

CHAPTER III

**RESEARCH**

**PROCEDURE**

## **CHAPTER III**

### **RESEARCH PROCEDURE**

#### **3.1 Introduction:**

The researcher selected Azad College of Education, Satara where he is working as a lecturer in education.

The previous chapter deals with a brief account of related literature, which points out that the problem chosen by the researcher has roots in the existing literature, but further exploration is needed in this field.

This chapter deals with the procedure followed and the tools developed and used. It also describes the sample selected, statistical formulae and measures used. The researcher has used experimental method for this research.

#### **The purpose of the study:**

The purpose of the study was to find out effect of Stress Reduction Model on certain competencies of student teacher. To ensure such valid casual inferences and verified functional relationship experimental method is the best method of educational research.

#### **3.2 Experimental Method:**

Experimentation is the most scientifically sophisticated research method. It is defined as observation under controlled conditions. It studies

observable changes that take place in order to establish a cause and effect relationship. It is the description and analysis of what will be what will occur or what can be made to occur under carefully controlled conditions.

Experimentation provides a method of hypothesis testing. Although the experimental method finds its greatest utility in the laboratory, it has been effectively applied within non-laboratory settings such as the classroom, where significant factors or variables can be controlled to some degree. The immediate purpose of experimentation is to predict events in the experimental settings. The ultimate purpose is to generalize the variable relationships so that they may be applied outside the laboratory to a wider population of interest.

An experiment involves the comparison of the effects of a particular treatment with that of a different treatment or of no treatment. In a simple conventional experiment, reference is usually made to an experimental group and to a control group. These groups are equated as nearly as possible. The experimental group is exposed to the influence of the factor under consideration; the control group is not. Observations are then made to determine what difference appears or what change or modification occurs in the experimental as contrasted with the control group.

In this study all the variables like age, experience, learning situations (class conditions) etc are controlled.

The researcher has to think of four essential characteristics of experimental research. They are 1) control 2) manipulation 3) observation 4) replication.

In this study, the effectiveness of Stress Reduction Model was to be measured in terms of teaching performance. Therefore the researcher proposed to use experimental method.

By utilizing an efficient research design the investigator had to make and attempt to minimize the error variance in experimental research and the control of extraneous variables. The discussion of sources of invalidity of different time experimental designs as given by Campbell and Stanley (1963) would therefore, be in order here.

Campbell and Stanley categorize the different experimental designs into three groups pre-experimental design, True-experimental designs and quasi experimental designs. The true-experimental designs are the designs with rigorous control. Hence, the threats of internal validity only in true-experimental design are considered here. The sources of invalidity are given in figure 3.1

FIGURE 3-1

SOURCES OF INVALIDITY FOR DESIGNS 1 THROUGH 3

	Sources of Invalidity											
	Internal						External					
	History	Maturation	Testing	Instrumentation	Regression	Selection	Mortality	Interaction of selection and maturation	Interaction of Testing and X	Interaction of selection and X	Reactive Arrangements	Multiple-X Interference
<b>True-Experimental Designs :</b>												
Retest-Post-test control Group Design.	+	+	+	+	+	+	+	-	?	?		
R O X O												
R O O												
<hr/>												
Solomon Four-Group Design.	+	+	+	+	+	+	+	+	?	?		
R O X O												
R O O												
R X O												
R O												
<hr/>												
Retest-Only Control Group Design.	+	+	+	+	+	+	+	+	?	?		
R X O												
R O												

Note: In the tables, a minus indicates a definite weakness, a plus indicates that the factor is controlled, a question mark indicates a possible source of concern and a blank indicates that the factor is not relevant.

It is with extreme reluctance that these summary tables are presented because they are apt to be "too helpful", and to be depended upon in place of the more complex and qualified presentation in the text.

No + or - indicator should be respected unless the reader comprehends why it is placed there. In particular, it is against the spirit of this presentation to create uncomprehended fears of, or confidence in, specific designs.

### **3.2.1 Experimental Designs:**

There are three true experimental designs.

1. The Post- test only equivalent groups design.
2. The Pretest- Posttest equivalent groups design.
3. The Solomon four group design

The sources of invalidity are classified in two classes viz. internal and external threats to validity.

It is evident from the figure 3.1 that all the three experimental designs control all the threats to internal validity. However, weaknesses in respect of external validity are seen in the pre-test post test equivalent groups design. In the remaining two designs interaction of testing and treatment is controlled and interaction of selection and reactive arrangement with the treatment are sources of concern. Although Solomon four group design is very effective research design, it requires four groups. Hence, practically it is a difficulty of feasibility and convenience. This is not the case with posttest only equivalent group design.

Therefore, considering all the merits of posttest only control group design, the researcher decided to select the same for his study.

### 3.2.2 Post Test Only Control Group Design:

As depicted in figure 3.1, in this design there are two groups, one experimental and the other control. The experimental group experiences treatment while the control group does not. The use of control group takes care of history and maturation. Group assignment is made on the random basis, which controls selection and mortality. Pretest is not administered so the interactions between testing and treatment are controlled. Thus many threats to validity are controlled in this design.

The post-test only Equivalent Group Design used for the study:

R	X	O1
R	C	O2

R: Random assignment of subject to groups.

X: Exposure of a group to an experimental variable.

C: Exposure of a group to the control condition.

O: Observation or test administered.

(Fig. 3.2)

### 3.3 Validity of the Design used:

Careful attempt has been made in this study to control the sources of invalidity using appropriate techniques.

### **3.3.1 Controls for Internal Validity:**

The eight classes of extraneous variables identified by Campbell and Stanley, which functions as the sources of invalidity are-

1. History
2. Maturation.
3. Testing.
4. Instrumentation.
5. Regression.
6. Selection.
7. Mortality
8. Interaction of Selection and Maturation.

#### **3.3.1.1 History:**

History refers to events occurring in the environment at the same time that the experimental variable is being tested. Specifically, Materials, Conditions and procedure used within the experiment except of the variables manipulated must be identical. As a part of design selected control group was located which took, care of history.

#### **3.3.1.2 Maturation**

Maturation refers to the processes of change within the experimental subjects as fatigue, hunger, loss of interest. The changes are biological and



psychological from within and external sources as location, duration of experiment etc.

As the duration of the experiment was just 17 days there was meager possibility of biological changes in the trainee which might have affected dependent variables.

Every day the trainees worked for one hour, hence, there was no problem of fatigue or loss of interest. Besides, during the time of experiment the trainees were completing their internship programme and could fully devote to the experimental task.

The control group set also had the same maturational and developmental experience. Thus, maturation was controlled.

#### **3.3.1.3 Testing:**

Testing refers to the effects of taking a pretest on posttest-performance of individuals if the tests are identical. This factor was taken care of by selecting an appropriate design in which there was no pretest.

#### **3.3.1.4 Instrumentation:**

Instrumentation refers to changes that occur in the measurement or observation procedures during an experiment. Changes may occur in raters or in the basis of rating from one group to another or testing conditions.

To control the changes in observer raters, they were oriented in using observers rating scale. Interobserver reliability was established prior to the observation. The same raters were used to observe the lessons of the groups. The testing conditions were the same and finally, the same testing tool i.e. TAG was used.

#### **3.3.1.5 Regression:**

When groups are chosen on the basis of extreme scores on a particular variable, problems of statistical regression occur. The lack of perfect correlation is due to the unreliability of tests.

The groups of extreme scores were not selected. The sample was not purposive, it was random, hence, there was no problem of regression

#### **3.3.1.6 Selection:**

That means biases resulting from differences in the selection of subjects in the compared groups as personal reactions and behaviours of individuals.

The problems of selection were minimized by random selection of the subjects and random assignment of the groups to experimental and control group.

**3.3.1.7 Mortality:** It is related to the loss of subjects during an experiment and also the condition of the experiment.

In order to check mortality personal appeal was made to the teacher trainees included in the experiment and their consent was sought. Then it was also pointed out to them that the work done for the experiment will be counted as a part of their practice teaching and it would not be an additional work. This helped to maintain high motivation level in all the three groups and no teacher trainee left the experiment till its end.

### **3.3.1.8 Interaction of Selection and Maturation:**

Interaction effects are attributable to selection and maturation affect internal validity. A source of invalidity might be a selection, maturation and interaction.

The duration of the experiment was very short i.e. 17days only. Similarly the control group was set. Thus, most of the combined sources of invalidity of selection and maturation were controlled.

### **3.4 Controls for External Validity:**

Campbell and Stanley (1963) used the term 'external validity' to refer to the generalisability or representativeness of the study. In order for findings to have any generality and therefore, to be more broadly useful, it is necessary to consider external validity. Four factors are related to external validity. They are –

#### **1. Interaction of Testing and Treatment**

2. Interaction of Selection and Treatment

3. Reactive Arrangements.

4. Multiple Treatment Interference

#### **3.4.1 Interaction of Testing and Treatment:**

Pre-effect may have effects confused or confounded with treatment effect and can be engender attitudes and intellectual skills which would remain latent without the occurrences of posttest.

In the present study, pre-effect was not used so effects of interaction of testing and treatment were out of question.

#### **3.4.2 Interaction of Selection and Treatment:**

External validity is threatened when there is a combination of two factors (a) A question about representativeness of the sample, and (b) A possibility of interaction between treatment and subjects, settings and times.

The selected sample is representative and has been ensured through use of an appropriate sampling procedure and it was further demonstrated through empirical comparisons. Thus, the interaction effects of selection and treatment were eliminated.

#### **3.4.3 Reactive Arrangements:**

The arrangement of the experiment or the experience of participating in it may create sufficient artificiality. But the question is whether it is

possible in practice to obtain permission to assign subjects randomly. Subjects may often be reluctant to grant permission because of their concern about possible inconvenience and disruption of work, or their doubts about value of the treatments. Moreover, superior achievement of experimental group may be attributable to the novelty of method of instruction and motivation.

To avoid the effects of these extraneous factors care was taken that experimental group as well as control group were accommodated in a similar situation. Above all, a random sampling and assigning groups to treatments randomly can be remedy for all such threats.

#### **3.4.4 Multiple Treatment Interface:**

It is more difficult to avoid differences in the desirability of treatment treatments in a study. To avoid the effects, detailed description of each treatment implemented is given below.

Having selected the design with a rationale and the ways to control threats to internal and external validity, the variables involved in the study were identified and finalized.

#### **3.5 Variables:**

Variables considered in this study are of three types.

- i. Independent variables

- ii. Dependent variables
- iii. Attributes variables (age, sex, physical conditions etc.)

#### 3.5.1 Independent variables:

Independent variables are inputs. They are measured, manipulated to determine the relationship and they can affect another variables. The independent variable in the present study was-SRM.

#### 3.5.2 Dependent variables:

It is a response variable or output. It is measured to determine the effect of the independent variable. The dependent variables were as follows-

- a) Teaching performance
- b) Student teachers' reactions

**3.6 Preparation for the Experiment:** The researcher fixed an experimental method for study. After fixing the proper experimental design, necessary preparation required for the conduct of the experiment was made. It included the following points.

1. Consent of the authorities concerned.
2. Support material needed.
3. Testing material- tools.
4. Try out.
5. Determination of the suitable period for the experiment.

6.Orientation of the observers.

7.Inter observer reliability and

8.The time schedule of the experiment.

All these factors were involved at the preparatory stages. They are further described in details.

### **3.6.1 Consent of the authorities concerned: -**

Prior to the conduct of the experiment the permission of the authorities was sought for.

(a) The Principal, Azad Collage of Education, Satara: -

The entire plan of the experiment was discussed with the principal. The problem regarding provision for the rooms, duration of the programme, collaboration of the other staff needed, the number of trainees involved in the experiment etc. were all discussed. The principal was requested kindly to make available the accommodation and resources needed. He heartily gave his consent.

(b) The Headmasters of Practicing Schools: -

For the real classroom teaching, the headmasters of practicing schools, namely (1) Mahatma Gandhi Vidyalaya, Panchawad, (2) Karmaveer Bhaurao Patil Vidyalaya, Varye. (3) New English School, Kanher

(4) Mahatma Gandhi Vidyalaya, Umbraj; Tal. Karad, Dist. Satara were requested kindly to make available the pupils for the internship programme. They gladly accepted the request and promised to extend their co-operation whenever required.

### 3.6.2 Testing Material-Tools: Description of the Tool:

#### 1. Teaching Analysis Guide (TAG):

The researcher developed an extensive and illustrative TAG, by taking help of already existing TAG for lesson observation. Existing TAG for practice teaching lesson observation consists of 20 statements on a five-point scale.

The researcher decided to use only four competencies for lesson observation. Viz. Content, Transactional, Evaluation, and Management. The statements in TAG were discussed with the senior staff members and were finalized. The scoring for each statement is as follows:

Excellent-05

Very good-04

Good-03

Poor-02

Very poor -01

There are five statements in each selected competency. (Details in appendix A)



## 2. Attitude scale for student teachers:

It was used to measure the reactions of student teachers about SRM. Discussing with senior members of the staff (Appendix B) and colleagues this scale was developed. (Appendix C)

### 3.6.3 Support Material needed:

Stress reduction activities can be a part of everyone's daily habits. There are brief stress reduction techniques that do not involve an appreciable amount of time. Here the model used consists of moving focus relaxation. In contrast to the techniques that call for tensing muscles before relaxing them, moving focus does not require tensing, simply a letting go and relaxing.

The model ends with tensing and relaxing for any muscles in which there is still residual tension. To develop this material help of Yoga Teacher was sought. (AppendixD)

### 3.6.4 Try Out:

After preparation of the support material and an observation tool, it was tried out on fifteen trainees who were not involved in the experiment. (Listed in Appendix E). After using this model, on this group, interviews of the student teachers were conducted. Their experiences were collected and accordingly taking the help of experts in this field modified the model. (Appendix F)

From the try out, the required time for using the model was estimated and the instructions to be given were finalized, final drafts were cyclostyled and required number of copies were kept ready for the experiment.

### **3.6.5 Determination of the Suitable Period for the Experiment:**

It was decided to conduct the experiment in the second term of the academic year 2002-2003. In the second term the student-teacher goes for internship programme. Hence the second term was preferred. This period was most suitable for effective implementation of the experiment.

Before that, the end of the first term the try out of the script (model developed) was taken on fifteen students.

For the success of the experiment trained and skilled manpower is needed to handle the situation with ease and facility. Hence there was need to orient the colleagues working with the researcher.

### **3.6.6 Orientation of the Observers:**

For efficient and smooth conduct, of the experiment and general supervision, assistance of three other colleagues was needed. Hence, three colleagues were selected for the purpose. (Listed in Appendix G) In order to orient the colleagues in the background of SRM (Stress Reduction Model), planning skills and the basic knowledge required for observation and testing trainees' performance were held frequently. Since all of them were well

qualified and having more than five years of experience in observations of lessons, the discussion was more informal than the formal one.

Each observer rater was given a form of observer rating scale with full instructions and continuum of characteristic delineated under each item was explicated. Doubts and difficulties raised were clarified. Each observer has to observe five lessons of each student teacher.

Prior to the observation of lessons inter observer reliability was established. The procedure is given below.

### **3.6.7 Inter Observer Reliability:**

The researcher and his three colleagues observed the practice lessons of five teacher trainees (Listed in Appendix H) simultaneously using Teaching Analysis Guide. In order to assess the accuracy of these ratings for their further use in the measurement of teacher fidelity it would be necessary to find out inter observer reliability.

Medley and Mitzel discussed three types of coefficients for the reliability of observation by any observational technique.

#### **1 Reliability Coefficient:**

A correlation between the scores on observations made by different observers at different times.

## 2 Stability Coefficient:

A correlation between the scores based on observations made by the same observer at different times.

## 3 Coefficient of Observer Agreement:

A correlation between the scores based on observations made by the different observers at same times.

According to them, the reliability coefficient tells us how accurate our measurements are. The stability coefficient tells us something about the consistency of behaviour from time to time. The coefficient of observer agreement tells us something about the objectivity of an observational technique.

In order to find inter observer reliability, for the purpose of this study, coefficient of observer agreements was, therefore the appropriate type among the three.

The scores of the four observers including the researcher while simultaneously observing five lessons of the different teacher trainees were first calculated by arranging their ratings on TAG. The scores are given in the table3.1

**TABLE 3.1**  
**SCORES GIVEN BY FOUR OBSERVERS TO DIFFERENT STUDENT**  
**TEACHERS**

Lesson →	1	2	3	4	5
Researcher	52	44	62	58	68
Colleague 1	56	45	60	54	66
Colleague 2	48	45	64	56	66
Colleague 3	55	50	64	55	67
<b>Total</b>	<b>211</b>	<b>184</b>	<b>250</b>	<b>223</b>	<b>267</b>
<b>Average</b>	<b>52.75</b>	<b>46</b>	<b>62.50</b>	<b>55.75</b>	<b>66.75</b>

Researcher: Mr. Dhondge V. D.

Colleague 1: Mr. Vhanabatte R.B.

Colleague 2: Mr. Dhanawade N. D.

Colleague 3: Mr. Nannar R. K.

Coefficients of correlation were computed comparing the scores of each colleague with researcher and scores among themselves.

The correlations are given in table 3.2-

**TABLE 3.2**  
**INTER OBSERVER RELIABILITY FOR THE PAIR OF**  
**OBSERVERS OBSERVING LESSONS**

Sr. No.	Pair of Observer	No. of Lessons	Inter Observer Reliability
1	Researcher Colleague 1	5	0.95
2	Researcher Colleague 2	5	0.97
3	Researcher Colleague 3	5	0.94
4	Colleague 1 Colleague 2	5	0.87
5	Colleague 1 Colleague 3	5	0.95
6	Colleague 2 Colleague 3	5	0.95

**Observations:** These high values of inter observer reliability for all the four observers were taken as adequate evidence of the accuracy of ratings given by different raters.

In order to assess teacher fidelity to lesson observation, the data adopted was further analyzed. The means and standard deviations are given in table no. 3.3

TABLE 3.3

**MEANS AND STANDARD DEVIATIONS OF OESERVER RATER  
ON TAG**

Sr. No.	Observer Rater	No. of Lessons observed	Mean	S. D.
1	Researcher	5	56.8	9.23
2	Colleague 1	5	56.2	7.76
3	Colleague 2	5	55.8	9.34
4	Colleague 3	5	58.2	7.05
	Average	5	56.75	8.34

**Observations:**

1. There was slight difference in the five means compared.
2. The means were closer to the general mean.
3. The standard deviations of the four observers do not indicate more heterogeneity.

### **3.7 Sample and sampling procedure:**

Sampling procedure involves a number of considerations, which must be clearly understood if adequate results are to be obtained. Most of the educational phenomenon consists of large number of units. Some populations are very large so their study would be expensive in terms of time, effort, money and manpower. Majorities of the researches in teacher education were conducted with a limited number of students.

Fox D. J. (1969) has given five steps in a sampling process namely:

**a. Universe:**

Includes all possible respondents of a certain kind. All colleges of education with similar geographical, physical and academic conditions.

**b. Population:** Portion of the universe to which the research has access.

**c. The invited sample:** All elements of population to which an invitation to participate in research is extended.

**d. The accepting sample:** It is that portion of invited sample that accepts the invitation and agrees to participate.

**e. The data producing sample:** The portion of the accepted sample that actually includes data.

Taking in to consideration, the above points, the data was selected as-The universe for the study was defined as Marathi medium inexperienced male



and female student teachers. It means that the students who constituted the universe had at least following common features.

- 1.They are minimum graduates in their qualifications.
- 2.They have opted for teacher training course.
3. They do not have any experience prior to their training.
- 4.They have opted for teaching practice to be conducted through Marathi medium.

They are screened according to the uniform rules, as Shivaji University, Kolhapur, centralizes the admission procedure.

The universe has physical boundaries of the State of Maharashtra and it comes in existence through College of Education in Maharashtra.

The population of the universe is the students admitted in each college of education in Maharashtra and this population is accessible for the researcher for the experimentation.

For the present study, the researcher selected the population from Azad College of Education, Satara for the reason of convenience and feasibility, as he is one of the faculty members of the college. It is one of the aided colleges affiliated to Shivaji University, Kolhapur. It runs two divisions of 80 students each. The student teachers are admitted on merit basis by Shivaji University Kolhapur. The medium of instruction is Marathi.

The size of the sample decided was about 40% of the population which came out to be 64. The invitation therefore was given to 60 student teachers from 2002-2003 batch randomly selected from the population of 160 students. All the 60 student participants accepted the invitation and consented to involve in the programme. (Listed in appendix I) The participants accepted the invitation as the researcher earlier appealed to them to share an opportunity to learn new teaching strategy likely to be involved in the system of education soon. Further the trainees were made aware that it would be a part of their training programme and not any kind of additional work. Thus the selected sixty students constituted the Accepting Sample.

There was no loss in the number of participant student teachers during the experiment. So, the whole accepting sample i.e. sixty student teachers became the data producing sample for the study.

### **3.7.1 Group Formation:**

The selected student teachers three lessons were observed by using the TAG. The scores obtained were arranged according to decreasing order. To form equivalent groups, the student teachers were distributed in four groups as follows.

**Group 1:** 1,8,9,16,17,24,25,32,33,40,41,48,49,56,57

**Group 2:** 2,7,10,15,18,23,26,31,34,39,42,47,50,55,58

**Group 3:** 3,6,11,14,19,22,27,30,35,38,43,46,51,54,59

**Group 4:** 4,5,12,13,20,21,28,29,36,37,44,45,52,53,60.

The four groups were made for the sake of convenience of lesson observation.

After making equivalent groups, the names to the groups were assigned randomly using lottery method. They are as follow-

Group No.1- Experimental group.

Group No. 2 –Control group.

Group No. 3-Control group.

Group No. 4- Experimental group.

Further for the sake of convenience of statistical analysis both the experimental groups were taken together and control groups together.(Appendix J and K)

The data were collected from the data producing sample using the tool described in 3.5.2

### **3.8 The conduct of the Experiment:**

- 1) All the student teachers were asked to write down the activities, which create tensions in the conduction of the course. They were taken into confidence and were told that this information was going to be used for research purpose only,

The students (155) who were present on that day, full-heartily participated in this activity and gave different reasons.

- 2) From all the above activities, the causes of tensions were found out.
- 3) From this, tensions related to teaching competence were listed separately.
- 4) The different exercises to reduce tension were developed with the help of yoga teachers. These exercises constitute Stress Reduction Model (SRM). At the same time a cassette from Yog Yidya Dham was utilized as a part of this model.
- 5) Before the conduct of an experiment in the month of October and November the model was utilized for a month on group of fifteen students who were not the part of an experiment. After using this model, on this group, interviews of the student teachers were conducted. Their experiences were collected and accordingly the model was modified.

The actual experiment commenced on 1<sup>st</sup> January 2003 and lasted for 17 days till 21<sup>st</sup> January 2003. This particular period was purposefully chosen for the following reasons.

1. This was the period for internship. All the students were supposed to go to different schools in the rural area in Satara District, so there was not additional works for the experiment.

2. Climatic conditions are the best during this season and hence, prevented any disruption in this programme.

3. As the experiment was supposed to be carried out early morning every day, this was easier during this period because most of the student teachers were present at the school selected.

4. During this period, student teachers were assigned maximum number of project to be completed. Viz.

a) Action research,

b) Sociometric technique,

c) psycho analysis,

d) population survey of a village,

e) preparation and conduction of unit test for each method,

f) value-education, and

g) co-curricular activities,

Many factors that create tension were present in this period; where students are under stress.

5. It was also suitable for the observers to observe lessons, as they were fully devoted to the purpose of observation only. During this period, every group going out for internship gets one lecturer as a group incharge. In these days no lectures were conducted in the college.

**SCHEDULE FOR LESSON OBSERVATION**

DAY	VDD	RBV	NDD	RKN
1	Introduction	Introduction	Introduction	Introduction
2	E1 to E5	E16 to E20	C1 to C5	C16 to C20
3	E6 to E10	E21 to E25	C6 to C10	C21 to C25
4	E11 to E15	E26 to E30	C11 to C15	C26 to C30
5	E16 to E20	C1 to C5	C16 to C20	E1 to E5
6	E21 to E25	C6 to C10	C21 to C25	E6 to E10
7	E26 to E30	C11 to C15	C26 to C30	E11 to E15
8	C1 to C5	C16 to C20	E1 to E5	E16 to E20
9	C6 to C10	C21 to C25	E6 to E10	E21 to E25
10	C11 to C15	C26 to C30	E11 to E15	E26 to E30
11	C16 to C20	E1 to E5	E16 to E20	C1 to C5
12	C21 to C25	E6 to E10	E21 to E25	C6 to C10
13	C26 to C30	E11 to E15	E26 to E30	C11 to C15
14	E1 to E5	E16 to E20	C1 to C5	C16 to C20
15	E6 to E10	E21 to E25	C6 to C10	C21 to C25
16	E11 to E15	E26 to E30	C11 to C15	C26 to C30
17	Discussion and self expression			

**E1 to E30: Student teachers from experimental group**

**C1 to C30: Student teachers from control group**

The detailed description of the day wise programme is given here

Observer reliability is already established. However, some degree of element of subjectivity may come in. That is why, to observe the performance of student teachers, the groups were rotated to the observers to avoid the effect of single observer causing partial subjectivity. Thus, all the observers had an opportunity to assess practice teaching of the student teachers from every group.

### **3.9 Summary:**

Experimental study is the best method of educational research to ensure valid causal references and verified functional relationships. Amongst the true experimental designs posttest only control group design controls almost all threats to internal and external validity. Hence, it was selected for the present study.

The first section of this chapter deals with the preparatory stage of the experiment which contains consent of authorities, support material needed, tryout, determination of the period, orientation of the observers and the time schedule of the experiment.

The second section shows sampling procedure, adequate sample size, and group formation. The next section gives information about the data producing tools employed in the study.

And the last section of this chapter is concerned with schematic presentation of the programme and the detailed description of the day wise programme.

#### Support material

The researcher video recorded the exercises in stress reduction model to have feedback to the participant student teachers. The student teachers can even implement SRM for the secondary school pupils by observing the steps involved in SRM, To put in short, the video recording gives all the details for the beginners in the form of demonstration. It is 20 minutes video recording which covers almost all the exercises grouped in five sets.(Appendix M)-Attached at the hard sheet of the dissertation.