III

PLAN AND PROCEDURE

In the previous chapter the theoretical foundations of the classroom climate and previous studies conducted in India and abroad were discussed. Now in this chapter, design, plan and procedure of the experiment will be discussed.

1. The Experimental Design

This research is an experimental study which employs pre-test, post-test and experimental and control group design in two phases. This design envisages three groups of secondary school teachers serving in three different schools, one serving as the experimental Group 1, the second as the experimental Group 2 and the third as the control group. Before the beginning of the experiment all the teachers handling all the subjects in the high school classes i.e. IX, X and XI standards in all the three schools were observed by the investigator using Flanders' Interaction Analysis Category System. Their I/D and i/d ratios were calculated and teachers whose I/D ratios were

between 0.25 and 0.29 were selected to teach in IX standard classes.

After selecting the teachers to teach in Experimental Group I, Experimental Group 2 and Control Group classes, pre training measures of interaction variables were taken for all the selected teachers. After the pre training measurement, the selected teachers of Experimental Group 1 and Experimental Group 2 were given intensive training in the FIACS system through a five day seminar specially arranged for them. Then all the three groups taught in the classes for six weeks. The Control Group taught in the traditional method of teaching. The teachers of Experimental Group 1 and Experimental Group 2 classes were observed by the investigator once in a week using FIACS. The teachers of the Experimental Group 1 classes were given feedback after each class by preparing matrices and suggesting them improvements in the desired lines. This phase provided data to compare the three groups of teachers - teachers who were observed and given feedback after each class, teachers who were observed and not given any feedback and teachers who taught in traditional method of teaching. The data thus collected helped to test the hypothesis regarding the effectiveness of different types of teacher behaviour in

developing better classroom climate.

Pre and post tests measuring variables affecting the classroom climate viz. pupils academic motivation, adjustment, classroom trust, dependency, expectancy, activity level, classroom climate components, integration level and performance in various subjects were administered to pupils under the three groups of teachers. The pre and post test; scores were compared so as to determine differences in the performance of pupils under the three groups and to linking the differences with changed teacher behaviour and feedback.

The design provides for the control of some of the variables jeopardising internal validity of the experiment. Maturation and testing were controlled in so far as they would be manifested equally in Experimental Group 1, Experimental Group 2 and Control Group. Instrumentation was controlled through reliability of the tools used in the experiment except for achievement tests. Experimental Group 1, Experimental Group 2 and Control Group were selected from different schools to avoid contact between them. The influence of other teachers who were not trained in FIACS on the pupils during the Experimental period was eliminated, by adopting one group, seven teacher system.

The Design of the Experiment is given on the next page.

Table :3.1: Table Showing the Design of the Experiment

DESIGN OF THE EXPERIMENT

	Experimental Group 1 (on the basis of Age, SES and Pre-Achievement				Experimental Group 2 (on the basis of Age, SES and Pre-achievement				Control group (On the basis of Age, SES and pre-achievement)			
	Changes to be observed				Changes to be observed				Changes to be observed			
	Teachers	Tools	Pupils	Tools	Teachers	Tools	Pupil	Tools	Teachers	Tools	Pupils	Tools
Pre-Test	Two pre-observations per teacher were recorded to study the behaviour pattern of teachers before the commencement of the experiment	FIACS	A. Mental Health To study the pupils adjustment, classroom Trust, Dependency, activity level academic motivation, classroom climate, Expectancy Integration	SADS CTS SDS SAS PAMS CCS SES SS	Two pre observations per teacher were recorded to study the behaviour pattern of teachers before the commencement of the experiment	FIACS	A. Mental health To study the pupils adjustment Classroom trust Dependency activity level Academic motivation Classroom Climate Expectancy Integration	SADS CTS SDS SAS PAMS CCS SES SS	Two pre observations per teacher were recorded to study the behaviour pattern of teachers before the commencement of the experiment	FIACS	A. Mental Health To study the pupils adjustment Classroom trust Dependency activity level academic motivation Classroom climate Expectancy Integration	SADS CTS SDS SAS PAMS CCS SES SS
			B. Academic Achievement To study pupils initial academic achievement	Pre-achievement Test (T_1)			B. Academic achievement To study pupils initial academic achievement	Pre-achievement Test (T_1)			B. Academic achievement To study pupils initial academic achievement	Pre-achievement Test (T_1)
Treatment	A. Training in FIACS (Before the commencement of the experiment) The training was given for a week to the teachers. B. Feedback (During the course of the experiment) A. Through post-observation. 2. Through group meeting of teachers.	According to the programme given in the chapter Post observation matrix Discussion	A. Mental health To study the pupils goal perception, need achievement, anxiety level	Psychological input programme	(Before the commencement of the experiment) The training was given for a week to the teachers.	According to the programme given in the chapter	No feedback	No treatment was given to the pupils	No treatment was given to the teachers		No treatment was given to the pupils.	
Post test	Six observations per teacher were recorded, to study the effect of treatment on the behaviour pattern of the teachers.	FIACS	A. Mental health To study the effect of changed behaviour of teachers on pupils adjustment Classroom trust Dependency activity level academic motivation Classroom climate Expectancy	SADS CTS SDS SAS PAMS CCS SES	Six observations per teacher were recorded to study the effect of treatment on the behaviour pattern of the teacher	FIACS	A. Mental health to study the effect of changed behaviour of teachers on pupils adjustment classroom trust Dependency activity level Academic motivation classroom climate Expectancy	SADS CTS SDS SAS PAMS CCS SES	Six observations per teacher were recorded	FIACS	A. Mental Health To study the pupils and adjustment Classroom trust Initiative Dependency activity level academic motivation Classroom climate Expectancy Integration	SADS CTS SDS SAS PAMS CCS SES SS

	Teachers	Tools	Pupils	Tools	Teachers	Tools	Pupil	Tools	Teachers	Tools	Pupils	Tools
Pre Test	Two pre-observations per teacher were recorded to study the behaviour pattern of teachers before the commencement of the experiment	FIACS	A. Mental Health To study the pupils adjustment, Classroom Trust, Dependency, activity level academic motivation, classroom climate, Expectancy Integration B. Academic Achievement To study pupils initial academic achievement	SADS CTS SDS SAS PAMS CCS SES SS Pre-achievement Test (T_1)	Two pre observations per teacher were recorded to study the behaviour pattern of teachers before the commencement of the experiment	FIACS	A. Mental health To study the pupils adjustment Classroom trust Dependency activity level Academic motivation Classroom climate Expectancy Integration B. Academic achievement To study pupils initial academic achievement	SADS CTS SDS SAS PAMS CCS SES SS Pre-achievement Test(T_1)	Two pre-observations per teacher were recorded to study the behaviour pattern of teachers before the commencement of the experiment	FIACS	A. Mental Health To study the pupils adjustment Classroom trust Dependency activity level academic motivation classroom climate Expectancy Integration B. Academic achievement To study pupils initial academic achievement	SADS CTS SDS SAS PAMS CCS SES SS Pre-achievement Test (T_1)
Treatment	A. Training in FIACS (Before the commencement of the experiment) The training was given for a week to the teachers. B. Feedback (During the course of the experiment) A. Through post-observation. 2. Through group meeting of teachers.	According to the programme given in the chapter Post observation matrix Discussion	A. Mental health To study the pupils goal perception, need achievement, anxiety level	Psychological input programme	(Before the commencement of the experiment) The training was given for a week to the teachers. No feedback	According to the programme given in the chapter	No treatment was given to the pupils		No treatment was given to the teachers		No treatment was given to the pupils.	
Post test	Six observations per teacher were recorded, to study the effect of treatment on the behaviour pattern of the teachers.	FIACS	A. Mental health To study the effect of changed behaviour of teachers on pupils adjustment Classroom trust Dependency activity level academic motivation classroom climate Expectancy Integration B. Academic Achievement To study pupils academic achievement after the treatment C. To study the effect of Psychological input programme	SADS CTS SDS SAS PAMS CCS SES SS Post Achievement Test (T_2) (T_3) Psychological input programme	Six observations per teacher were recorded to study the effect of treatment on the behaviour pattern of the teacher	FIACS	A. Mental health to study the effect of changed behaviour of teachers on pupils adjustment classroom trust Dependency activity level Academic motivation classroom climate Expectancy Integration B. Academic Achievement To study pupils: academic achievement after the treatment	SADS CTS SDS SAS PAMS CCS SES SS Post achievement Test (T_2, T_3)	Six observations per teacher were recorded	FIACS	A. Mental Health To study the pupils and adjustment Classroom trust Initiative Dependency activity level academic motivation Classroom climate Expectancy Integration B. Academic achievement To study the pupils academic achievement	SADS SIS SDS SAS PAMS CCS SES SS Post achievement tests (T_2, T_3)

TABLE 3.1

2. Sample

The sample for the present study was limited to only 21 teachers handling five different subjects, namely, English, Tamil, Mathematics, Science, History and Geography at the IX grade level. For the experimental groups, fourteen teachers (seven teachers for Experimental Group 1 and seven teachers for Experimental Group 2) were selected after analysing their FIACS matrices. For the control group, seven teachers were selected on the basis that was followed for the selection of the experimental groups of teachers.

The sample population of pupils was limited to only 304. Out of this 102 came under experimental group 1, 102 under experimental group 2 and 100 under the control group. This population consisted of boys and girls belonging to the same age group, academic level and socio economic status.

The following tables reveal the details about schools, classes, pupils and teachers of the sample.

Table :3.2: Distribution of the Pupils' Sample

Sr. No.	Name of the School	Grade and Section	Pupils Strength	Sex	Group
1.	Mani High School, Coimbatore	IX A	51	Boys	Exptl.Group
		IX B	51	Girls	1
2.	Shri Baldevdas Kikani Vidya Mandir, Coimbatore	IX A	51	Boys	Exptl.Group
		IX B	51	Girls	2
3.	P.S.G.R.K. High School, Coimbatore	IX A	50	Girls	Control
		IX B	50	Boys	Group

(Experimental Group 1 N = 102, Experimental Group 2 N = 102, Control Group N = 100)

Table :3.3: Distribution of Sample by Mean (Age, SES and Pre-achievement)

Variables	Group	Mean	SD	't' Value	Remarks
AGE	Exptl. Gr.1	13	0.87	0.13	NS
	Control Group	14	0.96		
	Exptl. Gr.2	14	1.0	0.13	NS
	Control Group	14	0.96		
SES	Exptl. Gr.1	20.73	5.54	0.66	NS
	Control Group	20.06	5.54		
	Exptl. Gr.2	19.69	4.94	0.39	NS
	Control Group	20.06	7.99		
Academic Achievement	Exptl. Gr.1	44.0	11.87	1.63	NS
	Control Group	42.0	11.14		
	Exptl. Gr.2	49.0	13.64	1.68	NS
	Control Group	42.0	11.14		

NS = Not Significant

(Experimental Group 1 N = 102, Experimental Group 2 N = 102 Control Group N = 100)

It is seen from the Table 3.3 that all the three groups were similar with respect to age, SES and pre-test (achievement) because in all the variables the difference between the mean scores of the groups was not significant even at 0.05 level,.

The selection of the teachers was essential for the present study. Hence the investigator observed all the teachers handling high school classes i.e. IX, X and XI standards in experimental group 1, experimental group 2 and control group using Flanders' Interaction Analysis category system. Their I/D and i/d ratios are given below.

Table :3.4(a): I/D and i/d Ratios for the Selection of Teachers in Experimental Group 1

Teacher No.	Sex	Subject handled	I/D	i/d
1	Male	Tamil	0.28*	0.0
2	Female	Tamil	0.21	0.0
3	Male	Tamil	0.24	0.0
4	Male	Tamil	0.29*	0.0
5	Female	Mathematics	0.25*	0.0
6	Male	Mathematics	0.24	0.0
7	Male	Mathematics	0.21	0.0
8	Male	Mathematics	0.28*	0.0
9	Female	Mathematics	0.23	0.0
10	Male	Science	0.25*	0.0
11	Male	Science	0.21	0.0
12	Female	Science	0.23	0.0
13	Male	Science	0.24	0.0
14	Female	History & Geography	0.24	0.0
15	Male	History & Geography	0.26*	0.0
16	Female	History & Geography	0.26*	0.0

* Teachers selected for the experiment

Table :3.4(b): I/D and i/d Ratios for the Selection of Teachers in Experimental Group 2

Teachers No.	Sex	Subject handled	I/D	i/d
1	Male	Tamil	0.26*	0.0
2	Male	Tamil	0.25*	0.0
3	Male	Tamil	0.21	0.0
4	Female	Tamil	0.22	0.0
5	Male	Mathematics	0.21	0.0
6	Male	Mathematics	0.23	0.0
7	Male	Mathematics	0.28*	0.0
8	Female	Mathematics	0.28*	0.0
9	Female	Mathematics	0.23	0.0
10	Male	Science	0.29*	0.0
11	Male	Science	0.22	0.0
12	Female	Science	0.29*	0.0
13	Female	Science	0.24	0.0
14	Male	History & Geography	0.29*	0.0
15	Female	History & Geography	0.24	0.0

* Teachers selected for the experiment

Table :3.4(c): I/D and i/d Ratios for the Selection of Teachers in Control Group

Teacher No.	Sex	Subject handled	I/D	i/d
1	Female	Tamil	0.20	0.0
2	Female	Tamil	0.28*	0.0
3	Male	Tamil	0.22	0.0
4	Male	Tamil	0.28*	0.0
5	Female	Mathematics	0.29*	0.0
6	Female	Mathematics	0.21	0.0
7	Male	Mathematics	0.23	0.0
8	Male	Mathematics	0.26*	0.0
9	Female	Mathematics	0.23	0.0
10	Male	Science	0.21	0.0
11	Male	Science	0.26*	0.0
12	Male	Science	0.28*	0.0
13	Female	Science	0.24	0.0
14	Male	History & Geography	0.28*	0.0
15	Male	History & Geography	0.22	0.0

* Teachers selected for the Experiment

Tables 3.4 (a), (b) and (c) reveal the following observations :

* Teachers whose I/D ratio was below 0.25 were rejected. Teachers whose I/D ratios were between 0.25 and 0.29 were selected for the samples.

* i/d ratio of all the teachers in both the experimental groups and control group was 0.0. It means that all the teachers were direct in their behaviour.

* The I/D ratios of the selected teachers in experimental group 1, experimental group 2 and control group were more or less similar. It means that their behaviour was direct in nature in the initial stage.

* Teachers No. 1 (Tamil IX A), No. 4 (Tamil IX B), No. 5 (IX A English / IX B Mathematics), No. 8 (IX A Mathematics), No. 10 (IX A and B Science), No. 15 (IX B English, IX A History and Geography) and No. 16 (IX B History and Geography) were entrusted with experimental group 1 classes (IX A and IX B).

* In experimental group 2, Teachers No. 1 (IX A Tamil), No. 2 (IX B Tamil), No. 7 (IX B English and IX A Mathematics), No. 8 (IX B Mathematics), No. 10 (IX A Science), No. 12 (IX A English, IX B Science), No. 14 (IX A and B, History and Geography) were entrusted to teach all the subjects.

* In control group, Teachers No. 2 (IX B Tamil), No. 4 (IX A Tamil), No. 5 (IX A English and IX B Mathematics), No. 8 (IX A Mathematics), No. 11 (IX B English and IX A Science), No. 12 (IX B Science), No. 14 (IX A and IX B History and Geography) were entrusted to teach all the subjects.

The selected twentyone teachers have also the following similarities :

(i) All the selected teachers were serving in (experimental group 1, experimental group 2, control group) schools under the 'Private Management'.

(ii) Their service conditions and educational qualifications were the same.

3. Tools Used in the Study

A number of tools were used to collect the data for the study. Classroom teacher verbal behaviour was measured by FIAC system and the classroom climate by different tools such as Students' Adjustment Scale (SADS), Classroom Trust Schedule (CTS), Students' Dependency Scale (SDS) Form A and Form B, students' Activity Scale (SAS), Pupils' Academic Motivation Scale (PAMS), Classroom Climate Scale

(CCS), Students' Expectancy Scale (SES), Sociometric Scale (SS), and Achievement Test in English, Tamil, Mathematics, Science and History and Geography. The description of the tools used in the study are given below.

3.1 : The Flanders Interaction Analysis Category System (FIACS) :

FIACS is used for recording the classroom behaviour of teachers. This is a widely used observational tool to study the verbal classroom behaviour of teachers. Table below gives details of the categories on which the tool is based.

Table :3.5: Flanders' Interaction Analysis Category System

	Category No.	
Indirect Influence	* 1	Accepts feelings : accepts and clarifies the feeling tone of the students in a non-threatening manner. Feelings may be positive or negative. Predicting or recalling feelings are included.
	* 2	Praises or encourages : Praises or encourages student action or behaviour. Jokes that release tension, not at the expense of another individual, nodding head or saying 'Zum, Hm' or 'go on' are included.
	* 3	Accepts or uses ideas of student : clarifying, building, or developing ideas suggested by a student. As a teacher brings more of his own ideas into play, shift to category five.
	* 4.	Asks questions : asking a question about content or procedure with the intent that a student answer.

(Table 3.5 continued)

	Catogory No.	
Teacher Talk	* 5	Lecturing : giving facts or opinions about content or procedure ; expressing his own ideas, asking rhetorical questions.
... Direct Influence..	* 6	Giving directions : directions, commands or orders to which a student is expected to comply.
	* 7	Criticizing or justifying authority : Statements intended to change student behaviour from non-acceptable to acceptable pattern; hawling someone out ; stating why the teacher is doing what he is doing ; extreme self reference.
... Student Talk ...	* 8	Student Talk - Response : A student makes a predictable response to a teacher. Teacher initiates the contact or solicits student statement and acts limits to what the student says.
	* 9	Student talk - Initiation : Talk by students which they initiate. Unpredictable statements in response to teacher. Shift from 8 to 9 as student introduces own ideas.
	* 10	Silence or confusion : pauses, short periods of silence and periods of confusion in which communication cannot be understood by the observer

* There is no scale implied by these numbers.

Each number is classificatory; it designates a particular

kind of communication event. To write these numbers down during observation is to enumerate, not to judge a position on a scale.

(Adapted from Flanders, 1970).

$$\text{I/D ratio} = \frac{\text{Categories } 1 + 2 + 3 + 4}{\text{Categories } 5 + 6 + 7}$$

$$\text{i/d ratio} = \frac{\text{Categories } 1 + 2 + 3}{\text{Categories } 6 + 7}$$

$$\text{PTT} = \frac{\text{Categories } (1 + 2 + 3 + 4 + 5 + 6 + 7) \text{ X } 100}{\text{Total of all categories}}$$

$$\text{PPT} = \frac{(\text{Categories } 8 + 9) \text{ X } 100}{\text{Total of all categories}}$$

$$\text{PSC} = \frac{(\text{Category } 10) \text{ X } 100}{\text{Total of all categories}}$$

$$\text{TQR} = \frac{(\text{Category } 4) \text{ X } 100}{\text{Categories } 4 + 5}$$

$$\text{TRR} = \frac{(\text{Categories } (1 + 2 + 3) \text{ X } 100}{\text{Categories } 1 + 2 + 3 + 6 + 7}$$

3.2 The Classroom Climate Scale : (CCS)

The classroom climate contains three constructs viz. Authenticity, Legitimacy and Productivity. Each construct has eight components each as described below on the next page :

Construct : Authenticity

Components	Items
1. Role coordination : = Maintaining effective relationships of behaviour within the classroom.	1. There is unity in my class. (+) 2. There are many conflicts and differences of opinion among the pupils in my class. (-)
2. Openness	3. I feel free to express my ideas and opinions in my class. (+) 4. No one listens to the other when any pupil talks in my class. (-)
3. Involvement = Full involvement in the learning process.	5. Sometimes, we get engrossed in the learning process. (+) 6. In my class, pupils avoid sharing of work that is assigned to us (-)
4. Expectation = Looking forward to certain behaviours or actions to happen.	7. Our expectations of good teaching are satisfied by our teachers. (+) 8. In my class, the teachers do not care about our expectations of better teaching. (-)
5. Cognitive input = The knowledge that one absorbs through the learning process.	9. We not only get rich content matter of various subjects but also general knowledge from our teachers. (+) 10. We hardly get anything else from our teachers besides the content matter from textbooks. (-)

Components	Items
6. Affect arousal = The awakening of feelings and emotions in a classroom while learning or due to interaction with each other	11. For the whole of my life, my present class will bear sweet memories for me. (+) 12. The bitterness that I experience about my class will remain with me for my whole life. (-)
7. Stimulation = Activating a person to think or act.	13. Classroom teaching enables me to think on my own. (+) 14. I do not get enough stimulation through classroom teaching. (-)
8. Unself-Conscious Absorption = Being unaware of imbibing certain behaviours, values etc.	15. When I am in my class, I feel that time passes quickly for me (+) 16. I feel that time passes slowly when I am in a class. (-)

Construct : Legitimacy

1. Imposed Discipline = Authoritative control of pupil behaviours through rules and regulations	1. My teachers can maintain good discipline in my class. (+) 2. There is no discipline and order in my class. (-)
2. Utility = Usefulness of any activity in a class.	3. I feel that what I learn in my class will help me to face life and its problems (+) 4. I feel that what I learn in my class is not of any practical use to me. (-)

3. Homogeneity = The degree to which pupils are similar or alike in their behaviour traits.	5. The composition of my class is such that we take quick decisions without bitter conflicts. (+)
	6. There are many conflicts in my class which do not allow us to take any decision. (-)
4. Commitments = Whole-hearted involvement in any activity	7. During any activity in my class, the pupils have a great sense of commitments. (+)
	8. In my class, the pupils show a lack of commitment during any activity. (-)
5. Democratic Behaviour = Behaviour which encourages differences of opinions and free discussions.	9. Our teachers allow us to take part in discussions (+)
	10. Our teachers take all the decisions in our class without even consulting us. (-)
6. Group strength = The support that is received in being together collectively.	11. We are so united in our class that we help each other in our work. (+)
	12. In my class, each one is aloof and does not help the others. (-)
7. Directedness = Having a direction for an activity so that movement leads to progress.	13. Our teachers come to class in time and enjoy teaching us. (+)
	14. Our teachers are unpunctual and do not have any interest in teaching us. (-)
8. Identification = The appropriation into one's self.	15. Our class teacher feels that our class is her own. (+)
	16. Our class teacher does not feel that our class is her own. (-)

Construct : Productivity

1. Interpersonal support = Mutual assistance rendered by teachers and pupils to one another.	1. There is co-operations and love for work among our teachers. (+) 2. Our teachers do not try to understand our difficulties. (-)
2. Role satisfaction = The pleasure a pupil experiences when she performs her duty or as is expected of her.	3. It gives me great pleasure to go to my class. (+) 4. In my class, I do not get any satisfaction from my studies. (-)
3. Resource utilization = Making use of materials, aids and talents one possesses, in order to be more effective.	5. Our teachers make their lessons interesting by using various teaching aids. (+) 6. Our teachers do not use enough teaching aids. (-)
4. Role manifestation = The characteristic behaviour displayed when one performs her duty.	7. Our teachers are devoted to their work and are interested in teaching us (+) 8. I feel that my teachers should put in more effort to help me in my studies. (-)
5. Behaviour Consonance = The harmony that exists between the behaviour and expectations that others have of a person.	9. I like the behaviour of our teachers and feel like imitating them. (+) 10. Our various teachers behave differently and hence we feel confused. (-)
6. Help = The right type of assistance rendered.	11. Along with the lessons, our teachers tell us many things that will be useful in life. (+) 12. In my class, our teachers are absorbed in giving us content matter only and forget to solve our difficulties. (-)

7. Physical facilities
   = The class setting, seating arrangement, light, etc., that are available to pupils in a classroom.

8. Fulfilment
   = The joy and satisfaction one obtains after her wishes are fulfilled.

13. The furniture in our classroom is comfortable. (+)

14. In my class there is no proper seating arrangement. (-)

15. I am extremely happy to be in my class and wish I could always study with the same companions. (+)

16. I do not enjoy even a single moment in my classroom. (-)

General Statement :

1. I feel that my class is like a prison. (-)

2. I have great love for my class. (+)

The above 50 statements (16 + 16 + 16 + 2) compromise the scale of classroom climate.

The classroom climate scale is given in the Appendix I.

3.3. Classroom Trust Schedule (CTS) :

The classroom Trust Schedule consists of 15 situations, with four responses each. These four responses have scores ranging from one to four. A response having a score of four, shows more trust, whereas a response having a score of one, shows the least amount of trust by the pupils.

The pupil is asked to read each situation and indicate her answer by encircling the number against the response. The responses checked are then scored as 4.3, 2 or 1, according to the degree of trust represented by the response. The sum of all the scores on various situations checked by the pupils, give his total score on classroom Trust Schedule. The maximum score obtainable in the CTS is +60 and the minimum is + 16. A pupil obtaining a score of 22 as shown below, would exhibit little trust in the teacher.

Very low Trust		Medium Trust	High Trust
+ 15	22.0	37.5	+ 60

The reliability of CTS was calculated by the split-half method. The correlation was 0.73.

Given below are the score values of the response alternatives of each situation.

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

(Continued..)

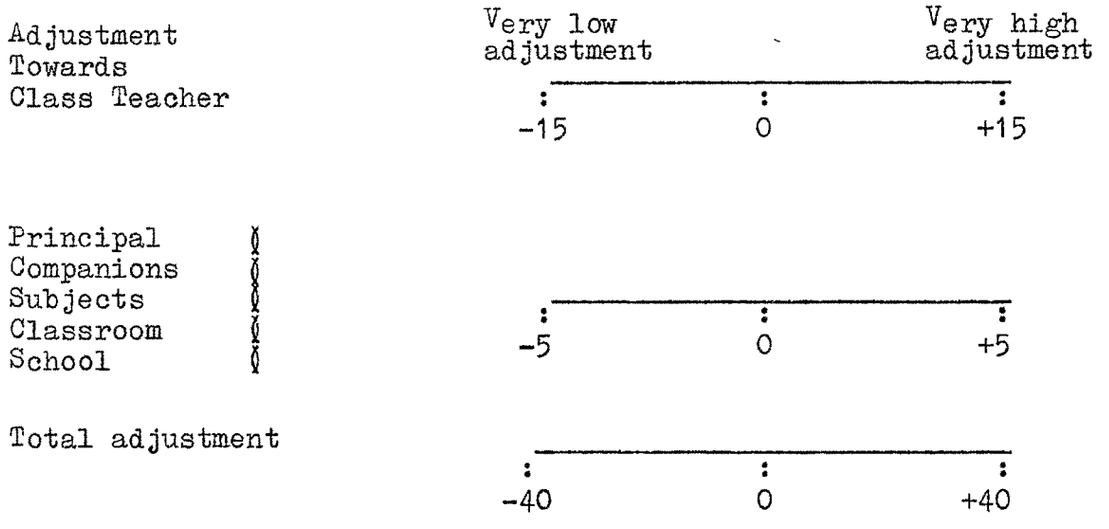
Situation No.	Alternatives			
	A	B	C	D
6	1	2	4	3
7	1	2	3	4
8	1	2	3	4
9	2	1	3	4
10	1	2	3	4
11	3	1	2	4
12	1	3	2	4
13	1	2	3	4
14	1	4	3	2
15	1	4	3	2

3.4 Students' Adjustment Scale (SADS) :

The Students' Adjustment Scale consists of eighty items : class teacher (30), Principal (10), Companions (10), Subjects (10), Classroom (10), and School (10). There were equal number of statements depicting positive and negative adjustments in each area.

In the scoring system, the items displaying positive adjustment were scored + 1 and those displaying negative adjustment were scored - 1. The total score in each area may be positive or negative. A negative score will indicate maladjustment and a positive score, good adjustment.

The range of the scores in each area of adjustment is given below :



A score of 0 indicates neither adjustment nor maladjustment. A pupil obtaining an adjustment score of + 10 towards the class teacher would be considered to have high adjustment. Another pupil scoring an adjustment score of -5 in the first area would be less adjusted towards the teacher.

The Student Adjustment Scale is given in Appendix 3.

3.5 Students' Dependency Scale : (SDS)

Students Dependency Scale consists of 30 statements, 15 dependency items and 15 independency items. In both the Forms, the respondent is required to indicate by a tick mark (✓) whether what was stated was done by him 'Always or Mostly', 'Sometimes' or 'Rarely or Never'. The dependency items had a weightage of 2f for 'Always or Mostly', 1 for

'Sometimes' and 0 for 'Rarely or Never'. The independency items had a weightage of 0 for 'Always or Mostly', 1 for 'Sometimes' and 2 for 'Rarely or Never'.

The minimum dependency and independency score would be 0 and the maximum 30. The total dependency and independency scores are the sum of the all scores of the dependency and independency items, respectively.

The Scale was tested by the split half method and the reliability is 0.68.

A sample of the Students' Dependency Scale is given in Appendix 4.

3.6 Students' Expectancy Scale (SES)

Students' Expectancy Scale consists of fifty statements put into four groups: Teachers' personality (20), Teacher's teaching (15), class interaction (10) and individual interaction (5). The respondent is required to tick mark (✓) those statements which are in agreement with his expectations of what a teacher should be and cross mark (X) those statements which are in disagreement with his expectation of what a teacher should be. The numbers of those statements which represent unfulfilled expectancies had also to be encircled. There was a ranking column in

which the respondents had to rank any three statements in each of the four categories, according to their preferences.

Each of the statement that was tick marked (✓) was given a score of one. Hence, the maximum expectancy score would be fifty and minimum 0. The encircled statements which indicated unfulfilled expectancies had also a score of one each. Hence, the maximum unfulfilled expectancy score would be fifty and minimum 0. The difference between the Expectancy score (E) and the unfulfilled expectancy score (UE) of a respondent, would give his fulfilled expectancy score (FE), that is E - UE = FE. Hence, the fulfilled expectancy score varied from - 50 through 0 to + 50.

The split half method was used to test the reliability and the correlation is 0.78.

A sample of Students' Expectancy Scale is given in Appendix 5.

3.7 The Sociometric Scale (SS)

A sociometric measure is a means of assessing the attractions and repulsions within a group. It usually involves each member of the group privately specifying one or more persons in the group with whom he would like to

engage in some particular activity and further, a number of persons with whom he would not like to participate in any activity.

A sociometric scale has been constructed by Pareek (1971) to study the cohesiveness and integration of pre-adolescent classrooms. Choksi's (1976) investigation proved that social relationship could be improved as a result of decreasing the number of isolates and overchosen.

The present investigation is basically a study of a group, namely, the pupils in a classroom, who have around them a unique climate. Hence the application of a sociometric technique to such a study would highlight important results.

In the present Sociometric Scale, each pupil in a class would be prepared to mention the names of 3 members of the class with whom he / she would like to (1) study (2) play and (3) make friends with.

The class integration indices for the activities of study, play, and choice of friends was obtained for each class using the formula :

$$\text{Class integration index} = 100 \times \frac{\text{Total No. of isolates} + \text{Total No. of overchosen}}{\text{Total No. of Students in the class}}$$

The Sociometric Scale used by the investigator is given in Appendix 6.

3.8 Pupils' Academic Motivation Scale (PAMS)

A pioneering attempt was made by Frymier in 1961 to develop an instrument for assessing young people's motivation to learn in school.

JIM Scale has 80 items. Only 50 items are to be scored, other items are to be included when the scale is administered as filler items.

Although the questionnaire is not timed, it takes by and large about 30 minutes for all the students to complete the items. The purpose of the questionnaire is not to be explained to the students. They are only to be instructed to respond as to how they feel about each statement.

All the 50 items taken for the study are scored minus. Next, add each students' score for these 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 add this raw score value to + 100 algebraically. This score is the students converted motivation score. Higher scores indicate higher motivation level. Low scores indicate low motivation level.

For each statement, the respondent student indicates his agreement or disagreement by marking it, according to specified scale, in the appropriate space on their answer book.

A + 1 slight support, agreement

B + 2 strong support, agreement

C - 1 slight opposition, disagreement

D - 2 strong opposition, disagreement

The operational assumptions which relate to the nature of instruments are given below :

(1) Items are phrased in such a way that they should be atleast partially project in nature.

(2) Many items are also phrased with a value hierarchy readily apparent. This technique is 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 distil value sentiment to an observable surface.

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

A sample of the Pupils' Academic Motivation Scale is given in Appendix 7.

3.9 Students Activity Scale (SAS)

Students Activity Scale consists of two sections - Form A and Form B . Form A consists of 15 items and the pupils are asked to choose any ten activities that they feel like doing in the class. Form B also consists of 15 items and the pupils were asked to choose ten activities that they actually do in the class. Both are scored and the 'Real Activity' score is calculated by subtracting the 'feel like' score (Form A Score) from the ' actual score ' (Form B Score). This test is administered to get the overall picture of a student. It helps the teacher to get an idea of what type of activities are popular or favourite among students.

A sample of the Students' Activity Scale is given in Appendix 8.

4. The Other Measures (Semi-Projective Techniques)

In order to find out changes in the major components of psychological development in the pupils of the Experimental Group 1, a psychological input programme was administeredtoto them. A description of this is given below under the head the 'Semi-Projective Techniques'.

The psychological education input items which may be called 'Semi - Projective Measures' have originally been

used for similar purposes by Desai (1972) in his study on 'Achievement motivation development through better self image'. A brief description of these items as to what they measure is given below. Details as how to use these items to serve as input items in addition to measuring certain aspects of psychological development are given in chapter IV, under the head 'The Model'. Changes are observed through responses to these items by using the technique of content analysis.

Some of the inputs serve as measures of psychological development as well as feedback to pupils and teacher, facilitating the process of psychological development.

Description of Input Items

1. Who am I ?

In this item pupils write and discuss about themselves, their hopes, interests, abilities, etc. This item is used to observe changes in pupils' self-image.

2. What would I like to be ? and My aims

Under each of these items pupils were to specify what they want for themselves in order of preference. The responses are to be analysed to find out changes in the perception of their immediate life time goals. It is to see how clear the pupils are about their goals and means for achieving them.

3. Myself and my school

This item included four questions relating to school. The responses are to be content analysed to study the perception of the pupil regarding his role in relation to different aspects of school-teacher, school activities, norms of school behaviour etc.

4. What type of teacher do you like ?

This item is used to study the pupils' perception of the role they expect their teachers to play. It is to find out as to what extent pupils perceive their teachers in proper perspective.

5. Word Association Test

The test consists of six words, namely, school, teacher, pears (classmates), classroom, blackboard and bell. The words are announced in the class one by one. Pupils are supposed to write whatever word or sentence immediately occur in their mind, in response to each word. The responses are to be content analysed to study their attitude towards schools.

6. Steps of Honour

Under this item pupils have to point out a few persons who they have come across either in their life or in studies. These they have to arrange in order of preference as to the person whom they like most and also advance reasons for their

choices. This item is used to study the images which pupils set for themselves to emulate or identify themselves with.

7. My leisure time

Here pupils are to briefly write on the item ' My leisure time'. Contents on these responses are to be analysed to study the non-academic interests of the pupils.

5. Scheme of Analysis of Data

1. To test the significance of difference between the performance of the pupils under the experimental and control groups, gain scores (difference between pre and post test scores) are analysed and 't' values are computed.

2. Pupils responses on the various semi projective measures ' Who am I ?, 'What would I like to be ?', etc. were analysed by applying the technique of content analysis to their pre and post experimental writings.

3. To find out the change in the behaviour patterns of experimental groups and control group teachers, master matrices, and, master-master matrices were prepared and analysed.

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