

C H A P T E R I V

P R O B L E M A N D P R O C E D U R E

C O N T E N T S

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4.0 INTRODUCTION

"Schools are in crisis and so are the people who attend them", says Ivan Illich (1973) in his articles on "After Deschooling What"? Schools have lost their unquestioned claim to educational legitimacy. Most people continue to treat learning as a commodity - a commodity that could be more efficiently produced and consumed by a greater number. The schools are the organized enterprises designed to produce the established order. "Measure the man for the job" is the slogan. Educational measurements are for certification which is a passport for a job. School has lost its power. Such a crisis in schooling is symptomatic of a deep crisis of modern industrial civilization. That is why Illich (1973) says that most of the countries in the world find that expenditure on such a kind of education is a sheer waste.

What is true to this world-wide phenomenon is also true of Indian educational scene. The impact of scientific and technological advancement has a tremendous effect on all aspects of life - economic, political, social and cultural. In the words of the Sociologist, William Ogburn, there is a "cultural lag", unable to cope with the speed of scientific and technological advancement. This grave situation is very well discussed in the Education Commission Report (1964). The characteristic of a science-

based world is that it is no longer a place of slow and gradual change. On the contrary, the pace of change and innovation is almost terrific. These changes affect not only our material environment but also our cultural and social and consequently spiritual values. Clearly the Education Commission Report says:

An educational system which does not continuously renovates itself becomes out-of-date and hampers the progress, because it tends to create a lag between its operative purposes and standards and its new imperatives both in quality and quantity. (Report of the Education Commission, 1966, p. 18)

Besides this generation gap in the educational sphere, there are other problems that India is facing-- like: population, colossal poverty, underemployment or unemployment, and social disorganization. Strikes, lawlessness, disregard for public property and students unrest are on the increase.

Education - Only Hope

All these problems could be tackled if we plan for educational system in a proper way. Education is the only key that can reach all. In short, there should be an educational revolution. This revolution can take place inside the classroom. Hence, the classrooms are the places where this foundation for national reconstruction is to be laid. Let us walk into the classrooms and find out whether an attempt is made for such a reconstruction.

There is a need to change the classrooms, and methods, and techniques of teaching for the realization of the goals. So, the investigator felt a need to find out level of /the classroom climate of secondary school classes, level of pupils' academic motivation and pupils' academic and non-academic achievement.

The investigator also wanted to study the level of components - Authenticity, Legitimacy and Productivity - of the classroom climate in the classrooms of secondary schools of Gujarat.

The investigator had also in mind to study the effect of classroom climate on pupils' academic motivation and on pupils' academic and non-academic achievement.

Buch reviewed Researches in Education in India upto 1974. The review says that there is not a single study on classroom climate uptil now. Really speaking, the studies on classroom climate have started with the leadership of Herbert Thelen (1974). The first study at Master's degree level was conducted by Mrs. Indira Desai (1975), wherein she tried to find out the components of classroom climate from (a) teachers' point of view, (b) pupils' point of view. She described in her dissertation a quadrangular model of classroom climate as follows (Figure

Puri (1977) studied in her Master's degree level

CLASS ROOM CLIMATE CROSS - CHECK SCALE FOR TEACHERS

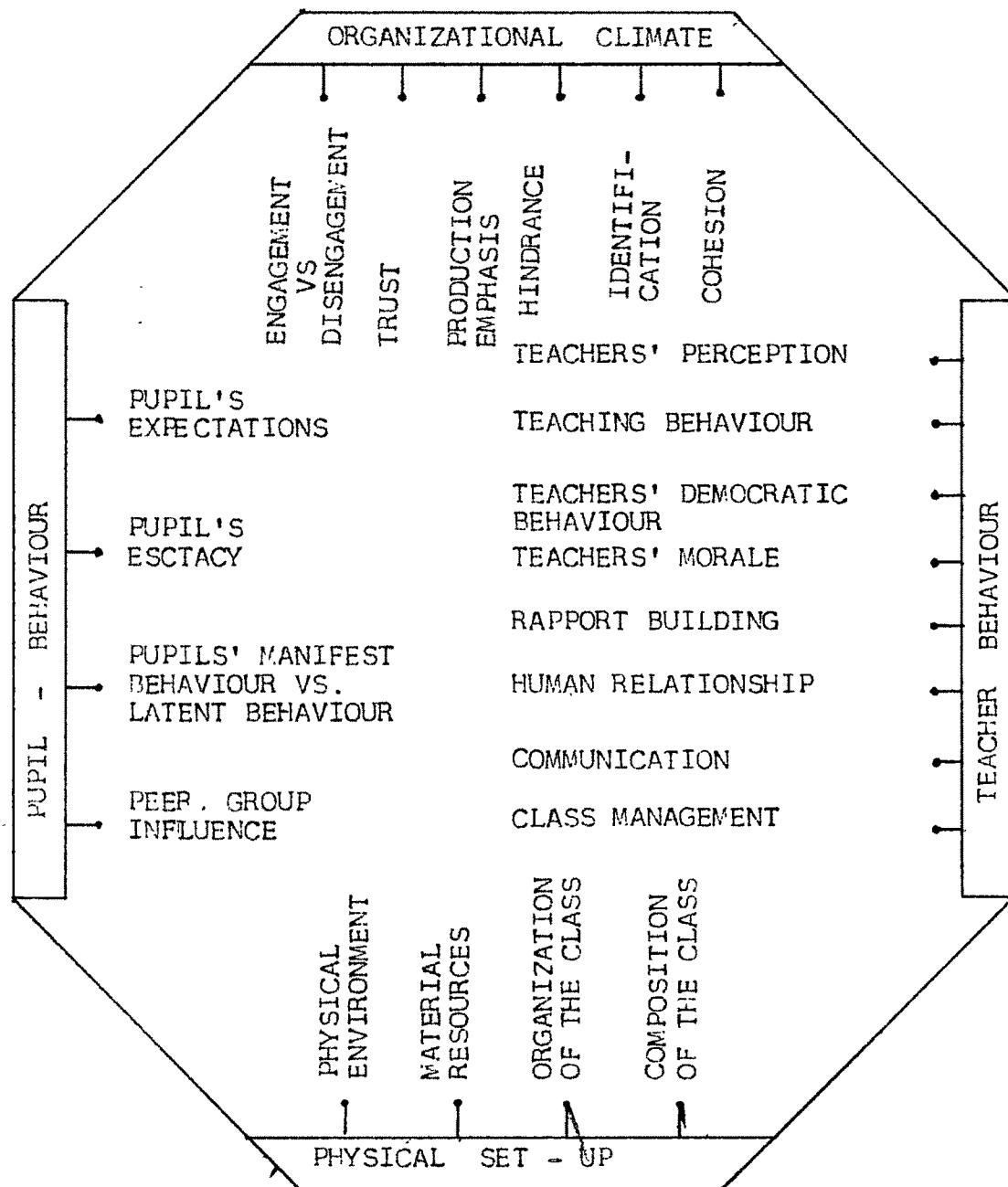
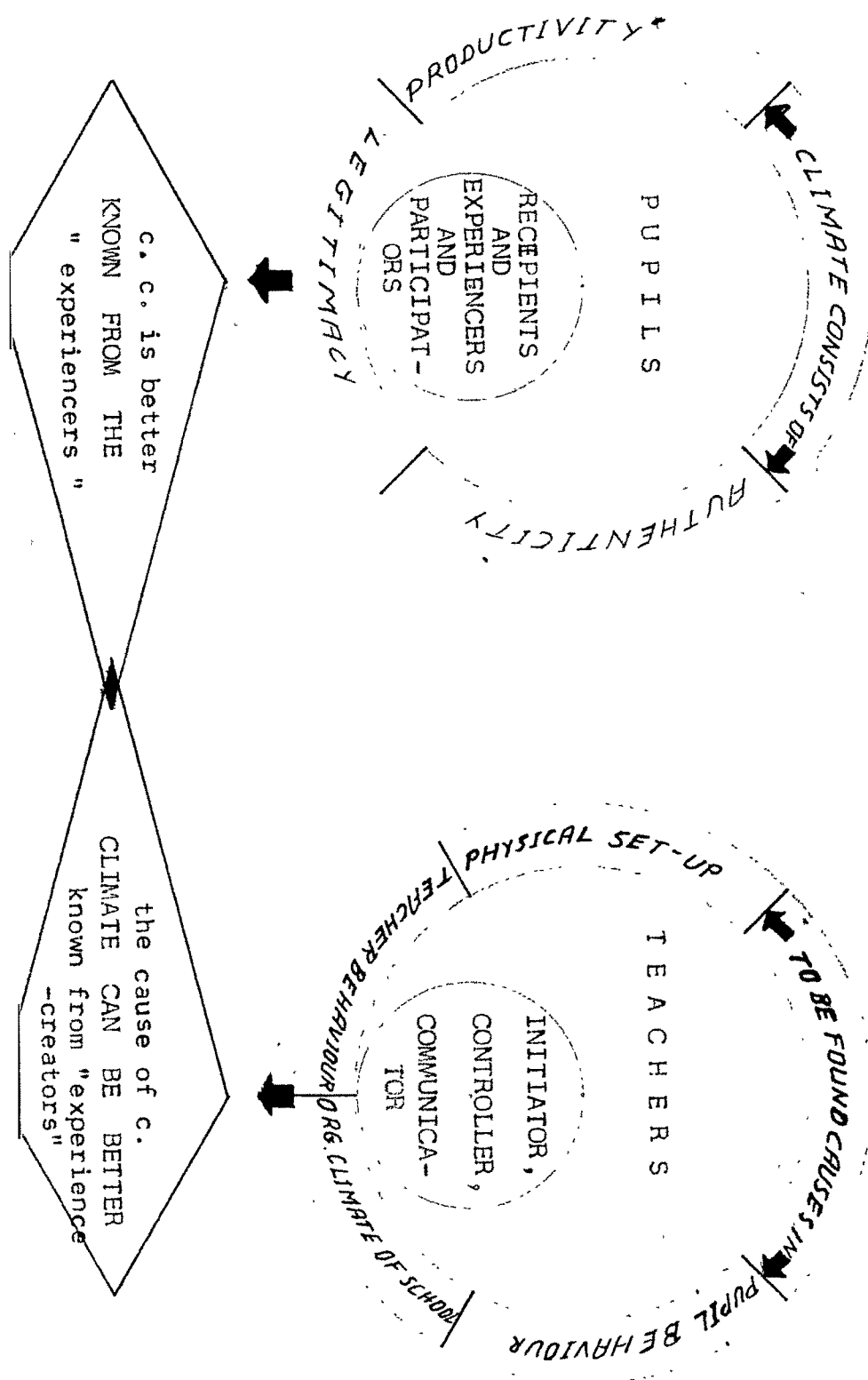


Fig. 6
CONCEPTUAL FRAME WORK OF
CLASSROOM CLIMATE



dissertation, academic motivation and classroom climate in three schools of Baroda. The purpose of her study was to compare the various classrooms from the point of view of classroom climate and academic motivation. She adopted a tool prepared by Desai on the basis of Thelen's model.

Dholakia (1978) took her M.Ed. dissertation study on factors affecting the fluctuations in classroom climate. She drew the classroom climate profile naming it as a Climatograph and she gave various factors such as social relationship, pupils' personality, teacher behaviour, etc. as factors affecting the classroom climate. From all these studies the following observations could be made.

4.1 MAJOR OBSERVATIONS FROM PREVIOUS RESEARCHES

1. A review of the literature on classroom climate reveals that not much research has been done in the area of classroom climate. (Buch: Review of Research in India, 1974).

2. There is no systematic way of development of the literature on classroom climate.

3. There is a need to study the effect of classroom climate on pupils' academic motivation (JIM score) and on pupils' academic and non-academic achievement.

4. The concept of classroom climate is in a

fluid stage in India. There is a need of further researches in the area to explore the component factors and other factors which might throw better light on the understanding of this complex concept.

Hence, the investigator felt the need of the present study. For this study, the independent variables are: management, medium, type of school, sex, SES, etc. The dependent variables are: Authenticity, Legitimacy, Productivity, Classroom climate, Pupils' Academic Motivation (JIM), Academic and non-Academic Achievement.

4.2 OBJECTIVES

The aims which are given in first chapter are further analysed into objectives as follows:

1. To measure the level of:

- (i) classroom climate and its components,
- (ii) pupils' motivation and its components,
- (iii) academic achievement, and
- (iv) non-academic achievement.

2. To study the correlations of:

- (i) classroom climate with its components,
- (ii) pupils' motivation with its components,

- (iii) pupils' motivation with the components of classroom climate,
- (iv) pupils' motivation with the socio-economic status,
- (v) pupils' motivation with academic and non-academic achievement,
- (vi) academic achievement with the components of classroom climate, and
- (vii) non-academic achievement with the components of classroom climate.

3. To study the significance of difference of the mean score for:

- (i) Authenticity,
- (ii) Legitimacy,
- (iii) Productivity,
- (iv) Classroom climate,
- (v) Pupils' Motivation,
- (vi) Academic achievement, and
- (vii) Non-academic achievement.

According to:

- (a) Authenticity group
- (b) Legitimacy group
- (c) Productivity group

- (d) Classroom climate group
- (e) Pupils' motivation group
- (f) Academic achievement group
- (g) Non-academic achievement group
- (h) Socio-Economic Status group
- (i) Type of schools
- (j) Sex group
- (k) Medium of instruction group
- (l) Management group
- (m) Standard group.

4. To prepare classroom profile showing:

- (i) classroom climate and its components,
- (ii) pupils' motivation,
- (iii) academic achievement, and
- (iv) non-academic achievement.

4.3 PROCEDURE

The following procedure has been adopted for the purpose of the present study. The entire procedure has been classified under four major steps. They are:

- (a) Selection of tools
- (b) Sample
- (c) Data collection
- (d) Analysis of data

(a) Selection of Tools

Tools are the means and not the ends but they being the effective media, have their own importance in the researches. After proper care and study the following tools were selected for the purpose:

- (i) Classroom Climate Scale
- (ii) JIM Scale (Junior Index of Motivation Scale)
- (iii) SES Scale (Socio-Economic Status Scale)
- (iv) Academic Achievement Scale, and
- (v) Non-Academic Achievement Scale.

It has been the assumption of the most research workers that classroom climate is not only observable but also measurable and analysable inspite of the recognition that classroom climate ~~is~~ too complex a phenomena. A considerable amount of effort has been directed in constructing the tools for the measurement of classroom climate but in order to obtain a true sense of the classroom climate, it is of paramount importance to have appropriate tools which can penetrate and pierce through various situations developing in the class. The tools which have been selected for the study are described in the following paras:

(i) Classroom Climate Scale

(a) Author: Herbert Thelen (1974) constructed a tool to measure classroom ethos. Sister Marie de Sales has adopted this tool for Indian pupils.

(b) Nature: There are 50 items which has five type responses: Strongly feel, Very often feel, Sometimes feel, Rarely feel and Never feel. The questionnaire is not timed, it will probably take about 30 minutes for all pupils to complete the items. (The classroom climate scale is given in Appendix 2.

(c) Components: There are three components in this tool, namely, (i) Authenticity (A), (ii) Legitimacy (L), and (iii) Productivity (P).

(d) Style of Testing and Scoring: There are positive items and negative items.

For positive items the values are:

- '4' for strongly feel
- '3' for very often feel
- '2' for sometimes feel
- '1' for rarely feel, and
- '0' for never feel.

For negative items the values are reverse in this way:

- '0' for strongly feel
- '1' for very often feel
- '2' for sometimes feel
- '3' for rarely feel, and
- '4' for never feel.

The scores range from 0 to 200.

For Authenticity, scores range from 0 to 64. For Legitimacy and Productivity, also scores range from 0 to 64. For these three components, there are 48 items, therefore, two more items are general items which are added in order to make 50 items. In calculating, these two general items are also included. Through these scores we obtain a classroom index for climate.

(ii) Junior Index of Motivation Scale (JIM Scale)

(a) Author: This tool is developed by Frymier. There is a student questionnaire in the Junior Index of Motivation (JIM) Scale for assessing students' motivation towards their schools. It has been carefully developed from a study of students' responses to their particular items. Desai adopted for Indian pupils.

(b) Nature: There are eighty agree-disagree items. The questionnaire is timed, it will probably take about 30 minutes for all students to complete the items. (The JIM Scale is given in Appendix 3). The items which marked with an asterisk are scored and the others are

filler items.

(c) Components: JIM Scale contains six major factors. (The item for each component is given in Appendix 4).

1. Positive - Negative school attitude
2. Belongingness - Alienation
3. Idealism - Pragmatism
4. Personal control - Fatalism
5. Optimism - Pessimism
6. Flexibility - Dogmatism.

The initial areas of concern are:

1. Attitude towards school
2. Value for education
3. Feeling for other people
4. Concern for material things
5. Sense of personal determination
6. Attitude towards self.

(d) Style of Testing and Scoring

1. Scoring key for total JIM Scale.

The investigator tried to score the JIM Scale of the pupils in the sample according to the scoring key of Frymier as follows:

Firstly, prepare a key. Note that only 50 items

are scored. (The key is given in Appendix 6)

Secondly, score each item according to the following scale:

- +1 agree
- +2 strongly agree
- 1 disagree
- 2 strongly disagree

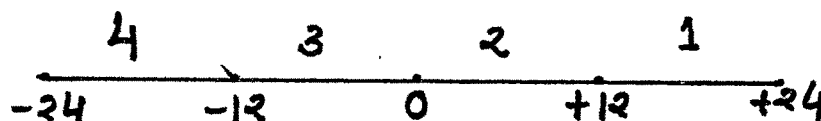
Lastly, add each pupil's score for these fifty items algebraically. Then, REVERSE the sign (if it is +27, say, change it to -27. If it is -16, then change it to +16), and then add this raw score value to +100 algebraically. This score is the pupil's converted motivation score. Higher scores indicate higher motivational level. Low scores indicate low motivational level. The score range from 0 to 200.

2. Scoring key for the JIM's Components:

For this, the investigator has constructed the scale by the help of the guide for scoring JIM's components.

(1) Belongingness - Alienation component, there are twelve items for this, the scale has constructed in this way:

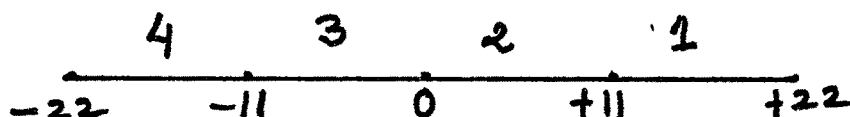
12 to 24	-	1	-12 to 0	-	3
0 to 12	-	2	-24 to -12	-	4



The score range from -24 to +24.

(ii) Positive - Negative school Attitude Component: There are twelve items for this component. The number of items are equal to the component 1. Therefore, the scale used for this component is the same as component 1. The scores are also ranged from -24 to +24.

(iii) Personal Control - Fatalism Component: This component contains eleven items. The scale has constructed in this way:

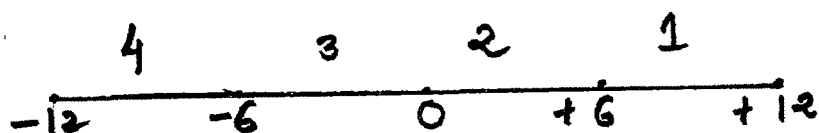


The scores range from -22 to +22.

Note: According to these scales, it can be said in the other way that:

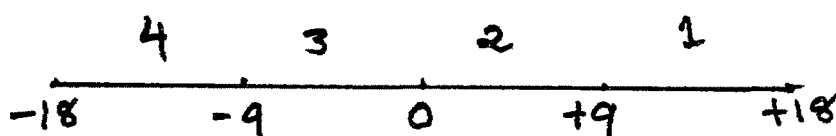
- 1 is for very high scores,
- 2 is for high scores,
- 3 is for low scores, and
- 4 is for very low scores.

(iv) Optimism - Pessimism Component: There are six items for this component. Therefore, the scale has constructed in this way:



The scores range from -12 to +12.

(v) Flexibility - Dogmatism Component: There are nine items for this component. The scale has constructed in this way:



The scores range from -18 to +18.

(vi) Idealism - Pragmatism Component: This component is also contains of nine items. Therefore, the scale used is the same of the scale for the fifth component.

The scores are also range from -18 to +18.

Note that before using these scales, pupils' score for each component, REVERSE the sign of the score according to these scales.

The operation assumption which relate to the nature of instrument and the items which compose the instrument are given below:

- (i) Items were phrased in such a way that they would be at least partially project in nature.

(ii) Many items were also phrased with a value hierarchy readily apparent. This technique was designed to require the respondent to make a choice between two alternatives. For instance, one such item is "Being right is more important than being kind". It was hoped that such phraseology would distill value sentiment to an observable surface.

(iii) The responses to a particular item in a particular way did not indicate a priority direction of students' motivation or its degree.

3. SES Scale (Socio-Economic Status Scale)

The scale is constructed by Shri B.Kuppuswami. The scale measures the socio-economic status of the children. It contains three items - Education, Occupation and Income. With respect to education categorization depends upon length and type of education. In case of occupation the problem of categorization is complex. For the income category there are five different groups according to income.

Each group has its own weightage. The respondent is required to encircle the appropriate weightage scores given against the items for each category. The scores may then be entered in the last column. Additions of these

three scores will give the final scores which determines the status category. The scale contains seven items in each of the three variables. The scale on the basis of total scores is as follows:

26 - 29	-	I	-	1
16 - 25	-	II	-	2
11 - 15	-	III	-	3
5-- 10	-	IV	-	4
Below 5	-	V	-	5

4. Rating of Academic Achievement and Non-Academic Achievement

In school, the most important criterion to measure the students' ability is her/his achievement in curricular examination and other extra curricular activities. The study will have better value if the effect of various factors with academic and non-academic achievement of the pupils are considered.

A question may arise as to why the investigator did not take examination marks as the indicators of pupil performance? It is because the schools have their own question papers, they are examined by different examiners, hence the comparision is not possible.

Therefore, the investigator prepared a checklist to judge the pupils' academic performance.

In order to obtain these measures two rating sheets for academic and non-academic achievement were given to the class teachers to tickmark on five point scale.

Assessment of Academic Achievement

A	marks	70	and	above	-	1
B	marks	60	and	69	-	2
C	marks	50	and	59	-	3
D	marks	40	and	49	-	4
E	marks	Below		40	-	5

Assessment of Non-Academic Achievement

A	Highly participative in many activities	-	1
B	Moderately participative in some activities	-	2
C	Somewhat participative in few activities	-	3
D	Not participative in a few activities	-	4
E	Not at all participative	-	5

(b) Selection of the Sample

The present study is confined to a sample of the pupils studying in standards IX and X. It is confined only to secondary schools, teaching through the medium of Gujarati and English. When the problem was taken, the investigator proposed to take a representative sample from Gujarat State. But collection of data from over 2400 schools in Gujarat was not practicable. Therefore, there were two alternatives before the investigator:

1. Selection of about 10,000 pupils from Gujarat and to administer Sentence Completion Test on classroom climate and academic motivation along with other tests; and thereby to get global score of classroom climate and academic motivation.
2. Selection of (41) classes which covered about 1500 pupils from schools selected at random in Gujarat and some Convent schools outside Gujarat to administer classroom climate test and academic motivation scale along with other tests.

The advantage in first alternative is a large sample, but disadvantage is a global score of motivation and not a detailed one. In second alternative by administering classroom climate test one can get idea of various components as McClelland and Mehta and Desai studied achievement components in various sub-cultures in the minds of the pupils. It is quite worthwhile to study the various components in the minds of the pupils. If we know the absence of sub-components in various groups, it serves as a diagnostic purpose and hence the investigator selected second alternative of studying fifteen hundred pupils.

The investigator selected fortyone classes which covered fifteen hundred fiftyfive pupils. The fortyone

classes are selected from twenty-six schools for administering the tests.

The investigator selected classes from the schools teaching through English and Gujarati mediums. The sample includes government schools (private trusts' school of Gujarat) and Convent schools. There are boys' schools, girls' schools and mixed schools in present sample.

Basic Assumptions

The investigator based her study (selected her sample) on the following assumptions:

1. There is not much variation in the classroom climate of Missionary schools, but there is a variation between Missionary schools and private trusts' schools (Government schools).
2. There will be a variation in climate between boys' and girls' schools (Puri, 1976).
3. There will be a variation of classroom climate between schools of Gujarati medium and English medium schools.
4. Classroom climate and academic motivation are related to pupils' performance. In other words, the classroom climate and pupils' academic motivation affect pupils' performance.

The following tables show the distribution of the present sample:

TABLE 2

Distribution of the Present Sample
According to Standard

Standard	IX	A	Total
Number of the students	1299	256	1555

TABLE 3

Distribution of the Present Sample
According to Management

Management	Private trusts' schools	Convent schools	Total
Number of the students	1239	316	1555

TABLE 4

Distribution of the Present Sample
According to Medium

Medium	English	Gujarati	Total
Number of the students	470	1085	1555

TABLE 5

Distribution of the Present Sample
According to Type of Schools

Type of schools	Boys	Girls	Mixed	Total
Number of the students	306	465	784	1555

TABLE 6

Distribution of the Present Sample
According to Sex Group

Sex group	Boys	Girls	Total
Number of the students	709	846	1555

The list of the schools taken for the data collection is given in Appendix. 1.

(c) Data Collection

The schedule for the collection of data was prepared.

The investigator wrote to the principals of the schools and asked for the dates and time which is convenient. She came to the class for establishment of the tests with the help of the class teacher.

First of all, the investigator gave the following general instructions to the pupils:

1. This is not an examination and so you should not worry for the results.
2. These tests are meant for finding out what you think and what you feel about ~~x~~ your studies.

It will not be used for any other purpose than that of research.

Therefore, please be FRANK and feel FREE while answering.

The investigator, then read out instructions on each test and whole test was read out. Tests' booklets were given in the Appendix

The pupils asked the questions to the investigator, if any.

Afterwards the pupils wrote their responses.

After finishing, the pupils themselves helped the investigator in collecting the answer sheets.

In this way, the investigator gave all the tests within two and half hours in each school. The tools were administered one by one.

For the academic achievement, the investigator consulted the class teacher. The rating sheet was ready. It is on the five point scale. Teachers' opinion was

taken into account for each student. Rating sheets were given in the Appendix.

(d) Analysis of Data

The data was analysed to find out an answer to these questions:

1. What is the mean score of class in academic motivation, performance and classroom climate?
2. What is the standard deviation of class of academic motivation, performance and classroom climate?
3. What is the correlation of each variable with other?

The following calculations will be done with the help of computer:

1. Mean
2. Standard Deviation
3. Correlation
4. t-values

As soon as the scoring of tools was over, a detailed 'master chart' showing numerical scores for all the variables under study was prepared.

On the basis of said 'master chart' the score cards were then got punched at PRL Computer Centre, Ahmedabad, for

above statistical calculations. The cards were then verified with the printed cardskey provided by the computer centre. After that the fortran IV computer was filled to calculate required statistics.

From the analysis, the investigator got mean and SD of all variables. The investigator divided the students according to their scores into three groups - High, Average and Low - variablewise.

TABLE 7
High, Average and Low Groups of Different Variables

Variables	High (Above Mean+SD)	Average (Between high and low)	Low (Below Mean - SD)
SES	Above 24	23 to 12	11 to 1
A	Above 56	55 to 37	36 to 1
L	Above 59	58 to 39	38 to 1
P	Above 59	58 to 39	38 to 1
Classroom Climate	Above 184	183 to 119	118 to 1
JIM	Above 122	121 to 68	67 to 1
Academic Achievement	1, 2	3, 4	5
Non-academic Achievement	1. 2	3. 4	5

The main purpose of the study is to investigate the level of classroom climate, the level of JIM and

academic achievement of the pupils and hence means and SDs of all the variables were obtained and t-value for the difference between mean scores were obtained to test the significance between mean scores of different groups. The correlation matrix of all the variables was also obtained.

In order to predict in general a few variables on the basis of JIM score, classroom climate score, the t-test was applied to test difference between the mean scores of high, average and low groups of JIM, classroom climate, SES group of pupils.

Analysis of variance was done to study the significance. Over and above these, the frequency distributions, percentage, ranges were also calculated.

An attempt was made to draw a profile of classrooms on the basis of mean scores on various tests. This leads to the suggestions for diagnostic and remedial work in classrooms.

The next chapter deals with the analysis of the data.