CHAPTER III

METHODOLOGY

INTRODUCTION

The need of the time expects the teacher to be completely dedicated to the intellect. In the words of Tagore "A teacher can never teach unless he still is learning himself. His fearless quest for new ideas should continue till the goal is achieved. He can do his duties effectively if he is sensitive to new ideas and new practices and quick to adopt other changes is an important attribute of an 'innovative teacher' ".

The teacher, like any other member of the society plays multiple social roles in consonance with the different status he occupies both in his private and public life. The teacher has on one hand an academic role concerned with scholarship and on the other hand he is a character trainer concerned with development of students' whole personality.

The Education Commission 1964-66 emphasises that the 'destiny of India is being shaped in her classrooms'. This makes one to think seriously that classrooms are centre-of attraction. To find out what is going on in the classrooms, has become the primary concern of the people who are working in the field of education, specially the teacher. This aspect of knowing what is happening in the classroom takes its origin from a number of studies made in the field classrooms and also the opinion of educationists that the present classroom teaching will cripple the child's chances in the world of tomorrow. This makes one to think and to put to action as to make our classroom become more effective. To make it more effective one again thinks in terms of the factors like, whether it is the teacher or the environment of the class, or it is instructional or extra-instructional aspects that contributes to the effectiveness of the class.

So, classroom is not viewed as a single unit when it is discussed in terms of effectiveness, but it is the sum total of many aspects which goes into the school system which modifies or

helps the pupils to have a better and well developed personality.
But the goal of knowing what really goes on in the classrooms is
not a new venture. But the perspective with which one wants to
see the classroom to understand how it influences the pupils'
personality may be different.

Studies conducted by Purushotaman (1975), Satyavathi (1981),
case studies of innovative institutions and the process of adoption
and continuation of innovations shows that how schools take up
innovations into their system and how they drop out in using the
innovations. Study by Subbarao (1970) states what are contri-
buting factors for utilizing innovations and study by Rai (1969)
states the factors that block innovations in the school system.
Similarly studies by Marie De Sales (1979), Lulla (1974) states
that how the climate of the classroom influence the pupil perfor-
mance, how teacher behaviour influences the pupil performance and
personality of the pupil was studied by (Marie De Sales, 1979).

It is also studied that different types of measures used
in observing teacher behaviour and its influence. Mehta (1976),
Roka (1976), Raijiwala (1976), Pavanasam (1977), Desai (1977),
Roy (1977).

A serious objection was raised that using of FIACS will not
make one to understand the reactions or responses the pupils make
to the stimulation or initiation the teacher gives besides this
it was also stated the classrooms tend to change in their environ-
ment as the teacher change. There are what is labelled as
positive and negative behaviour which the pupil and teachers
exhibit. Hence a special technique was followed by Sundarlakshmi
(1982) to study the positive and negative behaviour of pupils
which is slightly based on the schedule used by Dennis (1965).
With two minutes time sampling, for a duration of 30 minutes
teachers were observed.

All the above mentioned studies deal with aspects like teacher
behaviour and its influence, classroom climate and other variables,

innovations etc. But the present study aims at studying all the aspects in innovative classroom. That is keeping the innovative classroom as the independent variable the investigator wants to study how the other variables that is classroom climate, pupils psyche and the teacher behaviour has either influence or not. Hence, the title of the present study is —

"A STUDY OF CLASSROOM CLIMATE, PUPILS' PSYCHE AND TEACHER BEHAVIOUR IN INNOVATIVE CLASSROOMS IN SOME SCHOOLS OF KARNATAKA STATE"

3 : 1   DEFINITION OF TERMS

The terms used in the study is operationally defined and it is mentioned as follows:

1. Classroom Climate:

Mishra (1971) gives the definition of classroom climate as merely an abbreviated reference to those qualities that consistently predominate in most teacher-pupil contacts and contacts among the pupils in the presence or absence of the teacher.

Thelen (1974) defined classroom climate as "ways of life" of Ethos developed by the class members, through continuous interactions.

Classroom climate can also be described as an environment which is created due to the ripple effects of the socio-psychological world of teachers and pupils.

Classroom climate can also be referred to as the group characteristic which predominate the classroom interaction consistently.

According to Flanders (1970) the word classroom climate refers to the generalized attitudes towards the teacher and the class that the pupils share in common inspite of individual differences.

Mehta (1968) indicates that "classroom climate is a generalised concept which can be understood from the behaviour of teacher and pupils in the class.

2. "Psyche": The Greek term for the life force translated as 'mind'.

Pupils' psyche can also be understood in terms of the cognitive development. Certain socio-psychological attributes. In this study 'Psyche' mainly refers to the socio-psychological attributes which can be briefly mentioned here as the pupils' initiative, trust, social relationships.

Pupils' psyche can also be termed as the teacher-pupils' mental relationship.

Pupils' psyche in this study also means the different factors or proper atmosphere in the classroom which in turn helps or influence the pupils to have a clear mind to take in somethings that is being taught in the class. Pupils' psyche may also mean pupils' psychological growth. Again in this study four factors are taken into consideration, that is Pupils' initiative, Pupils' classroom trust, Social relationship, and the Pupils' motivational level.

3. Trust:

Classroom trust is defined as the freedom a pupil experiences to interact with the teacher and to discuss day by day classroom problems with him. Trust is the basis of human relationship which gives sense of security to pupils. Pareek and Rao define classroom trust as "the pupils feelings, free to interact with the teacher, to discuss with him day to day problems, the teacher's action not convenient to or liked by pupils, the feeling aroused-in the pupil by some actions of the teacher, the pupils voluntary help to the teacher for some classroom problems.

4. Initiative:

It is defined by English and English (1958) as a tendency to start actions independently, such independence may or may not involve originality.

5. Teacher Behaviour:

The role of the teacher in the classroom is very great who can be labelled as generators of influence in the classroom. The influence in the class the teacher makes upon the pupils are like the ripples in the water. He generates influences in many ways that is through his direct teaching, indirect communication, his features, his voice etc. A teacher usually is not merely a teacher teaching the subject matter but he is one who suggests, gives feed backs, gives incentives. Teachers by and large can be good influencers as well as bad influencers too; he can motivate the pupil to involve himself in constructive work at the same time he can inhibit the students and thus drive their enthusiasm out. When we state the word teacher behaviour it has two folded impact or it has action and reaction like the process of give and take, that is the teacher influence the pupil and the pupil influence the teacher either for good or bad activities.

Teacher behaviour is looked upon as a cause-effect relationship. But to be precise teacher behaviour can be referred to the verbal and non-verbal patterns of a teacher's total behaviour which directly or indirectly influences the behaviour of pupils and is an important variable causing classroom climate.

6. Innovative classrooms:

Before something is defined about the word 'classroom' the word innovative is to be defined.

'Innovativeness' as it was defined by Rogers (1959) "is the degree to which an individual is relatively earlier in adopting new ideas than the other members of his social system".

As it has been stated by many sociologists, educationists and anthropologists that to define the word 'innovation' or 'innovativeness' is rather a difficult task, because of the complexity in which the word is used. But yet for the purpose of the present study 'innovativeness' or 'innovative' means the ability with which the teachers concerned do take up any new ideas or activities and try it out and are used for the total growth of the pupils as well as the institution.

7. Classroom:

Classroom is a place where pupils spend maximum time of the most formative period of their life time, classroom becomes a more crucial place for them. As Getzels and Thelen (1960) define "Classroom" as a part of the school and school is a central institution in the community. A more precise definition of what a classroom is given by Philip Jackson (1968).

"Classroom is a place where tests are failed or passed, where amusing things happen, where new insights are stumbled upon, and skills acquired. But it is also a place in which pupil sit and listen, wait and raise their hands, and pass out paper and stand in line to sharpen pencils. Classroom is a place where we encounter friends and foes where imagination is unleashed and misunderstanding brought to ground. But it is also a place in which yawns are stifled and initials scratched on desk tops".

Such is a classroom which is the base for springing and fading of enthusiasm of children. It is the place where one influence the other which in the long run helps to have a lots of improvements and developments in the classroom which concentrates on pupils development. Because it is the classroom which helps pupils to grow. Hence, it is rightly said by an educationist that the "leaders of tomorrow sit in our classrooms".

3 : 2 THE OBJECTIVE OF THE STUDY

1. To study the variation in components of classroom climate in innovative classrooms.

2. To study the variation in components of pupils' psyche in innovative classrooms.

3. To find the pattern of teacher behaviour in innovative classrooms.

4. To study the patterns of classroom climate in innovative classrooms.

5. To find the patterns of pupils' psyche in innovative classrooms.

6. To prepare profiles of classrooms.

3 : 3 HYPOTHESIS

For the purpose of analysis the following hypothesis were stated in the null form they are:

1. Classroom climate is independent of innovative classrooms.

a) Authenticity a component of classroom climate is independent of innovative classrooms.

b) Legitimacy a component of classroom climate is independent of innovative classroom.

c) Productivity a component of classroom climate is independent of innovative classroom.

2. a) Pupil initiative a component of pupil psyche is independent of innovative classroom.

b) Classroom trust a component of pupil psyche is independent of innovative classroom.

c) Motivation index is independent of innovative classroom.

3. Social relationship is independent of innovative classroom.

4. In an innovative classroom Teacher Behaviour is positive and pupil behaviour is positive.

3 : 4 SAMPLE OF THE STUDY

The sample of the study comprises of 14 classrooms chosen from 13 schools. These schools range from urban to rural and from missionary schools to management schools and the study includes a central school also which come under the Kendriya Vidyalaya Sanghatana. For the purpose of the study from the chosen classrooms both the teachers and the pupils of the particular class were included in the study. Hence, the total number of students who were included in the study amounts to 602 which comprises of both boys and girls and 56 teachers which comprises of teachers handling various curricular subjects. Students of both IX and of VIII standards of the chosen schools are the subjects. A list of names of the institution, standards chosen and the number of pupils involved in the study is given in Appendix 1.

Schools were chosen from certain districts of the State of Karnataka. The Districts selected were South Kanara, Bangalore and Mysore. More concentration was given to these Districts because of the only limitation of the investigator's inability to go all over the states from the point of view time and economic factors. Besides this factor when a preliminary questionnaire was sent to about 300 schools only 80 schools came forward by sending back the questionnaire which was sent for the purpose of identifying the innovative classes. Out of these 80 schools when a request was made to permit the investigator to study the schools only few sent the letter of permission requesting the investigator to visit the school for the purpose of the investigation.

3 : 5 TOOLS USED IN THE STUDY

For any study or research work proper use of tools are very necessary to measure the variables used in the study in a systematic and scientific way. For certain variables studied in the present study there are already tools developed by the other researchers were used. They are as follows:

1. Classroom climate scale (CCS)

2. Classroom Trust Schedule (CTS)

3. Preadolescent Initiative Questionnaire (PAIQ)

4. Sociometry Scale (SS)

5. Junior Index of Motivation (JIM)

6. Classroom Interaction Observation Schedule (CIOS)

INNOVATIVE CLASSROOM SCALES (ICS)

For the purpose of the present study investigator needed a scale or a checklist to identify the innovative classrooms. The scales that were used in other studies on innovations used scales which high-light the aspects of adaptability of innovation, innovative proneness (Purushottam, 1976) or on dissonance and rejection of innovations (Arnapalli, 1980) barriers to adoption of innovations by Doctor Ashma, 1973.

So, the investigator thought it will be proper to prepare a tool to identify an innovative classroom. For the preparation of the items to construct this tool investigator considered the tool used by O.S. Rathore with considerable modification of statements that are used. Basically the tool prepared by O.S. Rathore was to know the "Attitude towards educational innovations", this scale was administered to village level workers. Factors like scoring, scale value, being the same the scale for the present study adopted the statements with modification.

The innovative classroom scale consisted of statements which are to be answered on five point scale. It has two sections which invited the subject to answer the statement in two ways. (1) to put tick mark as a response to each statement (2) second section is more an open ended questionnaire which invited the teachers to give answers according to the agreement or disagreement to the statement and then give their opinion. This questionnaire was administered to teachers of the specific chosen schools.

This tool was developed and basically administered to a selected sample of 25 teachers working in various schools to test the

reliability and validity of the scale. Suggestions given by these first set of teachers were considered in preparing the final form. Content validity was established by the opinion of the first group of teachers. The final form when answered by the individual teachers were scored by giving weightage to each item and the total score for each teacher was obtained by summing these scores on each item, which is considered as the score of innovative classroom scale. The high score of the teacher means high innovativeness. A final form of the innovative classroom scale (ICS) is given in the appendix 2.

3 : 6 DESCRIPTION OF THE TOOLS USED

A brief description of the tools used in the present study are as follows:

1. Classroom climate Scale (CCS)

To study the classroom climate which is one of the variables in the present study, a foreign tool made available by Thelen (1972) was considered to be not suitable for Indian conditions. Hence, an attempt was made by Desai (1976) at the M.Ed. level to measure classroom climate a tool was developed based on the ALP construct model of Thelen. Using this tool the classroom climate of the present study was measured. A sample of the tool has been appended No.3.

Scoring Key for classroom climate is as follows:

Scoring of positive items - 4 strongly feel, 3 very often feel, 2 some times feel, 1 rarely feel, 0 never feel.

Scoring of negative items - 0 strongly feel, 1 very often feel, 2 sometimes feel, 3 rarely feel, 4 never feel.

The total maximum score is 48.

2. Classroom Trust Schedule (CTS)

Development of Trust in pupils working or studying in the classroom is considered as one of the important aspect in any

classroom. It is considered as one of the important variables in the present study. According to Gibb (1965), the participative model of action, where the Group Members accept one another, leads to trust formation. It is also considered that the freedom with which pupils interact with the teacher and with one another begets trust. For the present study, to measure the trust scale developed by Pareek (1971) which was used to measure the trust of the preadolescents was modified by Marie De Sales in (1978) was used by the investigator. The schedule used for the present study is seen in appendix 4.

3. The preadolescent initiative questionnaire (PAIQ)

The questionnaire is constructed by Pareek (1971). He defines initiative as the "tendency to start actions independently, such independence may or may not involve originality".

The questionnaire consists of six situations and each situation has an open ended question the students are asked to guess what the individual involved in the situation did. The final form of PAIQ is seen in appendix 5. Scoring key of PAIQ is as follows:

Scoring Key for the PAIQ:

Responses showing high initiative are those in which the character is busy searching new and several alternative solutions. All these explorations are done quite independently without the help of other person. Example:-

Item 1. Going to the park for study.
   2. Searching for a play ground.
   3. i) Managing any how to reach him home.
     ii) Giving his photo in the news paper.
    iii) Giving his description in the Radio.
   4. Giving him first aid.
   5. Going to the office and bringing chalk and duster.
   6. Digging out the clay and preparing toys with it.

Three marks are given to highly initiated responses.

The procedure for scoring classroom trust schedule has been given here.

Situation No.	Alternatives			
	A	B	C	D
1	2	3	1	4
2	1	2	3	4
3	1	3	4	2
4	1	2	3	4
5	1	2	3	4
6	1	2	4	3
7	1	2	3	4
8	1	2	3	4
9	2	1	3	4
10	1	2	3	4
11	3	1	2	4
12	1	3	2	4
13	1	2	3	4
14	1	4	3	2
15	1	4	3	2

Responses showing moderate initiative are those in which the character is seeking the help of others in solving the problems. The subject is trying to overcome the block with the help of some external factors. Two marks are given to these type of responses.

Examples:

Item 1. Going to a friend/relative's house for study.
    2. Playing in a nearby open field or playing at his friend's house in an open courtyard.
    3. Enquiring from others the child's address.
    4. Calling the doctor or sending him to the hospital through somebody.
    5. Asking some one to bring chalk or duster.
    6. Borrowing money from friends/relatives for the boys.

Responses indicating low initiative are scored 1. These responses show that the children are engaged in doing his best, or putting his best efforts intensely, but is limited by the situation. The character shows his concern for solving the marks. One mark is given for these type of responses.

Examples:

Item 1. Studying hard at home get through the examination.
    2. Playing in his own park.
    3. Taking the child to his house and providing him something to eat.
    4. Sending the injured player to his home and getting worried over him.
    5. Giving the chalk or the duster from the cupboard lending his hand-kerchief.
    6. Taking money from friends or relatives.

Responses which indicates no initiative are given '0' score. Such responses show that the character does nothing for solving the problems. All scorable responses fall in this category. Zero is given to this type of response.

Examples:

Item 1. All the responses showing the repetition.
  2. Socially disapproved responses. E.g. copying (item 1).
  3. Illegible responses.
  4. Asking the teacher to prepare a play ground. (item 2).
  5. Simply waiting for his friends to act.
  6. Getting frightened, embarrassed or upset.

Total number of obtained marks on all the items represents initiative of a student.

On PAIQ, a pupil can get highest score of 18 and the lowest score '0'.

4. The Sociometry Scale (SS)

Sociometry measure is a means of understanding the repulsion and attractions within a group. The sociometry scale has been constructed by Pareek (1971) in order to study the classroom structures, especially the cohesiveness and integration, of the preadolescents.

In this scale each student is asked to name three of his friends from amongst his class in order of preferences for activities like to study, to play, and to make friendship. The class cohesiveness is calculated by using this formula $N^2 - N$. The sociometry scale used in the present study is given in the appendix 6.

5. Junior Index of Motivation (JIM)

Frymier (1965) opines that "motivation towards school is assumed to represent an internalized state of being which manifested itself outwardly in particular ways of behaviour".

Motivation is an activity by one person designed to stimulate or arouse a state within a second person or group of persons that under appropriate circumstances initiates or regulates activity in relation to goals.

Originally this scale was developed by Frymier. This is
used for assessing students motivation towards their schools.
Since the situations given in the questionnaire was not in
accordance to children of our country, Desai (1974) adopted
it for Indian pupils. This scale has eighty items of which
only 50 items are to be scored other items are considered as
fillers. Questionnaire is a timed one, and, requires 30 minutes
to give response to pupils. These 50 items which are to be scored
are scored on 4 point scale. The response continuum has
strongly agree, agree strongly disagree, and disagree categories.
The scale used in the present study is given in the appendix 7.

Scoring Key of JIM is as follows:

Score each item according to the following scale.

+1 agree, +2 strongly agree, -1 disagree, -2 strongly disagree.
Add each pupil's score for these fifty items algebraically. Then
REVERSE the sign, i.e., if the score is +20 change it to -20, if
it is -16 change it to +16 and then add this raw score value to
+100 algebraically. This score indicates higher motivational level.
The score ranges from 0 to 200.

6. Classroom Interaction Observation Schedule (CIOS)

Since teacher behaviour is also one of the variables of the
present study, the study needed a tool to record the teacher behaviour
patterns that occur during instructional periods. But it was also
felt that using of FIACS will not be sufficient in classrooms.
Because FIACS will give emphasis for 'teacher talk' rather than
'teacher-pupil talk' in the classroom. Discussions of the previous
chapters and the foundation of the study states that a classroom
is a place where pupils, teachers both interact and the sum total
of this interaction is going to generate the type of 'climate' the
class is going to have. Hence, it was very aptly felt by the
investigator that using of a tool which could help in recording
both the teacher and pupil behaviours would give a better under-
standing of the behaviour patterns. Hence, the investigator used

an observation schedule which developed by Sundarlakshmi (1980) after a thorough perusal of all the observation schedule which were most commonly used in classroom observation. This observation schedule is developed by Sundarlakshmi (1980). It is based on the observation schedule developed by Denny (1969), because this schedule intended to record the verbal-non-verbal positive and negative behaviours of both teacher and pupil. Hence it was felt that to do or to record classroom observation which is a combination of both verbal-non-verbal, positive-negative of teacher and pupil will be more appropriate.

The present study used the schedule developed by Sundarlakshmi (1980). This schedule has sixteen clusters of behaviour in the final form which has eight clusters for pupils and eight clusters for teachers. And these clusters are having different categories which are used for recording teacher and pupil behaviours. The recording procedure that is followed is similar to that of Denny (1969) which required the recorder to make every record of behaviour observation at the end of every 2 minutes.

The entire class period of 40 minutes will give 20 time sample. This is a deviation that the present study has made when compared to the observations made by the other researchers on the same observation schedules of recording for every 2 minutes of the entire class period of 30 minutes. Here again instead of 2 minutes observations were recorded for 5 minutes. It was felt by the observer that this two minutes recording will not give scope of variations in the behaviour patterns of teacher and pupils. So it was extended to 5 minutes observation for the entire class period of 40 minutes instead of 30 minutes.

The mode of recording is done in this style; that is recordings are made on the observation card which has the markings of time duration as well as the positive negative categories of behaviour separately for both teachers and pupils. Whatever is the behaviour observed by the observer it is marked on the card accordingly. Say for e.g., if at the end of 1st 5 minutes time-

sampling say according to the categories 1 positive, 2 negative
for teacher and 2 positive for pupils, the marking should be there
in these three blocks of teacher and pupils. The recorded
observations reveal the amount of teacher pupil behaviour and the
nature of behaviour positive or negative and the general pattern
of interaction in terms of 4 clusters for teacher and 3 cluster for
pupils.

For the purpose of getting a global view of the interactions
of the specific classroom, recordings of each category were
calculated in percentages for the whole class from which conclusions
can be drawn. A specimen copy of the classroom interaction
observation schedule is seen along with. Another specimen copy
of the classroom interaction observation schedule with specific
markings is given in the appendix no.8.

3 : 7 PROCEDURE OF DATA COLLECTION

Data collection for the present study was done in the following
way using the necessary tools of which a detailed description has
already been given in the same chapter earlier.

The study has used a number of variables of which the innova-
tive classroom is considered as the independent variable. Because
as it has been explained earlier, researches in the field of
education and innovation have emphasized only either on diffusions,
adoptions or on factors influencing or barriers for the growth of
innovations. So what we mean by innovative class and how the
selected variables operate in this innovative class is the concern
of the present study. So basically it was thought to identify the
innovative classroom. For the purpose of this a scale was prepared
and it was sent to about 300 schools chosen at random which spread
over the length and breadth of Karnataka State covering many district;
which come under the State of Karnataka. But only eighty schools
sent back the questionnaire duly filled. Based on this the scoring
of the questionnaire was made. It was the opinion of the investi-
gator that the school which had high score was considered to be an

innovative school. Scoring revealed that out of eighty schools
about 46 schools were labelled as innovative schools. Amongst
these 46 innovative schools two schools were already labelled as
innovative schools which has appeared as innovative school in
the Directory of Innovative Institutions published by Ministry of
Education, Govt. of India (1972).

Secondly these schools were approached through correspondance
stating that the investigator will be visiting the schools looking
to the convenience of time and day to collect the data from both
the students and teachers of the concerned class. For this only
14 schools responded, giving the exact date and time for the
investigator to visit the school.

Thirdly, the investigator visited the schools personally and
after a discussion with the Headmaster or Mistress of the school
and the members of the teaching faculty, the investigator chose
'the best' class from amongst all the class. This title of best
class from the total school is got by the statement of the teachers
who were handling the particular class who said that this particular
class is more interested in taking up experimentation and new things
and by doing so the pupils on the whole enjoyed it. Though this
may be a very superfocal observation made by the teacher and a
bit of subjectivity was there, but the investigator had no other
alternative but to choose these classes.

Fourthly, the class thus chosen was studied for four consecutive
days. Because the nature of data collection is to get information
from students and to observe the teachers of this particular class
for complete 40 minutes. Hence, the investigator had to allot
at least 4 days per school.

The investigator as it has been explained earlier in this
chapter used the tools to get information from the pupils. Investi-
gator was present through out the day and specially whenever the
questionnaire was administered to pupils to solve or to clarify the

doubts which the pupils had during answering the questionnaire.
A rapport was built up between the investigator and teachers,
investigator and pupils which served as the base for getting
responses from students.

Fifthly, the investigator observed the classes of teachers
for which permission was sought by the teachers to do so. For
the purpose of observation, as it has already been mentioned
earlier in this chapter an observation schedule was used. To
begin with teachers were a little bit reluctant to allow the
investigator to observe their classes but on persuasion and frank
discussion the investigator made the teachers understand that
it is not the method and technique used by the teacher is observed
but what pattern the teacher uses while teaching the class.
This made the teachers feel at ease and the investigator could
observe the classes.

Data collected, as per the procedure mentioned above were
analysed in the light of the objectives and hypothesis stated
earlier in the same chapter. Details of the data analysis using
the suitable statistical technique are presented in the next
chapter.