement scores of the group belonging to joint family does not differ significantly from that of nuclear family.} \]
There is the effect of family’s monthly income on academic achievement of students at +2 stage. Therefore, the null-hypotheses to be tested are as–

$H_0^2$ (i) Mean achievement scores of the students belonging to high income group does not differ significantly from that of middle income group.

$H_0^2$ (ii) Mean achievement scores of the students belonging to high income group does not differ significantly from that of low income group.

$H_0^2$ (iii) Mean achievement scores of the students belonging to middle income group does not differ significantly from that of low income group.

$H_3$ – The adjustment of students at +2 stage differs with respect to their sex and management of institution Therefore, the null-hypotheses to be tested are as–

$H_0^3$ (i) The mean adjustment score of the male group belonging to Higher secondary school does not differ significantly from that of Degree
college's male group in the area of emotional, social, educational and total (overall) adjustment.

\[ H_0 \] (ii) The mean adjustment score of the female group belonging to Higher Secondary school does not differ significantly from that Degree college's female group in the area of emotional, social, educational and total (overall) adjustment.

\[ H_0 \] (iii) The mean total adjustment scores of the students studying under different management does not differ significantly.

\[ H_0 \] (iv) The mean total adjustment scores of the students of two (male and female) does not differ significantly.

\[ H_4 \] - There is the difference in adjustment level of students studying at +2 stage with respect to their sex and management of institution. Therefore the null-hypotheses to be tested are as--

\[ H_0 \] (i) There is no difference in the level of adjustment between the Higher Secondary School's male students and Degree college's male students in the areas of emotional, social, educational and total (overall) adjustment.
H₀⁴ (ii) There is no difference in the level of adjustment between the Higher Secondary School's female students and Degree college's female students in the areas of emotional, social, educational and total (overall) adjustment.

H₀⁴ (iii) There is no difference in the level of adjustment between the Higher Secondary School's students and Degree college's students in the areas of emotional, social, educational and total (overall) adjustment.

H₀⁵— There is relation between academic achievement of students at +2 stage and different areas of adjustment, namely, emotional, social, educational and total (overall) adjustment. Therefore, the null-hypotheses to be tested are as—

H₀⁵ (i) The emotional adjustment scores are not significantly related to academic achievement of students at +2 stage.

H₀⁵ (ii) The social adjustment scores are not significantly related to academic achievement of students at +2 stage.

H₀⁵ (iii) The educational adjustment scores are not significantly related to academic achievement of students at +2 stage.
H05 (iv) The total (overall) adjustment scores are not significantly related to academic achievement of students at +2 stage.

3.3. Population and Sample of the Study:

The usual purpose of the educational research is to learn something about a large group of people by studying a much smaller group of people. The large group about which it is wished to learn about is called a population. As it is not possible to cover the entire target population for the study, the procedure of selecting the research sample comes to the scene.

The research sample is that representative smaller number of people from the research population which can give a statistical image of the population.

The present study aimed at finding the psycho-social adjustment problems of higher secondary level's students. Thus the research population of the study was all the students studying in class XI during the session 1998-99, of the 46 Degree colleges and 49 Higher Secondary School of Kamrup District, Assam.(vide information, Assam Higher Secondary Education Council)
Kamrup, the highest populated (20,00,071—Census of India, 2001) district of Assam has urban, semi-urban and rural areas in a very prominent way. The population pattern also varies in respect of economic and educational condition. Families of very high income groups to very low income groups are found in the district. In respect of educational facilities, the district has the highest number of educational institutions and these are well distributed throughout the district. Of these varied types of educational institutions some are well equipped while others are in dilapidated condition.

As per the major objectives of the study it was decided to adopt the technique called ‘Stratified Random Sampling.’ A major stratification is ‘urban rural.’ Here rural means either small town or rural area. Urban area comprises the Guwahati City. Another stratification was made in both urban and rural division considering the nature of management, viz ‘Higher Secondary School (HS)—Degree College (DC).’ The Higher Secondary Schools and Degree Colleges both follow the curriculum prescribed by the Assam Higher Secondary Education Council and are governed by the same rules and regulations. It should be mentioned here that there are Junior Colleges in the district which also provide higher secondary education. But they are omitted from the study due to lack of homogeneity in regard to management, standard of teaching, medium of instruction etc. Although
there are some government managed Junior colleges in the district, they are not purely Junior College in practice.

To get a suitable representative population, it was decided to select at least four institutions from each sub group. Taking into consideration about the students enrolment different sample size is also made for different institutions. At the same time, the investigator became very careful, so that atleast twenty percent student comprises the sample size from each selected institution. It was found during survey that number of boy students is very low in comparison to girl students in the urban higher secondary schools.

For getting a complete representation of the district, the institutions were listed area wise as– East zone, South zone, North zone and West zone. Thereafter using lottery method 10 institutions (5 Higher Secondary Schools; 5 Degree collages) from urban area and 10 institutions (5 Higher secondary School; 5 Degree colleges) from rural areas were selected as sample for study. The research sample of the present study thus constitutes 21% of the research population. The students taken as sample from Higher secondary School were coded as HSS (Higher Secondary School's Student) and the sample taken from Degree colleges were coded as DCS (Degree college's Student).
3.4. Distribution of Sample:

Total Sample
400

Rural
200

Urban
200

H.S. School
100

Degree Collage
100

Male
50

Female
50

Male
50

Female
50

Male
40

Female
60

Male
50

Female
50

(Due to the less number of male students in the urban Higher Secondary Schools the sample size is taken as 40:60)

3.5. Tools:

An investigator has to imply various tools, techniques and devices for collecting data. The necessary and desirable qualities of any tool, device and technique used in investigation should be:

a) Unquestionable validity

b) Reliable and objective

c) Availability

d) Economical
e) Ease in administration and scoring

f) Procurable and Interesting

In developing the tools for the present study the investigator kept in mind the above mentioned guiding factors.

3.5.(1) Selection of tools:

Three types of tools were selected for the present study–

a) Standardized Test

b) Self-structured tools

c) Tool for academic achievement.

All these test and tools are given in full in appendices. Following are the brief description of the test/tools.

b. Standardized Test:

The standardized test used in this study is "Adjustment Inventory for School Student" (AISS) Constructed by A.K.P Sinha and R.P. Sinha. This test is recognised by National Psychological Corporation, Agra. This test consists of 60 questions covering three different areas of adjustment, namely a) emotional, b) social and c) educational. On the basis of total score obtained on this, the respondent can be classified into five broad categories,
such as 'excellent', 'good', 'average', 'unsatisfactory' and 'very unsatisfactory', including different degree of adjustment.

It is a self-administering inventory. There is no time limit for answering it.

**Scoring-**

The inventory can be scored by hand only. For any answer indicative of adjustment, '0' is given, otherwise a score of '1' is awarded. The total score indicates the general adjustment status.

**Interpretation of Scoring:**

Emotional Adjustment— High scores indicate unstable emotion and low scores indicate emotionally stable.

Social Adjustment— Individuals scoring high are submissive and retering. Low scores indicative of aggressive behaviour.

Educational Adjustment— High scorer are poorly adjusted and low scorer are interested in school programmes.

**Reliability and Validity:**

Reliability of the test was assessed through split-half, Test-retest and K-R formula-20 method, which yielded the value 95, 93 and 94 respectively.
The validity co-efficient were determined for each item by biserial correlation with total score and area score, significant at .001 level.

Because of its high reliability, easy administration and simple scoring pattern this tool was selected for the investigation.

b) Self-Structured Tools:

The self-structured tools used in the study were—

i) Questionnaire

ii) Personal Data sheet

iii) Interview Schedule

For developing these tools the following steps were taken by the investigator—

i) Collection of materials from various sources for the development of the tool.

ii) Preparation of Preliminary draft

iii) Seeking opinions of experts of the field.

iv) Tryout of the preliminary draft

v) Analysis of result of tryout,

vi) Finalisation of the tool

i) Questionnaire— This tool was developed to elicit information from the higher secondary students regarding their problems which is both closed
form and multiple choice form with three alternative response "Yes"/ 'No' and "?" The questions of the questionnaire were formulated on the basis of various areas of students life like, personal adjustment, social adjustment, future, educational, sex, parent and home. They had to tick mark in front of any one alternatives of their choice. There were no right or wrong answers. There was no time limit.

In developing this tool the investigator first consulted with the following services of information– related literature, teacher-educators who are Ph.D. Guide, students and investigator's own experience as a teacher. From these sources a preliminary list of 100 statements was prepared and circulated among the teachers of different subjects for opinions. After getting the opinion of teachers, teacher-educators and students, the investigator selected 47 items out of 100 items for the tool

ii) Personal data sheet– In order to obtain relevant personal information about the student a personal data sheet was prepared by the investigator. Areas of this personal data sheet were responded by the subject briefly in the places left for responses.

iii) Interview Schedule– An interview schedule was prepared by the investigator to collect data from the teachers of the respective institutions.
Information regarding students' problems, institutional background etc., were collected through this tool.

c) **Tool for academic achievement**:

The marks secured by the subjects in their H.S.L.C. Examination conducted by Secondary Education Board of Assam and in Higher secondary 1st year and final year examination, conducted by Assam Higher Secondary Education Council; had been taken as a measure of academic achievement. The marks were collected from the records maintained in their respective institutions.

The examination marks were taken as measure of academic achievement because of the following reasons—

i) The examination had an uniformity all through the state.

ii) They were conducted by the state's Education Department's secondary Education Board and Higher Secondary Education Council.

iii) A committee of educational experts deliberated and decided everything with regard to the preparation of question papers.

iv) Since the examination covered five subjects, it gave a broad-based coverage of achievement unlike in other ways where we could administer tests only in one or two subjects specifically chosen for
this purpose. The types of items in question paper were also as varied as objective type, multiple choice etc.

v) The system was effective with regard to evaluation as the examiners were examined the answer script by the scoring key given to him or her, and it constantly checked by Head Examiner and others. Therefore, the possibility of any error creeping in the evaluation was excluded.

3.5(2). Translation of the test into Assamese:

The test 'Adjustment Inventory for School Student' (AISS), which was originally in English was translated by the investigator into Assamese. The test was an Indian test, the translation of which need not had to under go any difficulty. The translated version of the draft was shown to a panel of highly experienced teacher-educators of Department of Education in University and a college of teacher education. They have been teaching students of education for many years, using both English and Assamese language in teaching process and hence were able to offer an expert evaluation.

The test was translated into Assamese language because the medium of instruction of the sample is Assamese.
3.5(3) Tryout of tools:

In order to find out the feasibility and usability of the tools of the study, it was decided to go for a tryout of the tool on a pretest sample. The tools were administered among 40 students of class XI, during the session 1997-98.

The first tool the 'Adjustment Inventory for school students' though it was a standardized one it was administered, in order to get familiarized with its administration and also to ascertain whether or not the respondents can understand the questions contained in it. Accordingly the second tool, i.e. questionnaire were also administered. On the basis of their reactions and responses necessary editing was done on this tool. Thus the tools were ready for final administration.

3.6. Method of Investigation:

The investigator used Normative Survey Method to study the problem of higher secondary students in different institution.

Normative Survey Method is that method of investigation, which attempts to describe and interpret what exist at present. It investigates into the condition or relationship that exist, belief, point of view or attitudes that are held, influences that are being felt and trend that are developing. The
chief purpose of the present study is to investigate the problems of students, during their Higher Secondary level's education, for which normative survey method is considered reliable.

3.7. Data Collection:

At the first phase of data collection letters were sent to the Heads of the institutions to seek cooperation to administer the tools. After getting permission, each selected institution was personally visited and a day was fixed for the administration of the tools. Necessary information like the number of students, sizes of classroom, seating arrangement were also obtained.

Thereafter, in the day fixed for the purpose necessary arrangement of the classroom was made and before going to administer the tests, the investigator made some introductory remark in order to motivate and to establish rapport with the sampled students. After that, tools were administered one by one. Elaborate instructions were given before the administration of each tool. The administrations of the tools were done by the investigator with the help of an assistant, so that the students could clarify their doubts with least hesitation. No teacher requested to help in the testing situation in any institution.
The tools were conducted at the ease of the students so that more reliable result could be obtained. Although no time limit was imposed in administration of the tools, it too one and half-hour to complete all the tools by the students.

Along with, the marks of H.S.L.C. Examination of those students, who participated in data collection, were collected from their office record of the respective institutions. The marks of H.S. 1st Year examination and H.S. Final year examination were also collected from the office record after declaration of the result of the respective examination from each institution.

To get more information about students’ problems, principals and teachers of the selected institutions were also interviewed personally by the investigator.

For some of the relevant information the investigator corresponded with Assam Higher Secondary Education council and D.I. of Schools, Kamrup District.

Because of the tight schedule of college programme the investigator chooses such a convenient time to administer the tools so that work of the college and activities of the sampling institution could not be disturbed.
3.8. Data Analysis:

I order to analysis of data the statistical techniques used for the study were as follows-

For objective Nos. 1. 2. 3. 4. 5. and 6. Percentage to facilitate relative Comparison between the groups.

For objective Nos. 4 and 5 Mean, SD and 't' test

Mean To find out the average problem of the groups
SD To establish highest degree of reliability of the groups.
't'- test To test the difference between two means.

For objective Nos. 6 Chi-square and correlation ratio.

Chi-Square To test the significance of population variance

Correlation ratio To determine the degree of relationship between the two variables.