RESULTS AND INTERPRETATION

## 5.0    Introduction

The objective of the present study has been to
determine the effectiveness of the humanistic orientation
of the experimental class on the students as measured by
their performance on the specified variables. The humanistic
orientation was attempted in the class by the training
provided to both the participating teachers and the students
during the intervention phase of the study. The difference
in the performance of students on the dependent variable
measures before and after the intervention was the criterion
for judging the effectiveness of the humanistic approach
adopted. Data were collected on each of the variables
using the tools and the procedures outlined in Chapter III.
The collected data were analyzed separately for each variable.
Detailed description of the analysis of data and the
inferences drawn in respect of the stated objectives of the
study are presented in the sections to follow.

## 5.1    Academic Performance

By academic performance it is meant how well the
students are doing in their subjects of study as are required
by the syllabus. As stated in Chapter III, percentages of
students' aggregate grade point averages on the different
tests before and after the intervention were considered as
indicators of academic performance. The means, standard
deviations and percentiles of the same on the nine tests
(observations in the context of the study) are presented
in Table 2.

Table 2 : Means, standard deviations and percentiles of aggregate grade point percentages on Academic Performance Criterion Measures at different times before and after the intervention (N=47)

| Observation Time | Mean | SD | $P_{10}$ | $P_{20}$ | $P_{30}$ | $P_{40}$ | $P_{50}$ | $P_{60}$ | $P_{70}$ | $P_{80}$ | $P_{90}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 49.53 | 10.74 | 36.81 | 39.66 | 41.62 | 45.58 | 47.00 | 52.00 | 56.57 | 60.00 | 63.91 |
| 02 | 49.59 | 9.30 | 37.06 | 40.63 | 42.20 | 43.76 | 46.25 | 49.13 | 53.50 | 58.10 | 62.80 |
| 03 | 51.26 | 9.23 | 40.46 | 41.14 | 43.82 | 46.25 | 49.18 | 53.50 | 56.66 | 59.27 | 63.80 |
| 04 | 50.32 | 9.02 | 39.36 | 41.50 | 43.63 | 45.90 | 48.25 | 51.16 | 55.62 | 60.50 | 63.43 |
|  | ... | ... | ... | ... | ... | intervention | | ... | ... | ... | ... |
| 05 | 50.21 | 8.12 | 40.53 | 42.34 | 44.15 | 46.40 | 48.75 | 51.16 | 53.88 | 57.07 | 62.75 |
| 06 | 53.70 | 8.23 | 44.71 | 46.18 | 47.65 | 49.12 | 51.25 | 53.50 | 59.33 | 62.57 | 62.12 |
| 07 | 56.36 | 11.35 | 40.32 | 46.25 | 50.81 | 53.75 | 57.00 | 59.95 | 62.18 | 64.31 | 71.12 |
| 08 | 54.59 | 10.97 | 40.08 | 44.00 | 49.57 | 52.92 | 55.63 | 57.68 | 60.08 | 63.20 | 67.33 |
| 09 | 63.19 | 9.66 | 50.45 | 55.27 | 57.88 | 60.63 | 63.56 | 65.95 | 68.09 | 70.83 | 74.88 |

Test number nine $(O_9)$ was the Secondary Board
Examination, held at the state level, while all other tests
were teacher-made, classroom tests.

From Table 2 it is clear that the mean academic
performance steadily increased from observations six through
nine while there was no appreciable gain from observations
one to five except for a mild increase at observation number
three. This means that pre-intervention means of percentages
of academic performance and the mean of the same on the
observation immediately following intervention were quite
stable. This may indicate that the academic performance
was affected positively by the intervention. One can note
a difference of 13.66 points between observation one and
observation nine. These observations are supported by the
percentiles. It can be seen that percentiles show an over-
all increasing trend from observations one through nine
at most of the percentile points indicated, but the trend
is greater in the post intervention observations.

The data were further subjected to t-test analyses
to determine the level of the significance of the differences
between means of the nine observations. Presented in Table 3
are the calculated t-values between the various possible
pairs of observations.

Table 3 shows that the means of pre-intervention
observations one to four, with the exception of observation
three, differ significantly with the means of post-intervention
observation means six to nine. Observation five in the
post-intervention series of observations was not significant.

Table 3 : t-values between the various possible pairs of observations on Academic Performance.

| Observations | I | II | III | IV | V | VI | VII | VIII | IX |
|---|---|---|---|---|---|---|---|---|---|
| I | - | | | | | | | | |
| II | 0.65 | - | | | | | | | |
| III | 3.48** | 3.05** | - | | | | | | |
| IV | 0.75 | 1.78 | 1.59 | - | | | | | |
| V | 0.75 | 1.31 | 1.38 | 0.11 | - | | | | |
| VI | 4.79** | 6.94** | 3.73** | 6.91 | 11.75** | - | | | |
| VII | 4.48** | 5.37** | 3.67** | 4.00** | 5.42** | 2.40* | - | | |
| VIII | 3.73** | 4.58** | 3.33** | 3.69** | 4.58** | 0.89 | 2.17* | - | |
| IX | 9.79** | 9.88** | 10.55** | 12.53** | 13.65** | 9.72** | 6.01** | 8.19** | - |

df = 46

* = significant at 0.05 level

** = significant at 0.01 level

Graph I : Means of percentages of academic performance scores plotted against the nine observations along-with the trend line.

I Score = ICm.
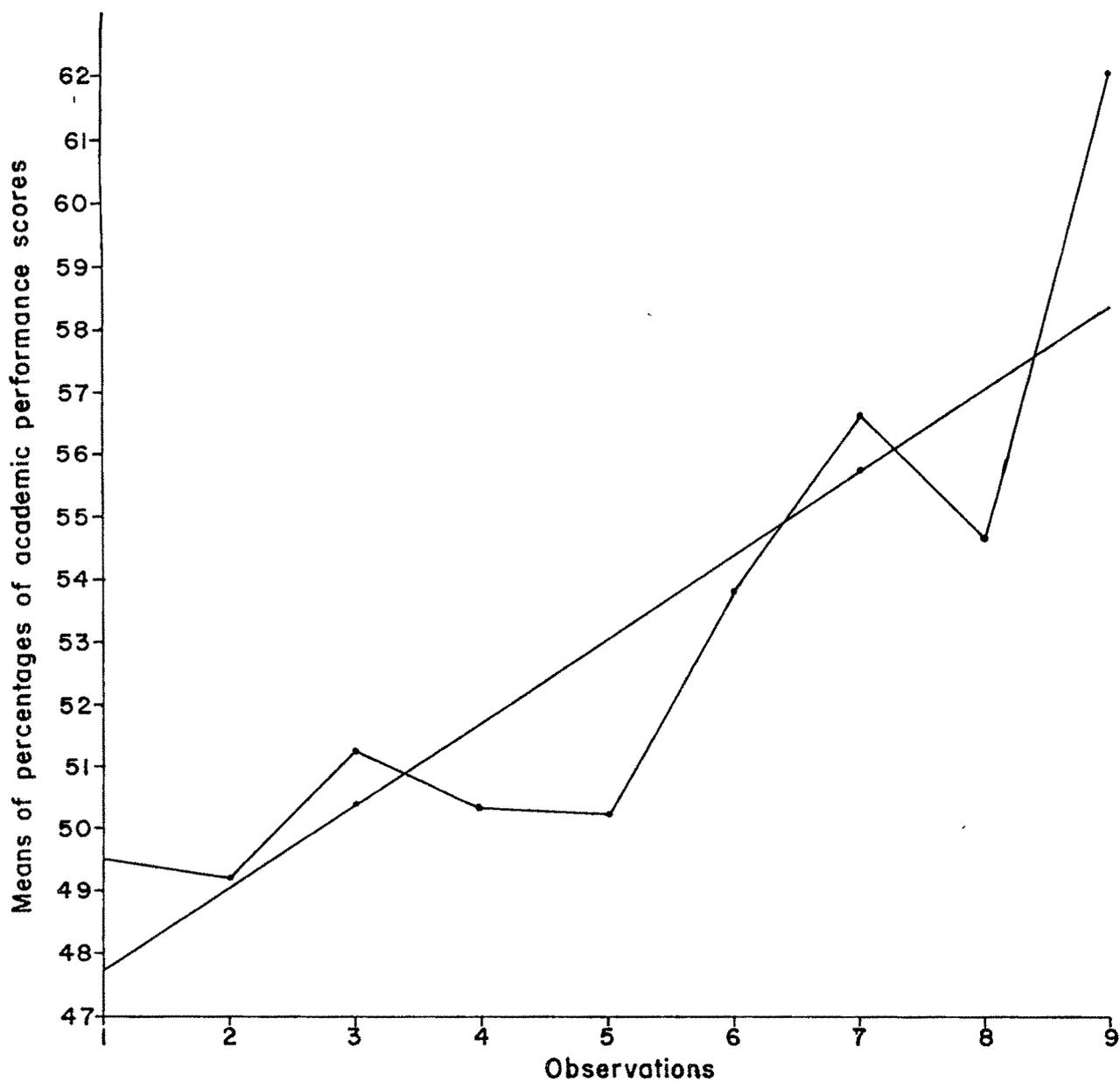
The results can be better appreciated if one takes
a look at the graphical representation. Plotted on graph 1
are the means of the percentages of academic performance
scores on the nine observations and the trend line
(Kratochwill, 1978). The slope of the trend line shows a
steady increase. There is a difference of 5.4 points between
the means of pre-intervention means (50.2) and that of
post-intervention (55.6). That is the rate of increase is
greater in the post-intervention phase. This indicates
that the humanistic orientation did affect positively the
academic performance of students.

A word of explanation seems to be in order
regarding the variations within the pre-intervention and
post-intervention stages of the study. Observations one,
two and three were the three term tests when the subjects
of the study were in Standard VIII, a year piror to the
study. Observation four was the first term test in
Standard IX, the observation immediately preceeding
intervention. Observations five to nine were post-
intervention observations. Observations five and six
were the second and the third term tests in Standard IX.
Observations seven and eight were the first and second
term tests in Standard X and observation nine was the
Secondary School Examination, held at the state level.
The rise at observations three and six may have been due
to the fact that they were the final examinations in
Standard VIII and IX respectively. Students generally
tend to perform better in annual examinations as they know
their promotion to the next higher class largely depends
on their doing well in them and hence they work harder for
them. Besides, while moderating the examination results
for maintaining a certain percentage of students passing,

the students come to score higher in individual subjects.
This is especially so with regard to the Board Examination
(observation nine in the graph). Observation eight was the
last test conducted by the school before they were sent
up the Board Examination. Students are generally known
to be evaluated lower in this test by the school in order
to impress upon them that they need to work much harder
in order to do well in the Board Examination. This may
have been the possible reason for the fall in performance
in observation number eight.

## 5.2    Self-Esteem

Self-esteem was measured through Rosenberg Self-
Esteem Scale. The scale yields a range of scores from
zero to six, where higher scores represent greater self-
esteem. Table 4 presents the means, standard deviations
and percentiles of scores on the self-esteem scale for
the six observations.

It can be seen from Table 4 that there is a minor
decrease in the pre-intervention means from observation
one to three and then there is a sudden rise immediately
after the intervention. The given percentiles also
demarcate two distinct magnitudes of scores for pre- and
post- intervention phases.

This finding is further supported by the t-values
given in Table 5. The pre- and post- intervention means
differ significantly from each other. The trend of change
in the pre- and post- intervention series of observations
is in the opposite direction. These findings may tell of
the possible impact of the intervention in raising the
self-esteem of students.

159

Table 4 : Means, standard deviations and percentiles of scores on self-esteem scale on the six observations

| Observation Time | Mean | SD | $P_{10}$ | $P_{20}$ | $P_{30}$ | $P_{40}$ | $P_{50}$ | $P_{60}$ | $P_{70}$ | $P_{80}$ | $P_{90}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 3.02 | 1.09 | 1.73 | 2.12 | 2.50 | 2.71 | 2.91 | 3.12 | 3.32 | 3.62 | 4.60 |
| 02 | 3.00 | 1.10 | 1.66 | 2.08 | 2.50 | 2.68 | 2.93 | 3.15 | 3.36 | 3.73 | 4.40 |
| 03 | 2.89 | 1.09 | 1.61 | 1.93 | 2.24 | 2.54 | 2.79 | 3.04 | 3.28 | 3.58 | 4.29 |
| ... | ... | ... | ... | ... | ... | intervention | | ... | ... | ... | ... |
| 04 | 4.19 | 1.24 | 2.55 | 2.91 | 3.28 | 3.70 | 4.43 | 4.76 | 5.06 | 5.35 | 5.83 |
| 05 | 4.21 | 1.19 | 2.58 | 3.21 | 3.57 | 3.86 | 4.20 | 4.52 | 4.95 | 5.37 | 5.79 |
| 06 | 3.89 | 1.29 | 2.04 | 2.77 | 3.29 | 3.65 | 3.97 | 4.26 | 4.59 | 5.06 | 5.56 |

Table 5 : t-values between means of scores on the self-esteem scale for the various possible pairs of the six observations

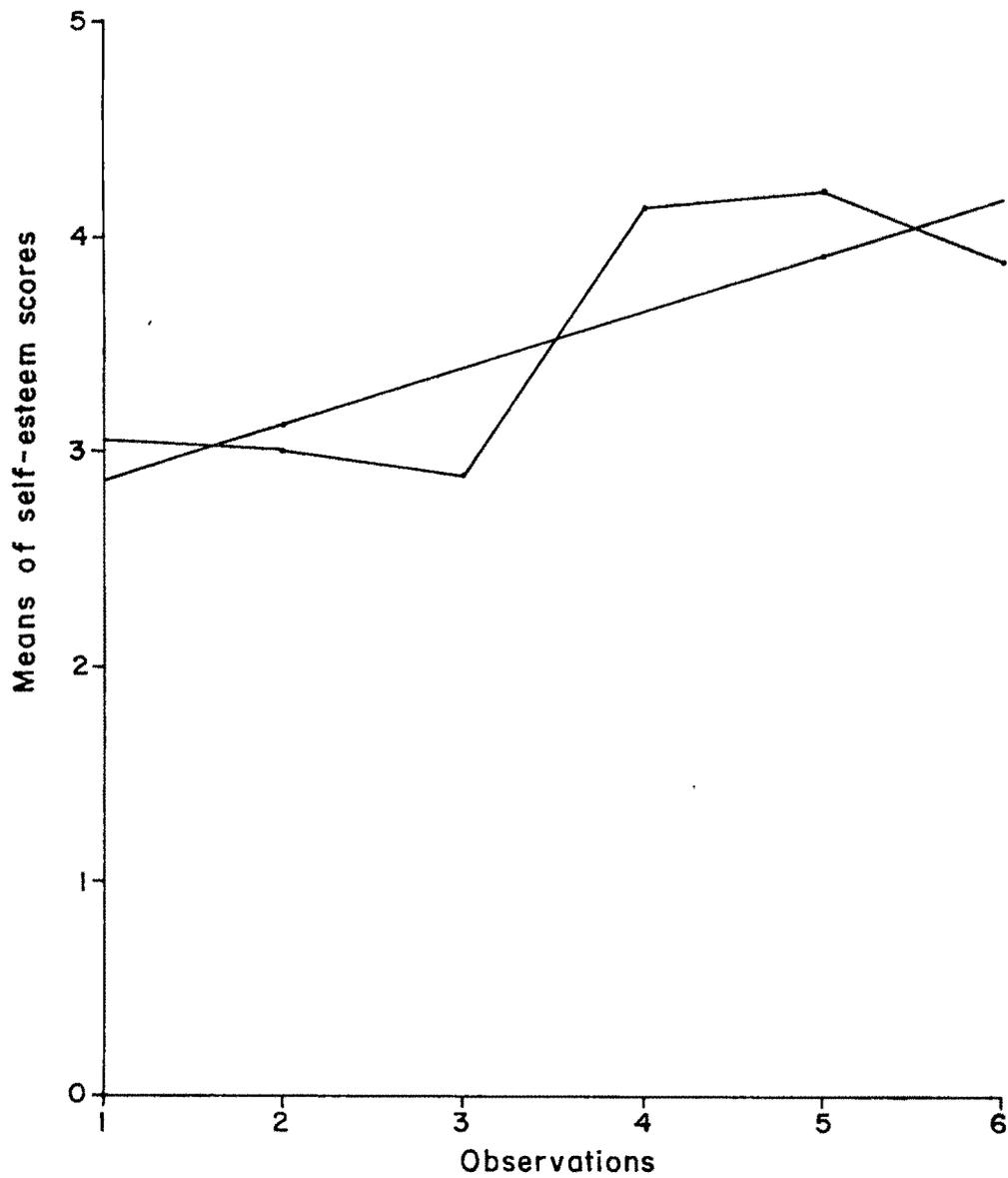| Observations | I | II | III | IV | V | VI |
|---|---|---|---|---|---|---|
| I | - | | | | | |
| II | 0.21 | - | | | | |
| III | 2.18** | 1.00 | - | | | |
| IV | 7.39** | 6.80** | 8.10** | - | | |
| V | 7.87** | 7.10** | 8 25** | 0.25 | - | |
| VI | 3.62** | 5.26** | 5.26** | 2.30* | 2.81** | - |

df = 46

\* = significant at 0.05 level

\*\* = significant at 0.01 level

Graph 2 : Means of self-esteem scores plotted against the six observations along-with the trend line.

I Score = 3 Cms.

The differential magnitudes of pre- and post-intervention means become even more vivid in graphical representation. Plotted in graph 2 are the means of the six observations along with the trend line. The slope of the trend line is indicative of increase in post-intervention scores. One can note an increase of 1.3 points in the post-intervention level from that of the pre-intervention as calculated from the means of both pre- and post-intervention observations. This may show that the intervention affected the self-esteem of students positively.

## 5.3    Creativity

Student creativity was measured through Passi Tests of Creativity. The responses to each subtest were analyzed separately following the procedures and the scoring key given in the manual of PTC. Each subtest of PTC measures a different dimension of creativity. The scores on each subtest were summated to obtain a single score of creativity.

Means, standard deviations and percentiles were calculated from the obtained raw scores on the six observations. Table 6 summarizes the results. One can see from the table that there is consistent increase in the means of scores from observation number one to six. Looking at anyone of the percentile points given also confirms the above observation. With a baseline data increasing at constant rate, it is not possible to say with any certainty that the intervention and the humanistic approach in the class impacted students' scores on creativity. The observed increase may have been due to improved learning with each new administration of the test battery.

**Table 6** : Means, standard deviations and percentiles of scores on Passi Tests of Creativity for the six observations

| Observation Time | Mean | SD | $P_{10}$ | $P_{20}$ | $P_{30}$ | $P_{40}$ | $P_{50}$ | $P_{60}$ | $P_{70}$ | $P_{80}$ | $P_{90}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 106.40 | 33.66 | 66.60 | 80.10 | 87.15 | 94.20 | 104.44 | 113.25 | 122.43 | 133.50 | 146.40 |
| 02 | 111.29 | 33.26 | 69.92 | 84.68 | 92.65 | 99.70 | 109.00 | 121.16 | 129.33 | 135.33 | 159.75 |
| 03 | 115.21 | 35.19 | 72.12 | 87.12 | 95.93 | 104.10 | 111.99 | 123.50 | 134.93 | 143.75 | 155.24 |
| ... | ... | ... | ... | ... | ... | intervention | | ... | ... | ... | ... |
| 04 | 118.92 | 36.61 | 72.60 | 91.50 | 102.18 | 110.83 | 118.66 | 125.74 | 131.87 | 137.74 | 160.99 |
| 05 | 122.36 | 38.18 | 73.50 | 89.16 | 104.66 | 112.50 | 120.33 | 128.13 | 137.04 | 146.90 | 167.50 |
| 06 | 131.43 | 40.36 | 70.60 | 97.25 | 109.74 | 118.31 | 124.32 | 131.64 | 142.14 | 161.30 | 176.75 |

Table 7 : t-values of means of scores on Passi Tests of creativity for various possible pairs of observations

| Observation Time | I | II | III | IV | V | VI |
|---|---|---|---|---|---|---|
| I | - | | | | | |
| II | 3.41** | - | | | | |
| III | 5.68** | 2.71** | - | | | |
| IV | 5.87** | 4.18** | 2.70** | - | | |
| V | 6.46** | 5.42** | 4.22** | 2.30* | - | |
| VI | 8.77** | 8.66** | 4.05** | 7.14** | 7.81** | - |

df = 46

\* = significant at 0.05 level

\*\* = significant at 0.01 level

Graph 3: Means of scores on Passi tests of creativity plotted against the six observations along-with the trend line.
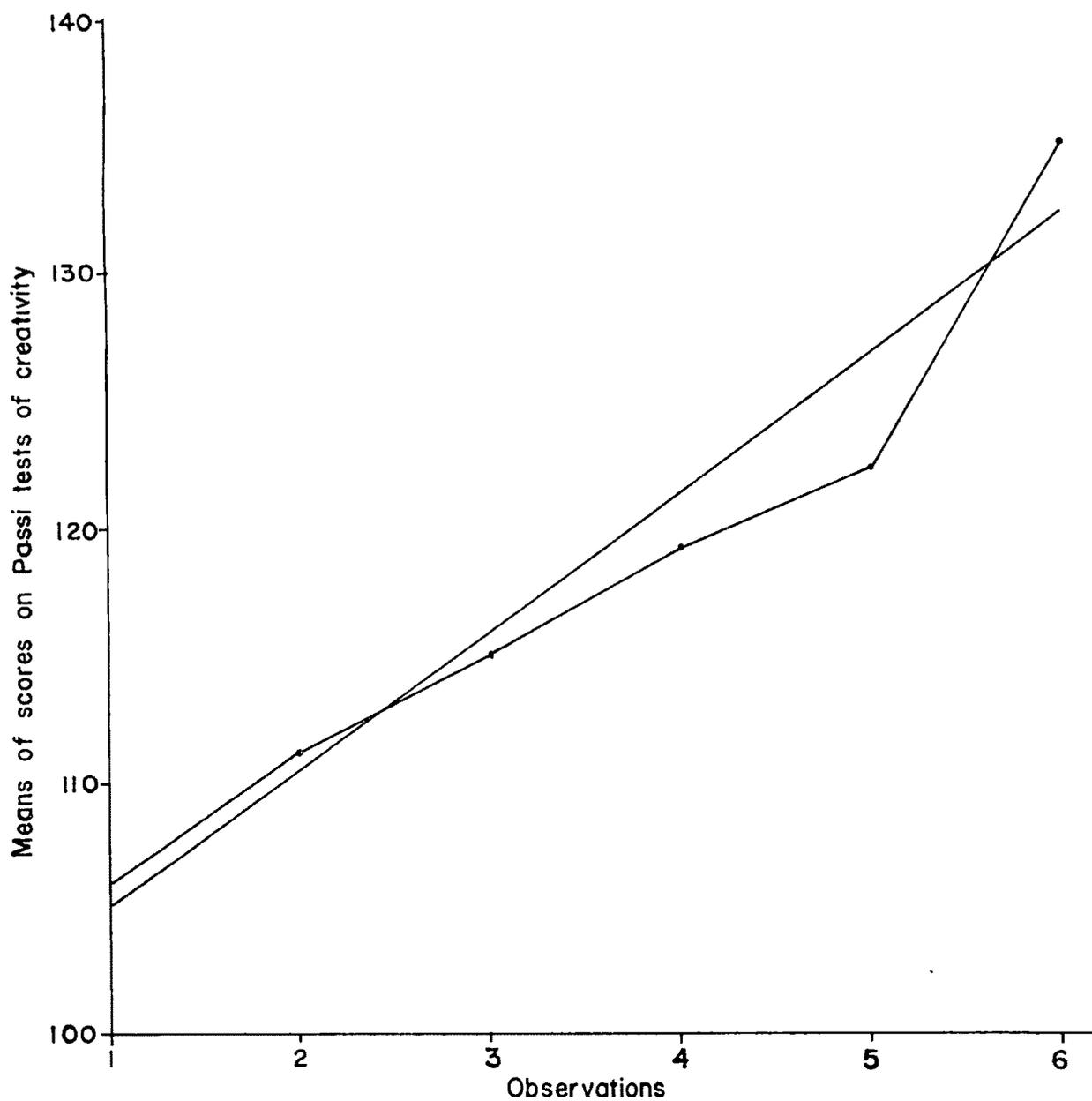
I Score = 4 Cms

Table number 7 presents the calculated t-values between the means of all possible pairs of the six observations. It shows significant differences between each pair of observations, both during the pre-intervantion and post-intervention phases of the study. Here again, one cannot say anything conclusively about the impact of the intervention in bringing about the observed increase in students' scores of creativity.

Graph 3 gives a visual representation of the results. Both the data path and the trend line draw a steep rise, showing that baseline and post-intervention data steadily increased. Significant differences among baseline observations and the increase in baseline data in the expected direction of the post-intervention scores, make it impossible to conclude anything about the impact of the intervention. There is, however, a difference of 13.16 points between pre-intervention and post-intervention means, showing two distinct levels on the magnitude of scores. This does not warrant concluding, as mentioned earlier, that the intervention influenced increase of creativity scores.

## 5.4 Motivation for Schooling

Students' motivation for schooling was measured through subscale 'A' of School Attitude Measure. The items were scored using the key provided in the test manual. The scores ranged from 17 - 68.

Table number 8 gives the means, standard deviations percentiles of scores on Motivation for Schooling. One can observe from the table that the means increase in both the pre- and post- intervention phases of the study. But a

Table 8 : Means, standard deviations and percentiles of scores on Motivation for Schooling for the six observations

| Observation Time | Mean | SD | $P_{10}$ | $P_{20}$ | $P_{30}$ | $P_{40}$ | $P_{50}$ | $P_{60}$ | $P_{70}$ | $P_{80}$ | $P_{90}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | 54.68 | 4.62 | 66.60 | 80.10 | 87.15 | 94.20 | 104.14 | 113.25 | 122.43 | 133.50 | 146.40 |
| II | 54.78 | 4.80 | 69.62 | 77.68 | 92.65 | 99.70 | 109.00 | 121.16 | 129.33 | 135.16 | 152.75 |
| III | 55.72 | 4.80 | 72.12 | 87.12 | 95.93 | 104.16 | 111.99 | 123.50 | 134.93 | 143.75 | 155.24 |
| ... | ... | ... | ... | ... | ... | . | intervention ... | ... | ... | ... | .... |
| IV | 57.19 | 5.04 | 72.60 | 91.50 | 102.18 | 110.83 | 118.66 | 125.74 | 136.17 | 147.74 | 160.99 |
| V | 56.14 | 5.85 | 73.50 | 89.16 | 104.66 | 112.50 | 120.33 | 128.13 | 137.04 | 146.90 | 167.50 |
| VI | 57.36 | 3.71 | 80.60 | 97.25 | 109.74 | 118.31 | 124.32 | 131.64 | 142.14 | 161.30 | 176.75 |

Table 9 :  t-values of means of scores on Motivation for Schooling for various possible pairs of observations.

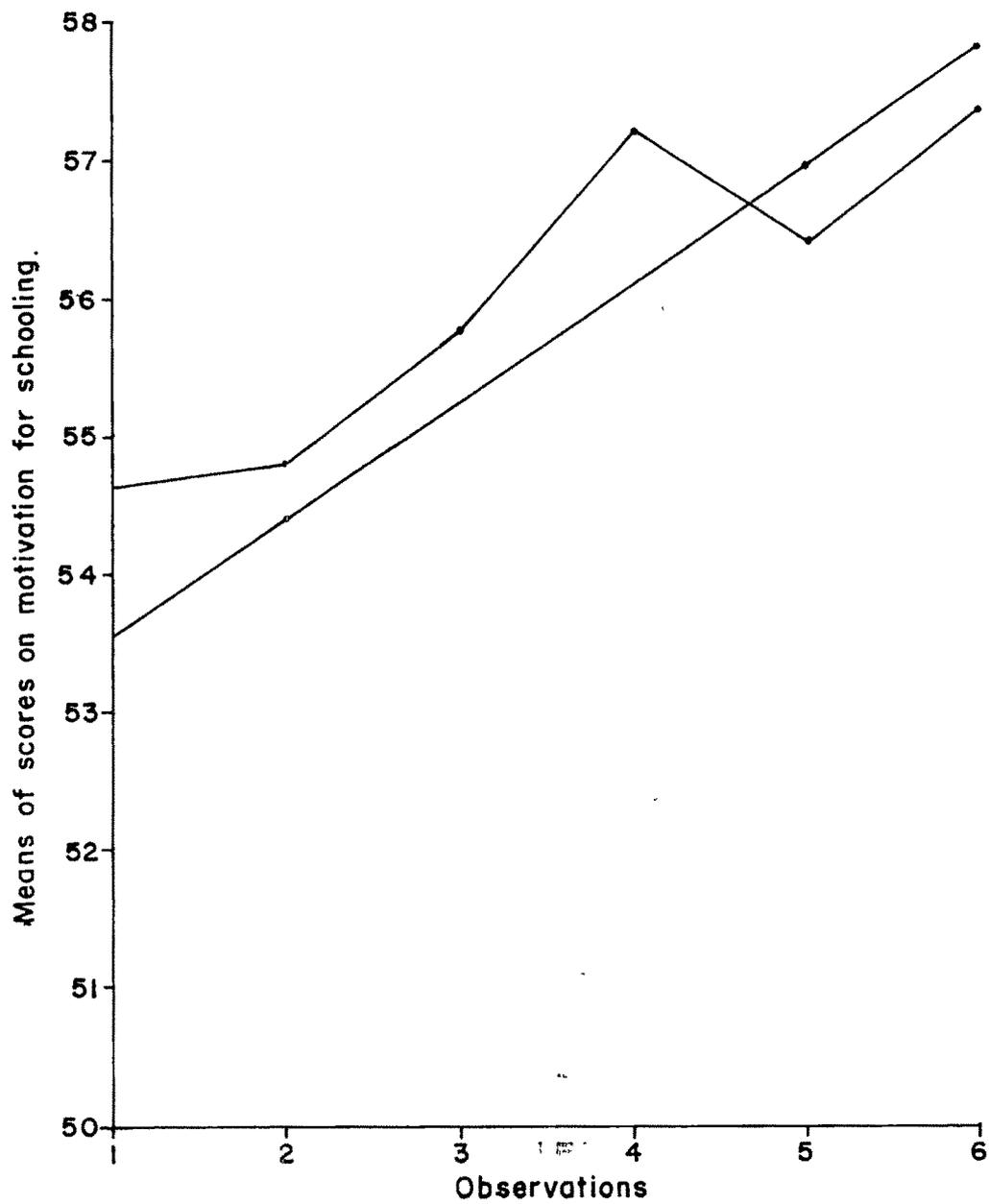| Observation Time | I | II | III | IV | V | VI |
|---|---|---|---|---|---|---|
| I | - | | | | | |
| II | 0.34 | - | | | | |
| III | 1.22 | 1.88 | - | | | |
| IV | 3.43** | 3.33** | 1.98 | - | | |
| V | 5.84** | 5.07** | 0.71 | 0.81 | - | |
| VI | 3.51** | 3.47** | 2.15* | 0.27 | 2.00 | - |

df  =  46

*   =  significant at 0.05 level

**  =  significant at 0.01 level

Graph 4: Means of scores on motivation for schooling 169
plotted againt the six observations along-with
the trend line.

I Score = 2 Cms.

careful observation of table number 9, which gives
t-values between various possible pairs of the six
observations, reveals that the differences among the
pre-intervention means of observations are not significant.
But there is significant difference between the pre- and
post- intervention means. This could point to the
possible impact of the intervention on students' motivation
for schooling.

Graph 4 is the visual representation of the results.
Both the data path and the trend line show increment in the
baseline data in the direction of the expected increase in
the post-intervention phase. But the magnitude of increase
in the two phases are distinct as can be shown by the
difference of 1.92 points in the mean of the means of the
two phases. This may indicate the influence of the inter-
vention and the humanistic approach in students' positive
school experience, which may have been instrumented in
raising the score on the subscale in the post intervention
phase.

## 5.5    Academic Self-Concept : Performance-Based

Students' academic self-concept was measured in its
two aspects, performance-based and reference-based. As
mentioned earlier, performance-based academic self-concept
is concerned with students' confidence in their academic
abilities and their feelings about their school performance.

Table 10 gives the means, standard deviations and
percentiles of scores on Academic Self-concept:Performance-
based. The means of scores on pre- and post- intervention
observations clearly show two distinct levels of magnitude.

Table 10 : Means, standard deviations and percentiles of scores on Academic

Self-Concept: Performance-based on the six observations.

| Observation Time | Mean | SD | $P_{10}$ | $P_{20}$ | $P_{30}$ | $P_{40}$ | $P_{50}$ | $P_{60}$ | $P_{70}$ | $P_{80}$ | $P_{90}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | 47.79 | 5.47 | 40.27 | 42.40 | 44.53 | 46.34 | 48.15 | 49.68 | 51.46 | 53.03 | 54.80 |
| II | 48.38 | 5.49 | 40.71 | 44.07 | 45.78 | 47.25 | 48.71 | 50.15 | 51.80 | 53.36 | 55.58 |
| III | 48.59 | 5.45 | 40.71 | 44.07 | 45.96 | 47.64 | 49.32 | 50.67 | 52.11 | 53.50 | 55.80 |
| ... | ... | ... | ... | ... | intervention | | ... | ... | ... | ... | ... |
| IV | 54.85 | 4.29 | 48.84 | 50.55 | 52.26 | 53.97 | 55.60 | 56.55 | 57.58 | 58.57 | 59.74 |
| V | 53.19 | 4.99 | 45.72 | 47.86 | 49.89 | 51.57 | 53.25 | 54.79 | 56.23 | 57.61 | 59.00 |
| VI | 54.57 | 4.08 | 49.63 | 50.51 | 51.39 | 52.27 | 55.65 | 56.43 | 57.35 | 58.23 | 60.15 |

Table 11 : t-values of means of scores on Academic Self-Concept:Performance based for various possible pairs of observations.

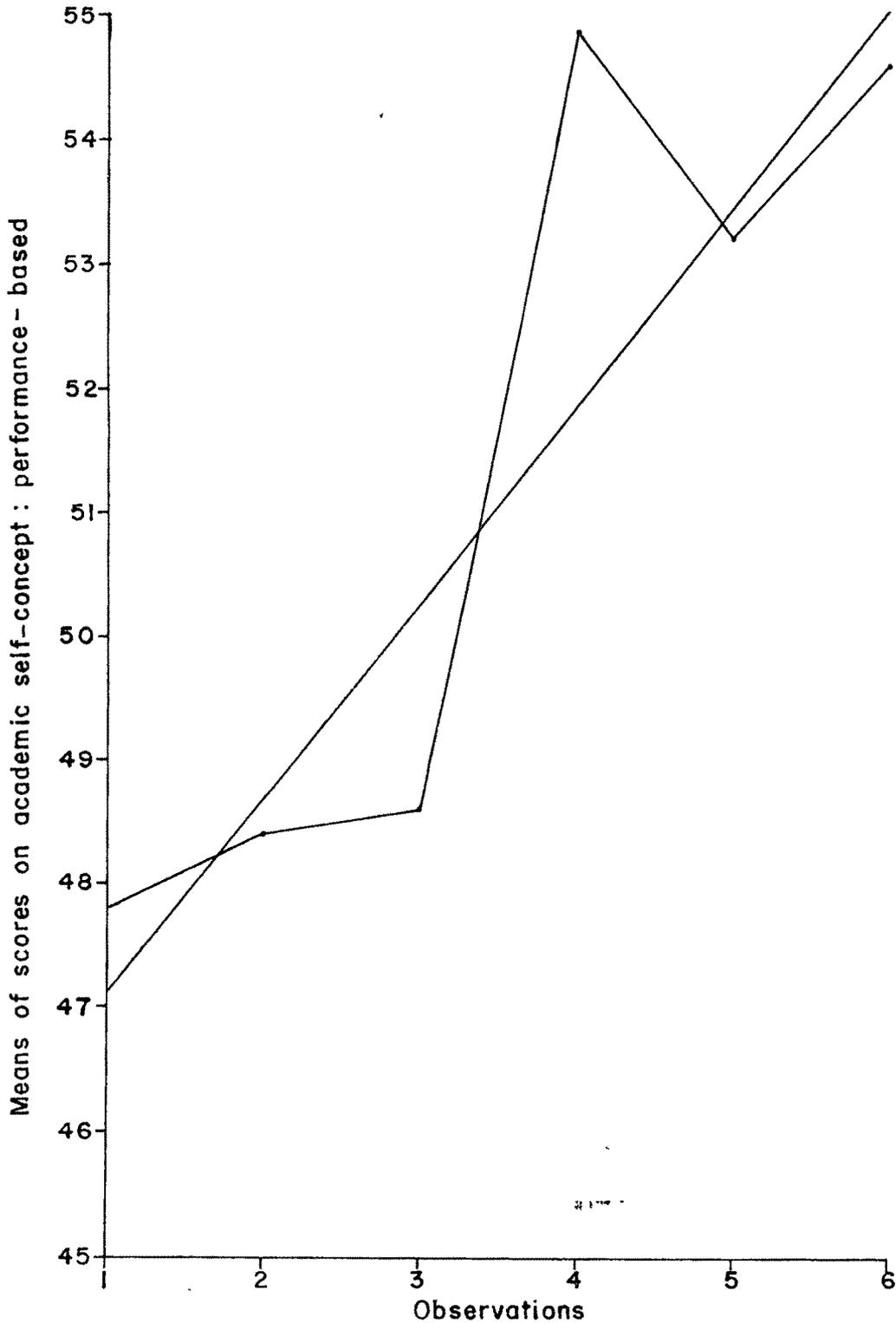| Observation Time | I | II | III | IV | V | VI |
|---|---|---|---|---|---|---|
| I | - | | | | | |
| II | 1.83 | | | | | |
| III | 1.83 | 0.59 | - | | | |
| IV | 7.08** | 6.33** | 4.17** | - | | |
| V | 5.23** | 5.44** | 4.10** | 0.63 | - | |
| VI | 6.93** | 5.93** | 6.38** | 0.57 | 0.98 | - |

df = 46

\* = significant at 0.05 level

\*\* = significant at 0.01 level

Graph 5: Means of scores on academic self—concept:
performance—based, plotted against the six
observations along-with trend line.

I Score = 2 Cms

Looking at the percentiles at anyone of the given points
also reveals that there are two distinct levels in scores,
representing pre- and post- intervention series of obser-
vations. From this finding one may conclude that the
intervention and the humanistic orientation in class did
affect the post-intervention measures of this variable.

Given in Table 11 are the calculated t-values of
means of the various possible pairs of observations on
Academic Self-Concept:Performance-based. The table shows
that the means of post-intervention observations signi-
ficantly differ from those of pre-intervention measures.
Thus, it may be concluded that the significant departure
of post-intervention means from the means of the baseline
series of observations may be due to the impact of the
intervention.

Graph 5 presents the results visually. The steep
slope in the trend line is indicative of the two distinct
levels of magnitude in the pre- and post- intervention
means. The data path takes a jump of 6.25 points from
observation three to four and maintains a higher
magnitude in the post-intervention phase. It may be
concluded from the finding that the intervention and
the humanistic orientation had a positive effect on
students' Academic Self-Concept:Performance-Based.

## 5.6    Academic Self-Concept: Reference-Based

This dimension of self-concept was measured through
subscale 'C' of School Attitude Measure of the same name.
It is concerned with how students think other people in
their lives, like teachers, parents and friends, feel
about their school performance and ability to succeed
academically. The scores ranged from 17 - 68 on this sca'e.

Table 12 : Means, standard deviations and percentiles of scores on Academic
Self-concept: Reference Based on the six observations.

| Observation Time | Mean | SD | $P_{10}$ | $P_{20}$ | $P_{30}$ | $P_{40}$ | $P_{50}$ | $P_{60}$ | $P_{70}$ | $P_{80}$ | $P_{90}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | 45.79 | 6.65 | 36.72 | 40.42 | 42.23 | 44.03 | 46.25 | 48.50 | 50.61 | 54.42 | 54.23 |
| II | 45.96 | 6.32 | 37.87 | 40.71 | 42.39 | 44.07 | 46.37 | 48.94 | 50.64 | 52.02 | 53.47 |
| III | 46.11 | 6.32 | 39.12 | 41.19 | 43.00 | 44.80 | 46.61 | 48.34 | 50.29 | 52.25 | 54.20 |
| ... | ... | ... | ... | ... | intervention | | ... | ... | ... | ... | ... |
| IV | 54.36 | 4.05 | 48.92 | 50.10 | 51.27 | 5°.45 | 53.62 | 54.83 | 56.33 | 58.03 | 59.80 |
| V | 52.11 | 4.91 | 45.34 | 46.81 | 48.28 | 49.73 | 51.11 | 52.44 | 53.88 | 56.35 | 59.80 |
| VI | 53.77 | 3.16 | 49.79 | 50.60 | 51.41 | 52.22 | 52.03 | 53.81 | 54.80 | 56.65 | 58.46 |

Table 13 :  t-values of means of scores on Academic Self-Concept:

Reference-based for various possible pairs of observations

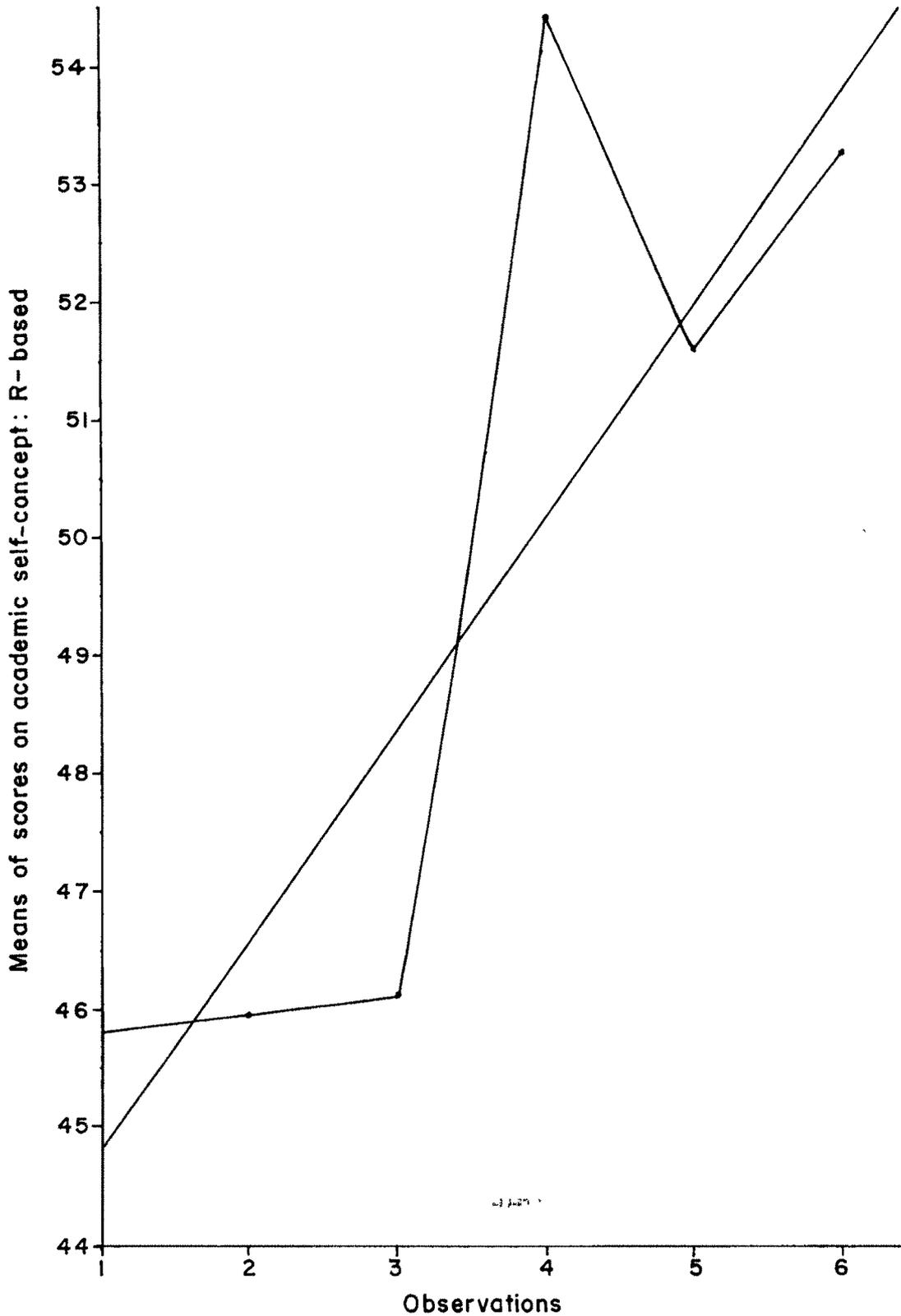| Observation Time | I | II | III | IV | V | VII |
|---|---|---|---|---|---|---|
| I | – | | | | | |
| II | 0.55 | – | | | | |
| III | 1.04 | 0.50 | – | | | |
| IV | 8.17** | 8.54** | -8.20** | – | | |
| V | 4.93** | 5.98** | 5.43** | 2.67* | – | |
| VI | 7.67** | 7.95** | 7.14** | 1.21 | 1.97 | – |

df  =  46

\*   =  significant at 0.05 level

\*\*  =  significant at 0.01 level

Graph 6: Means of scores on academic self concept: reference-based, plotted against the six observations along-with the trend line.

I Score = 2 Cms.

177

Presented in Table 12 are the means, standard deviations and percentiles of scores on Academic self-concept: Reference-based. Table 13 gives the calculated t-values of the same for various pairs of observations. From an inspection of the table of means it becomes clear that the pre-intervention and post-intervention means represent two distinct levels in the measures of the variable. A look at any given percentile point confirms the same. The table of t-values clearly shows that the post-intervention means differ significantly from those of pre-intervention means of scores. This may point to the possible impact of the humanistic stance in the class in effecting a change in how students perceived how significant others in their life thought of their academic ability.

Graph 6 visually represents the data. The steep slope of the trend line and the near vertical climb of the data path from observation three to four and the two distinct levels of the baseline and the post-intervention measures - there is a difference of 7.4 points in the means of the two series of observation - are indicative that the intervention may have influenced the increase in the measures of the post-intervention series of observations.

5.7    Sense of Control Over School Performance

Students' sense of control over school performance was measured through subscale 'D' of SAM having the same name. Here too the scores ranged from 17 to 68, where the higher scores indicated greater sense of control over school performance.

Table 14 :  Means, standard deviations and percentiles of scores on Sense of
Control Over Academic Performance on the six observations.

| Obser-vation Time | Mean | SD | $P_{10}$ | $P_{20}$ | $P_{30}$ | $P_{40}$ | $P_{50}$ | $P_{60}$ | $P_{70}$ | $P_{80}$ | $P_{90}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | 49.23 | 6.50 | 41.42 | 44.64 | 46.00 | 49.64 | 50.97 | 52.41 | 53.79 | 56.41 | 53.00 |
| II | 49.51 | 6.22 | 41.75 | 45.00 | 46.67 | 48.35 | 49.89 | 51.07 | 52.36 | 53.60 | 55.80 |
| III | 50.85 | 5.83 | 44.73 | 46.30 | 47.86 | 49.43 | 50.82 | 52.14 | 53.58 | 55.38 | 58.00 |
| ... | ... | ... | ... | ... | ... | intervention | | ... | ... | ... | ... |
| IV | 54.34 | 3.94 | 49.19 | 50.30 | 51.42 | 52.54 | 53.66 | 54.83 | 56.40 | 58.03 | 59.80 |
| V | 52.70 | 4.29 | 46.18 | 48.31 | 50.02 | 50.97 | 52.00 | 52.97 | 54.04 | 56.12 | 59.06 |
| VI | 53.17 | 3.06 | 48.79 | 49.87 | 51.21 | 51.83 | 53.37 | 54.42 | 56.11 | 57.90 | 58.32 |

Table 15 : t-values of means of scores on Sense of Control over Academic Performance for various possible pairs of observations

| Observation Time | I | II | III | IV | V | VI |
|---|---|---|---|---|---|---|
| I | - | | | | | |
| II | 0.48 | - | | | | |
| III | 4.19** | 4.13** | - | | | |
| IV | 4.86** | 4.54** | 3.44** | - | | |
| V | 3.11** | 3.12** | 1.82 | 2.22* | - | |
| VI | 3.89** | 3.81** | 2.51* | 2.29* | 1.22 | - |

df = 46

\* = significant at 0.05 level

\*\* = significant at 0.01 level

Graph 7: Means of scores on students' sense of control over performance along-with the trend line. 181
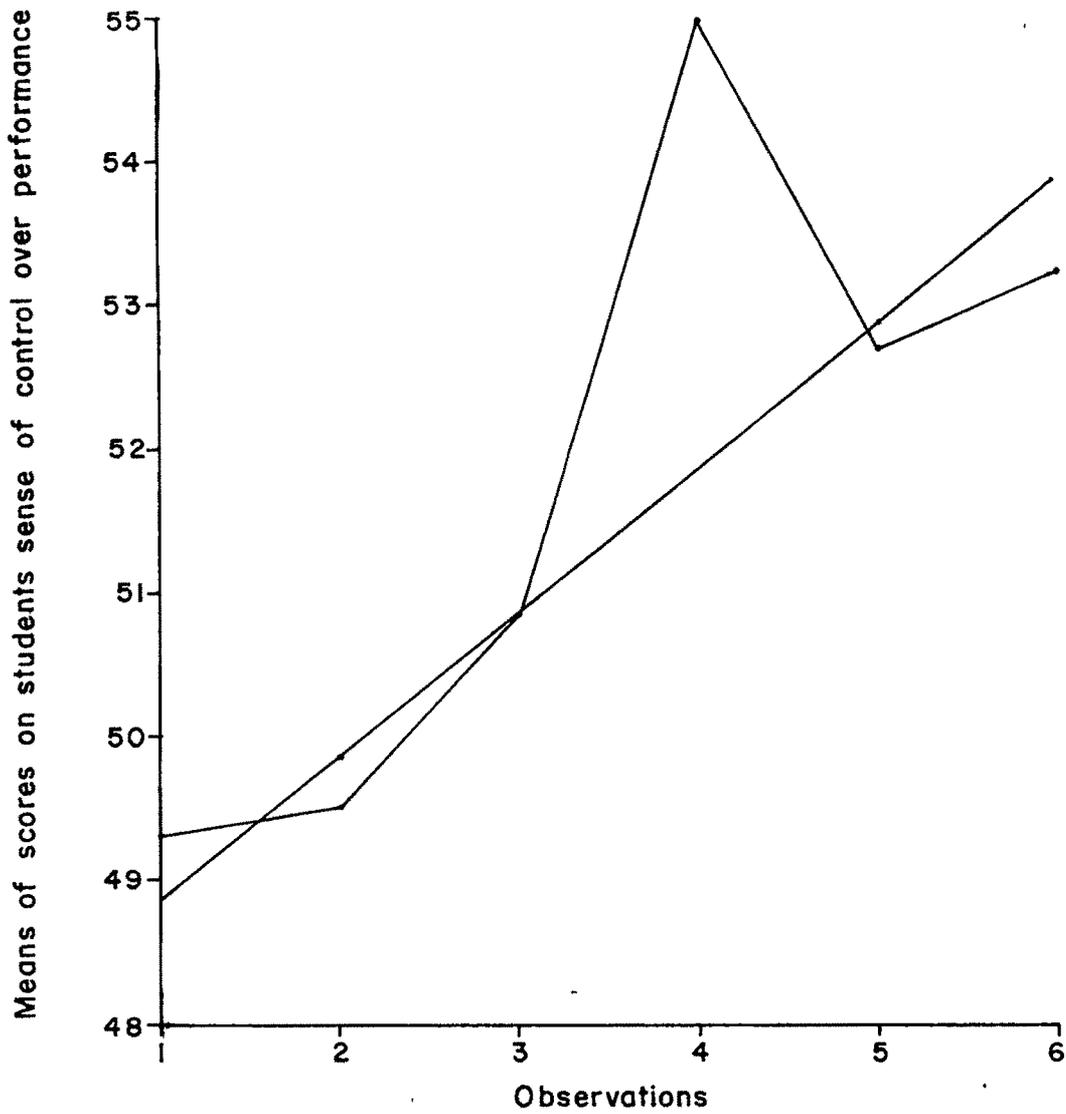
I Score = 2 Cms.

Table 14 summarises the finding in terms of means, standard deviations and percentiles of scores on Students' sense of Control over performance. The scores are towards the higher end of the range indicating that the students do have a sense of control over their school performance. Looking at the table of means, it can be said that in the baseline phase the mean score increased slightly in the direction of the intervention expectation with each subsequent observation. But there is a clear jump from the pre-intervention phase to the post-intervention phase. The level of the magnitude of the latter is greater by 3.54 points than the level of the magnitude of the former. From Table 15 it can be noticed that the post-intervention means are significantly different from the pre-intervention means.

Graph 7 represents the data in the visual form. Both the trend line and the data path show steady increase in the direction of the hypothesis. It may be concluded from the finding that the significant difference in the means of pre- and post- intervention may have been due to the effect of the intervention.

5.8    Students' Instructional Mastery

Students' instructional mastery was measured through subscale 'E' of SAM, having the same name. As mentioned earlier, the scale measures students' state of skills needed to succeed in school. The scores range from 17 to 68. Higher scores represent better instructional mastery.

Table 16 : Means, standard deviations and percentiles of scores on Students'
Instructional Mastery on the six observations.

| Observation Time | Mean | SD | P10 | P20 | P30 | P40 | P50 | P60 | P70 | P80 | P90 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | 48.32 | 5.81 | 40.72 | 42.86 | 44.92 | 46.73 | 48.53 | 50.26 | 52.15 | 53.57 | 56.56 |
| II | 48.38 | 5.92 | 40.27 | 42.40 | 44.53 | 46.34 | 48.15 | 49.88 | 57.76 | 53.57 | 56.41 |
| III | 49.55 | 5.61 | 42.58 | 45.20 | 46.58 | 47.97 | 49.35 | 50.92 | 52.67 | 56.35 | 57.18 |
| ... | ... | ... | ... | ... | intervention | | ... | ... | ... | ... | ... |
| IV | 54.17 | 4.09 | 48.95 | 49.92 | 50.76 | 51.60 | 52.44 | 53.25 | 55.05 | 55.59 | 56.12 |
| V | 52.23 | 4.06 | 47.28 | 48.40 | 49.52 | 50.64 | 51.76 | 52.83 | 54.00 | 55.94 | 58.55 |
| VI | 52.87 | 3.54 | 49.12 | 50.25 | 51.06 | 51.87 | 52.68 | 53.50 | 54.31 | 55.88 | 57.69 |

Table 17 : t-values of means of scores on students' Instructional Mastery for various possible pairs of observations.

| Observation Time | I | II | III | IV | V | VI |
|---|---|---|---|---|---|---|
| I | - | | | | | |
| II | 1.88 | - | | | | |
| III | 2.99** | 1.37 | - | | | |
| IV | 5.77** | 5.88** | 4.75** | - | | |
| V | 3.83** | 3.85** | 2.75** | 2.42* | - | |
| VI | 4.66** | 4.49** | 3.54** | 1.62 | 1.23 | - |

df = 46

\* = significant at 0.05 level

\*\* = significant at 0.01 level

Graph 8   Means of scores on students' instructional mastery plotted against the six observations along-with the trend line.
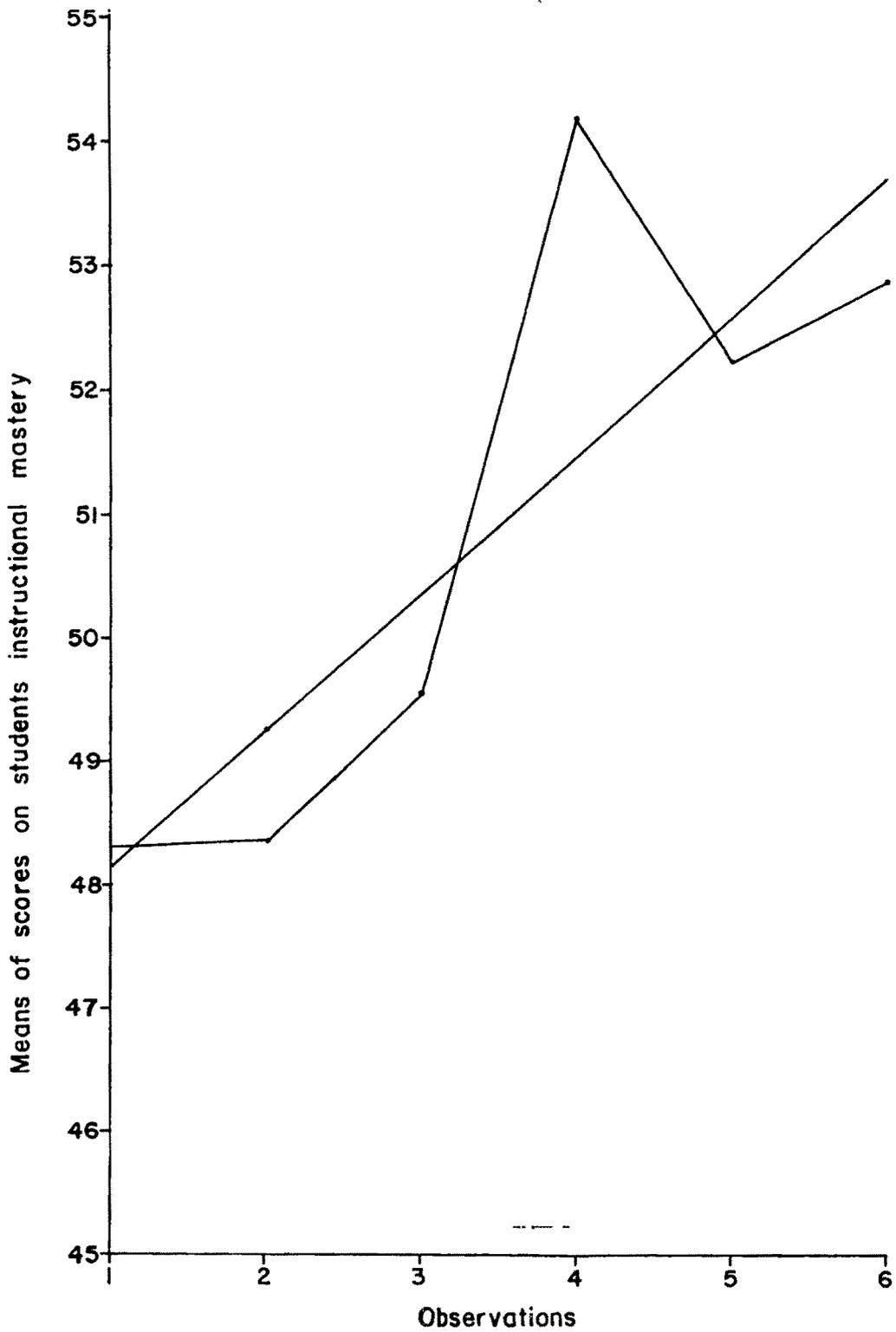
185

I Score = 2 Cms.

Observations

Table 16 gives the means, standard deviations and percentiles of scores on the six observations. Looking through the column of means, it can be observed that there are two levels in the mean scores, representing pre-intervention and post-intervention measures. Anyone of the given percentile points also reveals the two distinct levels in the means scores. From table 17 which gives the calculated t-values between the means of different measures one can see that each of the post-intervention measures differ significantly from the pre-intervention measures. Such a finding of significant increase in the post-intervention measures is indicative of the probable contribution of the intervention and the sustained humanistic climate of the classroom.

Graph 8 is the visual representation of the data. Both the data path and the trend line make rapid increase from the pre-intervention to the post-intervention series of observations in the hypothesized direction. This finding, thus, is indicative of the impact of the intervention in enhancing students' instructional mastery.

5.9    Teacher Relationship Perception

Students' perception of teacher relationships was measured by Teacher Relationship Perception Inventory. Scores on the inventory ranged from 28 to 140. Scores on the higher end of the range represented existence of better teacher-student relationship. Students' perception of each of the eight teachers participating in the study was measured separately.

Table 18 : Means, standard deviations and percentiles of scores on Teacher Relationship Perception Inventory for Teacher-1 on the six observations.

| Observation Time | Mean | SDs | $P_{10}$ | $P_{20}$ | $P_{30}$ | $P_{40}$ | $P_{50}$ | $P_{60}$ | $P_{70}$ | $P_{80}$ | $P_{90}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | 94.43 | 13.61 | 65.66 | 80.16 | 87.50 | 94.21 | 97.14 | 99.79 | 102.67 | 106.27 | 111.50 |
| II | 94.47 | 16.65 | 67.87 | 73.75 | 86.07 | 92.72 | 96.83 | 99.83 | 103.10 | 107.75 | 112.62 |
| III | 95.26 | 14.85 | 70.66 | 78.50 | 78.50 | 95.07 | 98.42 | 101.62 | 105.25 | 109.16 | 113.98 |
| ... | ... | ... | ... | ... | intervention | | ... | ... | ... | ... | ... |
| IV | 107.57 | 8.99 | 95.00 | 98.35 | 101.71 | 104.86 | 107.00 | 109.04 | 112.28 | 116.10 | 121.12 |
| V | 104.17 | 12.47 | 90.44 | 93.05 | 99.54 | 101.65 | 103.81 | 106.64 | 110.40 | 115.10 | 120.25 |
| VI | 105.59 | 8.47 | 94.12 | 98.16 | 101.22 | 103.83 | 106.09 | 108.13 | 110.45 | 112.80 | 116.66 |

Table 19 : t-values of means of scores on Teacher Relationship Perception Inventory for Teacher-1 for various pairs of observations.

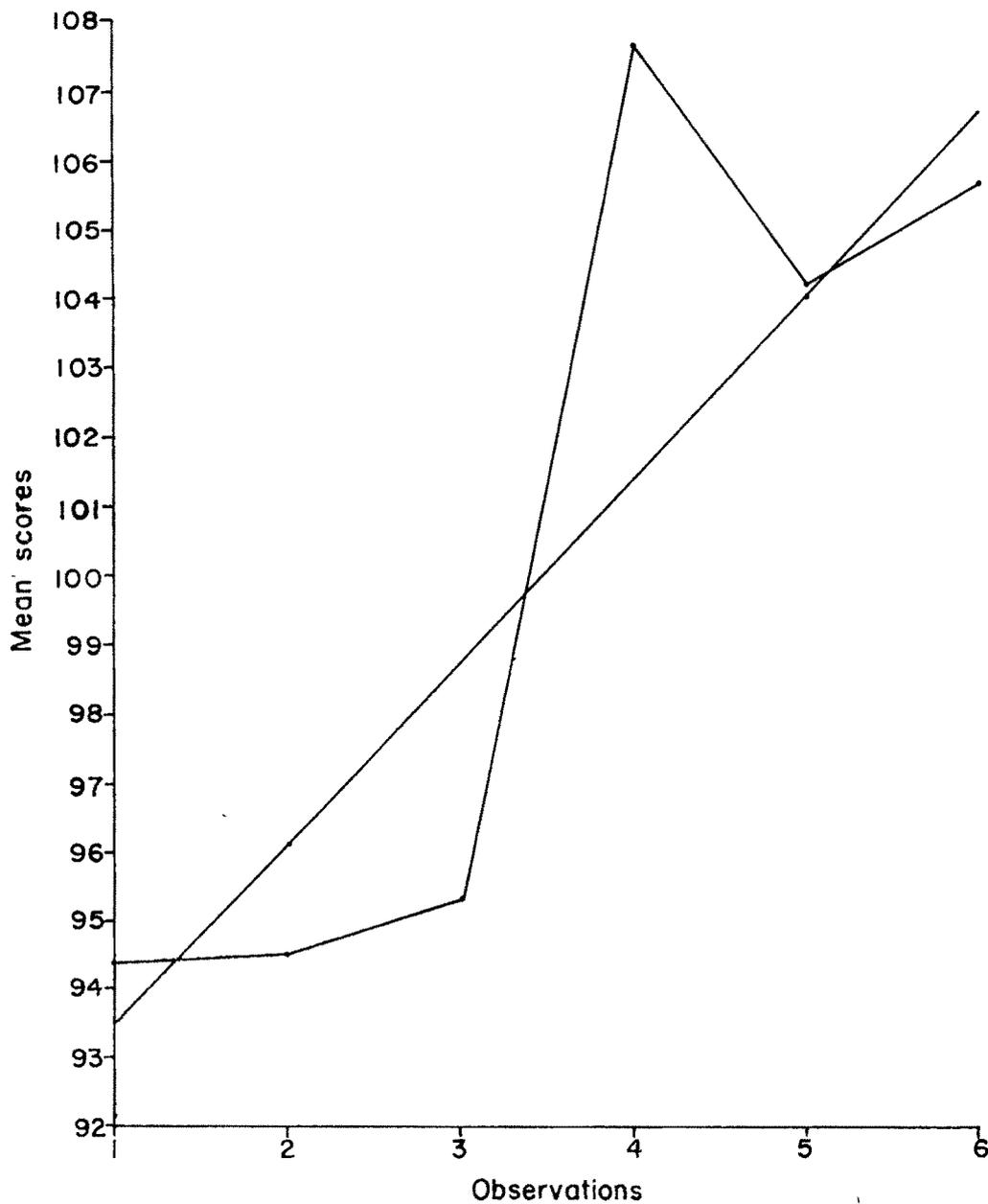| Observation Time | I | II | III | IV | V | VI |
|---|---|---|---|---|---|---|
| I | — | | | | | |
| II | 0.03 | — | | | | |
| III | 1.81 | 0.55 | — | | | |
| IV | 7.88** | 6.07** | 7.04** | — | | |
| V | 4.82** | 4.02** | 4.29** | 3.09** | — | |
| VI | 4.69** | 4.43** | 4.16** | 1.12 | 0.67 | — |

df = 46

\* = significant at 0.05 level

\*\* = significant at 0.01 level

Graph: 9
Means of scores on teacher relationship perception
for teacher I plotted against the six observations
along - with the trend line.

I Score = I Cms.



Mean scores

Observations

5.9.1  Perception of relationship of teacher-1

Table 18 gives the means, standard deviations and
percentiles of scores on Teacher Relationship Perception
Inventory for teacher 1. The column of means, or anyone
of the given percentile points clearly shows two levels
in the magnitude of scores. There is a difference of 11.05
points between pre- and post- intervention means. From
the table of calculated t_values (Table 19) it is clear that
the pre- and post-intervention means of scores differ signi-
ficantly, showing a break in the scores from one that could
be expected on the basis of the observed baseline data.
Hence, it could be concluded that the observed post-interven-
tion measures may be the result of the intervention on
teacher 1.

The results are visually presented in graph 9. Both
the data path and trend line trace rapid rise in the
hypothesized direction from the pre-intervention means of
scores to those of the post-intervention. As the pre- and
post- intervention means of scores on the variable differ
significantly (Table 19) one could reasonably conclude to
the effectiveness of the intervention in bringing about the
observed change in perception.

5.9.2  Perception of relationship of teacher-2

Given in Table 20 are the means, standard deviations
and percentiles of scores on Teacher Relationship Perception
Inventory. An inspection of the column of means reveals
that the pre- and post- intervention means of scores differ in
magnitude. There is a mean difference of 5.46 points between

Table 20 : Means, standard deviations and percentiles of scores on Teacher Relationship
Perception Inventory for teacher-2 on the six observations

| Observation Time | Means | SDs | $P_{10}$ | $P_{20}$ | $P_{30}$ | $P_{40}$ | $P_{50}$ | $P_{60}$ | $P_{70}$ | $P_{80}$ | $P_{90}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | 111.09 | 5.98 | 102.14 | 105.37 | 108.31 | 110.27 | 111.58 | 112.83 | 114.19 | 116.50 | 119.11 |
| II | 113.28 | 6.82 | 103.20 | 106.20 | 108.55 | 110.77 | 112.90 | 115.33 | 119.41 | 121.26 | 123.07 |
| III | 11.06 | 6.15 | 100.71 | 105.07 | 107.07 | 110.10 | 111.66 | 113.16 | 114.90 | 117.04 | 119.18 |
| ... | ... | ... | ... | ... | intervention | | ... | ... | ... | ... | ... |
| IV | 117.62 | 6.88 | 107.58 | 110.70 | 113.07 | 115.50 | 118.11 | 120.26 | 122.15 | 123.96 | 125.25 |
| V | 117.09 | 7.53 | 107.35 | 109.70 | 112.05 | 114.40 | 117.00 | 119.50 | 121.72 | 123.86 | 126.85 |
| VI | 117.11 | 5.98 | 107.39 | 109.75 | 112.09 | 114.44 | 117.07 | 119.56 | 121.77 | 123.91 | 126.91 |

the baseline and post-intervention measures. The two levels
of magnitude in the mean scores are also reflected at anyone
of the given percentile points of the six observations. The
calculated t-values of the difference between means given in
Table 21 shows that pre-and post- intervention means differ
significantly and the difference is in the direction of the
hypothesis.

The results are presented visually in graph 10. The
slope of the trend line and the data path scale rapid
increase in the direction expected by the intervention. Such
a significant difference in the direction hypothesized may
have been due to intervention effects on the teacher who may
have incorporated facilitative teaching and attitudes in her
interaction with the students.

Table 21 : t-values of means of scores on Teacher Relationship
Perception Inventory for teacher-2 for various
pairs of observations.

| Observation Time | I | II | III | IV | V | VI |
|---|---|---|---|---|---|---|
| I | - | | | | | |
| II | 2.52* | - | | | | |
| III | 0.11 | 2.61* | - | | | |
| IV | 7.18** | 6.10** | 7.12** | - | | |
| V | 5.75** | 3.16** | 5.88** | 0.82 | - | |
| VI | 5.10** | 2.94** | 5.04** | 0.38 | 0.02 | - |

df = 46

 * = significant at 0.05 level

** = significant at 0.01 level

Graph: IO : Means of scores on teacher relationship per-
ception inventory for teacher 2 plotted against 193
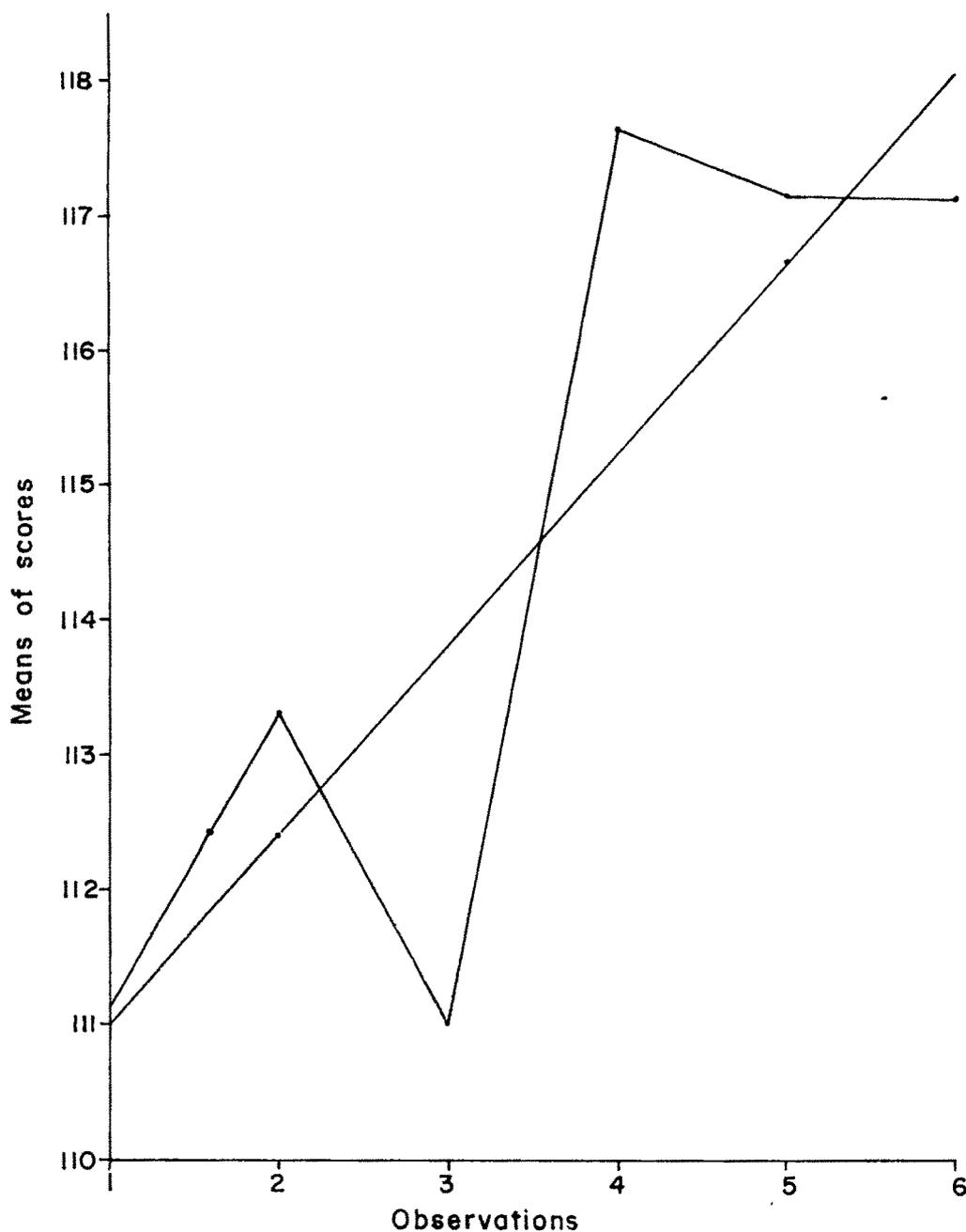the six observations along-with the trend line.

I Score = 2 Cms.

Table 22 : Means, standard deviations and perceptiles of scores on Teacher Relationship Perception Inventory for teacher-3 on the six observations.

| Obser-vation Time | Means | SDs | $P_{10}$ | $P_{20}$ | $P_{30}$ | $P_{40}$ | $P_{50}$ | $P_{60}$ | $P_{70}$ | $P_{80}$ | $P_{90}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | 88.79 | 11.69 | 71.92 | 78.64 | 82.91 | 86.83 | 90.38 | 93.02 | 95.91 | 98.67 | 104.21 |
| II | 89.77 | 12.48 | 68.78 | 79.83 | 83.75 | 87.66 | 91.16 | 94.16 | 97.43 | 101.10 | 105.80 |
| III | 90.04 | 11.15 | 72.87 | 78.75 | 83.22 | 87.50 | 90.88 | 93.38 | 96.11 | 98.72 | 104.21 |
| ... | ... | ... | ... | ... | intervention | | ... | ... | ... | ... | ... |
| IV | 97.89 | 10.21 | 84.00 | 90.16 | 92.40 | 94.64 | 96.88 | 99.02 | 102.75 | 106.66 | 112.75 |
| V | 94.06 | 12.39 | 79.28 | 82.64 | 86.00 | 38.78 | 92.71 | 95.92 | 99.42 | 104.10 | 108.80 |
| VI | 97.57 | 11.03 | 82.87 | 88.75 | 91.77 | 94.50 | 97.00 | 99.60 | 103.59 | 108.22 | 115.00 |

5.9.3   Perception of Relationship of teacher-3

Table 22 gives the means, standard deviations and percentile of scores on Teacher Relationship Perception Inventory for teacher-3 for the six observations. The column of means as well as anyone of the given percentile points show two distinct levels in the performance of students on the inventory, representing pre- and post-intervention measures. And from Table 23 we discover that these two levels are significantly different, indicating the possible impact of the intervention in raising students' perception of relationship of their teacher.

Table 23 : t-values of means of scores on Teacher Relationship Perception Inventory for teacher-3 for various pairs of observations

| Obser-vation Time | I | II | III | IV | V | VI |
|---|---|---|---|---|---|---|
| I. | – | | | | | |
| II | 1.37 | – | | | | |
| III | 0.53 | 0.47 | – | | | |
| IV | 7.28** | 5.98** | 6.26** | – | | |
| V | 3.18** | 2.34** | 2.37** | 4.47** | – | |
| VI | 4.17** | 2.65* | 3.67** | 0.16 | 1.64 | – |

df = 46
\* = significant at 0.05 level
\*\* = significant at 0.01 level

Graph II : Means of scores on teacher relationship
perception inventory for teacher 3 plotted
against the six observations along-with the
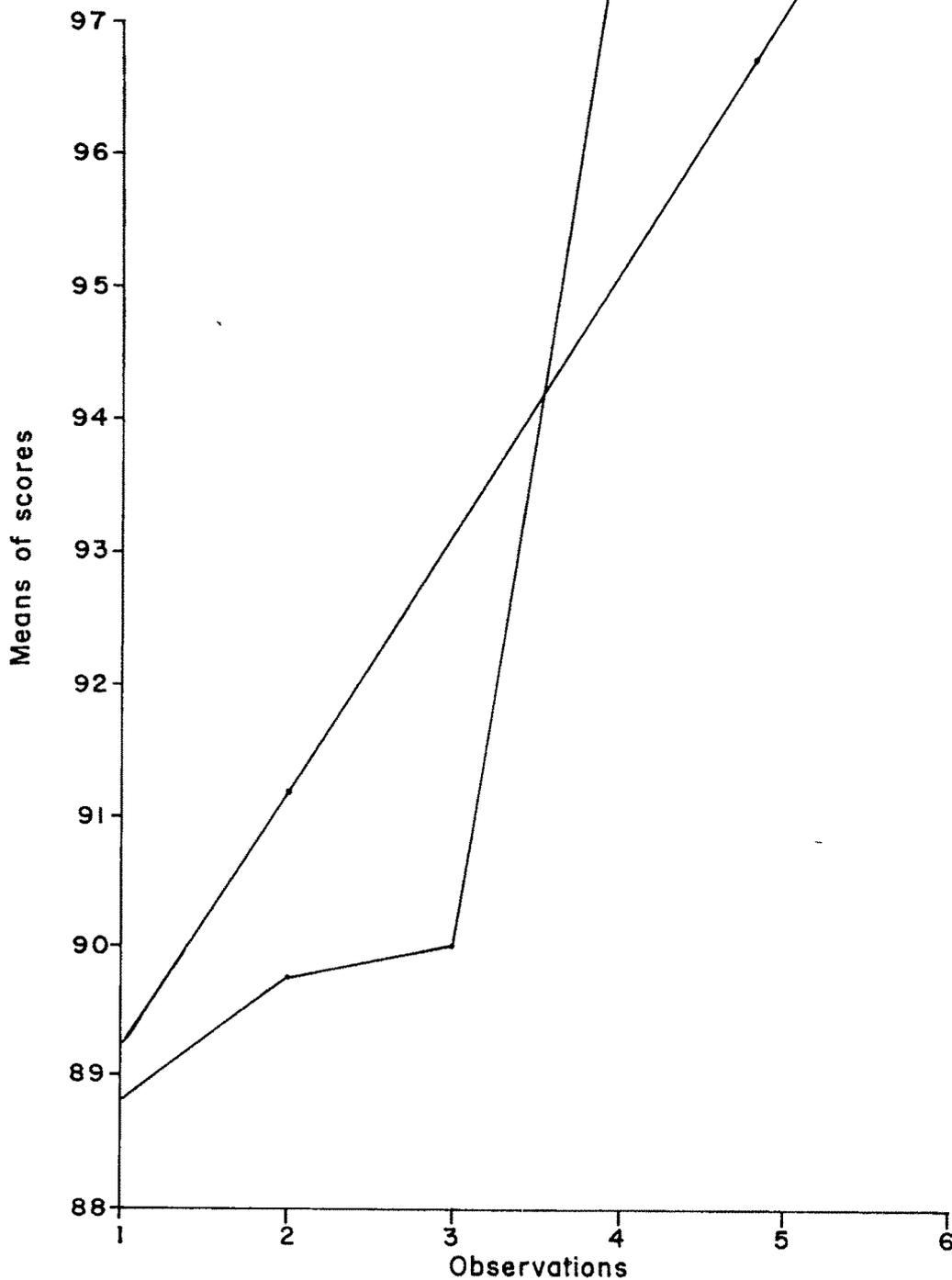trend line.

196

I Score = 2 Cms.

Table 24 :  The Means, standard deviations and percentiles of scores on Teacher
Relationship Perception Inventory for teacher-4 on the six observations

| Obser-vation Time | Mean | SDs | P10 | P20 | P30 | P40 | P50 | P60 | P70 | P80 | P90 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | 101.68 | 9.80 | 88.75 | 94.38 | 99.54 | 101.50 | 103.95 | 105.33 | 107.37 | 109.33 | 114.87 |
| II | 103.77 | 11.02 | 90.96 | 98.80 | 101.31 | 102.75 | 104.80 | 106.76 | 108.08 | 110.25 | 116.12 |
| III | 102.53 | 9.38 | 90.66 | 98.50 | 101.01 | 102.35 | 104.50 | 106.16 | 107.98 | 110.10 | 114.80 |
| ... | ... | ... | ... | ... | intervention | | ... | ... | ... | ... | ... |
| IV | 105.85 | 10.14 | 93.35 | 99.71 | 102.18 | 104.65 | 107.13 | 109.50 | 112.56 | 115.50 | 118.43 |
| V | 103.74 | 12.45 | 88.50 | 94.00 | 97.08 | 100.78 | 104.14 | 107.35 | 110.96 | 114.57 | 118.19 |
| VI | 105.19 | 11.55 | 88.50 | 94.38 | 99.58 | 103.50 | 107.41 | 110.61 | 113.33 | 115.94 | 118.55 |

The same finding is visually presented in Graph 11. Both the data path and the trend line scale rapid climb. There is a very large leap in the data path from observation three to observation four. The increase in the data is in the direction of hypothesis, showing the contribution of the intervention in raising the post-intervention data.

5.9.4  Perception of relationship of teacher-4

Presented in Table 24 are the means, standard deviations and percentiles of scores on Teacher Relationship Perception Inventory for teacher-4 on the six observations. Table  25 gives the calculated t-values of means of scores for the various pairs of observations. Looking at the column of means or anyone of the given percentile points, it can be noted that the data do not distinguish between pre- and post-intervention observations. This can be better appreciated if we take a look at Graph 12. The data path makes a zig-zag outline it rises and then falls both on the pre- as well as post- intervention observations. The trend line is also not steep. The data do not argue for the impact of the intervention in changing students' perception of teacher-4.

Table 25 :  t-values of means of scores on Teacher Relationship Perception Inventory for teacher-4 for various , pairs of observations.

| Observation Time | I | II | III | IV | V | VI |
|---|---|---|---|---|---|---|
| I | – | | | | | |
| II | 1.77 | – | | | | |
| III | 1.44 | 1.11 | – | | | |
| IV | 4.63** | 1.85 | 2.36* | – | | |
| V | 1.39 | 0.03 | 0.84 | 2.66* | – | |
| VI | 6.65** | 1.64 | 1.28 | 0.31 | 0.61 | – |

df  =  46
 *  =  significant at 0.05 level
**  =  significant at 0.01 level

Graph 12: Means of scores on teacher relationship perception inventory for teacher 4, plotted against the six observations along-with the trend line.
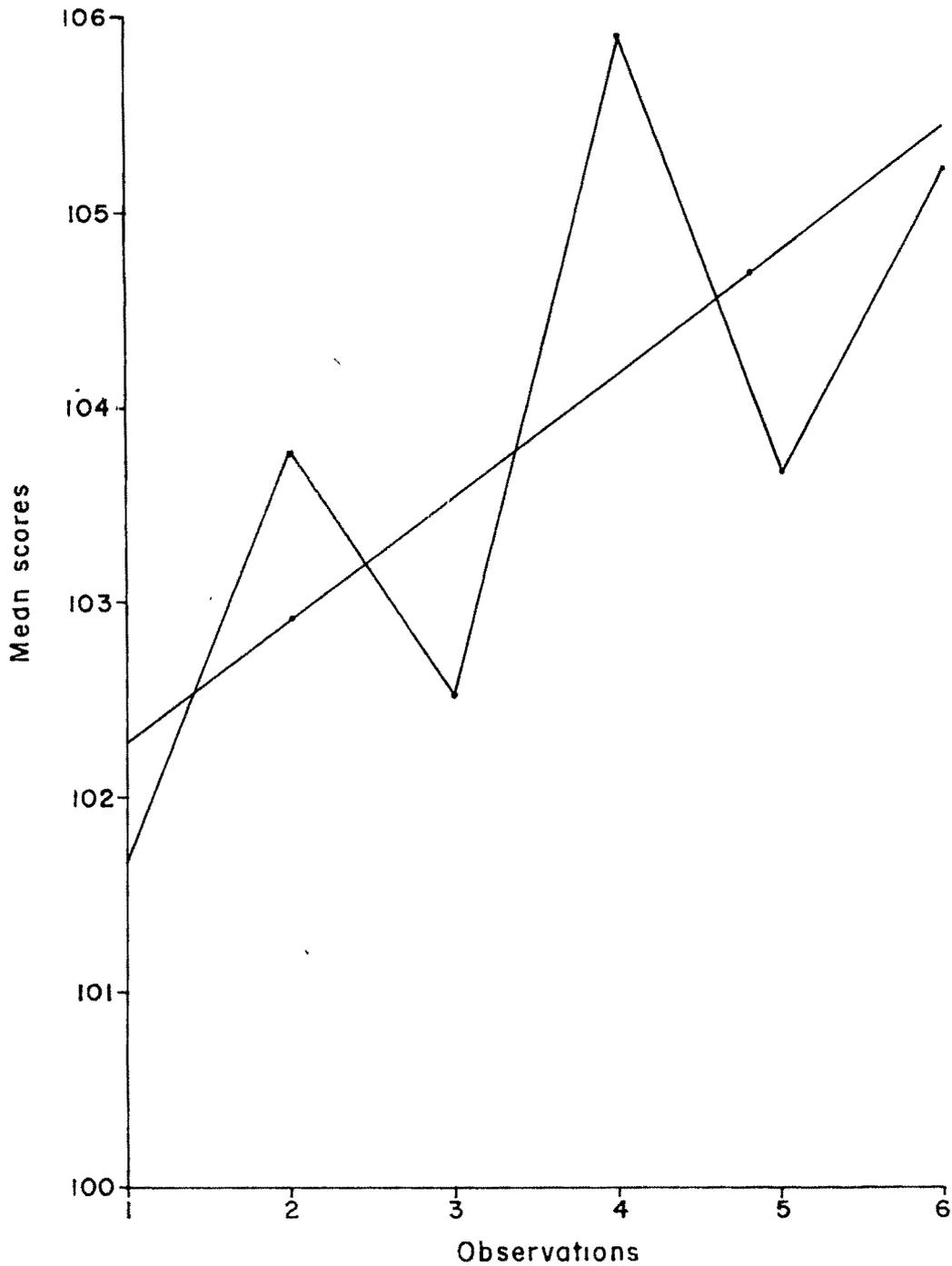
199

1 Score = 3 Cms.

Table 26 : Means, standard deviations and percentiles of scores on Teacher Relationship Perception Inventory for teacher-5 on the six observations.

| Observation Time | Means | SDs | $P_{10}$ | $P_{20}$ | $P_{30}$ | $P_{40}$ | $P_{50}$ | $P_{60}$ | $P_{70}$ | $P_{80}$ | $P_{90}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | 71.32 | 13.66 | 52.50 | 57.72 | 62.60 | 64.30 | 71.58 | 75.33 | 79.41 | 84.61 | 90.12 |
| II | 70.36 | 15.89 | 51.20 | 55.91 | 60.72 | 65.94 | 70.86 | 74.95 | 79.40 | 87.16 | 94.12 |
| III | 72.43 | 13.47 | 54.90 | 61.68 | 65.95 | 70.00 | 72.93 | 75.75 | 78.81 | 84.84 | 91.66 |
| ... | ... | ... | ... | ... | ... | intervention | | ... | ... | ... | ... |
| IV | 84.51 | 14.04 | 68.78 | 72.64 | 76.00 | 79.14 | 84.00 | 88.50 | 92.75 | 96.66 | 103.83 |
| V | 80.83 | 15.54 | 61.62 | 67.50 | 71.56 | 74.70 | 77.83 | 83.50 | 91.87 | 87.75 | 105.00 |
| VI | 79.45 | 16.09 | 56.25 | 69.78 | 73.14 | 76.50 | 79.95 | 84.04 | 88.50 | 93.50 | 98.72 |

## 5.9.5 Perception of relationship of teacher-5

Given in table 26 are the means, standard deviations and percentiles of scores on teacher Relationship Perception Inventory for teacher-5. Table 27 gives the t-values of means of scores between various pairs of observations of the same inventory. The column of means shows two magnitudes, in the mean scores representing pre- and post- intervention observations. From table 26 it may be observed that the pre- and post- intervention observation means differ significantly at 0.01 level. However, it may be noted that the range of mean scores is between 70.36 and 84.51 which is just midrange for the inventory with a maximum score of 140. In the last two observations the mean scores fell showing that the students' level of perception of the teacher did not last. In graph 13, the data path steeply rose from observation three to four and then suddenly dropped. Therefore, the data shows that there was a rise in the students' perception of teacher-5 on the positive side but showed a tendency to decrease with subsequent observations. The range of mean scores is indicative that the students did not think very highly of the teacher.

Table 27 : t-values of means of scores on Teacher Relationship Perception Inventory for teacher-5 for various pairs of observations

| Observation Time | I | II | III | IV | V | VI |
|---|---|---|---|---|---|---|
| I | – | | | | | |
| II | 0.66 | – | | | | |
| III | 2.22* | 1.75 | – | | | |
| IV | 7.81** | 6.90** | 7.19** | – | | |
| V | 4.89** | 5.04** | 4.34** | 3.92** | – | |
| VI | 2.92** | 2.93** | 2.48* | 2.09* | 0.53 | – |

df = 46
* = significant at 0.05 level
** = significant at 0.01 level

Graph 13 : Means of scores on teacher relationship perception inventory for teacher 5, plotted against the six observations along-with the trend line.
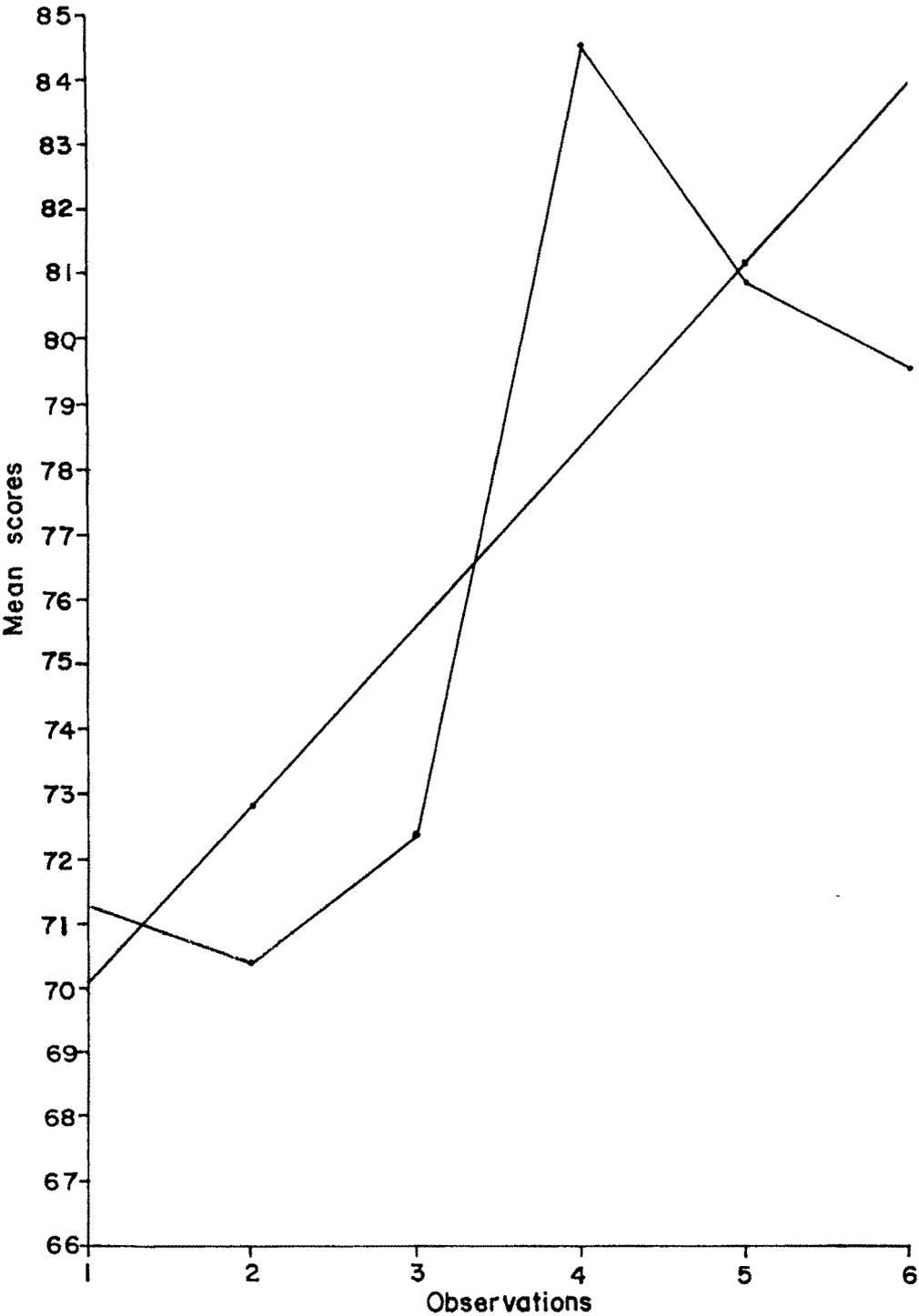
1 Score = 1 Cm

Mean scores

85
84
83
82
81
80
79
78
77
76
75
74
73
72
71
70
69
68
67
66

1    2    3    4    5    6

Observations

Table 28 : Means, standard deviations and percentiles of scores on Teacher Relationship Perception Inventory for teacher-6 for the six observations

| Obser-vation Time | Means | SDs | $P_{10}$ | $P_{20}$ | $P_{30}$ | $P_{40}$ | $P_{50}$ | $P_{60}$ | $P_{70}$ | $P_{80}$ | $P_{90}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | 92.06 | 12.68 | 71.83 | 81.90 | 86.60 | 90.55 | 93.32 | 95.97 | 98.85 | 104.00 | 110.10 |
| II | 91.81 | 15.34 | 68.90 | 79.30 | 84.05 | 89.27 | 92.96 | 96.42 | 100.62 | 106.50 | 112.78 |
| III | 93.49 | 12.94 | 71.83 | 82.16 | 87.38 | 91.25 | 94.18 | 97.00 | 102.62 | 108.50 | 114.78 |
| ... | ... | ... | ... | ... | intervention | | ... | | ... | ... | ... |
| IV | 99.66 | 10.50 | 83.75 | 92.33 | 95.81 | 98.75 | 101.09 | 103.13 | 105.55 | 115.55 | 118.80 |
| V | 95.15 | 12.47 | 78.31 | 82.59 | 86.00 | 91.04 | 94.91 | 98.66 | 102.50 | 109.11 | 115.25 |
| VI | 96.68 | 11.90 | 81.25 | 87.33 | 91.25 | 94.90 | 97.25 | 99.50 | 103.00 | 111.83 | 116.18 |

Table 29 : 't-values of means of scores on Teacher Relationship
         Perception Inventory for teacher-6 for various
         pairs of observations

| Obser-vation Time | I | II | III | IV | V | VI |
|---|---|---|---|---|---|---|
| I | — | | | | | |
| II | 0.17 | — | | | | |
| III | 2.12* | 2.01 | — | | | |
| IV | 5.49** | 4.28** | 4.69** | — | | |
| V | 2.82** | 2.50* | 0.92 | 4.86* | — | |
| VI | 3.02** | 2.58* | .146 | 1.75 | 0.71 | — |

df = 46

\* = significant at 0.05 level

\*\* = significant at 0.01 level

5.9.7     Perception of relationship of teacher-7

        Given in Table 30 are the means, standard deviations
and percentiles of scores on Teacher Relationship Perception
Inventory for teacher-7. Table 31 gives the t-values of
means of scores between the various possible pairs of observa-
tions. The means range between 95.45 and 104.4 and show the
students have a positive perception of the teacher. There is
a gradual growth in scores from pre-intervention observation
number one (95.45) to observation number two (97.45) and a
much higher rise in mean scores in the post-intervention
observation number four (103.55). Though the mean score falls
(100.53) in the fifth observation, it rises again in the sixth.
From table 30, it can be observed that except for observation
five, the other two post-intervention observation means differ

Graph 14 : Means of scores on teacher relationship perception inventory for teacher 6, plotted against the six observations along- with the trend line.
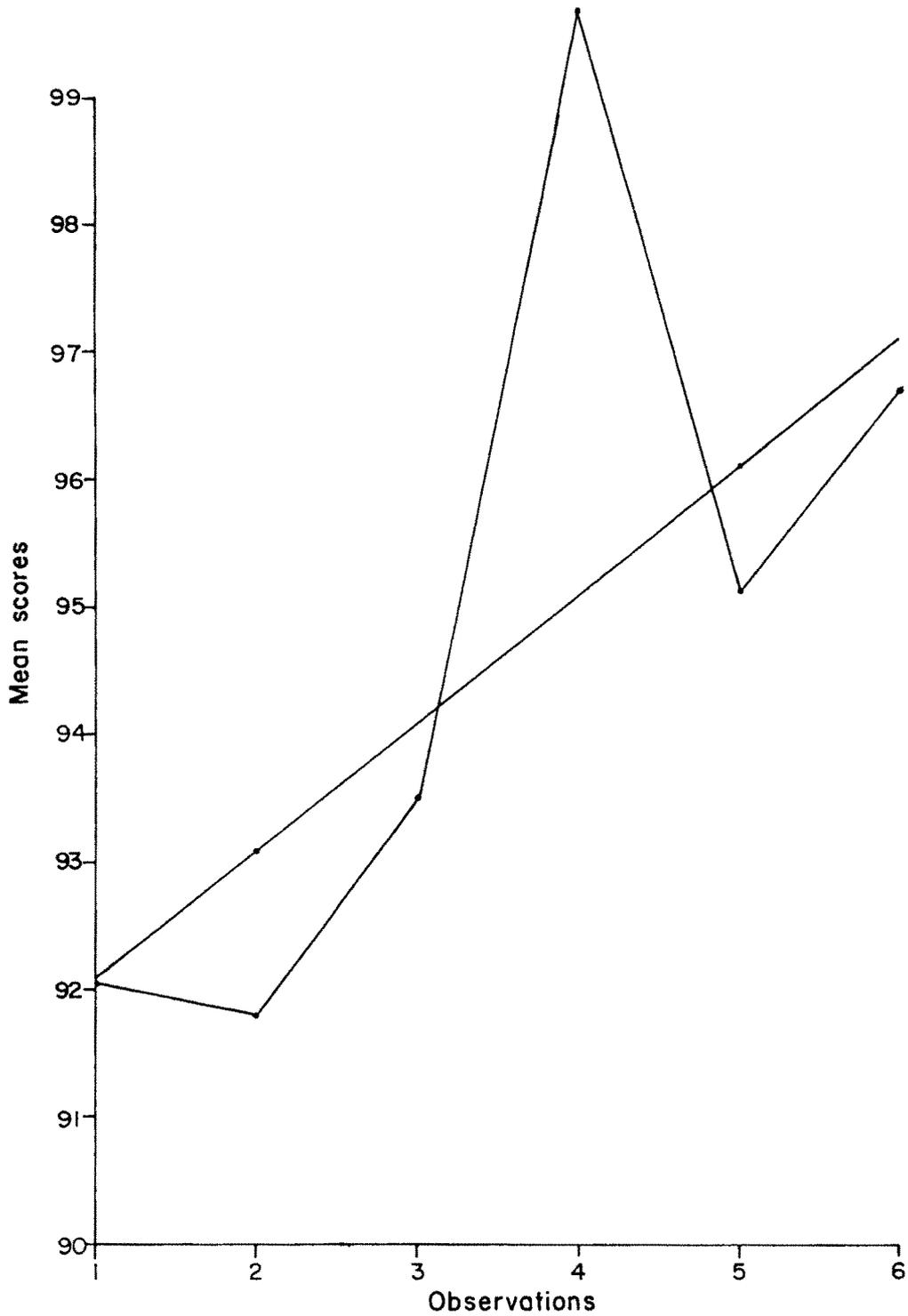
I Score = 2 Cms.

Table 30 : Means, standard deviations and percentiles of scores on Teacher Relationship Perception Inventory for teacher-7 on the six observations.

| Observation Time | Means | SDs | $P_{10}$ | $P_{20}$ | $P_{30}$ | $P_{40}$ | $P_{50}$ | $P_{60}$ | $P_{70}$ | $P_{80}$ | $P_{90}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | 95.45 | 10.46 | 81.93 | 88.64 | 91.45 | 93.69 | 95.93 | 98.17 | 101.08 | 105.00 | 108.92 |
| II | 97.45 | 12.41 | 78.75 | 89.72 | 92.33 | 94.94 | 97.56 | 100.71 | 103.71 | 107.07 | 113.83 |
| III | 97.98 | 10.38 | 83.00 | 90.43 | 93.57 | 96.70 | 99.78 | 102.39 | 105.00 | 107.61 | 111.67 |
| ... | ... | ... | ... | ... | intervention | | ... | ... | ... | ... | ... |
| IV | 103.55 | 8.66 | 91.75 | 95.67 | 99.55 | 101.79 | 104.02 | 106.26 | 108.50 | 112.10 | 116.80 |
| V | 100.53 | 10.79 | 80.90 | 91.39 | 94.50 | 96.61 | 99.22 | 102.50 | 105.86 | 107.06 | 116.67 |
| VI | 104.40 | 9.25 | 91.75 | 95.67 | 99.56 | 102.17 | 104.78 | 107.39 | 110.19 | 113.81 | 117.92 |

significantly at 0.01 level from pre-intervention observation means. Graph 15 presents the data visually. It shows that the data path rises gradually from observation one to three of the pre-intervention observations. From observation three to observation four there is a steeper rise. Though the mean score falls in the fifth observation, it maintains a higher level than that of the pre-intervention means. It rises again steeply at the sixth observation. The rather steep slope of the trend line is also indicative of the higher levels of scores in the post-intervention set of observations. From the observed data, it may be inferred that the intervention did affect the students' perception of teacher-7 in the positive direction.

Table 31 : t-values of means of scores on teacher Relationsh o Perception Inventory for teacher-7 for various pairs of observations.

| Observation Time | I | II | III | IV | V | VI |
|---|---|---|---|---|---|---|
| I | – | | | | | |
| II | 2.09* | – | | | | |
| III | 3.68** | 0.38 | – | | | |
| IV | 7.19** | 4.43** | 4.17** | – | | |
| V | 3.93** | 1.95 | 1.95 | 3.36** | – | |
| VI | 5.85** | 4.16** | 4.38** | 0.71 | 2.71** | |

df = 46
* = significant at 0.05 level
** = significant at 0.01 level

Graph 15 :  Means of scores on teacher relationship perception inventory for teacher 7, plotted against the six observations along-with the trend line.
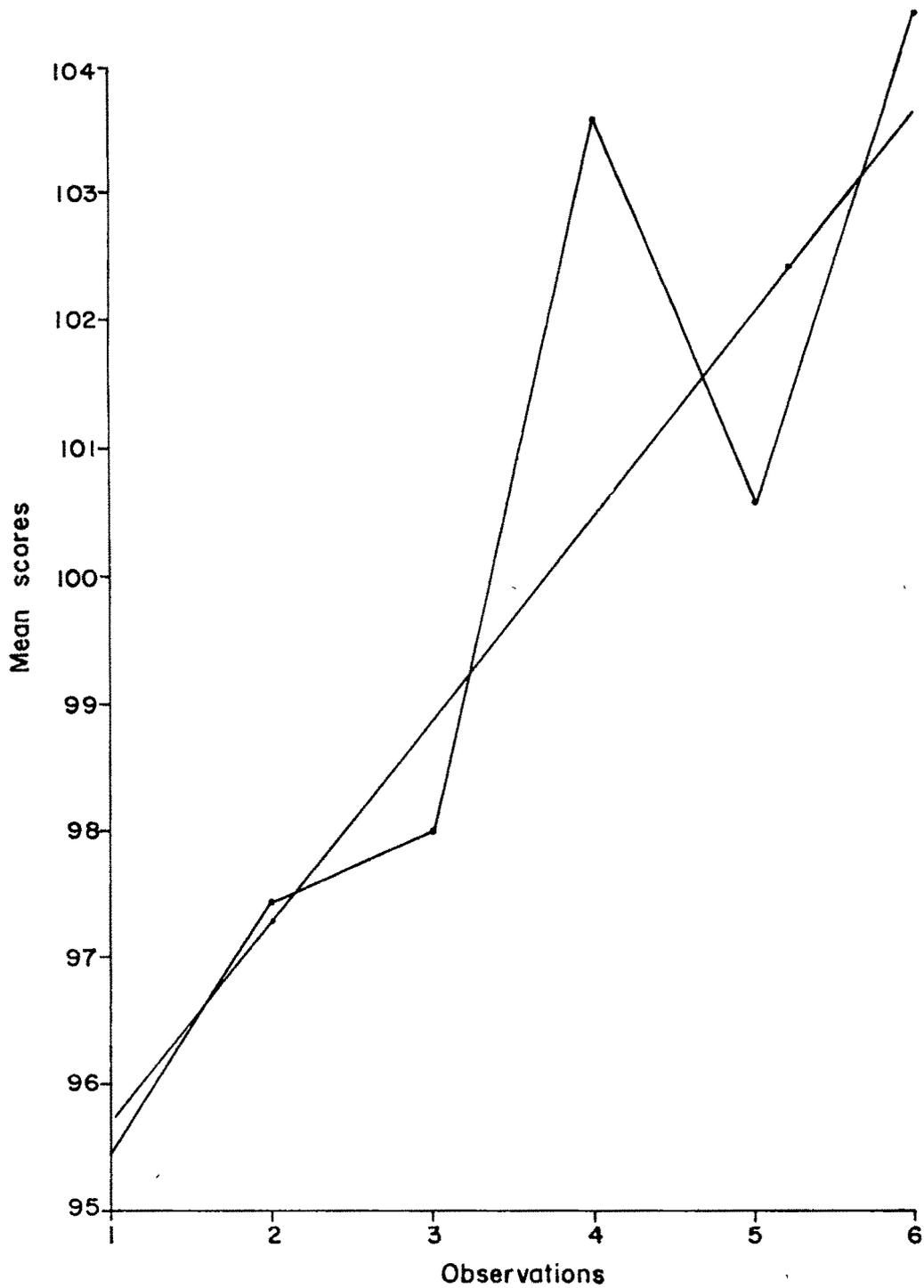
1 Score = 2 Cms.

209

Table 32 : Means, standard deviations and percentiles of scores on Teacher Relationship
Perception Inventory for teacher-8 on the six observations

| Obser-vation Time | Means | SDs | $P_{10}$ | $P_{20}$ | $P_{30}$ | $P_{40}$ | $P_{50}$ | $P_{60}$ | $P_{70}$ | $P_{80}$ | $P_{90}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | 110.11 | 7.86 | 100.05 | 103.20 | 105.55 | 107.90 | 110.33 | 112.94 | 115.56 | 118.17 | 122.79 |
| II | 110.70 | 9.88 | 99.82 | 101.96 | 104.09 | 106.23 | 110.96 | 111.70 | 115.69 | 118.63 | 125.25 |
| III | 112.45 | 6.99 | 104.82 | 106.96 | 107.73 | 110.56 | 111.81 | 113.17 | 114.47 | 118.33 | 122.80 |
| ... | ... | ... | ... | ... | intervention | | ... | ... | 2.. | ... | ... |
| IV | 115.77 | 6.75 | 109.67 | 110.79 | 111.91 | 113.02 | 114.14 | 117.17 | 120.36 | 122.50 | 124.80 |
| V | 113.74 | 9.11 | 104.45 | 105.28 | 107.89 | 110.40 | 112.75 | 115.36 | 118.71 | 122.07 | 126.13 |
| VI | 115.17 | 7.95 | 106.00 | 108.61 | 110.69 | 112.50 | 114.31 | 118.00 | 121.11 | 123.70 | 126.86 |

Table 33 : t-values of means of scores on Teacher Relationship Perception Inventory for teacher-8 for various pairs of observations.

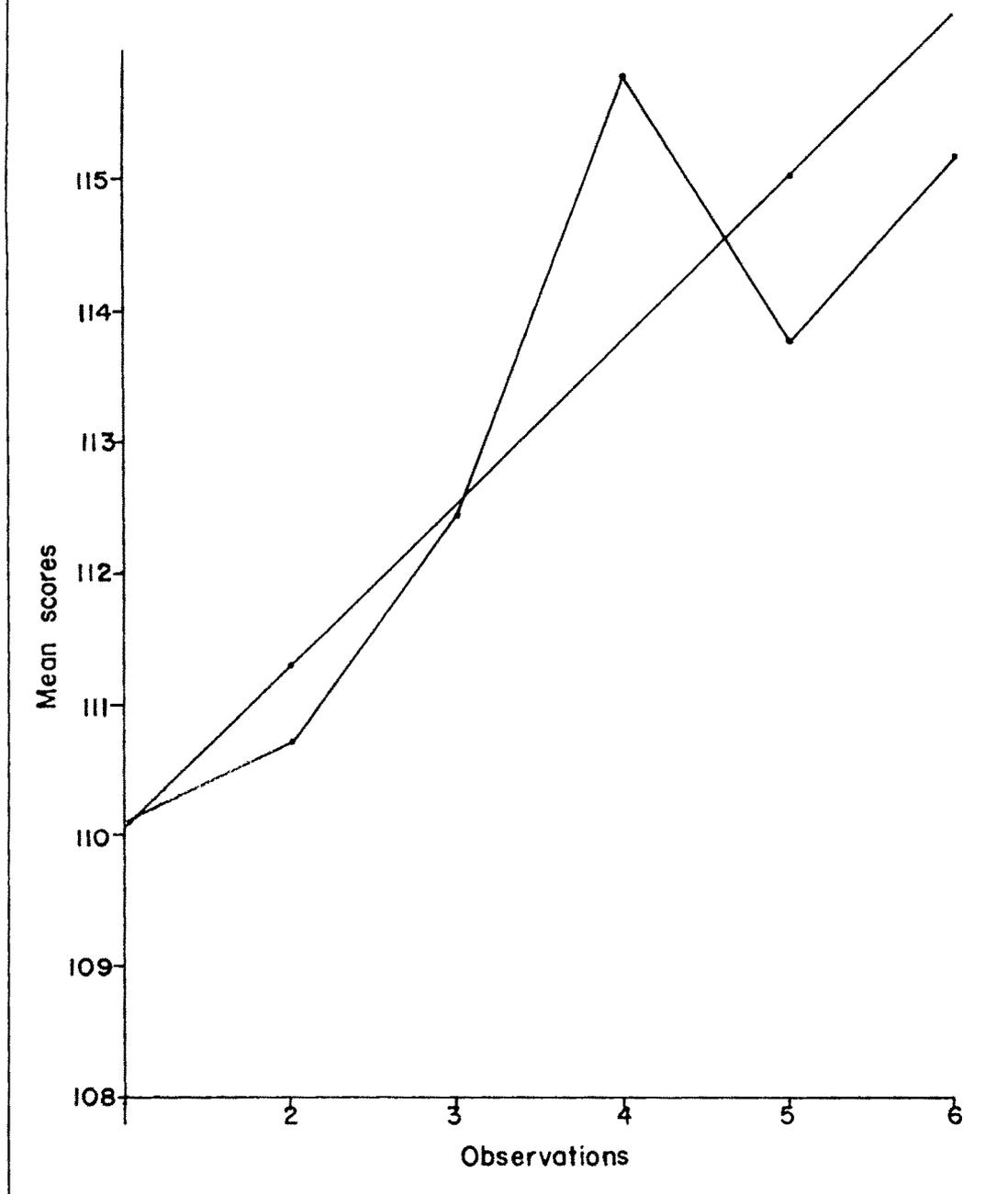| Observation Time | I | II | III | IV | V | VI |
|---|---|---|---|---|---|---|
| I | – | | | | | |
| II | 0.79 | – | | | | |
| III | 1.89 | 2.73* | – | | | |
| IV | 4.67** | 4.80** | 3.95** | – | | |
| V | 2.94** | 2.04* | 1.11 | 2.48* | – | |
| VI | 4.45** | 2.89** | 2.38* | 0.53 | 1.03 | – |

df = 46

* = significant at 0.05 level

** = significant at 0.01 level

Graph 16 : Means of scores on teacher relationship perce-
ption inventory for teacher 8, plotted against
the six observations along—with the trend line

I Score = 2 Cms.

5.9.8    Perception of relationship of teacher-8

Table 32 gives the means, standard deviations and
percentiles of scores on teacher Relationship Perception
Inventory for teacher-8 for the six observations. The
column of means shows that there is a steady increase in
scores from observation one to six, except for a drop at
observation number five. From the table of calculated
t-values (table 33) it can be seen that post-intervention
means differ significantly from the pre-intervention means of
scores, thereby indicating the possible influence of the
intervention on student perception of their teacher.

The same finding is visually presented in graph 16.
The data path shows a gradual rise from observation one to
three from where it climbs steeply to observation four.
Though it falls at observation five, it rises again to the
next observation. The trend line also is steep and the
whole pre-intervention data path is below the trend line,
showing the higher rise of data in the post-intervention
observations. The means of scores lie in the upper end of
the range of scores and show that the students had a positive
perception of the teacher which further grew in the
post-intervention phase of the study.

5.10    Cooperation

Given in Table 34 are the means, standard deviations
and percentiles of scores on Cooperation-Competition
Inventory. Inspection of the column of means or anyone of
the given percentile points shows that the means keep
increasing steadily both in the pre- and post- intervention
observations. And table 35 shows that the increase in the
means within the pre-intervention series is itself significant.

Table 34 : Means, standard deviations and percentiles of scores on Cooperation - Competition Inventory for the six observations.

| Observation Time | Means | SDs | $P_{10}$ | $P_{20}$ | $P_{30}$ | $P_{40}$ | $P_{50}$ | $P_{60}$ | $P_{70}$ | $P_{80}$ | $P_{90}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | 47.79 | 4.01 | 42.51 | 43.92 | 45.33 | 46.69 | 47.76 | 48.80 | 50.07 | 51.58 | 53.28 |
| II | 51.13 | 3.91 | 45.82 | 47.50 | 49.17 | 50.23 | 51.13 | 52.00 | 52.94 | 53.84 | 56.80 |
| III | 53.04 | 5.14 | 47.10 | 48.75 | 50.10 | 51.44 | 52.78 | 54.07 | 55.43 | 58.56 | 61.15 |
| ... | ... | ... | ... | ... | intervention | | ... | ... | ... | ... | ... |
| IV | 52.41 | 4.75 | 46.20 | 48.54 | 49.99 | 51.43 | 52.50 | 53.50 | 54.58 | 55.84 | 58.52 |
| V | 53.75 | 5.83 | 46.35 | 48.70 | 50.60 | 52.28 | 53.96 | 55.43 | 56.96 | 58.43 | 61.12 |
| VI | 55.36 | 4.96 | 48.61 | 50.42 | 52.23 | 54.03 | 55.54 | 57.00 | 58.53 | 60.38 | 63.00 |

Therefore, growth in the mean scores is not attributable solely to the effect of the intervention. The same data is graphically represented in Graph 17. Both the data path and the trend line scale rapid increase. There is a steep rise in the data path from observations one to three of the pre-intervention series of observations. Then from observations three to four there is a fall from where the data path climbs to still higher levels in observation five and six. As there is already a significant trend in the growth of mean scores already in the pre-intervention series of observations on the hypothesized direction, the post-intervention rise in the data path cannot be attributed to the effect of the intervention. Besides, the data show that already in the pre-intervention phase, the class has a high level of cooperation. Out of the total of 76 scores obtainable on the Inventory, the pre-intervention average score was 50.65.

Table 35 : t-values of means of scores on Cooperation-Competition Inventory for the various pairs of observations.

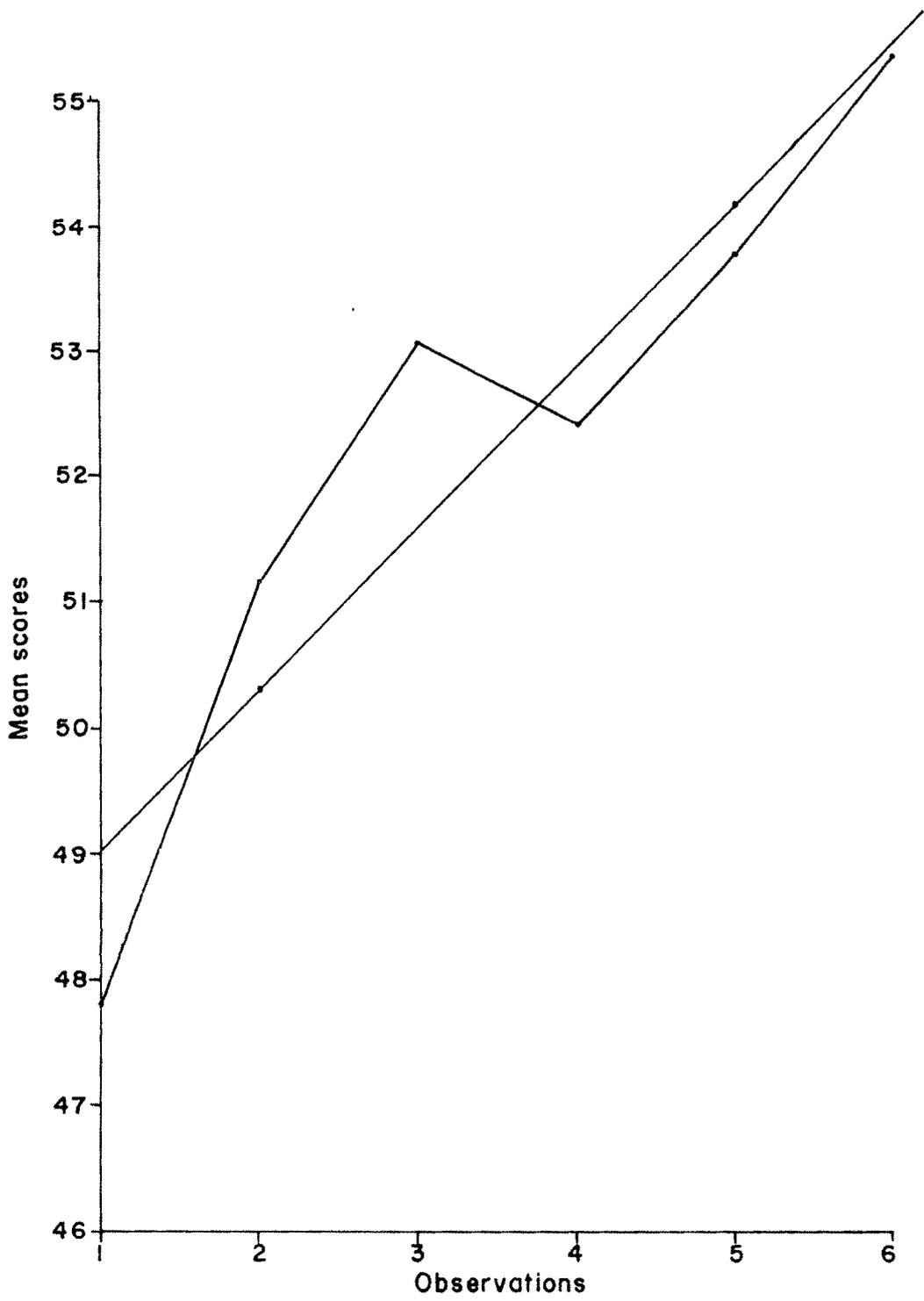| Obser-vation Time | I | II | III | IV | V | VI |
|---|---|---|---|---|---|---|
| I | — | | | | | |
| II | 5.72** | — | | | | |
| III | 8.59** | 2.31* | — | | | |
| IV | 7.75** | 1.68 | 1.23 | — | | |
| V | 7.89** | 2.66* | 0.96 | 2.69** | — | |
| VI | 13.14* | 5.29** | 3.29** | 6.54* | 2.95** | — |

df = 46

 * = significant at 0.05 level

** = significant at 0.01 level

Graph 17: Means of scores on cooperation competition inventory plotted against the six observations along-with the trend line.

I Score = 2 Cms

Students' interpersonal relations were measured by a sociometric technique known as the Ohio Social Acceptance Scale. The level of interpersonal relations existing in the class is an index of social climate, or cohesiveness. A high degree of social cohesiveness or acceptance provides a congenial atmosphere for teaching-learning activities to be conducted as a group function. In a class where there is a healthy social climate, the degree of acceptance will be greater. The choices of each student for every other student in the class was plotted as a sociomatrix.. The OSAS was administered four times, twice during pre-intervention and twice during post-intervention phases of the study. Thus, there were four socio-matrices. These may be found under Appendix II.

A sociomatrix revealed the closeness or distance at which each student chose every other student of his or her class. Choices at 1, 2, and 3 levels showed greater acceptance and less distance and were taken as 'positive' choices. Choices at levels 4 and 5 showed less acceptance or greater distance, and were considered 'negative' choices. The choices given by two students at the same level of acceptance are termed 'mutual' choices. Mutual choices could be either positive or negative. Then there are 'cross' choices. Cross choices are those where the choice of one student at a particular level are reciprocated by another at another level. Cross choices could be of three different types: positive cross choices at different levels of positive choices, negative cross choices at different levels of negative choices; positive-negative cross choices are made where one student chooses another at anyone of the positive levels but is chosen by the other at anyone of the negative choices, or vice versa. All such information can be gathered from a sociomatrix.

The sociomatrices were analyzed for both positive and negative choices at mutual and cross levels. The total number of positive choices made were used to calculate the class cohesiveness index and the level of classroom acceptance. The cohesiveness index was determined by calculating the percentage of mutual positive choices made to the total possible choices. The classroom acceptance level was worked out as the percentage of the total positive choices made, both mutual and cross, to the total possible mutual choices. The total mutual choices possible were taken to be the squared sum of the total number of students in the class minus the number $(N^2 - N)$.

The most stable relationship category, namely, 'Very, Very Best Friend', was analysed for their sociometric placements in the group for each of the four observations separately. This was done by plotting them on sociograms showing their placement in the classroom. On the sociogram, each pupil was denoted by his or her class roll number. Boys were represented by triangles and girls by circles. The straight lines joining the numbers indicate mutual choices at category one. It was found from the sociomatrices that the total positive choices received by individual pupils ranged from 6 to 42. For observation I the range was from 7 to 29; for observation II it was from 6 to 30; for observation III it was from 13 to 42, and for observation IV, it was from 15 to 42. These were formed into class intervals of convenient size and were shown as sequences of squares on the sociograms. The innermost square represents the maximum acceptance or the highest positive choices obtained, and the outer square the least. As the sociograms were plotted for only the mutual 'best friend' choices, they indicate the number of friendship clusters in the class. A pupil located in a particular square (class interval) on the sociogram indicates the number of positive choices he or she has received in the class and the number of mutual relationships he or she has with others.

Table 36 : Positive and negative choices, both mutual and cross alongwith class cohesiveness index and acceptance level for the four different observations.

| Observation Time | Possible Mutual Choices | POSITIVE CHOICES | | | | | | NEGATIVE CHOICES | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | Mutual | | | Total | Cross Choices | Total | Mutual | | Total | Cross Choice | Total | Positive Negative Cross | Cohesiveness | Acceptance |
| | | Best Friend | Other Friend | Not Friend, but O.K. | | | | Don't Care | Dislike | | | | | | |
| I | 2162 | 52 | 178 | 156 | 386 | 348 | 734 | 155 | 173 | 328 | 318 | 646 | 782 | 17.85 | 33.95 |
| II | 2162 | 44 | 138 | 236 | 418 | 363 | 781 | 189 | 50 | 239 | 248 | 487 | 892 | 19.33 | 36.12 |
| III | 2162 | 70 | 149 | 637 | 856 | 624 | 1480 | 104 | 5 | 109 | 21 | 130 | 552 | 39.59 | 68.45 |
| IV | 2162 | 81 | 179 | 550 | 810 | 602 | 1412 | 109 | 18 | 127 | 33 | 160 | 591 | 37.46 | 65.31 |

Table **36** shows the status of choices made at each of the four observations. In the pre-intervention observations, namely, observation one and two, the total positive choices made were 734 and 781 respectively and the negative choices were 646 and 487 respectively. In the post-intervention observations, namely, observations three and four the total positive choices made were 1480 and 1412 respectively out of the possible mutual choice of 2162, and the total negative choices were 130 and 160 respectively. This shows that in the two post-intervention observations, the number of positive choices made nearly doubled itself from what it was in the two pre-intervention observations. Similarly, it can be observed that class cohesiveness index for the first two observations of the pre-intervention phase, were 17.85 and 19.33 respectively and that for observations three and four were 39.59 and 37.46 respectively. Again, classroom acceptance level of students in the first two observations were 33.95 and 36.12 respectively and that for observations three and four were 68.45 and 65.31 respectively. That is, the value of both these indices has doubled itself in the post- intervention observations. Therefore, one may conclude from the finding that the intervention strategy has positively influenced the level of interpersonal relationships in the class.

The sociograms show the mutual best friend choices and the extent to which each pupil is acceptable in class. Sociogram 1 consists of 4 mutually exclusive groups - group one consists of roll numbers 7,10,12,13,34, and 17; group two consists of roll numbers 3,5,6,8,9,21,18,19 and 27; group three consists of roll numbers 22,23, 25, 29, 43 and 47; and group four of roll numbers 11, 14, 41, 44, 45 and 46 - one triad consisting of roll numbers 31, 32, and 42, and two dyads (roll numbers 16 and 17; 38 and 40). Of the six boys in the class, two form an exclusive

Sociogram . I　(Best Friend Choices)　Observation I

221
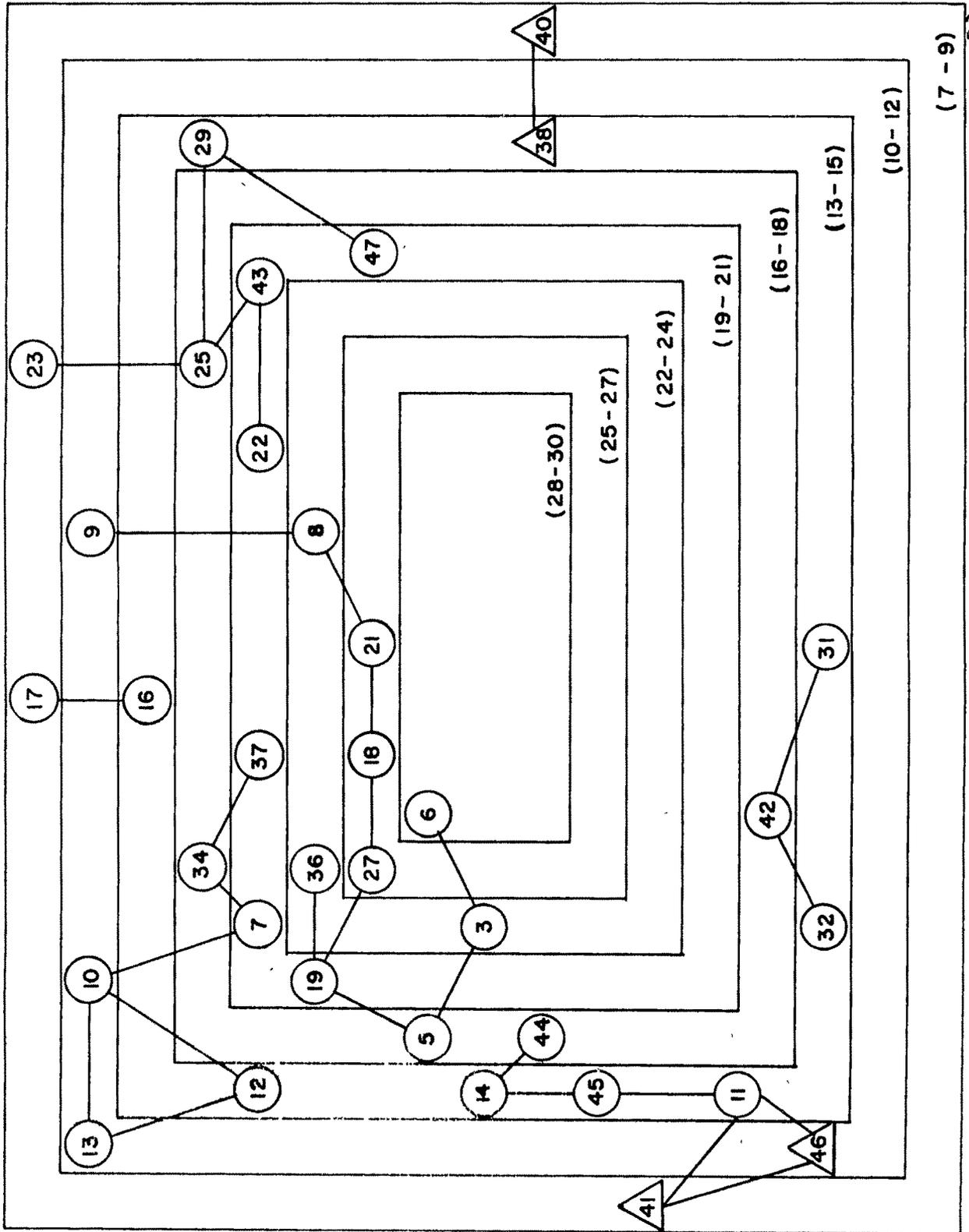
(7 - 9)
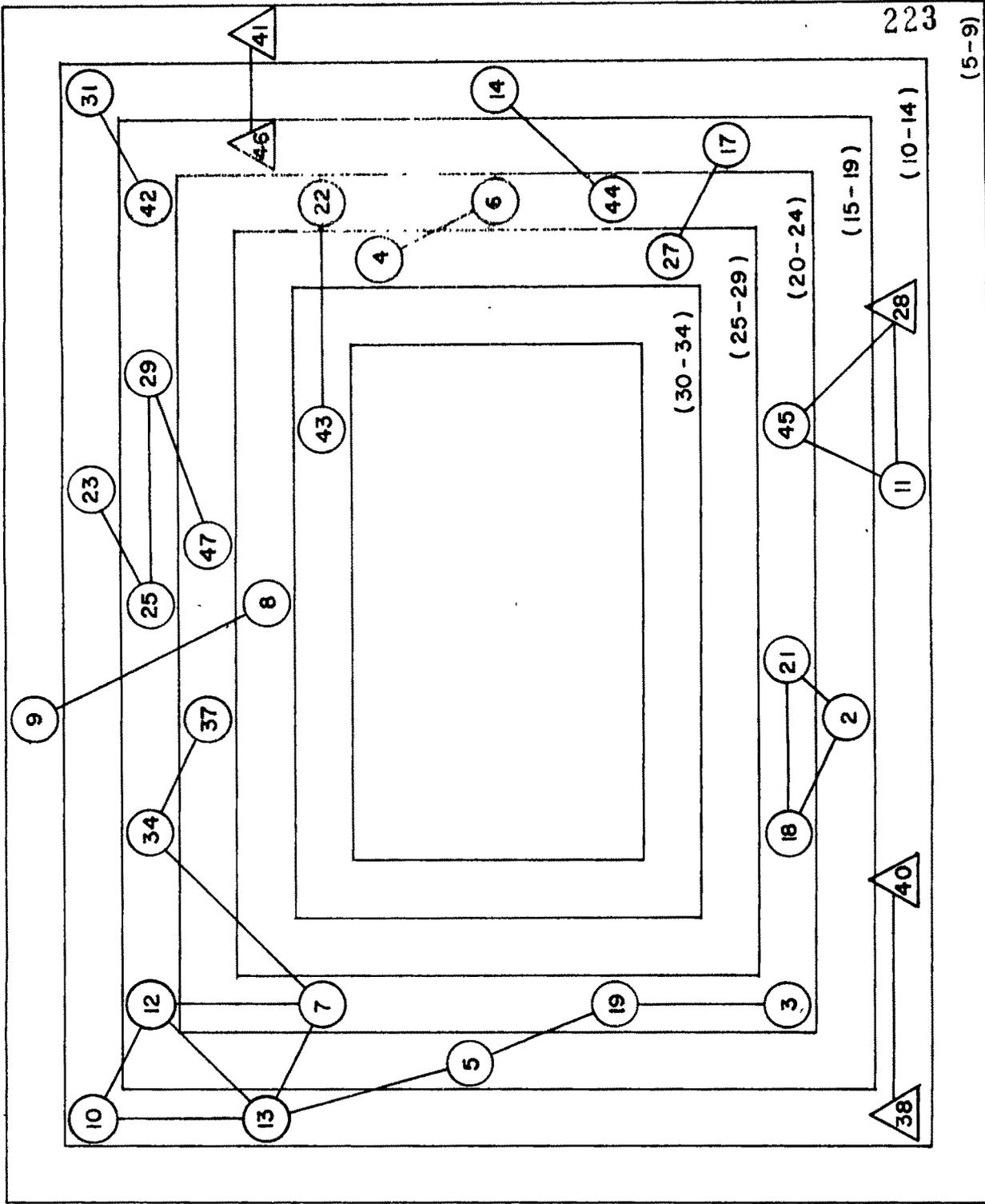(10 - 12)
(13 - 15)
(16 - 18)
(19 - 21)
(22 - 24)
(25 - 27)
(28 - 30)

dyad (roll numbers 38 and 40). Only one girl (roll 11) has chosen two boys (rolls 41 and 46) at the best friend category. There is only one student in the innermost square, representing the highest acceptance level which is in the range of 28 - 30. The majority of students fall in the acceptance level range of 13 - 15. There are four students in the outer square, representing low acceptance, in the range of 7 to 9. Twelve students do not find a place at all in the sociogram.

On sociogram 2, there is an exclusive group, consisting of nine students, namely, roll numbers 3, 5, 7, 10, 12, 13, 19, 34 and 37, and two triads, consisting of numbers 2, 18, 21 and 11, 28, 45. The rest of the sociogram consists of 10 separate dyads. Of the six boys four form two exclusive dyads (38, 40 and 41, 46) and one boy (roll 28) forms a triadic relationship with two girls (roll numbers 11 and 45). There is only one student (roll 43) in the innermost square representing an acceptance range of 30-34. Majority of students fall in the acceptance range of 20 - 24. As in sociogram 1, here too 12 students do not find a place in the sociogram.

A different picture is seen in sociogram 3. Here there are two very large inter-related groups. Group one consists of numbers 4, 6, 7, 10, 11, 12, 13, 15, 22, 24, 26 29, 32, 34, 39, 44, 45 and 47. Group two consists of 3, 5, 8 9, 19, 20, 23, 25, 36 and 43. Then there are two smaller groups, one consisting of four students, namely, roll numbers 2, 18, 21 and 27, and the other a triad, consisting of roll numbers 16, 17 and 18. Roll number 28 is a boy and he has changed his choice in favour of roll 17 instead of roll numbers 11 and 45 as in sociogram 2. Four boys form two
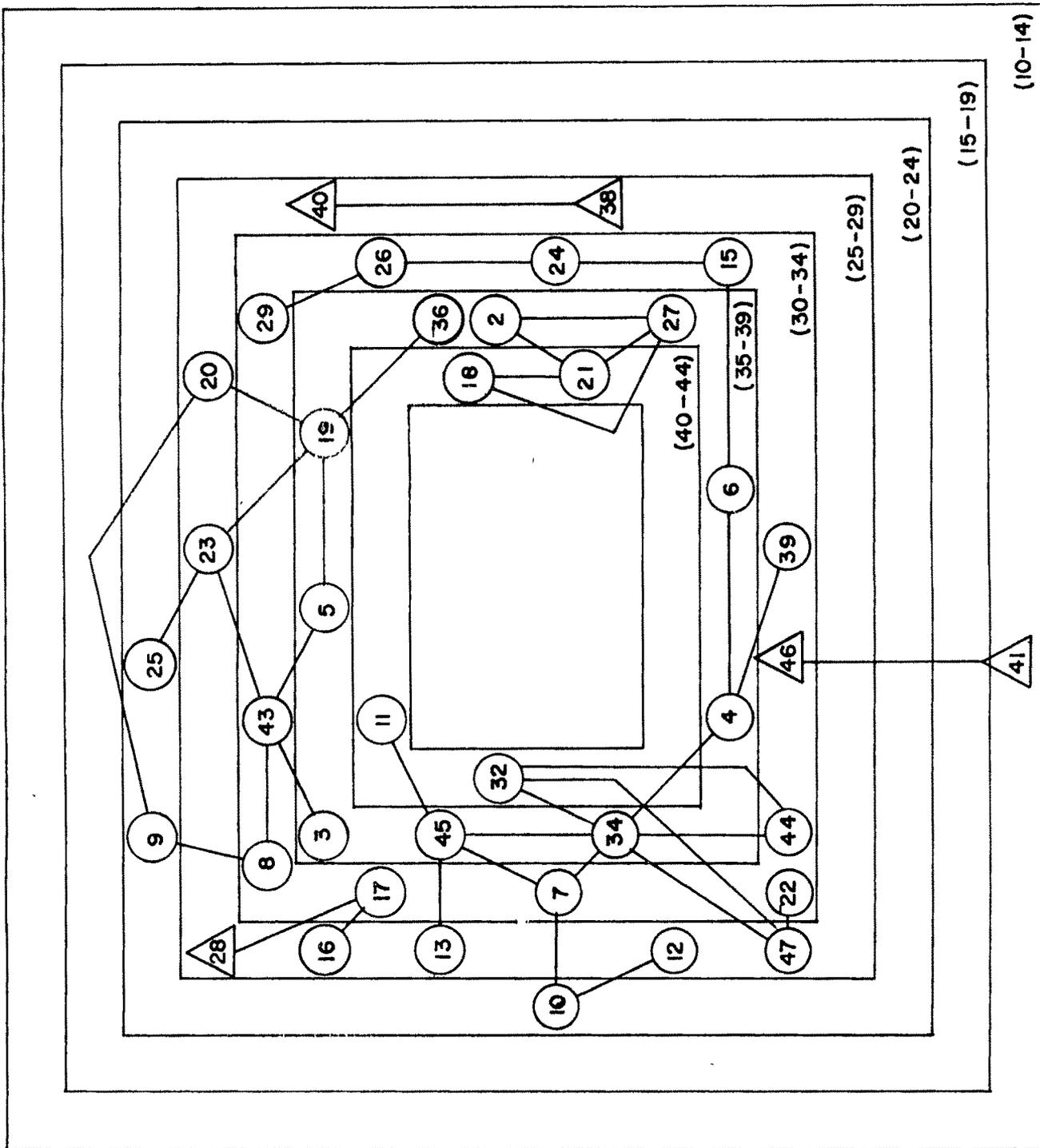
Sociogram : II      (Best Friend Choices)      Observation: II

223

(5-9)

(10-14)

(15-19)

(20-24)

(25-29)

(30-34)

224

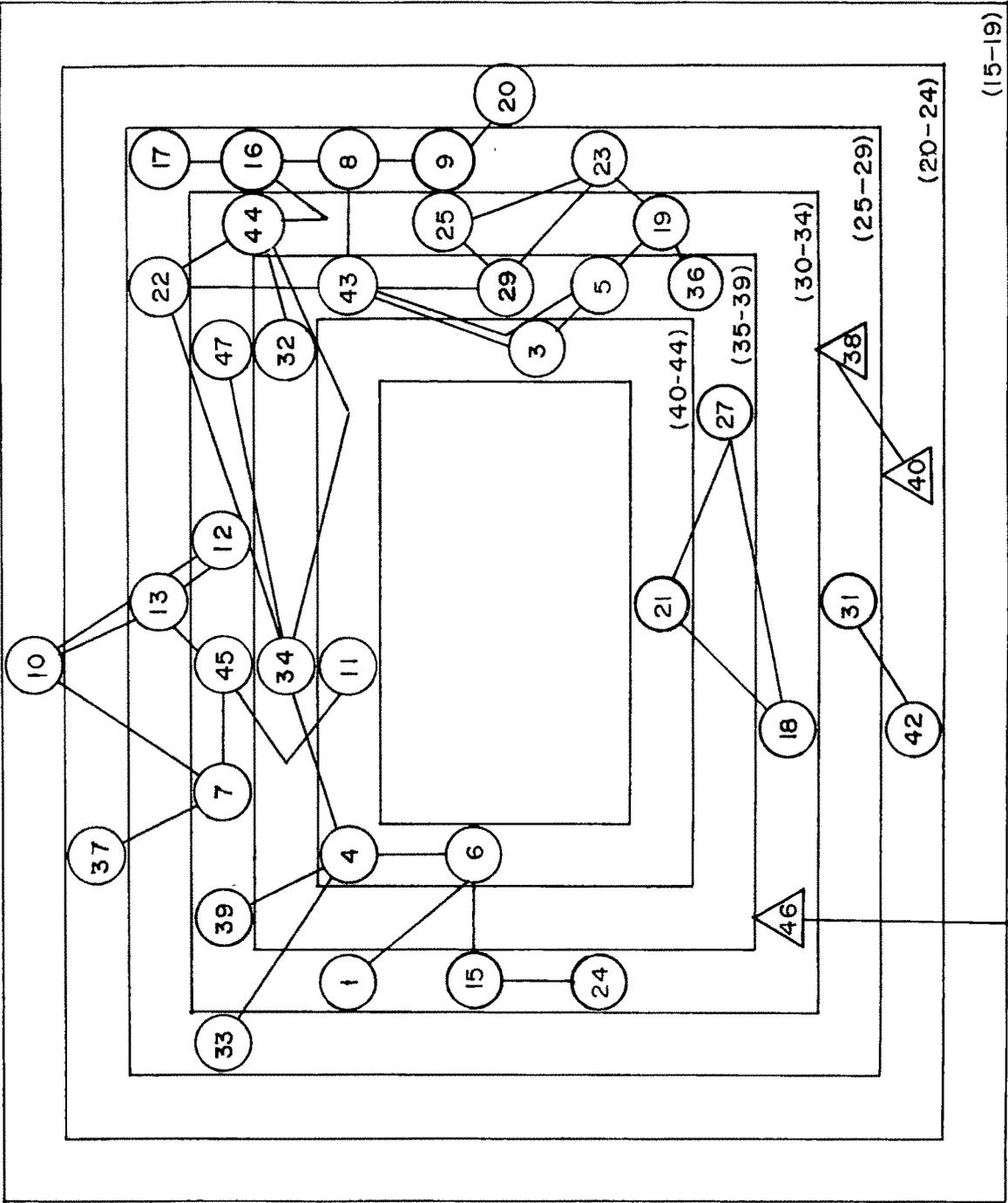Sociogram : Ⅲ          (Best Friend Choices)          Observation : Ⅲ

exclusive dyads, , (roll numbers 38, 40 and 41, 46). One
boy does not find a place in the sociogram. Here, in sociogram
3, the highest acceptance range has risen to 40-44 and there
are four students in it. The highest number of students is in
the acceptance level of 30-34. The lowest acceptance range
is 10-14 and there is only one student in it. There are 8
students who do not find a place in the sociogram.

In sociogram 4 too, there are two very large inter-
related groups. Group one consists of 19 students, comprising
of roll numbers 1,4,6,7,10,11,12,13,15,22, 24, 32, 33, 34,
37, 39, 44, 45, and 47. Group two consists of 13 students and
they are roll numbers 3,5, 8, 9, 16, 17, 19, 20, 23, 25, 29, 36
and 43. Then there is an exclusive triad, consisting of roll
numbers 18, 21 and 27. Four boys form themselves into two
exclusive dyads, roll numbers 38 and 40, and 41 and 46. There
is a dyad of two girls, consisting of roll numbers 31 and 42.
The highest acceptance level is in the 40-44 range and there
are five students in it. The majority of students are in the
range 30-34. There are 7 students who do not find a place in
the sociogram. The lowest range is 10-14 and there is only
one student in it.

The sociograms reveal a number of things. The highest
acceptance level range has gone up from 28-30 in sociogram 1
and 30-34 in sociogram 2 to 40-44 in sociogram 3 and 4.
Similarly the lowest range has gone up from 7-9 in sociogram 1
and 5-9 in sociogram 2 to 10-14 range in sociograms 2 and 4,
where the same student (roll 41) remains in that range.
Except for this, the actual lowest range would have been
higher. The boys as a group are not accepted at best friend
level. So they form into dyadic groups and there is no
boys' group. In sociograms 1 and 2 there are several independent

226

Sociogram : IV                    ( Best Friend Choices )                    Observation. IV

groups, whereas in sociograms 3 and 4 there are large inter-related groups. This shows greater cohesiveness and acceptance. Similarly, there is a reduction in the number of students who do not find a place in the sociogram from 12 each in sociogram 1 and 2 to 9 in sociogram 3 and 7 in sociogram 4. So, one can say that the sociometric data give ample evidence to conclude that the status of interpersonal relationships in the two post-intervention observations is definitely much higher than what it was in the pre-intervention observations. Therefore, the intervention strategy may be said to be effective in bringing about greater interpersonal relationship in the class.

## 5.12 Classroom Participant Observation

The purpose of the classroom participant observation was to study the interaction behaviour of both teachers and students. The most important activity that goes on in the classroom is teaching and learning. Teaching happens on the part of the teacher and learning takes place at the end of the student. The mere fact of teaching does not ensure that learning will take place. Learning happens when the learner chooses to learn. What goes on between the teacher and the learner, or what we call teacher-pupil interaction, or teacher-pupil communication, will determine to what extent the student will choose to get involved with the learning activities and actually learn. In the classroom participant observation, an attempt was made to study the teaching and communication style of teachers as well as the pattern of student responses.

5.12.1  Classroom participant observation of teacher-1

Table 37 is a summary of observations of classroom teaching of teacher-1 with particulars of teacher and student behaviours alongwith the observer's rating of student involvement with the teaching-learning processes.

The usual style of teaching (of teacher-1) was to read from the textbook and explain the lesson. While doing so, the teacher would ask a few questions. Only a handful of students asked any questions on their own in class. Quite a good number of students continued to talk or otherwise engage in disturbing behaviours while the teacher taught. Often the teacher would tolerate the disturbance and continue teaching, but on occasions the teacher would stop teaching to handle disturbance in class. This was done generally either by giving a lecture to the entire class, or by shouting at individual students, demeaning or rediculing them, or by passing some negative personal remarks. The investigator could see that this way of managing discipline had no tangible effect on the students. After a few minutes they were back to talking or any other disturbing behaviour they were engaged in before. The students did not seem to take the teacher seriously. The observer was able to note clearly that whenever the teacher involved the students by asking them questions and eliciting answers or employee more participatory methods of teaching, • there was more cooperation on the part of students and hardly any disturbance in class.

Table 37 :  Observation of classroom teaching of teacher-1
with particulars of teacher and student  behaviour
along with the investigator's rating of student
involvement with teaching -learning activity.

| Specific Behaviours Observed | Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI | VII | VIII | IX | X |
| **I. Teaching style** | | | | | | | | | | |
| 1. Lecture | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| 2. Lecture-cum-question | | ✓ | | | | | | | | |
| 3. Lecture-cum-demonstration | | | | | | | | | | |
| 4. Participatory teaching | ✓ | | | ✓ | | ✓ | ✓ | ✓ | | ✓ |
| 5. Demonstration cum-participatory teaching | | | ✓ | | ✓ | | ✓ | | | ✓ |
| 6. Group Study/ discussion | | | | | | | | ✓ | | ✓ |
| 7. Supervised individual study | | | | | | | ✓ | | | |
| **II. Teacher questions** | | | | | | | | | | |
| 1. Closed-ended | 5 | 7 | 10 | 4 | 5 | 5 | 5 | 6 | 10 | 9 |
| 2. Open-ended | 7 | — | — | 3 | 3 | 8 | 11 | 9 | 6 | 10 |
| 3. Distribution | 7 | 4 | 6 | 4 | 5 | 6 | 12 | 12 | 10 | 14 |
| 4. Total | 12 | 7 | 10 | 7 | 8 | 13 | 16 | 15 | 16 | 19 |

*(intervention marked between columns V and VI)*

Table 37 (contd.)

230

| specific behaviours Observed | Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI | VII | VIII | IX | X |
| III. Teacher Communication of attitudes | | | | | | | | | | |
| 1. Understanding/ accepting | 8 | 2 | 4 | 4 | 5 | 8 | 8 | 9 | 8 | 12 |
| 2. Non-accepting | 6 | 8 | 8 | 4 | 6 | 4 | 2 | 1 | – | 1 |
| 3. Inviting | 1 | 2 | – | 2 | – | 4 | 5 | 6 | 6 | 6 |
| 4. Disinviting | 3 | 3 | 6 | 1 | 3 | 3 | – | 1 | 2 | – |
| 5. Assertive | – | – | – | – | – | – | – | – | – | – |
| IV. Student responses | | | | | | | | | | |
| 1. Paying attention /taking notes * | B | C | A | C | B | C | C | C | C | C |
| 2. Asking questions | 2 | – | – | 4 | 3 | 4 | 8 | 6 | 9 | 6 |
| 3. Answering questions (volunteered) | 9 | 3 | 4 | 6 | 8 | 6 | 7 | 8 | 6 | 8 |
| 4. Not paying attention | | | | | | | | | | |
| a. Taling with those around | 10 | 12 | 16 | 14 | 12 | 4 | 2 | 6 | 4 | 2 |
| b. Playing | 3 | 7 | 6 | 10 | 4 | 2 | 1 | 2 | 1 | 2 |
| 5. Discussions | 4 | 6 | 8 | 3 | 4 | – | 1 | ¬ | – | – |
| 6. Latecoming | 4 | 6 | 4 | 2 | 4 | 2 | – | – | – | 2 |
| V. Investigator's judgement of student involvement/ participation (+) | B | B | A | C | B | C | D | D | D | D |

(column between V and VI marked vertically: intervention)

(*) Rating (based on observer's impression) was done according to the following four acategories:

A = less than 50%; B=about 50%; C = majority; D = nearly all.

(+) Rating was done according to the following five categories:

A = hardly any; B = poor; C = average; D = to a great extent; E = excellent.

The investigator also observed that at time the teacher was not clear in presenting new concepts, was not audible enough at the back of the class, that the teacher continued to talk with one or a few students in class without including the whole class, and that the teacher did not really bother about what the students were feeling in the class. Yet, a very redeeming aspect of this teacher was that the teacher was very personal and caring in her personal interactions with students.

During the training for teachers, the investigator gave some of the above observations as feedback to the teacher.

After the training (intervention) of the participating teachers, the observer could see that the teacher prepared for the classes better. The teacher would bring prepared notes to class instead of reading from the textbook and give extra references from books in the library for students to refer to. There was much more variation in teaching style. The teacher began to use more participatory form of teaching. Table 37 shows that the teacher employed a combination of participatory and demonstration method with supervised individual and group study. Both the individual and group study were followed by class sharing of ideas and class discussion. There was a remarkable improvement in student involvement and participation in teaching-learning process. The above table also shows a substantial rise in both teacher and student questions. Also, there is a wider spread of distribution of teacher questions. There is an increase in open-type questions and a corresponding decrease in the closed-type. Also, the teacher communication pattern showed an increase in understanding, acceptance and inviting behaviour and a decrease in

disinviting and nonaccepting responses. The teacher also put forth the effort so that everyone could hear every word spoken. The teacher also came down from the stage into the isles while teaching.

## 5.12.2 Classroom participant observation of teacher-2

Given in Table 38 is the summary of observations of classroom teaching of teacher-2. What is noticeable about this teacher is that she used a variety of teaching styles both before and after the intervention. As a result students responded to her teaching and were very much involved with learning activities as can be observed from the table under section IV and V. As the teacher used more of participatory teaching, she used a lot of questions, both closed-ended and open-ended. One can note from the table that there is an increasing trend of using open-type of questions in the post-intervention series of observations as against their use in the pre-intervention set of observations. The teacher's communication of understanding and acceptance has been good all through the ten lessons observed. The training seems to have slightly improved her inviting behaviour as can be seen from the post-intervention frequencies of the same. However, it must be noted that high or low frequency of communication of attitudes does not mean that the teacher does or does not have the qualities. What matters is the appropriateness of the exhibited behaviour in a particular context. While being understanding, accepting and inviting, the teacher was sufficiently assertive when needed, without making students wrong or branding them. A few students continued to be inattentive and distracted themselves and others, but it never amounted to disrupting her teaching and there was no occasion when she had to stop teaching to handle indiscipline. The table also shows that there were late comers to her class. But the knowledge that she always had the first period of the day may help explain its inevitability and it may probably have nothing to do with the person that she is.

Table 38 : Observation of classroom teaching of teacher-2 with particulars of teacher and student behaviours along with the investigator's rating of student involvement with teaching-learning activity.

| Specific Behaviour Observed | Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI | VII | VIII | IX | X |
| I. Teaching style | | | | | | | | | | |
| 1. Lecture | | | | ✓ | | | | | | ✓ |
| 2. Lecture cum questions | | | | ✓ | | | ✓ | | | |
| 3. Lecture cum demonstration | | | | | | | | | | |
| 4. Participatory teaching | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 5. Demonstration cum participatory teaching | | | | | | | ✓ | | | |
| 6. Group Study/ discussion | ✓ | | | | ✓ | | ✓ | ✓ | ✓ | |
| 7. Supervised individual study | ✓ | | | | | | ✓ | | | |
| II. Teacher questions | | | | | | | | | | |
| 1. Closed-ended | 12 | 14 | 10 | 17 | 12 | 10 | 12 | 10 | 8 | 6 |
| 2. Open-ended | 2 | 6 | 2 | − | − | 8 | 9 | 12 | 12 | 12 |
| 3. Distribution | 12 | 16 | 9 | 15 | 9 | 16 | 14 | 18 | 18 | 16 |
| 4. Total | 14 | 20 | 12 | 17 | 12 | 18 | 20 | 22 | 20 | 18 |
| III. Teacher communication of attitudes | | | | | | | | | | |
| 1. Understanding/ accepting | 8 | 14 | 6 | 12 | 9 | 14 | 12 | 16 | 14 | 12 |
| 2. Nonaccepting | 3 | 4 | 2 | 3 | 1 | 2 | − | − | 1 | − |
| 3. Inviting | 3 | 2 | 2 | 2 | 2 | 6 | 8 | 6 | 7 | 6 |
| 4. Disinviting | − | − | − | − | − | − | − | − | − | − |
| 5. Assertive | 5 | 4 | 6 | 2 | 2 | 1 | − | 3 | − | 2 |

(between columns V and VI, vertically: intervention)

Table 38 (contd)

| Specific Bheaviours Observed | Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI | VII | VIII | IX | X |
| **IV. Student responses** | | | | | | | | | | |
| 1.Paying attention/ taking notes(*) | C | C | C | C | G | C | D | D | D | D |
| 2.Asking questions | 1 | 2 | 2 | 1 | – | 1 | – | 4 | 2 | 2 |
| 3.Answering questions (volunterred) | 12 | 16 | 2 | 15 | 9 | 16 | 14 | 18 | 18 | 16 |
| 4.Not paying attention | | | | | | | | | | |
| a) Talking with those around | 10 | 14 | 6 | 8 | 10 | 4 | 4 | 6 | 2 | 4 |
| b) Playing | 4 | 3 | 4 | 2 | 2 | 1 | 3 | 2 | 2 | 1 |
| 5.Disruptions | – | – | – | – | – | – | – | – | – | – |
| 6.Latecoming | 3 | 2 | 4 | 1 | 4 | 1 | 3 | 1 | 1 | 2 |
| **V. Investigator's Judgement of student involvement/ participation (+)** | D | D | E | E | D | D | E | E | D | E |

(between columns V and VI, a vertical label reads "intervention")

(*) Rating (based on observer's impression) was done according to the following four categories:

A = less than 50%; B = about 50%; C = majority; D = nearly all.

(+) Rating was done according to the following five categories:

A = hardly any; B = poor; C = average; D = to a great extent E = excellent

From the above observations, one can say that teacher-2
is a very successful teacher. The way the training may have
worked for her was to bring to her notice her own strengths
and certain theoretical clarity as to why certain behaviours
are enabling and inviting the students while some other
behaviours are disabling and disinviting.

5.12.3  Classroom observation of teacher-3

Table 39 is a summary of observations of the classroom
teaching of teacher-3. The table shows that the teacher uses
only the lecture method, interspersed with some questions.
Most of the questions were closed-ended and they were not
distributed among students well. As a result the same students
got chances to answer in class. The teacher communication of
attitudes was not very much one of acceptance and inviting.
The table shows, however, a slight reduction in non-accepting
and disinviting behaviours after the intervention. The students
were not really involved with learning, instead they continued
to talk in large numbers and play with those sitting nearby
during each period. As a result the teacher had to stop
teaching several times each class to bring the class to order.
Also, the table shows a reduction in the number of latecomers.
This may, again, be due to the self-management approach to
classroom discipline adopted during the intervention phase.
There was not much student involvement with classroom teaching-
learning processes either before or after the intervention.

In conclusion, it may be said that there has not been
any appreciable change in the classroom behaviour of teacher-3
after the intervention. Her classroom practices, by and large,
remained as they were before the training.

Table 39 : Observation of classroom teaching of teacher-3 with
particulars of teacher and student behaviours alongwith
the investigator's rating of student involvement with
teaching-learning activity.

| Specific Bheaviours Observed | Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI | VII | VIII | IX | X |
| I.Teaching style | | | | | | | | | | |
| 1.Lecture | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 2.Lecture cum questions | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 3.Lecture cum demonstration | | | | | | | | | | |
| 4.Participatory teaching | | | | | | | | | | |
| 5.Demonstration cum participatory teaching | | | | | | | | | | |
| 6.Group study/ discussion | | | | | | | | | | |
| 7.Supervised individual study | | ✓ | | | | ✓ | | ✓ | | ✓ |
| II.Teacher questions | | | | | | | | | | |
| 1.Closed-ended | 14 | 8 | 12 | 9 | 12 | 11 | 14 | 16 | 12 | 18 |
| 2.Open-ended | – | – | – | – | – | – | – | – | – | – |
| 3.Distribution | 7 | 5 | 8 | 6 | 8 | 6 | 10 | 12 | 10 | 12 |
| 4.Total | 14 | 8 | 12 | 9 | 12 | 11 | 14 | 16 | 12 | 18 |
| III.Teacher communication of attitudes | | | | | | | | | | |
| 1.Understanding/ accepting | 2 | 5 | 5 | 3 | 4 | 4 | 6 | 8 | 10 | 8 |
| 2.Non-accepting | 8 | 9 | 6 | 9 | 7 | 4 | 4 | 2 | 4 | – |
| 3.Inviting | 2 | 3 | 3 | 2 | 3 | 4 | 3 | 4 | 8 | 3 |
| 4.Disinviting | 4 | 3 | 7 | 4 | 6 | 3 | 2 | 4 | – | 1 |
| 5.Assertive | – | – | – | – | – | – | – | – | – | – |

(Note: "intervention" is written vertically between columns V and VI.)

Table 39 (contd.)

| Specific Bheaviours Observed | I | II | III | IV | V | | VI | VII | VIII | IX | X |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **IV. Student responses** | | | | | | | | | | | |
| 1.Paying attention/ taking notes (*) | B | B | B | A | B | | B | B | B | B | B |
| 2.Asking questions | – | 2 | – | – | 1 | | – | – | 1 | 2 | – |
| 3.Answering questions (volunteered) | 3 | 5 | 6 | 2 | 4 | | 7 | 9 | 10 | 9 | 12 |
| 4.Not paying attention | | | | | | | | | | | |
| a)talking with those around | 21 | 17 | 23 | 16 | 14 | | 12 | 14 | 18 | 11 | 7 |
| b)Playing | 8 | 6 | 9 | 8 | 7 | | 8 | 4 | 2 | 2 | 6 |
| 5.Disruptions | 6 | 4 | 4 | 2 | 6 | | 3 | 2 | 3 | 3 | 2 |
| 6.Latecoming | 4 | 3 | 2 | 5 | 4 | | 1 | – | – | 2 | – |
| **V. Inve_tigator's judgement of student involvement/ participation(+)** | A | A | A | A | B | | B | B | B | B | B |

The column between V and VI is labelled vertically: intervention

(*) Rating (based on observer's impression) was done according to the following four categories :

A = less than 50%; B about 50%; C = majority; D = nearly all.

(+) Rating was done according to the following five categories:

A = hardly any; B = poor; C = average; D = to a great extent E = excellent.

5.12.4   Class participant observation of teacher-4

Table 40 is a summary of observations of classroom teaching of teacher-4. Looking through the table one can note several things and make conclusions regarding the impact of the intervention on the classroom behaviour of the teacher.

The teacher has more variation in teaching style in the post-intervention observations. Also, she uses more open-ended questions. In the same, way, there is an overall increase in the number of questions asked and a reduction in the communication of non-accepting and disinviting attitudes. There were a few students who continued to talk among themselves while the teacher was engaged in teaching, but it did not amount to disturbing teaching, nor did the teacher have to stop teaching to handle discipline. There was very good student involvement with teaching-learning process in the class both in the pre- and post- intervention series of observations.

Some of the areas where the intervention seemed to have made a difference for the teacher are: better communication of facilitative attitudes, use of open-ended questions, and adoption of teaching styles that are more participatory in nature that involve students in teaching-learning processes.

Table 40 : Observation of classroom teaching of teacher-4 with particulars of teacher and student behaviour alongwith the investigator's rating of student involvement with teaching-learning activity.

| Specific Bheaviours Observed | Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI | VII | VIII | IX | X |
| **I. Teaching style** | | | | | | | | | | |
| 1.Lecture | ✓ | ✓ | ✓ | | | | | | ✓ | ✓ |
| 2.Lecture cum questions | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | |
| 3.Lecture cum demonstration | | | | | | | | | | |
| 4.Participatory teaching | | | | | | | ✓ | | ✓ | ✓ |
| 5.Demonstration cum participatory/ teaching | | | | | | | | | | |
| 6.Group study/ discussion | | | | | | | | | ✓ | ✓ |
| 7.Supervised individual study | | | | | | | | ✓ | | |
| **II. Teacher questions** | | | | | | | | | | |
| 1.Closed-ended | 9 | 8 | 12 | 9 | 12 | 12 | 19 | 12 | 18 | 16 |
| 2.Open-ended | — | — | — | — | — | 4 | 8 | 6 | 4 | 5 |
| 3.Distribution | 6 | 8 | 9 | 5 | 8 | 14 | 22 | 14 | 15 | 18 |
| 4.Total | 9 | 8 | 12 | 9 | 12 | 16 | 27 | 18 | 22 | 21 |
| **III. Teacher communication of attitudes** | | | | | | | | | | |
| 1.Understanding/ accepting | 8 | 4 | 10 | 6 | 6 | 6 | 8 | 8 | 10 | 12 |
| 2.Non-accepting | 2 | 4 | 6 | 3 | 3 | 2 | 1 | — | — | 1 |
| 3.Inviting | 4 | 3 | 4 | 6 | 3 | 6 | 3 | 4 | 2 | 4 |
| 4.Disinviting | — | 2 | — | 1 | — | 1 | — | — | — | — |
| 5.Assertive | — | — | — | — | — | — | — | 2 | 1 | — |

(column between V and VI labelled: intervention)

Table 40 (contd.)

| Specific Behaviour Observed | Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI | VII | VIII | IX | X |
| **IV. Student responses** | | | | | | | | | | |
| 1.Paying attention/ taking notes(*) | C | C | C | C | C | C | D | D | C | D |
| 2.Asking questions | – | – | 2 | 1 | – | 2 | 4 | 2 | 1 | 3 |
| 3.Answering questions (volunteered) | 6 | 4 | 6 | 3 | 8 | 11 | 16 | 12 | 12 | 15 |
| 4.Not paying attention | | | | | | | | | | |
| a) talking with those around | 8 | 10 | 6 | 8 | 12 | 4 | 3 | 8 | 6 | 3 |
| b) Playing | – | 2 | 1 | 3 | 2 | 1 | 2 | – | – | – |
| 5.Disruptions | – | – | – | – | – | – | – | – | – | – |
| 6.Latecoming | – | – | – | – | – | – | – | – | – | – |
| **V. Investigator's judgement of student involvement/ participation(+)** | D | D | D | D | D | E | D | E | E | E |

(*) Rating (based on observer's impression) was done according to the following four categories:

A = less than 50%; B = about 50%; C = majority; D = nearly all.

(+) Rating was done according to the following five categories:

A = hardly any; B = poor; C = average; D = to a great extent; E = excellent.

5.12.5  Classroom participant observation of teacher-5

Table 41 presents a summary of observations of class-room teaching of teacher-5. It may be seen from the table that the teacher uses only the lecture method of teaching combined with questioning students either on the matter already taught or on their previous knowledge. In doing so he mainly used closed-ended questions. The questions were not evenly distributed among the students. Nearly the same students participated in his class. The number of students volunteering to answer questions were few in each teaching period.

With regard to the communication of the facilitative attitudes, the teacher was predominantly nonaccepting and disinviting. However, a slight increase in the frequency of accepting and inviting attitude is seen in the table for the post-intervention set of observations. But it had no percep-tible impact on student participation in his class (vide table 41 section IV and V). Majority of students kept talking among themselves and some openly played with those sitting around when the eyes of the teacher were not on them. The teacher had to stop teaching several times during a teaching period to deal with discipline. He did so either by punishing them (making them stand on chairs, kneel infront of class, or ask them to change seats), calling them names, or in any way demeaning or humiliating them. But it was observed that such teacher behaviour had no impact on students. In fact, they provoked him on occasions to get angry and punish them. When he did that, the class enjoyed it. The investigator could see that the students were really making him look stupid.

It may be concluded from the observation that the intervention had no perceptible change in the classroom behaviour of the teacher.

Table 41 : Observation of classroom teaching of teacher-5 with particulars of teacher and student behaviours alongwith the investigator's rating of student involvement with teaching-learning activity.

| Specific Behaviours Observed | Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI | VII | VIII | IX | X |
| **I. Teaching style** | | | | | | | | | | |
| 1. Lecture | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 2. Lecture cum questions | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 3. Lecture cum demonstration | | | | | | | | | | |
| 4. Participatory teaching | | | | | | | | | | |
| 5. Demonstration cum participatory teaching | | | | | | | | | | |
| 6. Group study/ discussion | | | | | | | | | | |
| 7. Supervised individual study | | | | | | | | | ✓ | ✓ |
| **II. Teacher questions** | | | | | | | | | | |
| 1. Closed-ended | 8 | 11 | 6 | 9 | 5 | 12 | 14 | 10 | 14 | 12 |
| 2. Open-ended | - | - | - | 2 | - | - | 4 | - | - | - |
| 3. Distribution | 4 | 6 | 4 | 6 | 3 | 8 | 12 | 7 | 10 | 8 |
| 4. Total | 8 | 11 | 6 | 11 | 5 | 12 | 18 | 11 | 14 | 12 |
| **III. Teacher communication of attitudes** | | | | | | | | | | |
| 1. Understanding/ accepting | 2 | 4 | 3 | 2 | 4 | 5 | 8 | 6 | 8 | 4 |
| 2. Non-accepting | 8 | 12 | 6 | 8 | 6 | 4 | 6 | 5 | 6 | 7 |
| 3. Inviting | - | 2 | ± | 1 | 1 | 2 | 3 | 3 | 2 | 2 |
| 4. Disinviting | 8 | 4 | 6 | 9 | 6 | 3 | 4 | 4 | 2 | 3 |
| 5. Assertive | - | - | - | - | - | - | - | - | - | - |

(A vertical label "intervention" appears between columns V and VI.)

contd...

Table 41 (contd.)

| Specific Behaviours Observed | Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI | VII | VIII | IX | X |
| IV. Student responses | | | | | | | | | | |
| 1. Paying attention/ taking notes(*) | A | A | A | A | A | A | A | A | A | A |
| 2. Asking questions | - | 2 | 1 | - | - | - | - | 2 | 3 | - |
| 3. Answering questions (volunteered) | 2 | 4 | 6 | 4 | 2 | 2 | 4 | 8 | 4 | 3 |
| 4. Not paying attention | | | | | | | | | | |
| a) talking with those around | 27 | 24 | 19 | 26 | 21 | 24 | 26 | 21 | 27 | 19 |
| b) Playing | 8 | 13 | 7 | 14 | 8 | 11 | 9 | 14 | 16 | 1: |
| 5. Latecoming | 4 | 5 | 3 | 4 | 4 | 3 | 2 | 1 | 2 | - |
| V. Investigator's judgement of student involvement/ participation(+) | A | A | A | A | A | A | A | A | A | A |

*(column between V and VI labelled vertically: "intervention")*

(*) Rating (based on observer's impression) was done according
to the following four categories:

A = less than 50%; B = about 50%; C = majority; D = nearly all

(+) Rating was done according to the following five categories:

A = hardly any; B = poor; C = average; D = to a great extent;
E = excellent.

5.12.6   Classroom observation of teacher-6

Table 42 gives a brief summary of observations of classroom teaching of teacher-6. As it can be seen from the table, the teacher uses more of participatory methods of teaching and gets the students involved in his teaching both in the pre- and post- intervention series of observations. With regard to the use of questions, he used open-ended questions more consistently in the post-intervention series of observations. Also, a reduced frequency of non-accepting and disinviting communication may be observed in the post-intervention series of observations. The teacher shows at the same time that he can be assertive if occasion calls for it. The students responded to him by involving themselves in the teaching-learning process. There were always a few students who distracted themselves by talking among themselves, but it did not distract the teacher or the class and the teacher did not have to stop teaching anytime to deal with discipline.

The area of significant learning for the teacher seems to be in the use of more open-ended questions and communication of facilitative attitudes like understanding, acceptance and inviting.

5.12.7   Classroom observation of teacher-7

Table 43 gives a brief summary of observations of class-room teaching of teacher-7. It shows that the teacher used only the lecture method with a few questions thrown ir both the pre- and post- intervention series of observations. There is, however, more questioning in the post-intervention observations and an attempt to make the classroom teaching more participatory. Although more open-ended questions did show up in the post-intervention set observations, the questions were predominantly of the closed-ended type.

Table 42 : Observation of classroom teaching of teacher-6 with particulars of teacher and students behaviour along-with the investigator's rating of student involvement with teaching-learning activity.

| Specific Behaviours Observed | Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI | VII | VIII | IX | X |
| **I. Teaching style** | | | | | | | | | | |
| 1. Lecture | | | | ✓ | | | | | | |
| 2. Lecture cum questions | ✓ | ✓ | | | | | | | | |
| 3. Lecture cum demonstration | | | ✓ | | | | | | | |
| 4. Participatory teaching | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 5. Demonstration cum participatory teaching | | | | | | | | ✓ | | |
| 5. Group study/discussion | | | | | | | | | | |
| 6. Supervised individual study | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ |
| **II. Teacher questions** | | | | | | | | | | |
| 1. Closed-ended | 4 | 8 | 3 | 11 | 8 | 6 | 10 | 8 | 12 | 8 |
| 2. Open-ended | – | – | 2 | – | – | 2 | 2 | 4 | 3 | 6 |
| 3. Distribution | 4 | 6 | 3 | 7 | 6 | 8 | 12 | 12 | 15 | 14 |
| **III. Teacher communication of attitudes** | | | | | | | | | | |
| 1. Understanding/accepting | 3 | 6 | 4 | 6 | 4 | 8 | 12 | 10 | 8 | 12 |
| 2. Non-accepting | – | – | 2 | 4 | 4 | – | – | 2 | – | – |
| 3. Inviting | 2 | 4 | – | 5 | 4 | – | 4 | 3 | 2 | 4 |
| 4. Disinviting | – | 1 | – | 3 | 2 | 1 | – | – | – | 1 |
| 5. Assertive | – | 2 | – | – | – | 2 | – | – | 3 | 2 |

(Note: the vertical label "Intervention" appears in the column between V and VI.)

Table 42 (contd.)

| Specific Behaviours Observed | Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI | VII | VIII | IX | X |
| **IV. Student responses** | | | | | | | | | | |
| 1. Paying attention/ taking notes (*) | C | C | C | C | C | C | C | C | C | C |
| 2. Asking questions | 2 | – | – | – | 1 | – | 2 | 4 | 2 | 1 |
| 3. Answering questions (volunteered) | 4 | 8 | 3 | 10 | 6 | 6 | 10 | 9 | 12 | 12 |
| 4. Not paying attention | | | | | | | | | | |
| a) talking with those around | 6 | 4 | 5 | 6 | 2 | 4 | 2 | 2 | 4 | 2 |
| b) Playing | | | | | | | | | | |
| 5. Disruptions | – | – | – | – | – | – | – | – | – | – |
| 6. Latecoming | – | – | 2 | – | 1 | – | – | – | – | – |
| **V. Investigator's judgement of student involvement/ participation (+)** | D | D | D | D | D | E | E | D | E | E |

*(column between V and VI reads vertically: intervention)*

(*) Rating (based on observer's impression) was done according to the following categories:

A = less than 50%; B = about 50%; C = majority; D = nearly all.

(+) Rating was done according to the following five categories:

A = hardly any; B = poor; C = average; D = to a great extent;
E = excellent

Similarly, there was a tendency towards being less authoritarian and to give less emphasis on reward and punishment as a method of classroom management as was evident from the decreasing frequencies of non-accepting and disinviting teacher communications. The teacher did not exhibit too many accepting and inviting behaviours. The student responses to her teaching was not in general very positive. Student attentiveness and involvement in class was average or below average on most observations. Quite a number of students in each class engaged themselves in talking or playing while the teacher taught. Also there were latecomers to her class almost on all days.

The impact of the intervention on the teacher may be seen in the following aspects: there is a tendency to move away from the purely lecture type of class to more student involved methods of teaching like demonstration; participatory teaching and supervised individual study followed by question-and-answer sessions; there is a slight increase in the frequency of the use of open-ended questions- there is a decreasing tendency in the communication of non-accepting and disinviting attitudes although this tendency is not matched by a corresponding increase in accepting and inviting communications.

5.12.8 Classroom observation of teacher-8

Table 44 is a resume of observations of classroom teaching of teacher-8. It can be observed from the table that the teacher employs a participatory style of teaching throughout the ten observation lessons. As a result, students' attentiveness and involvement with teaching-learning process is very high. The teacher employs questioning, both closed- and open- ended, very extensively as an aid to participatory teaching and gets the students participate in class. The teacher uses both understanding/accepting

Table 43 : Observation of classroom teaching of teacher-7 with particulars of teacher and student behaviour alongwith the investigator's rating of student involvement with teaching-learning activity.

| Specific Behaviours Observed | Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI | VII | VIII | IX | X |
| **I. Teaching style** | | | | | | | | | | |
| 1. Lecture | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| 2. Lecture cum questions | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| 3. Lecture cum demonstration | | | | | | | | ✓ | | |
| 4. Participatory teaching | | | | | | | | | ✓ | |
| 5. Demonstration cum participatory teaching | | | | | | | | | | |
| 6. Group study/ discussion | | | | | | | | | | |
| 7. Supervised individual study | | | | | | | ✓ | | | |
| **II Teacher questions** | | | | | | | | | | |
| 1. Closed-ended | 3 | 4 | 3 | 4 | 4 | 4 | 14 | 6 | 5 | 4 |
| 2. Open-ended | - | - | - | 1 | - | - | 2 | 1 | 2 | 4 |
| 3. Distribution | 3 | 2 | 2 | 2 | 3 | 4 | 12 | 5 | 6 | 6 |
| 4. Total | 3 | 4 | 3 | 5 | 4 | 4 | 16 | 7 | 7 | 8 |
| **III. Teacher communication of attitudes** | | | | | | | | | | |
| 1. Understanding/ accepting | - | 3 | - | 2 | 2 | 1 | | 2 | 2 | |
| 2. Non-accepting | 4 | 3 | 3 | 2 | 3 | 2 | 1 | - | - | - |
| 3. Inviting | - | - | 1 | - | 2 | 3 | 1 | 2 | 1 | |
| 4. Disinviting | 4 | 4 | 5 | 3 | 4 | 2 | 3 | - | 1 | |
| 5. Assertive | - | - | - | - | - | - | - | - | - | |

(The column between V and VI is marked vertically "intervention".)

Table 43 (contd.)

| Specific Behaviours Observed | Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI | VII | VIII | IX | X |
| IV. Student responses | | | | | | | | | | |
| 1. Paying attention/ taking notes(*) | B | B | B | B | B | C | C | D | C | D |
| 2. Asking questions | – | – | 2 | – | – | 2 | 1 | 3 | 2 | 2 |
| 3. Answering questions (volunteered) | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 6 | 6 | 4 |
| 4. Not-paying attention | | | | | | | | | | |
| a) Talking with those around | 6 | 8 | 8 | 6 | 4 | 6 | 4 | 4 | 2 | 4 |
| b) Playing | 2 | 3 | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 3 |
| 5. Discruptions | 4 | 3 | 3 | 2 | 3 | 2 | 1 | – | 1 | – |
| 6. Latecoming | 1 | 2 | 3 | 2 | 2 | – | 2 | 1 | 2 | 2 |
| V. Inventigator's judgement of student involvement/ participation(+) | C | C | C | C | C | C | D | C | D | D |

(The vertical label "Intervention" appears between columns V and VI.)

66

(*) Rating (based on observer's impression) was done according to the following four categories:

A = less than 50%; B = about 50%; C = majority; D = nearly all.

(+) Rating was done according to the following five categories:

A = hardly any; B = poor; C = average; D = to a great extent
D = excellent.

Table 44 : Observation of classroom teaching of teacher-8 with
particulars of teacher and student behaviour alongwith
the investigator's rating of student involvement with
teaching-learning activity.

| Specific Behaviour Observed | Observations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI | VII | VIII | IX | X |
| I. Teaching style | | | | | | | | | | |
| 1. Lecture | | | | | | | | | | |
| 2. Lecture cum questions | | | | | | | | | | |
| 3. Lecture cum demonstration | | | | | | | | | | |
| 4. Participatory teaching | _/ | | _/ | _/ | | _/ | _/ | _/ | _/ | |
| 5. Demonstration cum participatory teaching | | _/ | | | _/ | | | | | _/ |
| 6. Group study/ discussion | | | | | | | | | | |
| 7. Supervised individual study | | | | | | | | _/ | | _/ |
| II. Teacher questions | | | | | | | | | | |
| 1. Closed-ended | 8 | 10 | 8 | 6 | 8 | 12 | 8 | 8 | 10 | 12 |
| 2. Open-ended | 6 | 4 | 6 | 2 | 4 | 4 | 6 | 8 | 6 | 4 |
| 3. Distribution | 12 | 11 | 12 | 8 | 10 | 14 | 14 | 12 | 12 | 10 |
| 4. Total | 14 | 14 | 15 | 8 | 12 | 16 | 14 | 16 | 16 | 16 |
| III. Teacher communication of attitudes | | | | | | | | | | |
| 1. Understanding/ accepting | 6 | 4 | 4 | 7 | 4 | 8 | 6 | 4 | 8 | 4 |
| 2. Non-accepting | - | - | - | 1 | - | - | - | - | - | - |
| 3. Inviting | 3 | 4 | 4 | 3 | 6 | 4 | 2 | 4 | 3 | 6 |
| 4. Disinviting | - | 1 | - | 2 | - | - | - | 1 | - | - |
| 5. Assertive | 2 | 3 | 2 | - | 1 | - | 3 | 2 | 2 | 3 |

(The vertical label "intervention" appears between columns V and VI.)

Table 44 (contd.)                                                      251

| Specific Behaviour Observed | I | II | III | IV | V | intervention | VI | VII | VIII | IX | X |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **IV. Student responses** | | | | | | | | | | | |
| 1.Paying attention/ taking notes(*) | D | D | D | C | C | | D | D | C | D | D |
| 2.Asking questions | 6 | 4 | 8 | 6 | 6 | | 4 | 4 | 6 | 4 | 6 |
| 3.Answering questions (volunteered) | 4 | 8 | 9 | 4 | 6 | | 8 | 3 | 6 | 8 | 6 |
| 4.Not paying attention | | | | | | | | | | | |
| a) talking with those around | 2 | 6 | 6 | 8 | 8 | | 6 | 4 | 4 | 2 | 4 |
| b) Playing | | | | | | | | | | | |
| 5.Disruptions | – | – | – | – | – | | – | – | – | – | – |
| 6.Latecoming | – | 1 | 2 | – | – | | – | – | 2 | – | – |
| **V. Investigator's Judgement of student involvement/ participation(+)** | D | E | E | D | E | | E | E | D | E | E |

(*)  Rating (based on observer's impression) was done according to the following four categories:

A = less than 50%; B = about 50%; C = majority; D = nearly all.

(+)  Rating was done according to the following five categories:

A = hardly any; B = poor; C = average; D = to a great extent E = excellent.

and inviting communication with students. Non-accepting
and disinviting communication is almost absent. The
teacher has also shown that she can be assertive when
occasion calls for it. Some students continued to talk
and play and then distract themselves, but their number
was small and the teacher did not have to stop teaching to
handle discipline.

The impact of the intervention on the teacher seems
to have been to reinforce her already-supportive teaching
and dealing with students. The training may have worked
as a feedback to her that her ways with students are helping
them to learn and to grow as persons.

## 5.13   Analysis of Student Interview Protocol

The interview protocol was analyzed and summarized
under proper headings as given below:

### 5.13.1 Time spent on personal study

Table 45 gives the amount of time in hours spent by
individual students in personal study, daily, on an average,
both before and after the intervention. It shows that
there is an average increase of 1 hour to 3 hours in the
amount of time spent in personal study for all students except
three. Two showed an hour of reduced time for personal study
and the reason for that was reported to be the reduced number
of subjects to study in comparison with the previous year.
One student continued to give the same amount of time to
personal study as in the previous year.

It is not clear whether or not the increase in time
devoted to personal study has anything got to do with the
intervention. Is it the result of realization of one's own
responsibility for study? Or is it due to the fact that

Table 45 : Amount of time spent by individual students in personal study daily on an average both before and after the intervention.

| Sr.No. of. Students | Time in hr. | | | Sr.No. of students | Time in hr. | | |
|---|---|---|---|---|---|---|---|
| | Before inter- vention | After inter vention | Diffe- rence | | Before inter- vention | After inter- vention | Diffe- rence |
| 1. | 1 | 2 | 1 | 25. | — | 1 | 1 |
| 2. | 2 | 3 | 1 | 26. | 2 | 4 | 2 |
| 3. | — | 1½ | 1½ | 27. | 2 | 4 | 2 |
| 4. | 1 | 2½ | 1½ | 28. | 1 | 3 | 2 |
| 5. | 1 | 2 | 1 | 29. | 1 | 2 | 1 |
| 6. | — | 2 | 2 | 30. | — | 3 | 3 |
| 7. | 1 | 2 | 1 | 31. | 1 | 4 | 3 |
| 8. | 3 | 2 | -1 | 32. | — | 2 | 2 |
| 9. | 4 | 6 | 2 | 33. | 1 | 3 | 2 |
| 10. | 2 | 4 | 2 | 34. | 1 | 3 | 2 |
| 11. | 4 | 5 | 1 | 35. | 2 | 3 | 1 |
| 12. | 1 | 3 | 2 | 36. | 3 | 4 | 1 |
| 13. | 2 | 3 | 1 | 37. | 2 | 4 | 2 |
| 14. | 1 | 2 | 1 | 38. | 4 | 3 | -1 |
| 15. | 1 | 3 | 2 | 39. | 2 | 4 | 2 |
| 16. | 2 | 4 | 2 | 40. | 3 | 5 | 3 |
| 17. | 1 | 4 | 3 | 41. | 3 | 4 | 1 |
| 18. | 1 | 3 | 2 | 42. | — | 1 | 1 |
| 19. | 2 | 4 | 2 | 43. | 2 | 4 | 2 |
| 20. | 2 | 2 | 0 | 44. | 3 | 4 | 1 |
| 21. | 2 | 4 | 2 | 45. | 2 | 4 | 2 |
| 22. | 3 | 5 | 2 | 46. | 1 | 2 | 1 |
| 23. | 2 | 4 | 2 | 47. | 1 | 2 | 1 |
| 24. | — | 2 | 2 | | | | |

they are in the final year of secondary school at the end
of which they have to sit for a state-level, competitive
examination? Both the teachers and the parents exert a lot
of pressure on students to study right from the beginning
of the tenth standard. The students themselves are anxious
as their admittance to courses of their choice depends on
how well they perform in the examinations at the end of the
year. Whatever be the underlying reason, the investigator
could gather from the students that they put in more time
for personal study after the intervention.

5.13.2   Student attitude toward the school

Students were asked to state with reasons if they
liked or did not like the school. Fortythree (43) students
mentioned that they like the school and only four (4) said
that they did not. The reasons for their like or dislike
are summarized below along with the number of students
stating the particular reason:

(a)   They like the school (43)

| Reasons for liking | Number stating so |
|---|---|
| - there are many co-curricular activities offered | 16 |
| - good discipline is maintained | 15 |
| - there are good facilities for study | 9 |
| - I am here from the nursery and I have a special feeling for the school | 7 |
| - all my good friends are in the school | 7 |
| - students' all round development is given importance here | 6 |

| Reasons for liking | Number stating so |
|---|---|
| - most teachers teach well | 6 |
| - the students are a friendly lot | 6 |
| - students are given personal attention and guidance | 5 |
| - the standard of education is good | 4 |
| - in comparison with other school, the teaching is good (these students had experience of other schools so well, as they had move into Baroda with their parents' transfer) | 4 |
| - the atmosphere of the school is homely | 4 |
| - there is regular teaching here | 4 |
| - the teachers treat us well | 3 |

5.13.3  Student perception of their teachers

The students were asked to state with reasons who among their teachers they liked the best and whom they disliked the most. They had initial difficulty to admit that they disliked any one teacher. The investigator then explained to them that it was natural to have positive as well as negative feelings and there need not be any suppression of unacceptable negative feelings. It is healthier to be aware of the negative feelings so that we are not controlled by them. It turned out that the students had very strong feelings for some teachers and very strong feelings against some other teachers. As a result the investigator had to specifically ask about their impressions of some of the teachers who were not getting mentioned otherwise.

Student likes and dislikes and their stated reasons for the same as well as some of the changes in the perception of teachers after the intervention, if noticed, are summarized

below for each of the teachers who participated in the study. Table No.46 gives an overview of students' like as well as dislike for their teachers. Each student was asked to mention the teacher he or she liked the best as well as the one disliked the most. The table shows teacher-2 and teacher-8 were liked by the majority of students and teacher-5 and teacher-6 were the ones who received the maximum negative preference. Teacher-7 does not show up at all in either of the two categories.

Table 46 : The break-up of student likes and dislikes for their teachers.

| Teachers | Like | Dislike |
|---|---|---|
| Teacher 1 | 3 | 3 |
| Teacher 2 | 25 | 0 |
| Teacher 3 | 0 | 1 |
| Teacher 4 | 2 | 5 |
| Teacher 5 | 0 | 26 |
| Teacher 6 | 3 | 12 |
| Teacher 7 | - | - |
| Teacher 8 | 14 | 0 |
| Total | 47 | 47 |

(a)     Student perception of teacher-1

Three students mentioned that they liked her the best and three others said they disliked her the most (vide table 46). Students' perception of the change in the teacher is also given alongwith the reasons for like or dislike.

| Like (3) | Dislike (3) | Change |
|---|---|---|
| -she is good natured | - she is narrow mined about boy-girl relationship | - her teaching has improved |
| -friendly | | - she takes trouble to prepare for class |
| -understands students' difficulties | - does not teach well | - comes with prepared notes to class (this is a difference from her usual style of reading the textbook in class) |
| -caring | - she is partial to brighter students - only they get any importance in her class | |
| -regular in her work and teaching | | - she keeps us active in class by asking us questions, encouraging us to ask questions, and to read extra references, she gives in class and asks us to report to class on our reading |
| | - she insults students in class | |
| | | - she also tells us to discuss in groups on the points given by her |

(b)     Student perception of teacher-2

Twenty five students said they liked her the best and she received no negative choice (vide table 46). She seems to be the most accepted and liked by the students. They also said they did not see any change in her behaviour during the study.

Reasons for the liking
---

- teaches very well and we understand what she teaches
- encourages us to talk in class
- is friendly and jovial
- talks to students with respect
- is personal in her dealings with the students
- is helpful in any problems we may have
- points out our mistakes openly but without ridiculing us
- communicates understanding of our difficulties
- is kind and caring
- talks openly and frankly with students
- treats all students equally

(c)  Student perception of teacher-3

Teacher-3 received no positive choice and received one negative choice. Because the group has high liking and high disliking, some teachers who fall somewhere in the middle did not get chosen on the two categories given. So the investigator had to ask for student perceptions regarding the teacher. The points summarised show that:

| Liking (0) | Disliking (1) | Change (0) |
|---|---|---|
| - she is hardworking | - she is not good at teaching | - no one noticed any change in her behaviour during the study |
| - regular for classes | - talks rudely | |
| - is duty conscious | - not friendly with students | |
| - helps if we go to her | - keep aloof from students | |
| | - too serious in class | |

(d)     Student perception of teacher-4

Teacher-4 received 2 'best-liked' choices and 5 'disliked the most' choices (vide table 46). The reasons for the perception as well as changes in behaviour noticed are summarized below:

| Liking (2) | Disliking (5) | Changes |
|---|---|---|
| - she is very kind and caring | - she is: | - she is not so punishing |
| - helps solving any difficulty we have | - too strict so much so we can't even laugh at some humorous things that may occur in class | - teaches better |
| - understands our problems | | - is more friendly and looks relaxed in class |
| - outside the class she is very friendly | - talks rudely | |
| | - shows dislike for some students | |
| | - for her if you are bad once, you are always bad | |
| | - punishes severely | |
| | - teaches poorly | |
| | - her mood changes so fast, we don't know how to behave at times | |
| | - her criticism is too hurting | |
| | - does not encourage us to talk or ask questions in class | |
| | - partial to students she thinks are good | |

(e)      Student perception of teacher-5

No student mentioned that he or she lik   him.
Instead 26 students pointed out that they dislike him (vide
table 46). The reasons alongwith the perceived changes are
given below:

| Dislike (26) | Changes |
|---|---|
| He : | He : |
| - is partial | - used to be openly partial and ask for things from students, it is not so apparent now |
| - does not teach well | |
| - asks for gift for himself | |
| - asks students to take his tuition | - does not insult and call names so often |
| - is rude in his talking | - takes more trouble to explain the lesson |
| - does not understand students' problems | - for some time he taught very well. This was especially so when the investigator was present in class |
| - gets angry and punishes students | |
| - insults students and calls them names | - he is not so angry for small things |
| | - he listens to us and asks us what our difficulties are |

(f)    Student perception of teacher-6

Three students said they liked him,   whereas 12
remarked that they disliked him (vide table 46).

| Like   (3) | Dislike (12) | Changes |
|---|---|---|
| He : | He : | |
| - is strict enough in class | - teaches only those who already know | - he used to be more on time for class |
| - is good at teaching when he wants, and he can make the students understand any difficult topic | - insults and ridicules students in class | - took more trouble to explain what he taught |
| | - taught well whenever the investigator was present | - he is not so rude and insulting in class now |
| | - scolded students for being open and telling things about the class to the investigator | - we are more free to ask him doubts as he does not shout us down |
| | - does not deal politely with students | |
| | - does not turn up for class | |
| | - does not care to complete the syllabus | |

(g)     Student perception of teacher-7

Teacher-7 did not get any positive or negative preferences from students. Therefore students were specifically asked about their impression of her.

| Like     (0) | dislike     (0) | change |
|---|---|---|
| - she works very hard | - teaches too fast and does not stop to find out if we are with her | - she is not so fast and asks us if we follow her |
| - very helpful | | |
| - if required, she is willing to reteach | - we do not follow what she teaches | - she relates to students more |
| - she comes prepared for her class and gives notes for important topics | - she insults students if they don't listen to her | |

(h)     Student perception of teacher-8

Table 46 shows that 14 students mentioned that they liked her the best and no one said that he or she disliked her. The reasons are summarized below:

| like    (14) | change |
|---|---|
| - teaches very well | - she started mentioning to us some four good qualities |
| - is jovial and friendly | |
| - understands us | |
| - is strict, but not too strict | - sometimes she calls us for personal chat. |
| - she deals with students very well and they find her very comfortable to be with | |
| - talks politely with students | |
| - is ready to help in any difficulty | |
| - knows everyone pretty closely | |
| - does not punish or ricicule but corrects when we make mistakes | |
| - she is very open and straight in her dealing. If she does not like a thing, she will tell it without mincing words. | |

## 5.13.4 Changes in teacher behaviour

In addition to the changes in behaviour of particular teachers mentioned above, a number of points regarding teacher behaviour came up during the course of the interview. They have been briefly mentioned in the following paragraphs.

Five students mentioned that they found the teachers more friendly and cordial. Some of them who were given to high-handedness and insulting of students, were more polite and understanding of students. A tangible effect of this, some students pointed out, was that the students felt more free to ask their doubts and seek clarification.

Three students pointed out that in general most teachers took more trouble to teach better. This has enabled them, they said, to pay more attention in class.

Three students said that teachers paid more attention to them now than ever before. As a result, they started to be more active and attentive in class.

One student said that a few teachers are now more encouraging those who are shy or otherwise do not involve themselves in class.

## 5.13.5 Students' personal learning from intervension training

Students were asked in the interview what they had learned personally from the group intervention sessions. Excepting two students, both boys, all said that the intervention sessions were useful. There was an initial resistance to these sessions for a number of reasons. They did not really know what these sessions were about and what they would get out of them. In a system of education where the number of

marks one gets in an examination is the only thing that is valued, training of this nature which has no direct linkage with scores in a test will not be welcomed at least initially. Besides, students had a number of genuine problems. They had to stay back after school. It meant making special arrangements for their transport home, and rescheduling some of their after-school programmes like the personal tuitions, hobby classes, games, practice matches, etc. However, this resistance was overcome after a few days of sessions and they really started enjoying them. The experiential and participatory form of learning was something altogether new to them. The following are some of the things that they reported as their personal learning from the sessions.

| Learning | Number of Students |
|---|---|
| - I came to know some of my personal qualities, qualities I never thought I possessed | 19 |
| - I have grown in self-confidence | 11 |
| - I came to know some of my classmates closely and I have made many more friends | 27 |
| - I was shy and not at all a mixing type of girl. Today I mix very well with a lot of my classmates | 8 |
| - I could never talk or ask questions in class. Today I've no such problem | 7 |
| - Discovery of my qualities has helped me to develop them | 4 |
| - I have come to realize that study is my responsibility. I am more regular with my studies this year | 7 |
| - I've a better understanding of myself | 7 |
| - The sessions helped me to understand others better and their problems | 6 |

| Learning | Number of Students |
|---|---|
| - It helped me to learn to work together as a team. I learned the value of cooperation | 5 |
| - I have become more polite and respectful. I used to get angry and say anything and hurt people. Now I don't do that often | 4 |
| - I learned to listen before I speak | 3 |
| - I relate to more students than ever before | 3 |
| - I am more cheerful and sociable in class this year | 2 |
| - The sessions helped me to appreciate myself and others better | 3 |
| - I learned to be more open with others and I share my opinions and interests with them | 2 |
| - The sessions helped me to communicate freely and relate better with my parents | 3 |
| - I felt happy to know that some of my classmates know and appreciate my qualities | 2 |

## 5.13.6   Student perception of classroom problems

Students were asked in the course of the first interview before the intervention to identify some of the problems that they experienced in learning, relating and making the class experience a satisfying one for themselves. Their opinions as well as the number of students reporting a particular item are summarized below:

| Problems | Number of Students |
|---|---|
| — Some students keep disturbing the class during teaching by talking loudly, giggling at silly things and playing with those sitting around them. More silence is required during class | 22 |
| — Most teachers do not teach well. As a result only those who take tuitions follow. Teachers do not care to check to see if all follow what they teach | 18 |
| — boys comment upon and tease girls | 14 |
| — some teachers just do not turn up to take class | 12 |
| — free periods are very noisy and the neighbouring classes are disturbed. No one can do any study during free periods | 12 |
| — some students do not listen to the class monitor | 8 |
| — students criticize and spoil each others' names. Some of them, even carry tales to the teachers | 8 |
| — some students think of only themselves. They do not take part in class activities. There is lack of cooperation in class | 7 |
| — there is groupism in class among students. As a result the class lacks unity | 7 |
| — some teachers behave rudely with students | 7 |
| — students do not ask and answer questions in class | 6 |
| — brighter students look down upon those who are not so good at studies | 6 |
| — some students come late to every class | 4 |
| — only the talented students get selected for activities. The majority are not encouraged to participate in the many activities | 4 |
| — some students have no attachment to school and criticize it in every way | 3 |

| Problems | Number of Students |
|---|---|
| - there is no relating between boys and girls | 3 |
| - students lack respect for each other | 2: |
| - there are too many activities in the school and they take time from study | 2 |

## 5.13.7  Effect of the intervention on the class

Students were asked if they noticed any change in their experience of classroom life and work together. Specifically, they were asked to report if they observed any shift in some of the problems they had brought up in their first interview with the investigator (vide 5.13.6 above) and in the sessions on classroom self-management (vide Chapter IV). Students' observations alongwith the number of students reporting the item are summarized below.

| Perceived classroom changes | No. of Students |
|---|---|
| - better classroom cooperation is observed: more students volunteer for doing class projects like collecting contributions for picnics, socials, collecting homework books and returning them, look after the class bulletin board, etc. | 17 |
| - there was better discipline in class, we began to see discipline as our responsibility and not that of the teachers | 13 |
| - free periods were not so noisy and more and more students started utilizing them for their personal study and consultation, there was a mathematics coaching class started by one of the students during free periods to help students who were weak in maths | 11 |
| - there was less talking and disturbance during class | 10 |

- there was more mutual help among students:
those who were good at particular subjects
were willing to teach others during free
periods          9

- student management of classroom discipline
was a good thing, but some students never
cooperated with it. After some time the
class teacher also relaxed and students were
not reminded of their commitment to classroom
discipline.         4

- solving problems cooperatively through
discussion was a new experience      2

- I did not notice any difference in the
class after we began the study      2

5.13.8 Professional preferences of the students

The students' professional orientation may have a
bearing, on how seriously they apply themselves to study.
Therefore, they were asked to specify their educational goals.

Table 47 : Educational goals of the 47 students

| Educational goal | Number |
|---|---|
| Medicine | 9 |
| Home science | 7 |
| Engineering | 6 |
| Architecture | 5 |
| Accounting/banking | 5 |
| Interior decoration | 3 |
| Artist | 3 |
| Housewife | 2 |
| Teacher | 2 |
| Secretary | 1 |
| Air hostess | 1 |
| Military Career | 1 |
| Not decided | 2 |
| Total : | 47 |

Table 47 shows the professional goals of the sample of students. Except for two students, both girls, the students have their preference for future profession. Two girls said that they want to be only housewives and had no career in mind.

## 5.14    Case Studies

In order to discover in depth how the humanistic intervention in the class has been operating for individual students, six case studies, three representing students who showed much gain and three who had no such gain on some variables studied, like the self-concept and academic achievement, and in the opinion of the investigator based on his classroom observations and personal interviews, were conducted. In order to do the case studies, the selected six students were interviewed at length a third time. The items of the Students' Interview Schedule were used as lead questions The investigator also visited their homes and interviewed their parents. The lead questions used are given under the Interview Schedule for Parents. Based on all these, a brief case report was prepared and is presented below for each of the six students.

## Case Study - 1

Student-1 comes from a very affluent family, having its own business establishment. Both the parents are educated upto matriculation only. The student has an elder sister who studies in college. The parents want him to study as much as he wants the subject of his choice. But they want him to take over the family business ultimately. The boy is pampered at home. He has his way there.

Luckily for the parents, the boy is also very ambitious. He works hard at study and has been consistently getting good marks, standing first or second in his class. He has been having personal tuition for all subjects until this year, when he takes only tuitions for maths and science. He says he does not need the tuition, but goes for it all the same to keep up practice. He is very vocal in class, asks and argues and answers questions. Yet the teachers, except the one whose tuition he takes, say that is proud and asks questions in class to prove them wrong. Invariably an argument starts and the teacher invokes his or her authority to put him down. The investigator noted that in asking questions he was not polite and pointed out the mistakes in what the teachers taught. Such interactions were not pleasant for both the teacher concerned and for himself.

The investigator took up the matter with the teachers concerned and discussed with them what they could do for the student. At first they could see only one thing, that he changed his arrogant ways. Slowly it was brought home to them that he perhaps had to do what he did as studies, scores and having an edge over the teacher was his way of getting attention and approval in his own eyes. The teachers realized that putting him down and embittering him was no way of helping him. They discovered that understanding him and accepting him and not getting hooked into a power-struggle was the way to support him. They were gracious enough to change their ways to help him out.

Though good at studies, he was a loner in class. He was the only boy who did not appear on the sociogram even once. He came to realize painfully that he was not accepted in class when he stood for some elected posts, like the games captain and the class representative. He was not elected to any. Neither the teachers would appoint him as the class monitor.

Yet the boy showed a very high self-esteem score of six on five of the administrations of the rating scale and a five on the last administration. In the interview with the investigator the boy said that he had learned nothing from the group sessions they had at the beginning. He also said he refused to cooperate with the student-managed classroom self-discipline. Asked as to why he did that he said that discipline was the teacher's concern. It was upto them to impose it.

During the course of the interview, the investigator pointed out to him that he was good at studies, that he participated in class by asking and answering questions very intelligently and the teachers were not in any way sympathetic toward him. The investigator asked him to identify for himself what went wrong and what was his contribution. Gradually, he was led to see that others perceived him as arrogant and as a bully. Therefore, they had no relationship with him. Some of the things that were done during the intervention sessions for students, like empathy, Adult - Adult Communication, etc. was reviewed with him in order to enable him to handle his relationship.

Simultaneously, the investigator made an attempt to reach him through the class teacher who communicated understanding and acceptance. The change in him at the end was that he learned to ask questions without eliciting any illwill for that matter. Also, he started, at the suggestion of the class teacher, a coaching class in maths for those students who had difficulty with the subject during the free periods. Whereas no students approached him with any of their study problems before, today he was very much wanted.

While this was happening, his father reported that on occasions he showed up at the office and helped him out with routine things unasked. he also did some odd jobs for his mother and sister too. According to the parents, the boy has become much more responsible and helpful. What, perhaps, the student learned was to relate to others in general which had its ripples in the classroom and also at home.

## 5.14.2  Case Study-2

Student-2 joined the school in Standard VIII. She had studied in two other schools previously as her father was on a transferable job. She has an elder sister and a younger brother. The parents are very well educated.

She is a very serious student. At a time when taking personal tuitions is perceived as a necessity by most students, she prefers to study alone. She says tuitions are a waste of money, time and energy. She stands second in the class in overall performance, and in some subjects first.

Though a very good student and knows the subjects of study very well, she is more of the reserved type in class. Apart from answering an occasional question directed at her, she is quiet in class. She moves with just a few classmates in class.

She said she liked the group sessions for students very well. She reported that it helped her to discover her qualities, understand herself better, improve communication and relationship with others, especially with her parents and sister at home. She said that knowing her qualities made her to think good about her. She also said it helped her to make more friends. It is evident that her self-confidence has increased. The score on self-esteem scale jumped from 3,2,3 in the pre-intervention series of observations to 6,6,5 in the post-intervention series of observations. She also experienced life more happy.

Parents consider her a studious, responsible and helpful girl. She used to share with her father about the group sessions conducted for the students during the intervention phase of the study. Her father was fascinated by the things being done for the students. So, he, on his own, contacted the investigator and expressed appreciation for the work. He said that it was benefitting his daughter very much. He shared that she was not on talking terms with a nextdoor friend of hers and as the sessions were going on she took the initiative to clear up the misunderstanding and to restart the friendship. He also said that he found her more open, free, happy and, also, more intimate with him.

The parents are very happy with her academic performance, and they said they do not have to be after her for studies. She wants to pursue electronic engineering, or a career in medicine.

In conclusion, the student seemed to have gained in self-confidence, in the ability to relate and to make friends, in becoming more intimate with her father, better communication with her own sister and friends, and in having more energy for study and other interested things.

5.14.3  Case Study-3

The student joined the school in Standard VIII. Her father is an engineer and mother a school teacher. She has a younger brother.

Her academic performance just average. From standard VIII to X there is a steady progress in her academic performance. She goes for personal tuitions and she says they give her more practice.

After she joined the school, she said, she felt depressed and lonely. There was no one she knew and could not make any new friends. She also felt distant from the teachers and could not pluck enough courage to approach them for their guidance. Her parents were getting worried about her as she would tell them to take her out of the school and put her in some other school. For her the school experience was crippling.

It was at this time the group sessions for students were conducted. She said it was something great that happened to her. In her own words, "I was lucky to be in this class this year". According to her, in the group sessions, she discovered some of her personal qualities and learned to develop them. She also came to know and like many of her groupmates. This helped her to build up friendships. After the group sessions she was not lonely and depressed. She reported she become bolder and more self-confident after that. Her self-esteem score rose from 2,3,2 in the three pre-intervention administration of the self-esteem scale to 5,5,5 in the three post-intervention series of measurement. A positive attitude to herself and her abilities helped her, she said, to study better.

From the time of the intervention, she said, she had no difficulty to approach some of her friends for help with the studies. She could also go to teachers for guidance. She began to participate more in class activities. In short, she felt belonged in class and was not depressed any more.

Her parents found her hard working and helpful, she was very open with them. She used to share with the parents regarding the change that came over her as a result of the intervention. They invited the investigator home and thanked

him for the change that came over their daughter. They said
they were desprate before that as they did not know what they
could do for her. The child also made more rapid progress
in her studies. Her percentage of aggregate scores on the
nine criterion tests were 38, 43, 40, 44, 47, 49, 57, 53 and 69.

In short, the child developed positive attitudes
toward herself and cultivated the ability to make friends. This
set the stage for her further growth.

5.14.4   Case Study-4

This student has been in the school from the nursery
class. He comes from a well-to-do business family. He is the
youngest of three children and has an elder brother and an
elder sister.

The student has been lagging behind in studies,
managing to get through in subjects. The humanistic inter-
vention in the class has not made any difference to his
academic performance. His percentages of aggregate scores
in the nine criterion tests are 42, 36, 43, 3943, 44, 41,
34 and 67.

At home the parents think he is lazy and dull. There-
fore they think they have to be after him and force him to
study, which he skips at the slightest of execuses. So they
almost bribe him to study by promising him gifts of his
choice. One such gift was a trip to the United States to
meet his brother and sister.

The boy thinks his father overworks at the point of
not having anytime for the family. It appears to the investi-
gator that the boy has taken, albeit unconsciously, a decision
against any hard work. He kept referring to his wanting to
enjoy life unlike his father during the interviews with the
investigator.

In the class he hardly participates. He does not
answer correctly most of the questions put to him in class.
Only in teacher number-8's class he shows himself to be more
active and interested. When he was asked about his different
behaviour in her class, he said he liked her. He is at his
best in her class. During the other classes and during free
periods, he plays the fool and disturbs the class. Often
he is picked up and punished. Being picked up and punished
seems to be the way he gets his attention in class. Twice
during the year his parents were called to the school.

The sociograms show that he has a stable relationship
with another boy but the square in which he is placed shows
that he is one of the least accepted in class. This picture
has not changed at all after the intervention.

The student confessed that he did not take the group
sessions for students seriously. Asked what he learned from
it, he could only say that he learned to talk in a group
and to socialize. But the sociograms do not show that other
students accepted him.

He is bigger than all his classmates and is clumsy
in movements and speech. Most of the girls have said that
they disliked him (level five choice in the sociomatrices).
The investigator could observe from his interactions that he
desperately tried to relate to girls. He brought up in the
interview that he felt very helpless and low when one of the
boys in class kept ridiculing him constantly in front of the
girls. This was eating up his peace and could not concentrate
on anything. Study, of course, was impossible. Whenever he
sat for study, the picture of how he was ridiculed and what he
could have done came to his mind. He said he could physically
overpover the boy but was afraid of the consequences. This

must have also lowered his self-esteem. He showed no
improvement in scores on Resenberg self-esteem scale, which
were 2,3,2,2,3,3 on the six consecutive administrations. The
investigator had an extra session with the student and an
attempt was made to enable him to see that he could tackle
the boy himself and that he did not have to take the ridicule
helplessly. He did not really attempt to do anything about it
seriously, and continued to be victimized by the boy. In
bringing it up with the investigator, the boy thought,
that he would ask the other boy to stop ridiculing him.
The investigator made it clear that he would not do that as
he believed that he himself had the ability in him to handle
the unpleasant situation. The investigator's suspicion is
that the boy was enjoying it at the unconscious level and
there was, therefore, no serious effort made to come out of
it.

5.14.5   Case Study-5

This student comes from a business family. Father is
an engineer and mother a lawyer. She has a younger sister.

She is in the school from standard III. She has been
a very good student and generally stands among the first ten
students in performance in examinations. She liked the school
and the teachers.

Her parents are very fond of her. They feel she is
doing all right in studies but can do better. So they gently
encourage her to do better. Her father mentioned to the
investigator that she used to share with him what was taught
in students' intervention sessions. It has helped her to
improve her personal communication with them.

The group sessions, she said, was helpful to get to know many more students. But it did not expand her circle of friends. In the class, she was reserved and moved with and talked to two of her friends. Her self-esteem score was low and it decreased further in the last two administrations of the test- the scores were 3,3,3,3,2,1 for administrations 1-6 respectively. The reason for the fall in self-esteem score may be due to the personal crisis the student went through.

In the post-intervention phase of the study the student went through a traumatic experience. She was accused of doing something - and it was not proved, and some of the privileges given to the seniormost class, like going home earlier than the usual dismissal time was withdrawn. When the class came to know that this student was suspected cause for it, some students used to cut sly remarks at her. This was bad enough. On top of it the principal called her parents to school, told them what she had heard and told them that she was a bad girl and that the school was ashamed of her and that she did not have to seek admission to the next class the coming year. All the while she was not given any chance to explain herself. At the same time, her only good friend, ditched her. The child went through a hell for weeks.

Being an administrative problem, it was handled by the principal. It took three weeks by the time the investigator got to know of it from the student herself during the personal interview. She broke down as she narrated what she had to go through. He allowed her to work through the emotional trauma. He had three sittings of an hour each with her. Later on he took up the issue with the class teacher and the principal separately to say that the student was not taken care of in handling the problem and to see if anything could be done to correct it. The principal thought it best to let the matter rest there.

The most helpful thing for the student was the understanding provided by her parents. They did not make her wrong, but sorted out things with the school, waiting for time to heal the wounds. By the end of the year, the student was her normal self again. When the student passed through the crisis, the school was not any help, it could only think of taking disciplinary action.

5.14.6  Case Study-6

This student comes from a low-income family. Both of her parents are serving.  She has two younger brothers.

The student joined the school in standard VIII. Her educational performance has been just good enough to be promoted to the next higher class.  Her aggregate percentages on the nine criterion tests are 36,39,38,37,41,38,39 and 53. There has not been any improvement in the academic performance of the student, as a result of the humanistic intervention. She is one of the two girls for whom there was no clear educational goal.

At home her parents did not think much of her. Neither were they very much concerned about her studies beyond her passing the grade at the end of the year.  For the student herself study was not so important.  The child did not have the facilities at home to study alone without distraction.  So even a visitor at home upset her studies. She did not have regular study hours either.

The student said that she liked the school.  All her friends were in class with her.  Her sociograms show a number of mutual relationships.  She belonged to a clique

of students coming from similar backgrounds. Her level of acceptance in the class was low. Her self-esteem score, was poor on the six administrations of the test - they are 2,3,2,2,2,2 from administration one to six respectively. The low self-esteem may be due to a combination of several factors - low socioeconomic status in a group where the majority belongs to high class familites, her not being pretty physically, her lack of competence in studies or any hobbies.

The student said that she benefitted from the group sessions particularly in making more friends and getting to know many more students, and in recognizing some of her talents. But these did not produce any noticeable changes in her performance in studies or in self-esteem.

In brief, this student has been an average student and the humanistic orientation has not made any diference to her as a person and as a student in her studies.

5.14.7  An overview of the case studies

The first three case studies given above represent students who did well in the selected criterion variables, and the last three case studies are of students who did not do so well in them.

The first three students shared certain common aspects. They came from families that cared for and supported them. This psychological anchorage seems to have been instrumental in enabling them to tide over certain personal crises and perceived limitations and to make use of any opportunity for their development. The crisis the first student faced was lack of recognition and acceptance in class from teachers and classmates. He was, however able

to take the support and change his behaviour. The self-imposed limitation of the second student was her not seeing herself as capable and hiding behind her cloak of shyness. The third student failed to find a place and acceptance in the new school and withdrew herself from others and all activities. These students could make use of the new situation in the class, especially, the group sessions, to come out of their self-imposed limitations.

The fourth student came from a family that did everything for him but nagged and compared him unfavourably with his brother and sister. In so doing parents communicated that they were disappointed with him. He could not accomplish anything either in study or in any extra-curricular activities. He got the attention he needed by being destructive and a discipline problem in class. He could not benefit from the humanistic intervention.

The fifth student had a supportive home and did well in studies. But she was not so confident about her abilities. When the student was reported to have made a mistake, the school could only take disciplinary action which shattered the student. The system had nothing to build her up. Only the parent support saw her through the crisis.

The sixth student did not have a family that encouraged her. The parents had no expectation regarding her. She just went through the school and could not take study or anything else as a challenge. The humanistic intervention meant nothing to her. Perhaps it was just another thing that she had to endure as part of the school routine.