CHAPTER IV

METHODOLOGY

4.0.0 INTRODUCTION

The present chapter is devoted to the methodology. It is given in detail under
the following headings – Sample, Experimental Design Tools, Procedure of Data
Collection and Data Analysis.

4.1.0 SAMPLE

The present study was experimental in nature and it was conducted in two
stages, namely, tool development stage and Experimental Stage. At tool
development Stage Communication Skill Scale and Teaching Effectiveness Scale
were developed. At experimental stage, these were used on the same population
but different sample for data collection. Details in respect of sample used at tryout
and experimental stages are given below separately.

4.1.1 Sample at Tools development stage

For development of Communication Skill 625 students from different
categories were selected randomly and for development of Teaching Effectiveness
scale, 273 students of B.Ed. classes were randomly selected. The details related
with these samples are given in chapter III.

4.1.2 Sample at Experimental Stage

The sample at Experimental stage comprised of 124 students, from School of
Education, DAVV, Indore, Shri Vaishnav College of Teacher’s Training and
Gujrati B.Ed. College, Indore. These colleges were selected purposively and they
are of both Self Financed and Government in nature. 62 students for experimental
group and 62 students for control Group (Traditional Approach) were selected. The
number of students, college wise and Group wise are given in table 4.1.
Table 4.1.0: Treatment wise distribution of sample at experimental stage

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name of College/Department</th>
<th>Treatment</th>
<th>No. of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shri Vaishnav College of Teacher’s Training, Indore.</td>
<td>T – Group (CGS)</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>Gujarati Samaj B.Ed. College, Indore.</td>
<td>T – Group (CGS)</td>
<td>32</td>
</tr>
<tr>
<td>3</td>
<td>School of Education, DAVV, Indore.</td>
<td>T – Group (CGS)</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>ILVA B.Ed. College, Indore</td>
<td>Traditional Approach</td>
<td>50</td>
</tr>
<tr>
<td>5</td>
<td>Shiv Kumar B.Ed. College, Indore</td>
<td>Traditional Approach</td>
<td>12</td>
</tr>
</tbody>
</table>

From the table 4.1.0, it can be seen that the sample was drawn from four colleges namely 20 students of Shri Vaishnav College of Teacher’s Training, 32 students from Gujarati Samaj B.Ed. College, 10 students from School of Education, belonging to D.A.V.V. affiliated colleges of Indore City. Subjects were from both Rural and Urban Area. The age ranged between 23 - 40 years. The students belonged to different Socio-Economic Status and their medium of instruction was Hindi and English.

4.2.0 EXPERIMENTAL DESIGN

The present study was Experimental in nature. The non equivalent control group design was used. This could be shown as below:

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O   X   O
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Where,

O = Observation
X = Treatment
------ = Non equivalent Group.

There were two groups, one was designated as Experimental and other as Control Group. The students of B.Ed College were selected randomly. Both the groups were pre-tested for both Communication Skill Scale and Teaching Effectiveness Scale. The Experimental Group was treated with the Feedback through Charles Galloway System of Interaction Analysis. The feedback was given by the researcher.

The total Treatment duration was 8-10 individual Feedback sessions at the rate of 15-20 minutes per day after complete observation of teaching period and rest of days they were observed by teacher for 5-7 minutes and individual feedback was given in their feedback copies on the other hand Control group continued with the Feedback through traditional method. At the end of the treatment both the groups were post-tested with the same tools, used for pre-testing. The Independent variables namely, Personality, Teaching Aptitude and Emotional Intelligence were assessed during practice teaching in both groups. The Reaction Scale to assess reaction towards Feedback through Charles Galloway System was administered on the Experimental Group only, at the end of the treatment. The schematic representation is given in the table 4.2.0.

Table 4.2.0: Schematic representation of the Experiment

<table>
<thead>
<tr>
<th>Activity</th>
<th>Experimental Group</th>
<th>Control Group</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Administration of Teaching</td>
<td>2. Administration of Teaching</td>
<td>40 Min.</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Activity</th>
<th>Experimental Group</th>
<th>Control Group</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>Feedback through Charles Galloway System</td>
<td>Treated Traditionally</td>
<td>15-25 Min.</td>
</tr>
<tr>
<td>Testing of Independent Variables during practice teaching</td>
<td>1. Administration of Introversion - Extroversion Inventory of Personality</td>
<td>1. Administration of Introversion - Extroversion Inventory of Personality</td>
<td>15-20 Min.</td>
</tr>
<tr>
<td></td>
<td>2. Administration of Teaching Aptitude Test</td>
<td>2. Administration of Teaching Aptitude Test</td>
<td>40-50 Min.</td>
</tr>
<tr>
<td></td>
<td>3. Administration of Emotional Intelligence Inventory</td>
<td>3. Administration of Emotional Intelligence Inventory</td>
<td>30-40 Min.</td>
</tr>
<tr>
<td>Reaction towards Feedback through Charles Galloway System</td>
<td>Administration of Reaction Scale</td>
<td>No Testing</td>
<td>7 -10 Min.</td>
</tr>
</tbody>
</table>


4.3.0 TOOLS

In the present study the data was collected in respect of personality, Teaching Aptitude, Emotional Intelligence by administrating the standardized tools while Communication Skill, Teaching Effectiveness and Reaction towards Feedback through Charles Galloway System were assessed with the help of tools developed by the investigator. The details of tools are given under following captions:

4.3.1 PERSONALITY

Different researchers have developed tools to assess Personality. In the present study students were from the age group of 23 – 40 years and the medium of instructions was Hindi. Keeping in mind the age and medium of instructions, the available standardize Personality tool ‘Introversion - Extroversion Inventory’ by Dr. P.F. Aziz and Dr. Rekha Gupta (2001) was selected. It consists of 60 items. One has to put a tick mark in the columns namely ‘yes’ or ‘no’. Both positive as well as negative statements were included in the inventory. The students were asked to read statement carefully and put a tick mark in any one columns ‘Yes’ or ‘No’, no time limit was given to the students but, Students generally took 15-20 min to complete it. The scoring was done as per the instructions given in the manual. Reliability coefficient through test - retest method was 0.95 and the validity coefficient reported in the manual was 0.95.

4.3.2 EMOTIONAL INTELLIGENCE

In the present study, the age of the students ranged from 23 to 40 years. The medium of instruction was Hindi. Keeping in mind, age and medium of instruction, the available standardized Emotional Intelligence tool ‘Mangal Emotional Intelligence Inventory’ by Dr. S.K. Mangal and Mrs. Shubra Mangal (2009) was used (Hindi version). Students were asked to read the statements carefully and put the tick mark in corresponding columns ‘Yes’ or ‘No’. There were 100 statements in all. A separate answer sheet was given. For every correct answer, one mark was allotted. At the end all the marks were added and interpreted accordingly. The reliability coefficient for Mangal Emotional Intelligence
Inventory through split half method was 0.89, by K-R Formula was 0.90, by test-retest method was 0.92 and the validity coefficient was 0.437 to 0.716.

4.3.3 TEACHING APTITUDE

For the assessment of teaching aptitude Hindi version of ‘Teaching Aptitude Test’ by Dr. Jai Prakash and R. P. Shrivastava (1973) was used. There was no time limit but, the subjects took 40-45 minutes to respond. The test consisted of 150 items/statements in 5 parts. Separate answer sheet was given which had 5 boxes to put a tick mark i.e. strongly agree, decided, disagree. The students were asked to read the statements carefully and then give the answer. The reliability through test-retest was 0.94 the validity 0.5. This test was standardized on 1050 pupil teachers’ students of B.Ed. class. This tool is in Hindi language.

4.3.4 COMMUNICATION SKILL

In the present study, investigator developed a ‘Communication Skill Scale’ to assess the Communication Skill among the students of Experimental and Control group. The various dimensions of Communication are: Active Listening, Speaking, Reading and Writing. The scale consisted of 60 statements. Against each statement, five columns with degrees like, to very high extent, to high extent, to moderate extent, to low extent and to very low extent are given. Students are asked to read the statements carefully and put a tick mark in any one of the corresponding columns. Marks allotted were +5, +4, +3, +2, and +1 for the positive statements and +1, +2, +3, +4 and +5 for the negative statements for respective columns. The test - retest reliability coefficient for the scale was 0.87. The details related with standardization in given in Chapter III.

4.3.5 TEACHING EFFECTIVENESS

In the present study, investigator developed ‘Teaching Effectiveness Scale’ to assess the Teaching Effectiveness of Experimental and Control group students. The various dimensions of Teaching Effectiveness are related to content, psychological basis of implementing instructions in classroom, appropriate use of teaching skills, use of different trick and classroom aspects of teacher. The scale consisted of 80 statements. Against each statement, five columns with degrees like, to very high extent, to high extent, to moderate extent, to low extent and to very low extent are given. Students are asked to read the statements carefully and put a
tick mark in any one of the corresponding columns. Marks allotted were +5, +4, +3, +2, and +1 for the positive statements and +1, +2, +3, +4 and +5 for the negative statements for respective columns. The test - retest reliability coefficient for the scale was 0.51. The details related with standardization in given in Chapter III.

4.3.6 REACTION SCALE

The investigator developed ‘Reaction Scale towards Feedback through Charles Galloway System’. It was used for assessing the reaction towards feedback given through Charles Galloway system of Experiment group students only. In this scale the statement related to aspects like the nature of the supervisor, the way of giving feedback (through matrix and result prepared by computer), type of the feedback (Mixed i.e. both positive and negative feedback were given), level of acceptance of feedback, role of the supervisor, difficulties or problem faced and desirable change in behaviours of student. Five point Scale was given for each statement. The options were strongly agree, agree, undecided, disagree and strongly disagree. The students were instructed to read each statement carefully and choose any one appropriate degree out of the five given degrees. 13 positive and 07 negative statements were included in the Reaction Scale. There were 20 statements in the scale. There was no time limit given for responding to the Reaction Scale towards Feedback through Charles Galloway System.

4.4.0 PROCEDURE OF DATA COLLECTION

The present study was experimental in nature. There were two groups one was designated as experimental group and the other as control group. The data were collected from both the groups in respect of communication skill, Teaching Effectiveness, Personality, Teaching Aptitude, Emotional Intelligence from four B.Ed colleges situated in Indore District/ City (i.e. School of Education, DAVV Indore, Shri Gujrati Samaj B. Ed. College, Shri Vaishnav B.Ed.college, and ILVA B.Ed. college). For these, the permission from the principals of the selected colleges was taken. The students taken up for the experiment were oriented about the objectives of the experiment with a purpose to establish a rapport with them. The data in respect of above mentioned variable were collected. The instructions mentioned in respective manuals were followed so as to get the reliable data. Further, the care was taken not to administer more than one test on a day.
After pretesting, Experimental group sample was treated with CGS for 8-10 feedback sessions at the rate of 15-25min. per day after observation of their teaching. Here the treatment was to provide feedback to the student teachers’ after completion of their Practice lesson. During the treatment, the personality of the students of experimental and control group was assessed with the help of introversion extroversion inventory by Dr. P.F. Aziz and Dr. Rekha Gupta (2001), Emotional Intelligence with the help of Mangal Emotional Intelligence inventory by S.K. Mangal and Mrs. Shubra Mangal (2009) and Teaching Aptitude Test with the help of Dr. Jai Prakash and R.P Shrivastava (1973). At the end of the treatment, both the groups were post tested for the same variables using same tools as at the pre testing stage while, in Traditional Approach the Feedback was given in their Feedback copies in the form of tips. The reaction scale was administrated only on to the experimental group at the end of treatment. The procedure of providing feedback through CGS Approach to experimental group students could be detailed as -

4.4.1 PROCEDURE OF PROVIDING FEEDBACK THROUGH CGS WITH THE HELP OF COMPUTER

In this system also, the process includes observation of the classroom event. The observer selects an appropriate position in the classroom to listen and watch the events as smoothly as possible without disturbing or interfering in the spontaneous activities of the classroom.

Procedure of providing feedback included both the Mechanical and Live source i.e. Investigator/Supervisor. Supervisor is usually the main source and Mechanical source included the use of computerized programming meant to record each and every detail through Charles Galloway Category system or Interaction Analysis. It involves verbal behaviour categories of teacher trainees from 0 to 9 (same as that of Flander’s Interaction Analysis), Non verbal categories corresponding to these i.e. the behaviour is congruent (when the non verbal expressions are shown in the appropriate manner) and the behaviour is incongruent (when the non verbal expressions are not shown but, it is required or shown in an unappropriate manner).

The supervisor enters the classroom with laptop, to observe the middle 20 minutes lesson of the teacher trainee through the programming done on computer. For observing the lesson, one has to first click the programme folder, then, open
the entry file. General entries of this file have to be filled in i.e. Name of the student, class subject, duration etc. After the entries are complete it asks for a six character identifier which has to be filled in by the supervisor. Then only one can switch over to the marking of the categories. As soon as the identifier is filled in the field, it is saved in the F data file (F data file consist of details of general information of the trainee i.e. name, date, time etc.) Now, the supervisor is ready to put categories in the entry file. For the 20 minutes observation of the lesson of the trainee, every 3 second a category is put through the key board of the laptop starting with ‘0’ and ending with ‘0’. These could be shown as below through the table 4.3.

Table 4.3: Charles Galloway Interaction Analysis System

<table>
<thead>
<tr>
<th>Category Number according to FIACS</th>
<th>Verbal Behaviour As In FIACS</th>
<th>Keys showing Corresponding verbal Behaviour</th>
<th>Keys showing Corresponding Non verbal Behaviour / Congruency in Behaviour</th>
<th>Keys showing Non Corresponding Non verbal Behaviour / In congruency in Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Accept Student Feeling</td>
<td>1</td>
<td>Q</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>Reinforce-ment</td>
<td>2</td>
<td>W</td>
<td>S</td>
</tr>
<tr>
<td>3</td>
<td>Use Student Idea</td>
<td>3</td>
<td>E</td>
<td>D</td>
</tr>
<tr>
<td>4</td>
<td>Asking Question</td>
<td>4</td>
<td>R</td>
<td>F</td>
</tr>
<tr>
<td>5</td>
<td>Lecturing</td>
<td>5</td>
<td>T</td>
<td>G</td>
</tr>
<tr>
<td>6</td>
<td>Giving Instructions</td>
<td>6</td>
<td>Y</td>
<td>H</td>
</tr>
</tbody>
</table>
Categories are entered in this way and at the end category ‘0’ is entered and one has to press the spacebar to close the process. As soon as the entries are finished, the above file is saved. For making the matrix from the above file, one has to now open result file and enter the same six character identifier as in the entry file and press enter. The matrix opens on the screen with all the general information of the teacher trainee and category marking. It also shows the percentage of various behavior exhibited and the frequency with which non verbal behavior is shown in congruency with verbal behaviour. From the above data the supervisor analyses the positive and weak behaviour of teacher trainees and the extent to which they were shown in the classroom.

Along with this, the experimenter responded to the students query or problem faced by them during and after the performance of the lesson. Once the result is obtained, analysis of each behaviour is done by the investigator and after the lesson, at a suitable time and place then, the feedback is explained to the student teacher. Encouragement is given for the positive behaviour and also the student is told how to overcome the weakness. Every time the feedback is given, it
is assured by the investigator that the student teacher has understood all the points clearly.

It this manner, 8 to 10 lessons of student teachers are to be recorded/observed and a detailed feedback related to Verbal and Non Verbal behaviours is given by the supervisor / Investigator immediately after the lesson.

4.5.0 DATA ANALYSIS

Objective wise, following statistical techniques will be used-

1. The data related to the objective ‘To compare the adjusted mean scores of Teaching Effectiveness of experimental group B. Ed students by considering Pre Teaching Effectiveness, Emotional Intelligence, Personality and Teaching Aptitude as covariate’ will be analyzed with One way ANCOVA.

2. The data related to the objective ‘To study the effect of Treatment, Emotional Intelligence and their interaction on the Teaching Effectiveness, of B. Ed. students by taking Pre Teaching Effectiveness as covariate’ were analyzed with Two way ANCOVA.

3. The data related to the objective ‘To study the effect of Treatment, Personality and their interaction on the Teaching Effectiveness, of B. Ed. students by taking Pre Teaching Effectiveness as covariate’ were analyzed with Two way ANCOVA.

4. The data related to the objective ‘To study the effect of Treatment, Teaching Aptitude and their interaction on the Teaching Effectiveness, of B. Ed. students by taking Pre Teaching Effectiveness as covariate’ were analyzed with Two way ANCOVA.

5. The data related to the objective ‘To compare the adjusted mean scores of communication skills of experimental group and control group B.Ed students by considering Pre communication skill, Emotional Intelligence, Personality and Teaching Aptitude as covariate’ will be analyzed with One way ANCOVA.

6. The data related to the objective ‘To study the effect of Treatment, Emotional Intelligence and their interaction on the communication skills, of
B. Ed. students by taking Pre Communication Skills as covariate’ were analyzed with Two way ANCOVA.

7. The data related to the objective ‘To study the effect of Treatment, Personality and their interaction on the communication skills, of B. Ed. students by taking Pre Communication Skills as covariate’ were analyzed with Two way ANCOVA.

8. The data related to the objective ‘To study the effect of Treatment, Teaching Aptitude and their interaction on the communication skills, of B. Ed. students by taking Pre Communication Skills as covariate’ were analyzed with Two way ANCOVA.

9. The data related to the objective ‘To study the reaction of B. Ed. students towards ‘CHARLES GALLOWAY FEED BACK SYSTEM’ percentage were used.