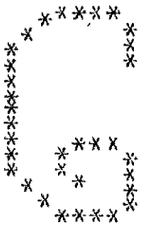
CHAPTER 

GAINS IN TERMS OF PUPILS' ACHIEVEMENT

1. Introduction
2. Descriptive Analysis of the Effect of Change in Classroom Climate on the Dependent Variables.
3. Testing of the Hypotheses
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VI

GAINS IN TERMS OF PUPILS' ACHIEVEMENT

ANALYSIS OF DATA

1. Introduction

The primary objective of this study is to find out how changed teacher behaviour affects the relationship between teachers and pupils in the classroom situation and what effect the relationship has over the process of learning and interaction. In the previous chapter the data collected for the three different groups - Experimental Group 1 to whom teacher behaviour training and regular feed back were given, Experimental Group 2 - to whom teacher training was given and Control Group - were analysed and found out that the teachers of the three different groups showed distinct behaviours in their interaction in the classrooms. The teachers of Experimental Group 1 were highly democratic in their behaviour, the teachers of Experimental Group 2 were democratic in their behaviour and the teachers of the Control Group were authoritarian in their behaviour. In order to find out the effect of different teacher behaviour

patterns on classroom climate, the following tools measuring the various aspects of classroom climate were administered :

1. Pupils' Academic Motivation Scale
2. Students' Adjustment Scale
3. Classroom Trust Schedule
4. Students' Activity Scale
5. Students' Expectancy Scale
6. Students' Dependency Scale
7. Classroom Climate Scale
8. Sociometric Scale
9. Academic Performance Tests in Tamil, English, Mathematics, Science and History and Geography

In order to testify the hypotheses 3 to 11 which state that changes in classroom climate leads to better changes in the various variables of the classroom climate in Experimental Group 1 and Experimental Group 2, than in the Control Group, - all the above tests were administered twice - once before the experiment and once after the experiment. The data collected through these tools are analysed with relevant statistics. In data analysis, the following procedure is adopted. First, a descriptive analysis is done with reference to all the tools employed and differential studies are made between the Control and Experimental Groups. Then testing of hypotheses is taken up.

2. Descriptive Analysis of the Effect of Change in Classroom Climate on the Dependent Variables

2.1 Changes in Pupils' Academic Motivation :

This tool 'Pupils' Academic Motivation Scale' is designed to find out how students think and feel about a number of important topics. Higher scores in this scale indicate higher motivation level. Low scores indicate low motivation level. Gain scores (difference between the pre test scores and the post test scores) for Experimental Group 1 (Highly democratic), Experimental Group 2 (Democratic) and Control Group and 't' values (calculated by single group method) are shown in Table 6.1 below.

Table :6.1: Mean, SD and 't' Values of Gain Scores of Pupils' Academic Motivation Level of Experimental Group 1, Experimental Group 2 and Control Group

Group	N	Mean	SD	't'	
Control Group	100	1.8	23.78	0.76	NS
Experimental Gr. 1	102	14.28	22.15	6.52	**
Experimental Gr. 2	102	8.94	18.53	4.89	**

** Significant at .01 level
NS Not Significant

The above table suggests that the pupils of Experimental Group 1 and Experimental Group 2 have gained more in their

academic motivation than the pupils of the Control Group.

There is a significant gain at 0.01 level in the pupils academic motivation scores of Experimental Group 1 and Experimental Group 2.

There is no significant gain in the Control Group.

2.2 Changes in Students' Adjustment :

The 'Students' Adjustment Scale' involves the measurement of six factors - adjustment towards class teacher, Principal, Companions, the Subjects, Classrooms, School and Total Adjustment. The gain scores for all the factors and 't' values were calculated and shown in Table 6.2 on the next page.

The Table 6.2 reveals the following observations :

In Experimental Group 1, there is a significant gain in the pupils' adjustment towards the class teachers, principal, companions, subjects, classrooms, school and in total adjustment.

In Experimental Group 2, there is a significant gain at 0.01 level in the pupils adjustment towards

Table :6.2: Mean, SD and 't' Values of Gain Scores of Various Factors of Pupils Adjustment of Experimental Group 1, Experimental Group 2 and Control Group

Adjustment Factor	Experimental Group 1				Experimental Group 2				Control Group			
	N	Mean	SD	't'	N	Mean	SD	't'	N	Mean	SD	't'
Class Teachers	102	3.70	4.90	7.55*	102	1.46	4.78	3.11*	100	0.95	5.22	1.83 NS
Principal	102	0.88	2.11	4.19*	102	+0.009	2.08	0.04 NS	100	-0.4	2.17	1.82 NS
Companions	102	0.71	2.06	3.55*	102	0.54	1.96	2.84*	100	+0.63	1.83	3.50 *
Subjects	102	1.20	1.87	6.32*	102	1.09	2.20	4.95*	100	+0.31	1.82	1.72 NS
Class Rooms	102	1.43	1.77	7.94*	102	1.20	2.20	5.45*	100	+0.27	1.79	1.50 NS
School	102	1.45	1.91	7.63*	102	0.59	1.72	3.47*	100	0.22	2.01	1.10 NS
Total Adjustment	102	8.74	12.86	6.88*	102	6.96	12.65	5.57*	100	+3.03	13.11	2.31 **

* Significant at 0.01 level
** Significant at 0.05 level
NS Not Significant

the class teachers, companions, subjects, classroom, school and in total adjustment.

There is a significant gain in pupils' adjustment towards their companions and in their total adjustment in the Control Group.

There is no significant gain in the Control Group in the pupils' adjustment towards their class teachers, principal, subjects, classrooms and school.

Figures of Table 6.2 are also shown in Graph 4.

2.3 Changes in Classroom Trust :

The classroom trust schedule refers to fifteen different contexts and the measurement relates to the question as to where the classroom trust is reposed at a high level. The mean values of gain scores and 't' values on this schedule for Experimental Group 1, Experimental Group 2 and Control Group were calculated and shown in Table 6.3 below.

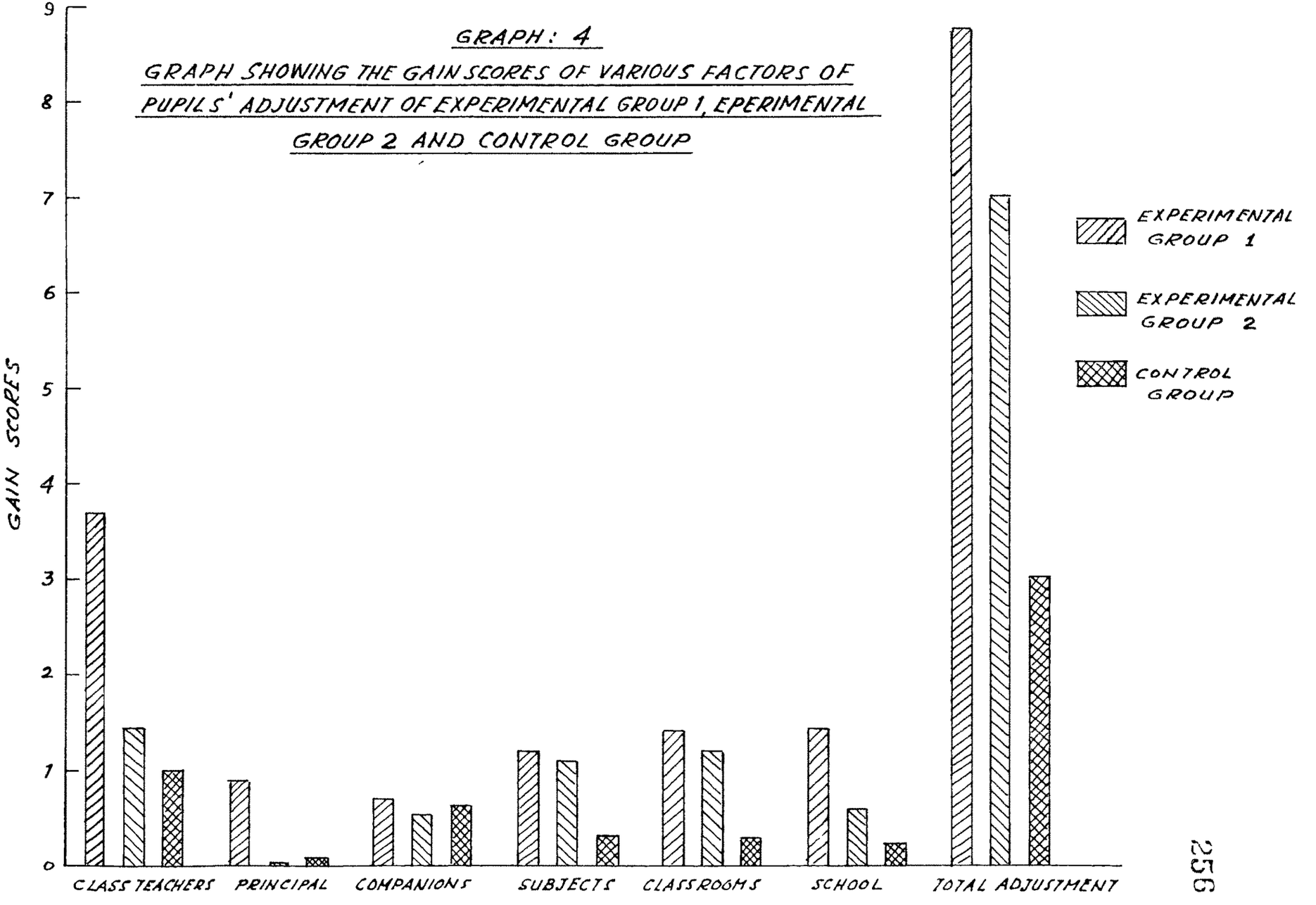
Table :6.3: Mean, SD and 't' Values of Gain Scores of Pupils' Classroom Trust of Experimental Group 1, Experimental Group 2 and Control Group

Group	N	Mean	SD	't'
Experimental Group 1	102	6.41	5.81	11.05 *
Experimental Group 2	102	4.00	6.63	6.06 *
Control Group	100	1.40	8.63	1.63 NS

* Significant at 0.01 level
NS Not Significant

GRAPH: 4

GRAPH SHOWING THE GAIN SCORES OF VARIOUS FACTORS OF PUPILS' ADJUSTMENT OF EXPERIMENTAL GROUP 1, EPERIMENTAL GROUP 2 AND CONTROL GROUP



The Table 6.3 reveals the following observations :

There is a significant gain at 0.01 level in the pupils' classroom trust in Experimental Group 1 and Experimental Group 2.

The gain is not significant in the Control Group.

2.4 Changes in Students' Activity Level :

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 are 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 over all picture of a student. It helps the teacher to get an idea of what type of activities are popular or favourite among students. Mean of the gain scores for Experimental Group 1, Experimental Group 2 and Control Group and 't' values are calculated and given in the following Table 6.4.

Table :6.4: Mean, SD and 't' Values of Gain Scores of Pupils' Activity Level of Experimental Group 1, Experimental Group 2 and Control Group

Group	N	Mean	SD	't'
Experimental Group 1	102	0.33	1.61	2.06 **
Experimental Group 2	102	0.12	1.98	0.60 NS
Control Group	100	-0.37	1.52	2.47 **

** Significant at 0.05 level
NS Not Significant

The observations presented in the above table reveals the following :

There is a significant gain at 0.05 level in the pupils' activity level in Experimental Group 1.

There is a gain in the mean scores of Experimental Group 2, though it is not significant.

There is a significant decrease in the pupils' activity level in the Control Group.

2.5 Changes in Students' Expectancy Level :

The 'Students Expectancy Scale' is administered to get an idea of what the students expect of their teachers in different situations. This scale consists of four parts viz. the students expectation of their teachers 'personality', 'teaching', 'classroom - interaction', and 'individual

interaction'. There are twenty statements under 'personality', fifteen statements under 'teaching', ten statements under 'class interaction' and five statements under 'individual interaction'. If any statement is in agreement with the students' expectation of what a teacher should be, they have to put a tick mark against it. If any statement disagrees with their expectation of what a teacher should be, they have to put a cross mark against it. Each sub division is scored separately. Mean of the gain scores and 't' values were calculated for Experimental Group 1, Experimental Group 2 and Control Group and given in Table 6.5 on the next page.

Table 6.5 depicts the following :

There is a significant increase in Experimental Group 1 at 0.01 level in the pupils' expectancy level of their teachers' personality, teaching, classroom interaction, individual interaction and total expectancy.

In Experimental Group 2, there is a significant increase at 0.01 level in the pupils' expectancy level of their teachers personality, classroom interaction and total expectancy level. There is no significant difference in the pupils' expectancy level of their teachers' teaching and individual interaction.

In the Control Group there is no significant gain in all the variables except in classroom interaction.

Table :6.5: Mean, SD and 't' Values of Gain Scores of Pupils' Expectancy Level of their Teachers' Personality, Teaching, Classroom Interaction and Individual Interaction of Experimental Group 1, Experimental Group 2 and Control Group

Factors	Experimental Group 1				Experimental Group 2				Control Group			
	N	Mean	SD	't'	N	Mean	SD	't'	N	Mean	SD	't'
Personality	102	1.81	4.73	3.85*	102	1.67	4.72	3.55*	100	0.36	4.40	0.82 NS
Teaching	102	1.58	3.32	4.79*	102	0.59	3.62	1.54 NS	100	0.15	2.38	0.63 NS
Classroom Interaction	102	2.41	2.20	8.32*	102	1.12	1.52	7.47*	100	0.55	2.48	2.29 **
Individual Interaction	102	0.28	0.86	3.11*	102	0.43	1.39	0.37NS	100	0.07	1.53	0.47 NS
Total Expectancy	102	3.69	10.15	3.69*	102	2.86	10.62	2.70*	100	0.33	8.26	0.40 NS

* Significant at 0.01 level
** Significant at 0.05 level
NS Not Significant

2.6 Changes in Students' Dependency Level :

It is a fact of common knowledge that kindness and sympathy shown by the teacher towards the pupils tend to result in a relatively greater measure of dependency on the teacher. Even so, the temperamental characteristics of some pupils render them relatively less dependent on the teacher. To find out how far the pupils are dependent on the teacher and his friends or whether they are independent in taking their decisions, the Students' Dependency Scale is administered. The Students' Dependency Scale consists of two parts - Form A - Dependency and Form B - Independency. Form A consists of fifteen items and the students are asked to tick mark against each statement, whether they do whatever is stated, 'Almost always', 'Sometimes' or 'Rarely'. They are scored in the order 2, 1, 0. The higher scores indicate high dependency. Form B also consists of fifteen items and the students are asked to tick mark against each statement, whether they do whatever is stated, 'almost always', 'sometimes' or 'rarely'. They are scored in the order 0, 1, 2 respectively. The higher the scores the more independent the students are and lesser the score, the less independent the students are.

The mean values of the gain scores and 't' values for Form A for Experimental Group 1, Experimental Group 2 and Control Group were calculated and are shown in the following table :

Table :6.6: Mean, SD and 't' Values of Gain Scores of Students' Dependency Scale - Form A of Experimental Group 1, Experimental Group 2 and Control Group

Group	N	Mean	SD	't'
Experimental Group 1	102	2.75	7.04	3.93 *
Experimental Group 2	102	0.60	5.67	1.07 NS
Control Group	100	1.74	5.88	2.95 *

* Significant at 0.01 level
NS Not Significant

The above table suggests the following observations :

The pupils of Experimental Group 1 and Experimental Group 2 have gained more in their Dependency scores than the pupils of the Control Group.

There is no significant gain in the pupils' dependency level in Experimental Group 2 but there is a little gain in the mean scores.

There is a significant decrease in the pupils' dependency level in the Control Group.

The mean, SD and 't' for Form B for Experimental Group 1, Experimental Group 2 and Control Group were calculated and shown in the following Table 6.7.

Table :6.7: Mean, SD and 't' Values of Gain Scores of Students Dependency Scale - Form B of Experimental Group 1, Experimental Group 2 and Control Group

Group	N	Mean	SD	't'
Experimental Group 1	102	1.29	6.91	1.90 NS
Experimental Group 2	102	1.34	6.19	2.20 **
Control Group	100	0.34	4.90	0.69 NS

** Significant at 0.05 level
NS Not Significant

The above Table 6.7 reveals the following observations :

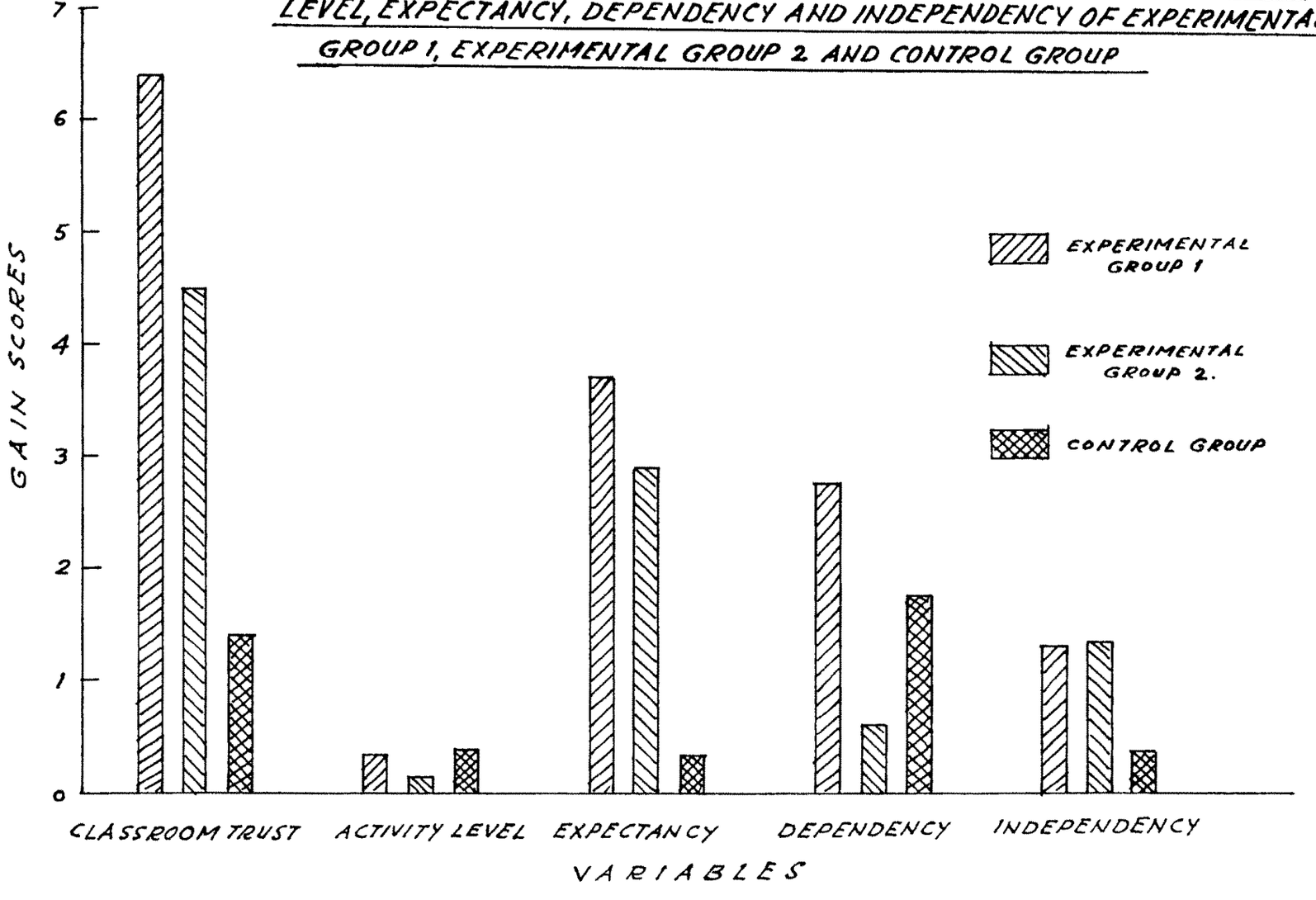
There is no significant gain in the Students' independency level in the Control Group and the Experimental Group 1.

There is a significant gain in the pupils' independency level in Experimental Group 2.

Figures of Tables 6.3, 6.4, 6.5, 6.6 and 6.7 are represented in Graph 5.

GRAPH : 5

GRAPH SHOWING THE GAIN SCORES OF PUPILS' CLASSROOM TRUST, ACTIVITY LEVEL, EXPECTANCY, DEPENDENCY AND INDEPENDENCY OF EXPERIMENTAL GROUP 1, EXPERIMENTAL GROUP 2 AND CONTROL GROUP



2.7 Changes in Classroom Climate :

The classroom climate scale is administered to find out the climate that prevails in the classrooms. Students' must have undergone various experiences in their classrooms. Based on their experiences, they would have formed an opinion about their classrooms. To get their opinion, 50 statements are given. The pupils are asked to tick mark against each statement in a five point scale.

The classroom climate scale consists of three parts - authenticity, legitimacy and productivity. Under each part there are 16 statements - 8 of them were negative statements and eight of them were positive statements. The scores were calculated for three sections separately and total scores were also calculated. The higher scores indicate better climate in the class.

The mean and 't' values of gain scores for the three components separately and for total scores for Experimental Group 1, Experimental Group 2 and Control Group were calculated and shown in the tables below.

Table :6.8: Mean, SD and 't' Values of Gain Scores of Productivity Components of Classroom Climate Scale of Experimental Group 1, Experimental Group 2 and Control Group.

Group	N	Mean	SD	't'
Experimental Group 1	102	2.35	6.91	3.46 *
Experimental Group 2	102	1.62	5.43	3.00 *
Control Group	100	0.64	6.88	0.93 NS

* Significant at 0.01 level NS Not Significant

The Table 6.8 suggests the following observations :

The pupils of Experimental Group 1 and Experimental Group 2 have gained more in their productivity level than the pupils of the Control Group.

There is a significant gain at 0.01 level in the pupils classroom productivity level in the Experimental Group 1, and Experimental Group 2.

There is insignificant gain in the pupils' productivity level in the Control Group.

Table :6.9: Mean, SD and 't' Values of Gain Scores of Pupils Legitimacy Level of Experimental Group 1, Experimental Group 2 and Control Group

Group	N	Mean	SD	't'
Experimental Group 1	102	1.59	5.38	3.00 *
Experimental Group 2	102	1.04	6.92	1.51 NS
Control Group	100	0.50	4.59	1.11 NS

* Significant at 0.01 level

NS Not Significant

The above table reveals the following observations :

There is a significant increase at 0.01 level in the pupils legitimacy level in Experimental Group 1.

There is no significant gain in Experimental Group 2.

There is no significant gain in the Control Group.

Table :6.10: Mean, SD and 't' Values of Gain Scores of Pupils' Authenticity of Experimental Group 1, Experimental Group 2 and Control Group

Group	N	Mean	SD	't'
Experimental Group 1	102	2.76	7.08	3.94 *
Experimental Group 2	102	1.48	6.57	2.28 **
Control Group	100	0.78	6.34	1.23 NS

* Significant at 0.01 level
** Significant at 0.05 level
NS Not Significant

The above table indicates the following observations :

There is a positive increase in the pupils' Authenticity scores in experimental groups than in the Control Group.

There is a significant increase in the pupils authenticity scores in Experimental Group 1 and Experimental Group 2.

The gain is insignificant in the Control Group.

The total classroom climate score is obtained by adding the scores of productivity, legitimacy and authenticity. The mean and 't' values for the total scores were calculated and are shown in the following Table 6.11.

Table :6.11: Mean, SD and 't' Values of Gain Scores of Total Classroom Climate Scores of Experimental Group 1, Experimental Group 2 and Control Group

Group	N	Mean	SD	't'
Experimental Group 1	102	8.58	14.76	5.88 *
Experimental Group 2	102	7.57	14.19	5.41 *
Control Group	100	0.85	16.13	0.53 NS

* Significant at 0.01 level
NS Not Significant

The above table suggests the following observations :

The pupils of the Experimental Groups have gained more in their classroom climate scores than the pupils of the Control Group.

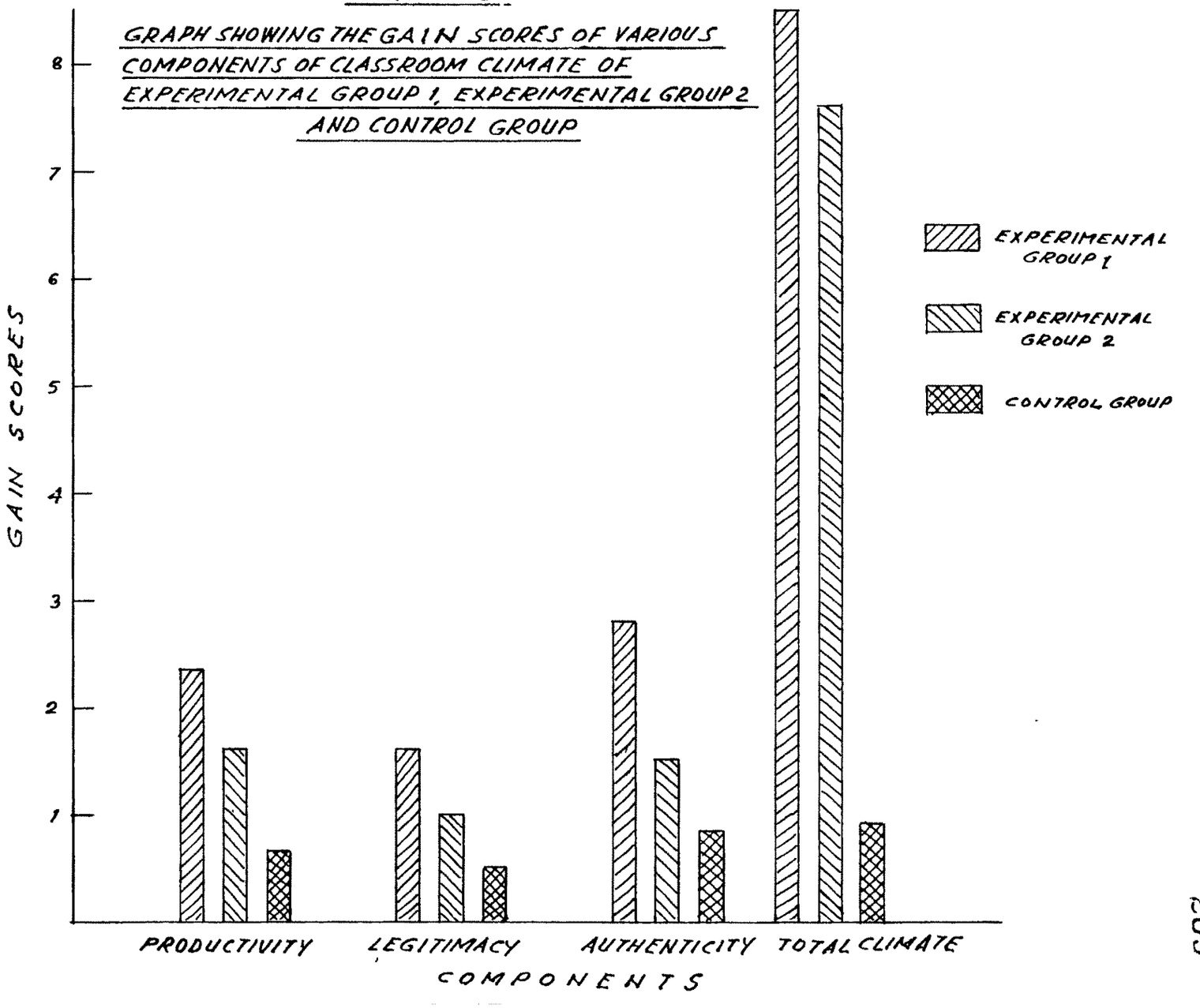
There is a significant increase at 0.01 level in the pupils' classroom climate scores in Experimental Group 1 and Experimental Group 2.

The increase is not at a significant level in the Control Group.

Figures of Tables 6.8,6.9,6.10 and 6.11 are represented in Graph 6.

GRAPH : 6

GRAPH SHOWING THE GAIN SCORES OF VARIOUS COMPONENTS OF CLASSROOM CLIMATE OF EXPERIMENTAL GROUP 1, EXPERIMENTAL GROUP 2 AND CONTROL GROUP



2.8 Changes in Academic Performance :

The main objective of this study is to find out how changed teacher behaviour affects the academic performance of the pupils. So three achievement tests were administered to the pupils of all the three groups viz. Experimental Group 1, Experimental Group 2 and Control Group in all the subjects. The first test (Pre test) was administered to measure the initial achievement of the pupils before the commencement of the Experiment. The second test (Intermediate test) was administered to measure the achievement of the pupils in the middle of the Experiment. The third test (Post test) was administered to measure the final achievement of the pupils at the end of the experiment.

The Table 6.12 on the next page reveals the following observations :

The pupils of Experimental Group 1 and Experimental Group 2 have gained more in their achievement in Tamil, English, Mathematics, General Science, History and Geography and in average achievement than the pupils of the Control Group.

In Experimental Group 1 and Experimental Group 2, there is a significant increase at 0.01 level (only at 0.05 level

Table :6.12: Mean, SD and 't' Values of Gain Scores of Pupils' Achievement in Tamil, English, Mathematics, General Science, History and Geography and Average Achievement of Experimental Group 1, Experimental Group 2 and Control Group

Subjects	Experimental Group 1 (N=102)			Experimental Group 2(N=102)			Control Group (N = 100)		
	Mean	SD	't'	Mean	SD	't'	Mean	SD	't'
Tamil	13.24	19.84	6.76 *	5.13	17.71	2.93 *	4.48	18.49	2.42 **
English	24.25	14.82	16.60 *	16.73	15.15	11.15 *	15.24	18.35	8.28 *
Mathematics	32.53	25.58	12.86 *	23.04	24.73	9.40 *	19.42	22.83	8.52 *
General Science	20.29	21.51	9.53 *	15.75	19.41	8.20 *	14.69	22.21	6.62 *
History and Geography	20.40	18.38	11.21 *	11.81	15.83	7.52 *	4.52	12.54	3.62 *
Average Achievement	22.15	8.77	25.46 *	14.51	8.62	17.07 *	11.75	8.25	14.16 *

* Significant at 0.01 level
** Significant at 0.05 level
NS Not Significant

in Tamil in Experimental Group 1) in the pupils achievement in all the subjects and in average achievement.

There is a significant increase in the Control Group also but it is less when compared with the Experimental Groups.

Pupils' pre-test and post test scores in all the subjects and average achievement are shown in Graph 7.

3. Testing of the Hypotheses

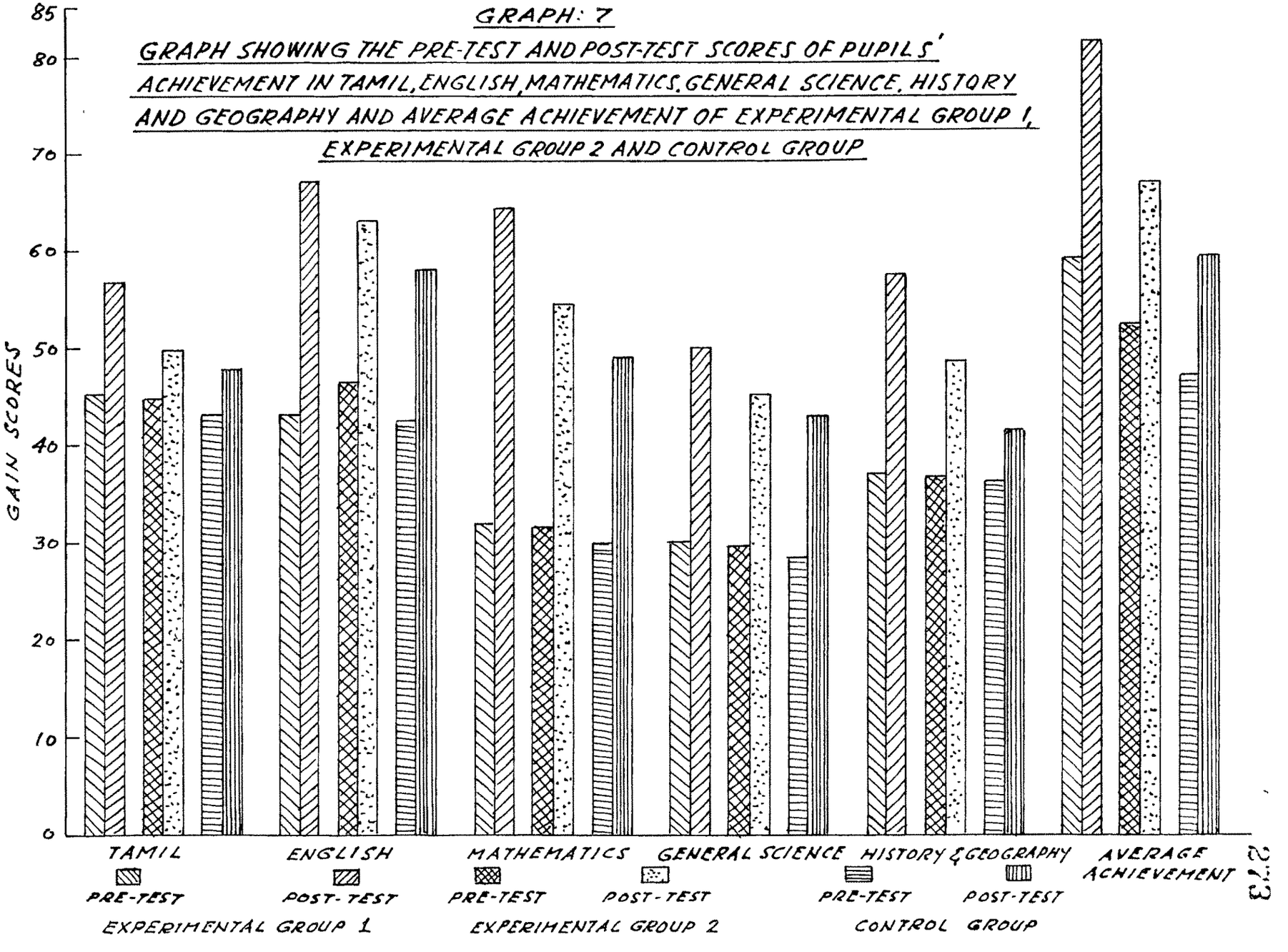
Another objective of this study is to show that changes in classroom climate brought about by changed teacher behaviour with definite inputs given at regular intervals will lead to changes in pupils' academic motivation, classroom trust, dependency level, activity level, classroom climate components and that in turn will lead to an increase in pupils academic achievement. To verify these hypotheses the mean gain scores of all the above tests of the Experimental Groups were compared with the Control Group and the data are given below.

3.1 Pupils' Academic Motivation :

In order to test the hypothesis 3 which states that change in classroom climate leads to changes in pupils'

GRAPH: 7

GRAPH SHOWING THE PRE-TEST AND POST-TEST SCORES OF PUPILS' ACHIEVEMENT IN TAMIL, ENGLISH, MATHEMATICS, GENERAL SCIENCE, HISTORY AND GEOGRAPHY AND AVERAGE ACHIEVEMENT OF EXPERIMENTAL GROUP 1, EXPERIMENTAL GROUP 2 AND CONTROL GROUP



academic motivation, the mean gain scores of pupils academic motivation level of the Experimental groups were compared with the Control Group and data are given below.

Table :6.13: Comparison of the Gain Scores of Pupils' Academic Motivation of the Control Group with Experimental Groups

Comparison	Difference Between Means	σ d	't'
C Vs E_1	- 12.48	3.23	3.86 *
C Vs E_2	- 7.14	3.00	2.38 **
E_1 Vs E_2	5.34	2.86	1.87 NS

* Significant at 0.01 level
** Significant at 0.05 level
NS Not significant

The above table suggests the following observations :

The difference between the Control Group and Experimental Group 1 is significant at 0.01 level.

The 't' value between the Control Group and Experimental Group 2 is significant at 0.05 level

There is no significant difference between the gain scores of Experimental Group 1 and Experimental Group 2.

The above data shows that the academic motivation level of the pupils of Experimental Group 1 has increased considerably due to the training and regular feedback given to those teachers. The same has increased in the case of Experimental Group 2 pupils also due to the teacher behaviour training given to those teachers. But the gain is more in Experimental Group 1 pupils on account of the feed back it received.

The hypothesis 3 is accepted.

3.2 Comparison of Students' Adjustment Scores of the Control Group with Experimental Groups :

The gain scores of all the six factors of students' adjustment level, adjustment towards class teacher, principal, companions, the subjects, classrooms, school, and total adjustment - of the Control Group were compared with the Experimental Groups and the data are given in the following table.

Table :6.14: Comparison of the Gain Scores of Pupils' Adjustment Towards their Class Teachers of the Control Group with Experimental Groups

Comparison	Difference Between the Means	σd	't'
C Vs E_1	- 2.75	0.71	3.85 *
C Vs E_2	- 0.51	0.70	0.73 NS
E_1 Vs E_2	2.24	0.68	3.30 *

* Significant at 0.01 level NS Not Significant

The Table 6.14 shows the following observations :

The difference between the Control Group and Experimental Group 1 is significant at 0.01 level.

There is no significant difference between the Control Group and the Experimental Group 2 but there is a gain in the mean scores (2.24).

There is a significant difference between Experimental Group 1 and Experimental Group 2 at 0.01 level.

It can be concluded from the above observations that the pupils' adjustment towards class teachers in Experimental Group 1 has been increased considerably due to the training and feed back given to the teachers. The adjustment scores towards class teachers has increased in respect of pupils of Experimental Group 2 also due to the teacher behaviour training given to those teachers but the increase is more in the case of Experimental Group 1 pupils which is the result ofthe regular feed back given to this group of teachers.

Table :6.15: Comparison of the Gain Scores of Pupils' Adjustment Towards their Principals of the Control Group with Experimental Groups

Comparison	Difference Between the Means	σd	't'	
C Vs E_1	- 1.28	0.30	4.25	*
C Vs E_2	- 0.39	0.30	1.30	NS
E_1 Vs E_2	0.89	0.29	3.03	*

* Significant at 0.01 level NS Not Significant

The Table 5.15 reveals the following observations :

The difference in gain scores between the Control Group and the Experimental Group 1 is significant at 0.01 level.

There is no significant difference between the Control Group and the Experimental Group 2.

There is a significant difference at 0.01 level between the gain scores of Experimental Group 1 and Experimental Group 2.

It can be concluded from the above discussion that pupils under the teachers of Experimental Group 1 and Experimental Group 2, to whom teacher behaviour training and feedback was given scored higher, significantly on adjustment towards principals.

Table :6.16: Comparison of the Gain Scores of Pupils' Adjustment Towards Their Companions of the Control Group with Experimental Groups

Comparison	Difference Between the Means	σ_d	't'
C Vs E_1	- 1.34	0.27	4.87 *
C Vs E_2	- 1.17	0.27	4.39 *
E_1 Vs E_2	0.17	0.28	0.59 NS

* Significant at 0.01 level
NS Not Significant

The Table 6.16 suggests the following observations :

The difference in pupils gain scores towards their companions between the Control Group and the Experimental Group 1 is significant at 0.01 level.

Between the Control Group and the Experimental Group 2, the difference is significant at 0.01 level.

There is no significant difference in gain scores between Experimental Group 1 and Experimental Group 2.

The above discussion shows that in the Experimental Group 1 and the Experimental Group 2, the pupils have gained significantly in their adjustment towards companions which is the result of the teacher behaviour training given to their teachers. The gain is more in Experimental Group 1 and it is as a result of the regular feed back given to those groups of teachers.

Table :6.17: Comparison of the Gain Scores of Pupils Adjustment towards the Subjects of the Control Group with Experimental Groups

Comparisons	Difference Between the Means	σd	't'
C Vs E_1	- 1.51	0.26	5.79 *
C Vs E_2	- 1.40	0.28	4.92 *
E_1 Vs E_2	0.11	0.29	0.38 NS

* Significant at 0.01 level NS Not Significant

The above table reveals the following observations :

The difference in the main scores of pupils adjustment towards their subjects is significant at 0.01 level when the Control Group is compared with the Experimental Group 1.

The difference is significant at 0.01 level in the case of the Control Group and the Experimental Group 2.

There is no significant difference between Experimental Group 1 and Experimental Group 2.

This suggest that as a result of the change in teacher behaviour the pupils gained in adjustment. They got better adjusted towards the subjects. In other words, the teachers' indirect behaviour contributed to pupils' adjustment positively. The regular feedback given to the teachers of Experimental Group 1 has resulted in more gain in adjustment score of its pupils than in that of the Experimental Group 2, whereas the direct behaviour of the teachers in the Control Group did not contribute to better adjustment of pupils towards their subjects.

Table :6.18: Comparison of the Gain Scores of Pupils Adjustment Towards the Classrooms of the Control Group with Experimental Groups

Comparison	Difference Between Means	cd	't'	
C Vs E_1	- 1.70	0.25	6.79	*
C Vs E_2	- 1.47	0.28	5.20	*
E_1 Vs E_2	0.24	0.28	0.84	NS

* Significant at 0.01 level NS Not Significant

The Table 6.18 suggests the following observations :

The difference between the Control Group and the Experimental Group 1 while comparing the gain scores of pupils adjustment towards classroom is significant at 0.01 level.

There is a significant difference at 0.01 level while comparing the Control Group with the Experimental Group 2.

There is no significant difference between the Experimental Group 1 and the Experimental Group 2 in gain scores.

The above discussion reveals that as a result of the change in teacher behaviour, the pupils gained significantly. The gain is more in the pupils of the Experimental Group 1, the teachers who were exposed to regular feedback during the period of Experiment. In other words, the integrative behaviour of the teachers make pupils better adjusted to the classrooms.

Table :6.19: Comparison of the Gain Scores of Pupils Adjustment Towards the School of the Control Group with Experimental Groups

Comparison	Difference Between the Means	$\sigma_{\bar{d}}$	't'
C Vs E_1	- 1.23	0.28	4.46 *
C Vs E_2	- 0.37	0.26	1.40 NS
E_1 Vs E_2	- 0.86	0.25	3.39 *

* Significant at 0.01 level NS Not Significant

The Table 6.19 shows the following observations :

There is a significant difference at 0.01 level while comparing the Control Group with the Experimental Group 1 in gain scores of pupils' adjustment towards the school.

There is a change, though not significant, in Experimental Group 2.

This means that as a result of change in teacher behaviour, the pupils gained significantly.

There is a significant difference at 0.01 level while comparing Experimental Group 1 with Experimental Group 2. This reveals that the significant gain in Experimental Group 1 is due to the regular feedback given to the teachers.

This also suggests that as a result of the teacher behaviour, training and feedback, the pupils gained in their adjustment towards the school. In other words, the teachers' indirect behaviour contributed to pupils adjustment towards school positively.

Table :6.20: Comparison of the Gain Scores of Pupils Total Adjustment of the Control Group with Experimental Groups

Comparison	difference Between Means	df	't'
C Vs E_1	- 11.77	1.83	6.44 *
C Vs E_2	- 9.99	1.81	5.51 *
E_1 Vs C	1.77	1.79	0.99 NS

* Significant at 0.01 level NS Not Significant

The following are the observations revealed by the Table 6.20 :

There is a significant difference at 0.01 level while comparing the Control group pupils total adjustment scores with the Experimental Group 1.

There is a significant difference at 0.01 level between the Control Group and the Experimental Group 2.

This means that as a result of the change in teacher behaviour, the pupils gained significantly. The gain is more in the case of Experimental Group 1 and it is due to the regular feedback given to the teachers.

In other words, the modified behaviour of the teachers of the Experimental Group 1 and the Experimental Group 2 helps the pupils in modifying their levels of adjustments to a significant level.

Therefore, the hypothesis 4 which states that changes in teacher verbal behaviouf leads to better adjustment of pupils towards class teachers, principals, companions, subjects, classrooms, and school and in total adjustment is retained.

3.3 Comparison of Pupils Classroom Trust Scores of the Control Group with Experimental Groups :

The gain scores of pupils classroom trust of the Control Group is compared with the gain scores of the Experimental Groups and the data are given in the following table.

Table :6.21: Comparisons of the Gain Scores of Pupils Classroom Trust Scores of the Control Group with Experimental Groups

Comparison	Difference Between Means	ϕ6d	't'
C Vs E_1	- 5.01	1.04	4.83 *
C Vs E_2	- 2.61	1.08	2.41 **
E_1 Vs E_2	2.40	0.87	2.75 *

* Significant at 0.01 level
** Significant at 0.05 level

The above table suggests the following observations :

There is a significant difference at 0.01 level in the gain scores of pupils classroom trust between the Control Group and the Experimental Group 1.

There is a significant difference at 0.05 level while comparing the Control Group with the Experimental Group 2.

This means that as a result of the change in teacher behaviour the pupils of the Experimental group 1 and the Experimental Group 2 have gained significantly in their classroom Trust.

There is a significant difference at 0.01 level while comparing the Experimental Group 1 with the Experimental Group 2. It means that the gain in Experimental Group 1 is the result of the regular feedback given to the teachers.

The modified behaviour of the teachers of the Experimental Group 1 and the Experimental Group 2 helped the pupils in increasing their classroom trust to a significant level.

Therefore hypothesis 5 is retained.

If there is greater classroom trust of the pupils, the pupils will be able to receive the knowledge imparted to them. But if the trust is low, then whatever amount of knowledge imparted to them, does not reach them.

3.4 Comparison of the Gain Scores of Pupils Activity Level of the Control Group with the Experimental Groups :

The mean gain scores of the Activity level of the pupils of the Control Group is compared with the mean gain

scores of the Experimental Groups and the data are given in the table below :

Table :6.22: Comparison of the Gain Scores of Pupils Activity Level of the Control Group with Experimental Groups

Comparison			Difference Between Means	σd	't'	
C	Vs	E_1	- 0.49	0.25	2.04	**
C	Vs	E_2	- 0.70	2.20	2.68	*
E_1	Vs	E_2	- 0.21	0.25	0.70	NS

* Significant at 0.01 level
** Significant at 0.05 level
NS Not Significant

The above table reveals the following observations :

The difference between the Control Group and the Experimental Group 1 is significant at 0.05 level.

While comparing the Control Group with the Experimental Group 2, the difference is significant at 0.01 level. This means that as a result of the change in teacher behaviour, the pupils of the Experimental Group 1 and the Experimental Group 2 have gained significantly in their activity level.

There is no significant difference while comparing the Experimental Group 1 and the Experimental Group 2.

This also suggests that as a result of the teacher behaviour training and feedback, the pupils gained in their activity level. In other words, the pupils became realistic in choosing their activities i.e. they gave importance only to those activities that they could actually do in their classrooms.

Therefore, the hypothesis 6 is retained.

3.5 Comparison of the Pupils' Expectancy Scores of the Control Group with the Experimental Groups :

To find out the effect of the teacher behaviour training on pupils' expectancy level, the gain scores of the pupils expectancy level of the Control Group is compared with the Experimental Groups. The data is given in the table below :

Table :6.23: Comparison of the Gain Scores of Pupils Expectancy Level of Their Teachers' Personality of the Control Group with Experimental Groups

Comparison	Difference Between Means	σ Diff	't'
C Vs E_1	1.45	0.64	2.25 **
C Vs E_2	0.12	0.66	0.18 NS
E_1 Vs E_2	1.32	0.64	2.07 **

** Significant at 0.05 level
NS Not Significant

The Table 6.23 shows the following observations :

There is a significant difference at 0.05 level between the Control Group and Experimental Group 1.

There is no significant difference while comparing the Control Group with the Experimental Group 2.

There is a significant difference while comparing the Experimental Group 1 with the Experimental Group 2.

This suggests that as a result of the teacher behaviour training and regular feedback, the pupils expectancy level of their teachers personality has increased.

Table :6.24: Comparison of the Gain Scores of Pupils' Expectancy Level of Their Teachers' Teaching of the Control Group with Experimental Groups

Comparison			Difference Between Means	ϕod	't'
C	Vs	E_1	0.99	0.49	2.02 **
C	Vs	E_2	0.43	0.43	1.00 NS
C	Vs	E_2	0.75	0.40	1.84 NS

** Significant at 0.05 level
NS Not Significant

The above table suggests the following observations :

There is a significant difference at 0.05 level between the Control Group and the Experimental Group 1. There is no significant difference between the Control Group and Experimental Group 2 but there is a gain the mean scores (0.43).

There is no significant difference while comparing the Experimental Group 1 with the Experimental Group 2.

It can be concluded from the above observations that the pupils' expectancy level of their teachers' teaching has increased considerably due to the teacher behaviour training and regular feedback given to the teachers. The Expectancy level of the pupils towards their teachers teaching has increased in respect of Experimental Group 2 also but the increase is significant in the case of Experimental Group 1 which is the result of the teacher behaviour training and feedback given to this group of teachers.

Table :6.25: Comparison of the Gain Scores of Pupils' Expectancy Level of Their Teachers' Classroom Interaction of the Control Group with the Experimental Groups

Comparison			Difference Between Means	σd	't'	
C	Vs	E_1	0.02	0.33	0.06	NS
C	Vs	E_2	0.43	0.29	1.49	NS
E_1	Vs	E_2	0.41	0.26	1.56	NS

NS Not Significant

The above table reveals the following observations :

There is no significant difference between the Control Group and the Experimental Group 1 but there is a gain in the mean scores (0.02).

There is no significant difference between the Control Group and the Experimental Group 2 but there is a gain in the mean scores (0.43).

There is also no significant gain between Experimental Group 1 and Experimental Group 2.

This shows that though there is no significant gain while comparing the Control Group with the Experimental Groups, the little gain in the mean scores, which is the result of the teacher behaviour training and feed back given to those groups of teachers.

Table :6.26: Comparison of the Gain Scores of Pupils' Expectancy Level of Their Teachers' Individual Interaction of the Control Group with Experimental Groups

Comparison			difference between means	σd	't'	
C	Vs	E_1	0.36	0.21	1.76	NS
C	Vs	E_2	0.35	0.18	2.02	**
E_1	Vs	E_2	0.72	0.16	4.42	*

* Significant at 0.01 level
** Significant at 0.05 level
NS Not Significant

The above table indicates the following observations :

There is no significant difference between Control Group and Experimental Group 1 but there is a gain in the mean scores (0.36).

There is a significant gain at 0.05 level while comparing the Control Group with the Experimental Group 2.

The difference in gain scores between the Experimental Group 1 and the Experimental Group 2 is significant at 0.01 level.

It can be concluded from the above discussion that pupils' under the teachers of Experimental Group 1 and Experimental Group 2, to whom teacher behaviour training was given scored higher on their expectancy level of their teachers' individual interaction.

Table :6.27: Comparison of the Gain Scores of Pupils' Total Expectancy Level of the Control Group with Experimental Groups

Comparison			Difference Between Means	σd	't'	
C	Vs	E_1	2.53	1.34	1.88	NS
C	Vs	E_2	- 0.83	1.46	0.57	NS
E_1	Vs	E_2	3.35	1.30	2.59	*

* Significant at 0.01 level
NS Not Significant

The above table reveals the following observations :

There is no significant difference between the Control Group and the Experimental Group 1 but there is a gain in the mean score (2.53).

There is no significant difference between the Control Group and the Experimental Group 2.

The difference in gain scores between the Experimental Group 1 and the Experimental Group 2 is significant at 0.01 level.

The above discussion suggests that the gain in pupils' total expectancy mean scores in Experimental Group 1 is due to the teacher behaviour training and regular feed back given to those group of teachers. It also means that the pupils expected more of their teachers which in turn will help them to gain more in their academic achievement.

Therefore, the hypothesis 7 which states that changes in classroom climate leads to changes in pupils' expectancy level is retained.

3.6 Comparison of Pupils' Dependency Scores (Form A) of the Control Group with the Experimental Groups

The gain scores of Pupils Dependency (Form A) and Independency (Form B) of the Control Group are compared with the Experimental Groups and the data are given in the following tables.

Table :6.28: Comparison of the Gain Scores of Pupils' Dependency (Form A) of the Control Group with Experimental Groups

Comparison	Difference Between Means	ø	't'	
C Vs E_1	- 4.50	0.91	4.93	*
C Vs E_2	- 2.34	0.81	2.87	*
E_1 Vs E_2	2.16	0.90	2.41	**

* Significant at 0.01 level
** Significant at 0.05 level

The above table suggests the following observations :

There is a significant difference at 0.01 level in the pupils' dependency level between the Control Group and the Experimental Group 1.

The difference between the Control Group and the Experimental Group 2 is significant at 0.01 level.

There is a significant gain at 0.05 level between the Experimental Group 1 and the Experimental Group 2.

It is evident from the above discussion that the Experimental Groups revealed signs of greater dependency after the experiment, as is evident from their higher mean scores. This may be accounted for by

saying that changed teacher behaviour results in greater dependence of the pupils on their teachers owing to the bond established as a result of changed teacher behaviour. This also reveals that the more gain in Experimental Group 1 is due to the regular feedback given to those group of teachers.

Table :6.29: Comparison of the Gain Scores of Pupils Independency (Form B) of the Control Group with Experimental Groups

Comparisons			Difference Between Means	σd	't'	
C	Vs	E_1	- 0.95	0.84	1.13	NS
C	Vs	E_2	- 1.00	0.78	1.28	NS
E_1	Vs	E_2	0.04	0.92	0.05	NS

NS Not Significant

The table reveals the following observations :

There is no significant difference between the Control Group and the Experimental Group 1. There is no significant difference between the Control Group and the Experimental Group 2.

There is no significant difference between the Experimental Group 1 and the Experimental Group 2.

lt can be concluded from the above observations that there is no gain in the pupils' independency level

after the Experiment. It means that the pupils have become more dependent on their teachers due to the indirect teacher behaviour. This also means that the teachers having got the teacher behaviour training and regular feedback are able to establish a better rapport with their pupils which in turn made the pupils more dependent on them.

Therefore the hypothesis 8 is retained.

3.7. Changes in the Sociometric Level and Classroom Structure of the Control Group and the Experimental Groups

The Sociometric scale is administered to pupils to study the classroom structures, especially the cohesiveness and integration of the classrooms.

In this test the pupils are asked to name three of his classmates from his class in rank order with whom they like to study with, to play with and to make friends with. To get a view of how well integrated are the classrooms, an index called class integration index was calculated by the formula :

$$\text{Class Integration Index} = 100 \times \frac{\text{(No.of isolates + No. of Over Chosen)}}{\text{Total No. of Students in the Class}}$$

The class integration index is the percentage of isolates and over chosen (combined) in a class. Higher the index of percentages, higher the concentration of choices and less the integration of the class.

The Sociometric scale is administered to the pupils of the Control Group and Experimental Group 1 and Experimental Group 2 twice - before the Experiment and after the Experiment and classroom integration index was calculated for all the three situations to find out how well integrated the classrooms in different situations i.e while studying, playing and in making friends with. The classroom integration index for pre test and post test are given in the Table 6.30 on the next page.

The following are the observations revealed from the Table 6.30.

The classroom integration index in Experimental Group 1 has decreased considerably from 33.33 to 3.92 in Section A from 35.29 to 9.80 in Section B.

Table :6.30: Pre and Post Test Observations of the Classroom Integration Index (in the Study Group) of the Control Group and the Experimental Groups

Group	Section	No.of Pupils in the Class	No. of Over Chosen	No.of Isolates	Classroom Integration Index
Experimental Group 1	A				
Pre test		51	2	15	33.33
Post test		51	0	2	3.92
Pre test	B	51	2	16	35.29
Post test		51	1	4	9.80
Experimental Group 2					
Pre test	A	51	2	18	39.22
Post test		51	1	6	13.73
Pre test	B	51	3	21	47.06
Post test		51	2	7	17.65
Control Group					
Pre test	A	50	3	19	44.00
Post test		50	2	14	32.00
Pre test	B	50	2	17	38.00
Post test		50	2	12	28.00

In Experimental Group 2, the classroom integration index has decreased from 39.22 to 13.73 in Section A and from 47.06 to 17.65 in Section B.

In the Control Group, the decrease in classroom integration index is from 44.00 to 32.00 in section A and from 38.00 to 28.00 in Section B.

It is revealed from the above observations that the classroom integration index has decreased considerably in Experimental Group 1 which is the result of the changed teacher behaviour. The teachers have given more opportunities to the pupils to mix with the other children by changing the seats while giving different assignments and making different groups while doing different types of assignments in the classrooms.

In Experimental Group 2 also, the classroom integration index has decreased due to the change in teacher behaviour.

It also suggests that in both Experimental Group 1 and Experimental Group 2, the number of isolates has decreased considerably so that the climate of the classroom has become better. While comparing Experimental Group 1 classes with the Experimental Group 2 classes, the integration level is more and the number of isolates is less in Experimental Group 1 which is the result of the regular feedback given to the teachers who handled those classes.

Table :6.31: Pre and Post Observations of the Classroom Integration Index (in the Play Group) of the Control Group and the Experimental Groups

Group	Section	No.of pupils in the class	No.of over chosen	No.of Isolates	Classroom integration Index
Experimental Group 1					
Pre test	A	51	3	14	33.33
Post test		51	1	4	9.80
Pre test	B	51	2	17	37.25
Post test		51	0	6	11.76
Experimental Group 2					
Pre test	A	51	2	21	45.10
Post test		51	1	9	19.61
Pre test	B	51	3	19	43.14
Post test		51	2	7	17.65
Control Group					
Pre test	A	50	3	19	44.00
Post test		50	2	14	32.00
Pre test	B	50	4	21	50.00
Post test		50	3	17	40.00

The Table 6.31 suggests the following observations:

There is a considerable decrease in the clasroom integration index in Experimental Group 1 from 33.33 to 9.80 in Section A and from 37.25 to 11.76 in Section B.

There is a considerable decrease in the classroom integration index in Experimental Group 2 also from 45.10 to 19.61 in Section A and from 43.14 to 17.65 in Section B.

In the Control Group, there is a little decrease in the classroom integration index from 44.00 to 32.00 in Section A and from 50.00 to 40.00 in Section B.

It can be concluded from the above data that the considerable decrease in classroom integration index in Experimental Group 1 is due to the changed teacher behaviour. The teachers having got teacher behaviour training and regular feedback have given more opportunities to the pupils to mix with other pupils' in playing different types of games. It is also revealed that the number of over chosen after experiment in one section is 1 and there is not even a single over chosen

in another section. This indicates a high integration.

There is a decrease in classroom integration index in Experimental Group 2 which is due to the to the teachef behaviour training given to those teachers. The number of over chosen and isolates have also decreased indicating a high integration. But the integration is high in Experimental Group 1 than in Experimental Group 2 which is the result of the regular feedback given to the teachers during the Experiment.

In the Control Group also, there is a decrease in classroom integration index but the number of isolates were more which is not conducive for high integration.

The following are the observations revealed frmm Table 6.32 given on the next page.

In Experimental Group 1, there is a considerable decrease in classroom integration index from 41.18 to 9.80 in Section A and from 33.33 to 3.92 in Section B.

Table :6.32: Pre and Post Observations of the Classroom Integration Index (in the Friends Group) of the Control Group and the Experimental Groups

Group	Section	No.of Students in the class	No.of over Chosen	No. of isolates	Class integration index
Experimental Group 1					
Pre test	A	51	3	18	41.18
Post test		51	1	4	9.80
Pre test	B	51	2	15	33.33
Post test		51	0	2	3.92
Experimental Group 2					
Pre test	A	51	3	16	37.25
Post test		51	2	6	15.69
Pre test	B	51	3	19	43.14
Post test		51	1	8	17.65
Control Group					
Pre test	A	50	4	17	42.00
Post test		50	3	13	32.00
Pre test	B	50	3	19	44.00
Post test		50	3	18	42.00

There is also a considerable decrease in Experimental Group 2 from 37.25 to 15.69 in Section A and from 43.14 to 17.65 in Section B.

In the Control Group the decrease in classroom integration index is not considerable.

The above observations reveal that the considerable decrease in classroom integration index and number of over chosens and isolates in Experimental Group 1 is due to the integrated behaviour of the teachers who have provided the pupils outside the classroom, situations to mingle with one another and to work in different groups in different situations. Only one over chosen in one section and not even a single over chosen in the other section indicates that the distribution were not highly concentrated towards a few people. The considerable decrease in the number of isolates also suggests that the classroom integration level is high, which in turn helps to create a better classroom climate.

In Experimental Group 2 also, the classroom integration index, the number of overchosen and the number of isolates have decreased considerably due to the integrated behaviour of the teacher who provided opportunities to the pupils

to work in different groups in different situations. But the decrease is more in Experimental Group 1 which is the result of the feedback given to those group of teachers.

In the Control Group, the classroom integration index has not decreased considerably. The number of over chosen and isolates have remained more or less the same, which is not conducive for a better classroom climate.

Therefore, the hypothesis 9 is retained.

3.8 Comparison of the Gain Scores of Classroom Climate Components of the Control Group with Experimental Groups

The classroom climate scale is administered to measure the three components of classroom climate, namely, authenticity, legitimacy and productivity. It is defined as the fundamental character or spirit of a culture ; the underlying sentiment that informs the beliefs, customs or practices of a group or society; the dominant assumptions of people or period. To find out the effect

of the experiment on the climate of the classrooms, the gain scores of all three components of the classroom climate and the total gain scores were calculated and the gain scores of the Control Group was compared with the Experimental Groups. The data is furnished in the following tables.

Table :6.33: Comparison of the Gain Scores of the Productivity Components of Classroom Climate of the Control Group with Experimental Groups

Comparison	Difference Between Means	ø	't'
C Vs E_1	- 1.71	0.97	1.77 NS
C Vs E_2	- 0.98	0.87	1.12 NS
E_1 Vs E_2	0.74	0.87	0.84 NS

NS Not Significant

The above table reveals the following observations :

There is no positive difference between the Control Group and the Experimental Group 1 but there is a gain in the mean scores (1.71).

The difference between the Control Group and the Experimental Group 2 is not significant but there is a gain in the mean scores (0.98).

There is no significant difference between Experimental Group 1 and Experimental Group 2 but there is a gain in the main scores (0.74).

It can be concluded from the above observations that in Experimental Group 1, and Experimental Group 2 there is a gain in the pupils' productivity level. The teachers who have got teacher behaviour training, made the classrooms as productivity group, gave directions to the students to make things, change the environmental conditions and solving problems. The group began to act purposively, consciously obtained feedback, assessed the situation and made decisions about how to organise its next effort. The group learnt not only to produce but to develop a methodology of production. The gain in productivity level is more in Experimental Group 1 which is the result of regular feedback given to those group of teachers.

Table :6.34: Comparison of the Gain Scores of Legitimacy Component of Classroom Climate of the Control Group with Experimental Groups

Comparison	Difference Between Means	~~ø6d~~	't'	
C Vs E_1	- 0.55	0.87	0.63	NS
C Vs E_2	0.54	0.83	0.65	NS
E_1 Vs E_2	1.09	0.70	1.55	NS

The following are the observations from the above table.

There is no significant difference between the control Group and Experimental Group 1 but there is a little gain in the mean scores in the legitimacy level (0.55).

There is no significant difference between the Control Group and Experimental Group 2 but there is a gain in the mean scores (0.54).

There is no significant difference while comparing the Experimental Group 1 with the Experimental Group 2.

The modified behaviour of the teachers have helped the pupils of Experimental Group 1 and Experimental

Group 2 to increase their legitimate activities that animate the process of socialization which is one of the main aims of education.

Table :6.35: Comparison of the Gain Scores of Authenticity Components of Classroom Climate of the Control Group with Experimental Groups

Comparison	Difference Between Means	ø6Ø	't'
C Vs E_1	1.98	0.95	2.10 **
C Vs E_2	0.70	0.71	0.77 NS
E_1 Vs E_2	1.28	0.96	1.34 NS

** Significant at 0.05 level
NS Not Significant

The above table suggests the following observations:

There is a significant difference at 0.05 level between the Control Group and the Experimental Group 1.

There is no significant difference between the Control Group and the Experimental Group 2 but there is a gain in the mean scores (0.70).

There is no significant difference between Experimental Group 1 and Experimental Group 2.

The significant gain in authenticity scores in Experimental Group 1 reveals that the teachers allowed

the pupils to make their own decisions and to admit others as their partners and enrichers and not as constrainers. The teachers were able to bring about this change by establishing friendly relations with the pupils which is the result of the teacher behaviour training and regular feedback given to them.

Table :6.36: Comparison of the Gain Scores of Total Classroom Climate of the Control Group with Experimental Groups

Comparisons	Difference Between Groups	σd	't'
C Vs E_1	- 7.73	2.18	3.55 *
C Vs E_2	- 6.72	2.14	3.14 *
E_1 Vs E_2	1.00	2.03	0.50 NS

* Significant at 0.01 level
NS Not Significant

The following are the observations revealed from the above table :

There is a significant difference at 0.01 level between the Control Group and the Experimental Group 1.

The difference between the Control Group and Experimental Group 2 is significant at 0.01 level.

There is no significant difference between Experimental Group 1 and Experimental Group 2.

It can be concluded from the above observations that the classroom climate of the Experimental classes have become better after the Experiment. The teacher behaviour training given to the teachers made them more integrative. They were able to give educative activities which stimulated pupils' thinking, built up attitudes, and led them to be aware of their choices in life and select them. These in turn helped them to create a better climate in classrooms.

Therefore, the hypothesis 10 is retained.

3.9 Comparison of the Achievement Scores of the Control Group with Experimental Groups

The ultimate aim of this Experiment is to see how modified behaviour of the teacher affects the academic performance of the pupils. To see this effect,achievement tests one before the Experiment and the other at the end of Experiment in all the subjects - Tamil, English, Mathematics, Science and History and Geography were given to the pupils of the Control Group, Experimental Group 1 and Experimental Group 2 and their gain scores were calculated.

The gain scores in all the subjects of the Control Group were compared with the Experimental Groups to see the effect of the teacher behaviour training. The comparison tables for different subjects are given below.

TABLE 6.37

The following are the observations from the Table 6.37.

There is a significant difference at 0.01 level between the Control Group and Experimental Group 1 in pupils' achievement in Tamil, English, Mathematics, History and Geography and average achievement. There is no significant difference between the Control Group and Experimental Group 1 in pupils' achievement in General Science.

There is no significant difference between the Control Group and Experimental Group 2 in pupils' achievement in Tamil, English, Mathematics and General Science but there is a gain in the mean scores (Tamil 0.65 ; English 1.49 ; Mathematics 3.62 and General Science 1.06).

There is a significant difference between the Control Group and Experimental Group 2 in History and

Table :3.37: Comparison of the Gain Scores in Tamil, English, Mathematics, General Science, History and Geography and Average Achievement

Comparison	Tamil			English			Mathematics		
	dif	ø	't'	dif	ø	't'	dif	ø	't'
C Vs E_1	8.76	2.70	3.25**	9.01	2.35	3.84**	13.11	3.41	3.84**
C Vs E_2	0.65	2.55	0.25 NS	1.49	2.37	0.62 NS	3.62	3.35	1.08 NS
E_1 Vs E_2	8.11	2.65	3.08 **	7.53	2.10	3.59 **	9.49	3.52	2.69 **

Comparison	General Science			History & Geography			Average Achievement		
	dif	ø	't'	dif	ø	't'	dif	ø	't'
C Vs E_1	5.60	3.08	1.82 NS	15.88	2.21	7.18**	10.40	1.20	8.68 **
V Vs E_2	1.06	2.94	0.36 NS	7.29	2.00	3.60**	2.76	1.19	2.32 **
E_1 Vs E_2	4.54	2.87	1.58 NS	8.59	2.40	3.58**	7.64	1.22	6.27 *

* Significant at 0.01 level
** Significant at 0.05 level
NS Not Significant

dif = Difference Between Means

and Geography and average achievement.

There is a significant difference at 0.01 level in pupils achievement in all the subjects and in average achievement while comparing the Experimental Group 1 and Experimental Group 2.

It is evident from the above discussion that the Experimental Group 1 and Experimental Group 2, exposed to changes in teacher behaviour show distinct increase in the gain scores in all the subjects except General Science and in average achievement. This difference is highly significant in Experimental Group 1 which is the result of the regular feedback given to those teachers.

Therefore, the hypothesis 11 is retained.

4. Changes in Pupils' Perception and Related Aspects Measured Through Semi-Projective Techniques

One of the objectives ofthis Experiment is to study the effect of psychological education input on the psychological development of the pupils. So it was decided to give this input programme to the pupils of Experimental Group 1 and to study its effect on psychological development of the pupils. Accordingly, the

results of the study are presented and discussed under different heads.

Changes in Goal Setting Behaviour

Mean supposition and obtained scores along with the mean descrepancy scores taken at three different points of time during the experimentation have been presented in Table 6.38. The different points of time were fairly equidistant as they were tagged to the periodical tests.

Table :6.38: Mean Supposition, Goal obtained and Discrepancy Scores in the Experimental Group 1

Test No.	Supposition	Goal obtained	Discrepancy
I	74	53	18.50
II	61	48	8.50
III	57	45	4.30

It can be seen from the table that the discrepancy was very high when pupils supposed the marks for the first test. At the end, the discrepancy between these two scores were much smaller as compared to initial stage. It suggests that in the beginning when the pupils

were not aware of their abilities they used to suppose high marks so that there were larger gaps between their supposition and obtained scores. But, gradually when they became aware of their abilities, the gap decreased and the goals became more realistic. The goal supposition behaviour of the pupils appear to have got stabilized towards the end of the experiment.

The block building game was played thrice as pre-post measure in goal - setting behaviour and the results are given in the table below.

Table :6.39: Mean Supposition, Goal obtained and Discrepancy Scores (in Block Building Game) in Experimental Group 1

Test	Positive Treatment			Negative Treatment		
	Supposed	Obtained	Discrepancy	Supposed	Obtained	Discrepancy
Pre	7.15	7.80	3.10	6.95	6.15	2.70
Post	6.85	7.00	2.10	6.45	6.00	1.60

It can be observed from the above table that the discrepancy is less in post-test compared to pre-test scores. It means that pupils manifested more realistic goal-setting behaviour in their post performance. This corraborates the results presented earlier with regard to the goal-setting behaviour in case of academic tests.

Change in Risk Taking Behaviour

Ring-toss game was played as pre-post measure in risk-taking behaviour. Table below presents the frequency distribution of the distance chosen by the pupils.

Table :6.40: Frequency Distribution for the Ring-Toss Game

Feet	1	2	3	4	5	6	7	8	9	10
Pre - Individual	5	15	13	12	38	5	9	2	2	1
Pre - Group	-	--	14	64	13	11	-	-	-	-
Post-Individual	-	--	29	43	30	--	--	-	-	-
Post-Group	-	--	31	52	19	--	-	-	-	-

In the beginning the pupils selected the extreme distance. But in the post performance their distances were more of the intermediate range than extreme. The results presented shows that the pupils manifested more moderate risk taking behaviour towards the end.

Changes in Perception and Related Aspects Measured Through Semi-Projective Techniques

A series of semi projective measures were employed to observe the changes in certain aspects of the pupils' psychological domain of behaviour. The main objective for

employing these measures was to study the changes in the pupils' perception of the self and his environment from different angles. The changes were observed by making a content analysis of the pupils' pre-post writings on the various items. The pre-post writings of 3 students from Section A and 3 students from Section B, randomly chosen have been presented under each head. The discussions that follow the presentations are based on a comparative analysis ofthe contents of the pre - post writings of all the pupils included in the Experimental Group 1.

(a) Changes in Self - Image :

To observe the changes in pupils' self image, they were asked to write on the item, 'Who am I ?'. This item specifically tries to measure the changes in the pupils' ability to identify themselves as individuals with unique interests, capacities and ambitions for future life.

WHO AM I ?

Pre test	Post test
Uncertain	Definite goal perception
Section A	
1. My name is Narayanan. My father is a worker in a mill. I want to study well and want to take up some profession	My name is Narayanan. I want to take up Mathematics in Higher Secondary Course and want to join the Engineering College. I will get an employment in my father's mill.

(Continued...)

Pre Test	Post test
2. My name is Rajagopal. We are three brothers and four sisters. My father is a professor. I want to become a doctor.	My name is Rajagopal. My elder brother and elder sister are doctors and they have a nursing home. I too want to become a doctor and work in our nursing home.
3. My name is Krishnakumar. My father is an officer in L.I.C. I want to study well and get a good job.	My name is Krishnakumar. I am good in Mathematics. I want to study B.Com. so that I will get a job in a Bank or L.I.C. Then I can get promotions by passing Departmental Examinations.
Section B	
4. My name is Chitra. I am studying in IX Std. B. I have no father and my mother is a teacher. I want to study well and help my mother.	My name is Chitra. I am the eldest girl in the family. I too want to become a teacher like my mother and educate my brother and sister.
5. My name is Punithvathi. I have an elder and two younger sisters. I want to become a doctor or a nurse.	My name is Punithavathi. I am good in drawing and so I will take Natural Sciences in Higher Secondary Course. Then I will go for Medical or I will become a nurse. By this way I can serve the Society in an humble way.
6. My name is Swarnalatha. I am studying in IX Standard. My father is an auditor and my brother is a lawyer. I will study well and will become either an auditor or a lawyer.	My name is Swaranalatha. I want to study M.Com. and then I will do Charted Accountants Course and will work with my father. I can earn a lot of money and fame in this profession.

The content analysis of the responses of all the pupils in pre - post experimental stages reveal that there is a definite change in the pupils' perceptions of their own image.

The pupils', in their pre writings tried to identify themselves more in terms of their family background or school. But their post writings reflect clearer and more vivid self images perceived in terms of their interests and abilities. The associations are under going beyond their family members and school, and are more relevant to their ambition for future life.

Changes in Goal Perception

The changes in the pupils' perceptions of their immediate and life time goals were observed by asking them to write on 'What would I like to be ? ' and 'My aims'. These items specifically measure the clarity with which they perceived their goals and the means they visualize to achieve them.

'WHAT WOULD I LIKE TO BE ?'

Pre test	Post test
1. I want to take up some profession.	I want to become an Engineer. I want to take Mathematics to join the Engineering College. I have got health to do hard work.
2. I want to become a doctor.	I want to become a doctor so I can help my brother and sister who are also doctors. I will specialise in a different branch by going abroad and all the three of us will run our nursing home efficiently.

3. I want to study well and get a good job.	I want to pass B.Com. and want to join in a Bank or L.I.C. I want to get promotions by passing the Departmental Examination.
4. I want to study well and help my mother.	I want to become a teacher like my mother. I want to educate my brother and sister.
5. I want to become a doctor or a nurse.	I want to become a doctor. I will study Natural Science in Higher Secondary Course. I want to serve the Society by becoming a doctor or a nurse.
6. I will study well and will become either an auditor or a lawyer.	I want to study M.Com. and will do Chartered Accountant Course. I will start my practice with my father.

MY AIMS

Pre test	Post test
1. (a) I will study well.	(a) I will take Mathematics in Higher Secondary Course.
(b) I want to take up some profession.	(b) I will join in the Engineering College.
	(c) I will get employment in my father's mill.
2. (a) I will read well.	(a) I will take Natural Science.
(b) I want to become a doctor.	(b) I want to work with my brother and sister in the Nursing Home.
3. (a) I want to study well.	(a) I want to study B.Com.
(b) I want to get a good job.	(b) I will get job in a Bank or L.I.C.
	(c) I will pass the Departmental Examinations and get promotions.

(Continued...)

4.	(a) I want to study well. (b) I will help my mother.	(a) I want to become a teacher. (b) I want to educate my both brother and sister.
5.	(a) I want to become a doctor or a nurse.	(a) I will take Natural Science in Higher Secondary Course. (b) I will become a doctor or a nurse. (c) I will serve the society.
6.	(a) I will study well. (b) I will become either an auditor or a lawyer	(a) I want to study M.Com. and Chartered Accountant Course. (b) I will earn money and fame in this profession.

The pre writings reveal that the pupils were very vague about their future plans. Some pupils have written that they want to take up some profession and some others have written that they want to get some job. Their short term goals are only task related. On the other hand their post writings show a positive change in their perception both in short term as well as long term goals. Their short term goals are mainly achievement oriented. For example, one boy wrote, 'I will study well'. But in the post test he wrote he will study Natural Science as he wants to become a doctor. As to their long term goals, they have clearer views and they were able to spell out the actions

that they would take. In their post writings, they showed a concern for excellence. They wrote what they wanted to become and the ways they will adopt to achieve their goals.

Changes in the Perception of the Role of Self in Relation to School

The item 'Myself' and 'My School' was used to measure changes in the pupils' perception of their role in the school. It is administered to see whether the pupils would develop through the Experimental treatment a clearer understanding of their place in relation to their teachers, norms of school behaviour and the various academic and non-academic activities.

MYSELF AND MY SCHOOL

Pre test	Post test
1. School building, neatness, the garden etc.	I like all the activities in the school like the morning assembly, work experience programme and N.C.C. training.
2. I like all the teachers coming to my class. I like my class teacher. All the teachers are very kind and they teach us well.	I like the tests and games taught by my teacher. I like the group work like preparing assignments, models and charts.

(Continued...)

3. I like my classroom which is big and neat.	I like the group activities like Quiz programme, group games, mark supposition and story writing.
4. I like my school and the big play ground and the rows of trees in the ground.	I like to play Hockey, Cricket and Basket ball in my ground. I like the out of period work like stamp collecting, photo-graphy etc.
5. I like my school as I am able to spend my time with my friends.	I want to become a group leader and our group should do the best in all the group activities like assignment, preparing charts. I want to join the Engineer-ing club and do work there in the evenings. I want to join the Air Wing.

Pre-writing analysis reveals that the pupils' did not have a comprehensive view of the school and their own roles. In the beginning, they were more concerned with the physical facilities in the school and their sentiments towards their teachers. They were not able to recognise the teacher learner relationship. But there is a significant change in their post writings. The pupils were able to see them as learners in a specific environment. Most of the pupils referred to

the various academic and non-academic activities and their intention to take part in it. They realised that school is a place where they could develop their abilities and leadership qualities. They also realised that school is a place of social interaction among the pupils.

Changes in the Perception of Teacher's Role

The item 'What Type of Teachers Do You Like ?' was administered to the pupils to find out the changes in pupils' perception of the role expectation of their teachers. It also reveals the extent to which they perceive their teachers in a proper perspective.

'WHAT TYPE OF TEACHERS DO YOU LIKE ?'

Pre test	Post test
1. Teachers who do not give punishments like standing on the bench, sending out of the class.	Teachers who teaches well and clears our doubts.
2. Teachers who are kind and affectionate.	Teachers who give us group work, and who conducts quiz programmes and other activities in the class.
3. Teachers who takes us to the ground for games.	Teachers who use stories and other examples in the class. Teachers who use aids while teaching.

(Continued...)

4. Teachers who do not give more work to do at home.	Teachers who allow us to work in different groups while doing different assignments.
5. Teachers who tells jokes in the class.	Teachers who allow us to sit in different places while doing different works. Teachers who encourage us to get more marks and guide us while we do mistakes.

In the pre writings the pupils' perception were more of a parental attitude than as independent individuals in doing specific academic activities in the school. The writings indicate the existence of a negative sentiment attached to the work of the teacher in the school. The post writings show a positive change in their perception of the teachers' role. They begin to recognise the teacher in his academic role as a competent and efficient person who could help and guide them in academic activities. It is also interesting to note that none of the students reflected any negative sentiment to the teachers' work in the school.

Changes in Attitude Towards School

Word Association technique was adopted to find out whether there has been any change in the attitude of the pupils towards school. The test consists of six words

namely school, teacher, classmates, classroom, black board and bell, which werec considered to be quite relevant to the school context. The words were announced one by one in the class and the pupils were asked to write a line or two to each word immediately it was announced.

WORD ASSOCIATION TEST

Pre test	Post test
School	
1. Beautiful and big.	1. Where lessons are taught
2. Big playground with all facilities.	2. Where we learn and do group work
3. A place where I can meet my friends.	3. I like to go to my school everyday and get good marks in all the subjects.
4. Where I can read and play.	4. After completing the school course, I can go to a college.
5. I like to go there everyday.	5. I like my school because all subjects are taught well here. Where I am allowed to play in the evening.
Teacher	
1. I like my Science teacher who is not strict.	My teacher helps me when there is trouble.
2. Teach us different subjects	Teaches all the subjects well and uses audio visual aids to make us understand the lesson.

(Continued...)

3. We listen what our teachers say in the class.	The teacher helps each individual
4. My class teacher is very strict and gives us punishment.	Who works hard and makes us also to work hard to get good marks.
5. I do not like my Mathematics teacher who give us more home work everyday.	Helps us outside the classroom and encourages us to get good marks.

Classmates (Peers)

1. Sekhar is my friend. I have many friends.	My friend helps me in doing my home work.
2. I play with my friends.	I like my friends who work with me in groups and help me to solve problems.
3. I give my friend whatever he asks and he also gives me whatever I ask.	My friend encourages me to get good marks. He makes me to take part in all the activities.
4. I like only a few pupils in my class. Others are not good.	I like all my classmates and I like to work with all of them.
5. I do not get chance to mix with all my classmates.	I am getting opportunity to mix with all my classmates in doing different works. My teacher changes seats often. I like all my classmates.

Classroom

1. Big and neat	where all the subjects are taught.
2. There are pictures on the wall	I like to work in my classroom.

(Continued...)

3. We get good breeze in our classroom.	I get opportunity to mix with all my classmates.
4. Where I meet my friends daily.	I work with my classmates and learn many subjects.
5. My classroom is in the upstairs. There is a water drum in the class.	A place where I get knowledge and opportunity to work hard.

Blackboard

1. There are two black boards in my class.	Teachers draw diagrams on the board.
2. It is very big and neat.	Teacher writes spelling of the words, sums and sometimes answers.
3. Teachers write on the black board.	The home work is written on the black board.
4. We clean our black board daily and keep it neat.	My teacher asks us to do problems and draw pictures on the blackboard.
5. It is newly painted. Teachers write on it with chalk.	I like to write on the black board. My teachers write important points on the black board for us to copy in our note book.

Bell

1. We can go home for lunch.	It is rung to show that period is over.
2. It is rung at fixed times.	When a new teacher comes and teaches another subject.
3. We can go to the play ground to play.	It is rung after each period and we start learning a different subject.

(Continued...)

4. It is in front of our Head-master room.	It reminds us timing.
5. It is big and when it is rung, we can go home.	For changing the period, the bell is rung.

The responses to the word 'school' in pre-writing shows that the word did not evoke any emotional reaction in the pupils. They gave a physical description of the school and do not indicate any like or dislike for it. The post-writings show a definite, positive attitudes. They described the 'school' as a place where they could learn and they expressed their liking to come and work in the school.

In the pre-writing to the word 'teacher' pupils showed a negative feeling like I do not like the teacher who gives us punishment, I do not like my teacher who gives more home work etc. In the post-writings, the aversive feeling is not found. They recognised the teacher as a person who guides and helps them in learning and in non-academic activities.

Pre writings in response to the words 'peers', 'classroom', 'blackboard' and 'bell' are not indicative

of any attitude towards school work. Most of the pupils have referred to the physical aspects of them - 'My classroom is big and neat', 'There are pictures on the wall', 'The black board is big and neat' etc. But in the post writings the pupils recognised the importance of these words to the learning process and their use. Some of them also expressed their liking to the organisation of the classrooms and activities that are taking place in them. It indicates their favourable attitude towards school and their liking for the school work.

Changes in Images for Emulation

The changes in the ideal images the pupils set themselves to emulate was observed by giving the item 'Steps of Honour'. In this item the pupils were asked to write in order a few specific personalities who they like most and also the reasons for the same. The persons to whom the pupils gave first preference in the pre and post writings of some of the pupils are given below :

' STEPS OF HONOUR '

Pre Writing	Post Writing
1. I like my elder brother who is kind and a good cricket player.	I like my classmate Suresh who clears my doubts in all the subjects.
2. I like my mother who helps me in doing my home work.	I like Mother Theresa who sacrifices her life for the poor.
3. I like all the members of my family.	I like Hans Anderson who wrote moral stories for children.
4. I like Chandran, my neighbour who plays with me.	I like my class teacher who treats all the boys alike and teaches very well.
5. I like my uncle who tells me adventurous stories and takes me out.	I like my friend Chandra who participates in all the competitions and gets prizes.
6. I like my father who clears doubts in Mathematics.	I like Nehruji for his services to the Nation

It could be observed that the pre writings refer mostly to their neighbours. This reveals that the pupils had a very little perspective into the world of images, which they wanted to emulate. The reasons advanced by them mostly relate to the physical comforts they could obtain from them. But the post writings

indicated a broadening of their perspective vision. They referred to a wide variety of images which included friends and teachers who belonged to their immediate environment and also distant and historical figures like Hans Anderson and Nehruji. The reasons advanced by them indicated their liking for the excellence of their teachers and friends and for values like service to the society, patriotism etc. The post writings also indicated that there is an increase in the wealth of images pupils could perceive and a positive change in the ideals they set for emulation.

Changes in Non-academic Interests

To observe the changes in pupils non-academic interests, they were asked to respond to the item 'My Leisure Time'. The pupils were to write on what they generally do during leisure hours. The purpose of this study was to observe the changes, if any, in non-academic interests of the pupils that took place during the experimentation.

'MY LEISURE TIME'

Pre Writings	Post Writings
1. I go to the play ground to play football.	I do practice for football and in home I do my home work.
2. I read story books and play with my brother.	I do my assignments, go to market with my mother.
3. I go to my friends house and play with him.	I read books, do home work and listen to radio programmes.
4. I read magazines and play with my younger sister.	I do my home work, clean the house and help my mother in the kitchen.
5. I listen to film music and chat with my friend who is in the next house.	I help my younger brother in doing his homework and do hand work and embroidary.
6. I read and listen to radio programmes.	I read, help my mother and look after my younger sister.

The pre-writings of the pupils reveal that most of them spend their leisure time in playing, reading. story books and magazines and listening film music. But the post writings reveal that they spent their time usefully in doing home work and assignments, helping their mother, cleaning the house and helping their brothers and sisters. This shows that their area of interest has widened and found out more useful ways of spending their leisure time.

Changes in the pupils' perception analysed through pupils' responses reveal a positive change in their perception about themselves, their short term and long term goals, school and teachers in their post writings. It also reflects more achievement oriented thinking.

5. Discussion

From the detailed analysis of the data, it is revealed that :

The teachers of the Experimental Group 1 who became highly democratic in their behaviour due to the teacher behaviour training and regular feed back given to them helped change the classroom climate.

The changes in teacher verbal behaviour in Experimental Group 1 and Experimental Group 2 teachers led to significant increase in pupils' academic motivation level ; better adjustment towards class teachers, principal, companions, subjects ; an increase in their classroom trust; activity level ; dependency level, expectancy level, and classroom integration.

The changes in the dependent variables of the classroom climate ultimately resulted in a better classroom climate which in turn led to an increase in pupils' academic achievement.

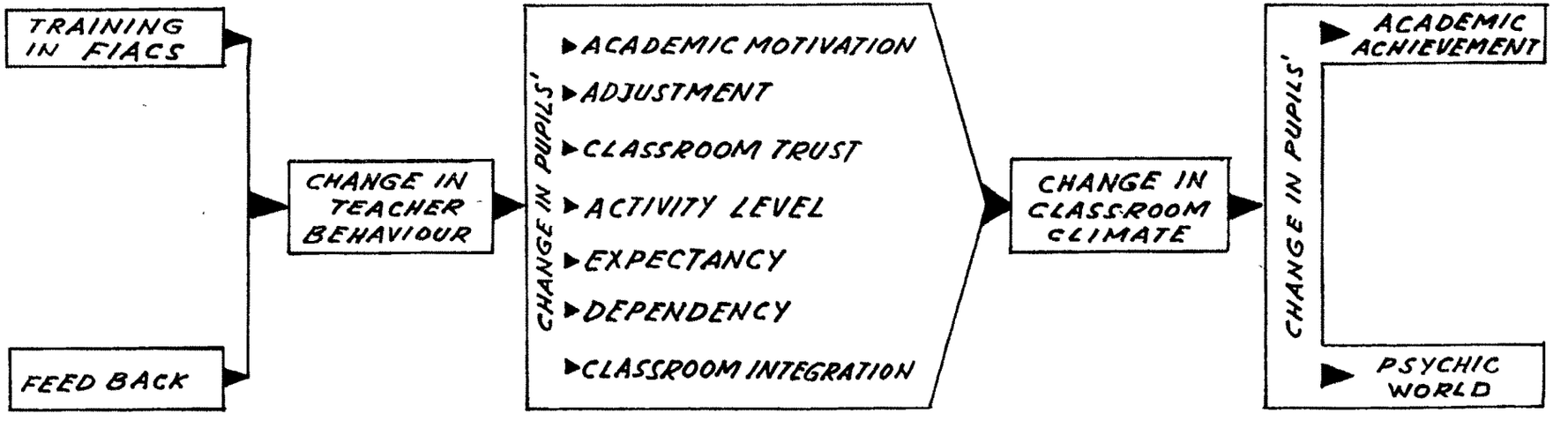
The increase is more in Experimental Group 1 classes compared to the Experimental Group 2 classes because of the highly democratic behaviour of the teachers which is the result of regular feedback given to them during the experimental period.

The psychological education input programme given to the pupils of Experimental Group 1 resulted in -

* a better goal setting behaviour;
* a moderate risk taking behaviour ;
* enabled them to form a better self-image ;
* changed their goal-perception, perception of the role of the self in relation to school, and perception of the teachers' role;
* a favourable attitude towards school ;
* changed their images for emulation ;
* widened their non-academic interests.

DIAGRAM 6·1

DIAGRAM ILLUSTRATING THE EFFECT OF THE CHANGE IN TEACHER BEHAVIOUR



The diagram 6.1 reveals that the change in teacher behaviour brought about by giving training in Flanders' Interaction Analysis Category system and regular feedback changes the classroom climate which in turn results in a significant gain in pupils' achievement.

The next chapter deals with the summary of the chapters, conclusions and implications.
