CHAPTER – III

DESIGN OF THE STUDY
3.1 Methodology

A research is the detailed plan of the investigation. In fact, it is the blue print of the detailed procedure of testing the hypotheses and analyzing the obtained data. The research design may be defined as the sequence of those steps taken ahead of time to ensure that the relevant data will be collected in a way that permits objective analysis of the different hypotheses formulated with respect to the research problem.

A good research design is the design that answers research questions adequately. It is a common practice that students while trying to answer a research question by conducting experiment or doing research, often match sex, age and intelligence of the subjects on the assumption that such matching would lead to the setting of a better experimental group and control group. Another criterion of a good research design is that it should control the effect of extraneous variables which are more or less similar to independent variables that have the capacity to influence dependent variables. If left uncontrolled, such variables are called independent extraneous variables or simply extraneous variables. The third criterion of research design is generalizability. Generalizability is the external validity of the research. It refers to the extent to which the results of the experiment or research obtained can be generalized to subjects, groups or conditions not included in sample of the research. If the design is such that the obtained results can be generalized to larger groups or subjects, the design is considered to be a good one.

The present study is descriptive survey type research. The purpose of survey type research, according to Kerlinger (p.410) is to discover the relative incidence, distributions and inter-relations of sociological and psychological variables. Survey
type studies; by and large describe the current status of a phenomena, some group of people and institution, some existing practice policy or event. Sometimes they compare the status with some available standards and make suggestions for improving the status. Survey research as being used in social science is however different from the status survey and is considered enough scientific if looked from methodology point of view.

3.2 Population

In behavioral sciences, like education draws some inferences regarding a well specified and identifiable group known as population or universe. Therefore, population may be defined as any identifiable and well specified group of individuals. All secondary teachers, all college teachers, all doctors in the country are the example of population. A population may be finite or infinite - a finite population is one where all members can be easily counted; an infinite population is one whose size is unlimited and therefore, its number cannot be counted.

Present study covers only graduate level students of Balrampur, Gonda and Bahraich districts in UP. These degree colleges are affiliated to Dr. Ram Manohar Lohiya Avadh University Faizabad. All these colleges are providing education to under graduate and post graduate courses. This research covers the population only under graduate college students in includes (B.A., B. Sc., B.Ed., B.C.A. and B. P. Ed.) courses students.

3.3 Sample and Sampling Techniques

It is not possible to study the whole population for a researcher in a fixed time and limited resources. Therefore, a small number of individuals have been
selected for the study. A sample is any number of persons selected to represent the population according to some rule or plan. Thus, a sample is a smaller presentation of the population. A measure based upon a sample is known as statistic. The assumption is that what is revealed about the sample will be true about the population as a whole. But, it may not be true always as it depends on the way the sample is drawn. If the sample is a replica of the population, the foregoing assumption is true. If it is biased such inferences about the population cannot be true.

In order to draw a representative sample, a sample plan has to be prepared. It means a plan which, if properly executed can guarantee that if we were to repeat a study on the number of different samples each of a particular size drawn from a given population, our findings would not differ from the findings that we would get if the given population as a whole was studied by more than a specified proportion of samples.

There are many sampling techniques for selecting. Researcher selected Non-probability sampling method for this study. Purposive method of sampling was selected for the study. In this type of sampling the researcher Picks-up elements from the population he wishes to study in his own way. One very frequently basis of choosing these elements is that they are conveniently available.

Present study covers only Balrampur, Gonda and Bahraich district in UP. There were 98 samples from Haji Ismail Degree College Sadullah Nagar Balrampur, 180 samples from Saryu Degree College Colonel Ganj Gonda and 91 samples for Sanjivni Degree College Bahraich. Total 369 samples were taken. These all colleges in
different streams students included in this sample as to (B.A., B.Sc., B.Ed., B.C.A, and B. P. Ed.).

3.3.1 Distribution of Sample according to Gender

Table Number 3.1

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number of Sample</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>198</td>
<td>53.7</td>
</tr>
<tr>
<td>Female</td>
<td>171</td>
<td>46.3</td>
</tr>
<tr>
<td>Total</td>
<td>369</td>
<td>100</td>
</tr>
</tbody>
</table>

Figure Number 3.1

The above table shows that the total number of male students is 198 and female students are 171 in the study. The grand total of the students is 369 only. The percentage of male students is 53.7 and female is 46.3 respectively.
3.3.2 Distribution of Sample according to Stream

**Table Number 3.2**

<table>
<thead>
<tr>
<th>Stream</th>
<th>Number of Sample</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.A.</td>
<td>86</td>
<td>23.3</td>
</tr>
<tr>
<td>B.Sc.</td>
<td>74</td>
<td>20.1</td>
</tr>
<tr>
<td>B.Ed.</td>
<td>118</td>
<td>32.0</td>
</tr>
<tr>
<td>B.P. Ed.</td>
<td>36</td>
<td>9.8</td>
</tr>
<tr>
<td>B.C.A.</td>
<td>55</td>
<td>14.9</td>
</tr>
<tr>
<td>Total</td>
<td>369</td>
<td>100</td>
</tr>
</tbody>
</table>

The above table shows that the total number of B.A. student is 86, B.Sc. 74, B.Ed. 118, B.P.Ed.36 and B.C.A. 55 in the study. The grand total of the students is 369 only. The

3.3.3 Distribution of Sample according to College

<table>
<thead>
<tr>
<th>College</th>
<th>Number of Sample</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saryu D. College</td>
<td>180</td>
<td>48.8</td>
</tr>
<tr>
<td>Haji I. D. College</td>
<td>98</td>
<td>26.6</td>
</tr>
<tr>
<td>Sanjivni D. College</td>
<td>91</td>
<td>24.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>369</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

The above table shows that the number of Saryu Degree College student is 180, the number of Haji Ismail Degree College student is 98 and the number of Sanjivni Degree College student is 91. The grand total of the students is 369 only. The
Saryu Degree College student percentage is 48.8, Haji Ismail Degree College student percentage is 26.6 and Sanjivni Degree College student percentage is 24.7.

3.3.4 Distribution of Sample according to Families

**Table Number 3.4**

<table>
<thead>
<tr>
<th>Families</th>
<th>Number of Sample</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuclear families</td>
<td>155</td>
<td>42.0</td>
</tr>
<tr>
<td>Joint families</td>
<td>14</td>
<td>58.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>369</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

The above table shows that the number of nuclear families student is 155 and the number of joint families’ student is 214. The grand total of the students are 369 only.

**Figure Number 3.4**
The nuclear families student percentage is 42.0 and joint families’ student percentage is 58.

3.4 Tools Used for the Study

The researcher used three type standardized tools (1.) Comprehensive anxiety test (2.) self-concept rating scale (3.) sentence completion (personality traits) test. All these tools were published by national psychological corporation Agra (India)

3.4.1 Comprehensive Anxiety Test tools

This tool was developed by Dr. R. L. Bharadwaj, Dr. H. Sharma and Dr. M. Bharadwaj and published by National Psychological Corporation Agra. In this anxiety test tool has 90 items relating to the symptoms of the anxiety and possesses the capacity to evoke the responses correctly.

3.4.2 Reliability of the test

The coefficient of reliability has determined by using the following two methods-

1- The test retest method (N=100) was employed to determine the temporal stability of the test. The product moment correlation between test and retest score has been found to be .83.

2- By applying the split-half method (Gutman Formula), the reliability coefficient of the test has been found to be .94 (N=100).

Thus results obtained by both methods ensure a very high reliability of the test.

3.4.3 Validity of the test

The co-efficient of validity was determined by computing the correlation between scores of the present test and other tests or scales as follows:-
1- With anxiety dimension of eight state questionnaire ‘From A’ Hindi version by Kapoor and Bhargava.

\[ N = 50 r = .68 \]

2- With anxiety dimension of eight state questionnaire ‘From B’ Hindi version by Kapoor and Bhargava.

\[ N = 50 r = .74 \]

3- With Sinhas comprehensive anxiety test (Hindi) SCAT

\[ N = 80 r = .82 \]

4- With spielberger’s state and trait anxiety scale.

(1) State anxiety \[ N = 42 r = .42 \]

(2) Trait anxiety \[ N = 60 r = .48 \]

3.4.4 Scoring

The scoring of the anxiety test is very easy and of quantitative nature. The test can be scored accurately by hand no scoring or stencil key needed. Each item of the test is answered either by ‘Yes’ or by ‘No’ the response indicated as ‘Yes’ should be awarded the score of one and zero for ‘No’. The total of the positive or ‘Yes’ responses would be the total of anxiety score of the individual and should be written in the box the proper place provided for the purpose on the title page of the test for an easy and smooth working.

3.4.5 Self-Concept Rating Scale

This tool was developed by Dr. (Mrs.) Pratibha Deo and published by National Psychological Corporation Agra.
3.4.6 Measurement of Self-concept

Observations projective techniques and self-reporting lists and inventories are some of the main methods used for measuring self-concept. Of these, self-reporting technique maintains its unique and important position because it has the single advantage of knowing exactly what the individual feels about himself. No one ever can take over the experience of another person. Therefore, the best way to know what he feels about himself is to ask the person himself.

For this, sentence completion, adjective check lists and inventories have been used. Sometimes projective techniques are employed for assessing real self. For certain type of self-assessment, Q-technique has been observed to be a very useful method.

In self-reporting, the social desirability variable tends to affect self-descriptions. An individual is more inclined to mark adjective which have more social appeal and higher social prestige, adjectives which are socially undesirable and negative are not easily marked. The influence of social desirability variable may operate at conscious or unconscious level. However, since these operative self-reports as given by the individual has to be accepted for study.

3.4.7 Scoring

Scoring of SCRS is quick through the use of stencil hand scoring keys. There are separate transparent keys for positive and negative scores as well as for neutral words. Keys are also available for the different dimensions. The neutral words are not given any weightage and are to be ignored in the scoring
For the rating scale, the weightages for positive words for the five points of very much like, much like, uncertain, not like that, not at all like that are 4, 3, 2, 1 and zero respectively and for a negative words also the weightage is the same way. The composite score is obtained by subtracting the total negative score from the total positive score. The neutral words are to be ignored in the scoring. If dimension wise analysis is aimed at, only the words belonging to that particular dimension are considered and the positive and negative score for that dimension are obtained in the manner explained above similarly, negative and composite scores for all the dimensions can be calculated. This can be done for each aspect separately for comparison.

3.4.8 Reliability

Reliability was estimated by test re-test method. For the 15 days’ interval, the reliability co-efficient come out to be .89 (N = 595). Taking different time intervals from 15 days to 3 months, the co-efficient of correlation ranged from .62 to .86 (N = ranging from 65 to 70). The correlations between consistency scores range from .84 to .98. These values indicate a high degree of consistency. It did not reveal any marked difference in the self-concept of individual over these periods. This proves that the SCRS gives a stable and measure of self-concept.

3.4.9 Validity

The convergent and discriminant validity was found over for this SCRS besides establishing the content validity, because the other usual methods of finding out validity did not suit the nature of this tool. For obtaining the convergent validity
another tool SCRS which had also been standardized was utilized. The result are given in the following Table-

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>E</th>
<th>S</th>
<th>C</th>
<th>A</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligence (I)</td>
<td>.65**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional (E)</td>
<td>.57**</td>
<td>.69**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social (S)</td>
<td>.67**</td>
<td>.55**</td>
<td>.80**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Character (C)</td>
<td>.45**</td>
<td>.41**</td>
<td>.46**</td>
<td>.89**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aesthetic (A)</td>
<td>.43**</td>
<td>.31**</td>
<td>.37**</td>
<td>.18**</td>
<td>.73**</td>
<td></td>
</tr>
<tr>
<td>Neutral (N)</td>
<td>.14*</td>
<td>.12*</td>
<td>.06*</td>
<td>.14*</td>
<td>.12*</td>
<td>.22*</td>
</tr>
</tbody>
</table>

**Sig. at .01 level                          *Sig. at 0.05 level

The table shows that the convergent correlation between the same dimensions in all cases is higher than the discriminant correlation. This proved the validity of the instrument. Similar results were obtained for ideal self and social self-scores also proving the convergent and discriminant validity of the instrument.

3.4.10 Sentence Completion (Personality Traits) test.

This tool is developed by **L. N. Dubey and Archana Dubey** and published by National Psychological Corporation Agra.

In the sentence completion test, the subject is asked to complete sentence of which the first word are given. The tester encourages the subjects to write the responses as quick as possible, through the quickness of response is encouraged, there is no attempt to measure speed of reaction. The response tends to provide information that the subject is willing to give, not that which he cannot help giving. Analysis is usually more similar to that used with the Thematic Apperception Test to word associate method. As
in other project devices, it is assumed that the subject reflects his own wisps, desire fears and attitudes in the sentences he composes, but this method differs in the subjects production does not depend so much upon his interpretation of the standard stimulus as upon what he is able and willing to write under the test conditions.

3.4.11 Scoring

Every sentence can be placed into the following three categories:

1. **Positive** – That shows the positive aspect of one of the traits - Award 2 marks
2. **Negative** – That shows the negative aspect of one of traits – Award 1 marks
3. **Neutral** – That shows neither positive nor negative aspect traits. Award 0 marks

All the marks should be added trait wise as well as of total test.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Mark awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>2</td>
</tr>
<tr>
<td>Negative</td>
<td>1</td>
</tr>
<tr>
<td>Neutral</td>
<td>0</td>
</tr>
</tbody>
</table>

3.4.12 Reliability

<table>
<thead>
<tr>
<th>Method</th>
<th>Sociability</th>
<th>Self confidence</th>
<th>Ambitious</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Split Half</td>
<td>.72</td>
<td>.69</td>
<td>.73</td>
<td>.62</td>
</tr>
<tr>
<td>Test-Retest</td>
<td>.76</td>
<td>.71</td>
<td>.68</td>
<td>.67</td>
</tr>
</tbody>
</table>
3.4.13 Validity

The validation criterion used for this test is the correlation of the test rating scores of only 10 percent of the sample by the teachers.

The coefficients of correlation are as below:-

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Traits</th>
<th>Coefficient of Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sociability</td>
<td>-.66</td>
</tr>
<tr>
<td>2.</td>
<td>Self confidence</td>
<td>-.73</td>
</tr>
<tr>
<td>3.</td>
<td>Ambitious</td>
<td>-.69</td>
</tr>
</tbody>
</table>

3.5 Administration of Tools

Data collection provide concrete base in the educational research. Researcher wants answered for the questions raised. After selecting the tool and sample according to problem and variables, the next step is data collection. The researcher went to selected colleges for data collection. Investigator requested to Principal for permission. After taking permission, researcher went to class room. After giving instruction related to the test, a good rapport with students was established by researcher. Students instructed to give the answer very carefully. The allotted time was given to complete each questionnaire to the students. At that time researcher observed the students in class. After completing the questionnaire, researcher collects it and says thanks to students for their cooperation. In this way researcher collected the data from students.
3.6 Statistics Used in Study

For the analysis of data researcher used descriptive and inferential statistics. Researcher used central tendency (Mean), Standard deviation, Standard error of mean, and t-test and ANOVA.

3.7 Formulas Used in Present Study -

\[
\text{Mean} = \frac{\sum fx}{N}
\]

Where \( f \) = Frequency 
\( X \) = mid-point 
\( N \) = Number of samples

\[
\text{Standard Deviation} = \sqrt{\frac{\sum fd^2}{N} - \left( \frac{\sum fd}{N} \right)^2} \times C.I.
\]

Where \( f \) = Frequency 
\( D \) = Deviation from Assumed mean 
\( N \) = Number of sample 
\( C.I. \) = Class Interval

\[
\text{Standard Error of Mean} = \frac{\sigma}{\sqrt{N}}
\]

Where \( \sigma \) = Standard deviation of total population 
\( N \) = Numbers of samples
The “t” test – The “t” test is defined as the ratio of the deviation from the mean or other parameter, in a distribution of sample statistics, to the standard error of that distribution (Guilford, 1973).

\[
\text{t- Test} = \frac{M_1 - M_2}{\sigma_D}
\]

Where \( M_1 \) = Mean of the first group

\( M_2 \) = Mean of the second group

\( \sigma_D \) = Difference of standard error between means

The “F” test

\[
\text{F test} = \frac{\text{Mean square variance Between groups}}{\text{Mean square variance within groups}}
\]