CHAPTER-4

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

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4.1 INTRODUCTION :-

Data Processing :-

Research data become meaningful when they are analysed and interpreted properly. While framing the items of the diagnosis test, it was kept in mind that responses to each of these were level, descriptive and most of the items had multiple choice answers which could thus be classified as close ended. In this chapter, inter group difference in term of learning gains are reported. The target group comprised as experimental group. According to the objectives of this study, the data collected were analysed on the basis of score of the diagnostic test used as pre-test and post test. The analysis are presented below in order of the hypotheses set for the study.

Interpretation of data is an important part of the investigation which is associated with the drawing of inference from the collected facts after analytic study. Statistical facts by themselves have no utility. It is interpretation that makes it possible for us to utilize collected data in various fields. The usefulness of the collected data lies in its proper interpretation. It provides certain conclusions about the problem under study.

Keeping the objectives of the study in view the data were interpreted.

The hypothesis tested by appropriate statistical methods are described one by one in this chapter.

In diagnostic test and post test of general science, each and every competency was tested separately and the student's achievement is given in the table shown below.

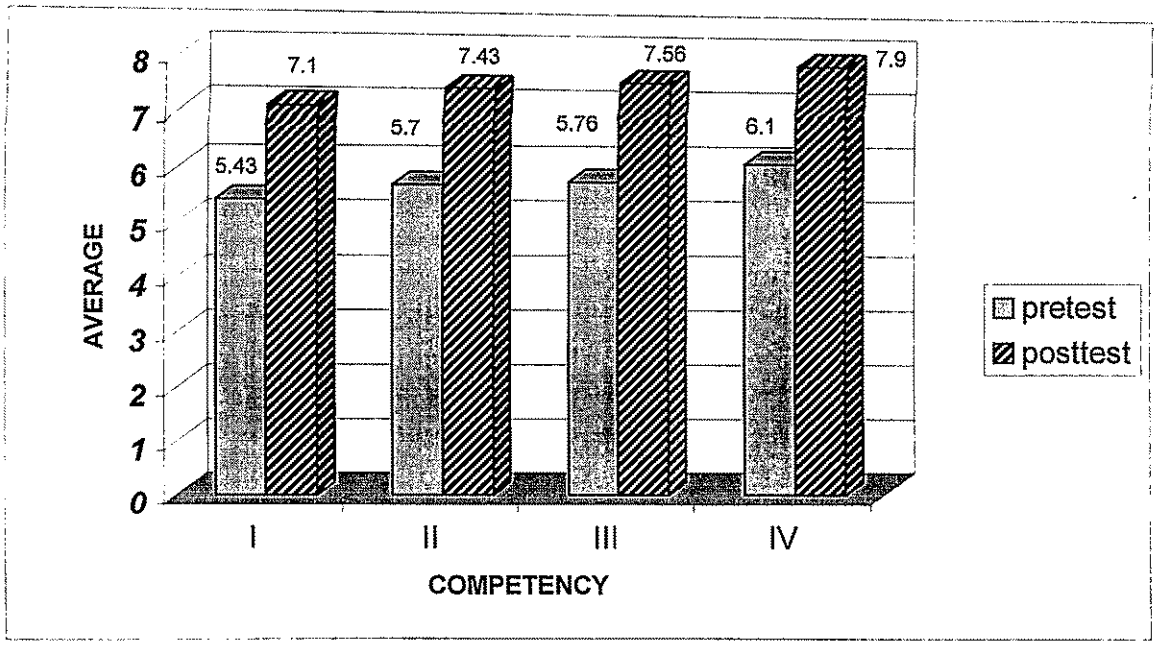
TABLE 4.1

Tabular form of Scores which the researcher have collected from class VII students.

S. No.	Competency related to digestive system (mm 10)		Competency related to respiratory system (mm 10)		Competency related to circulatory system (mm 10)		Competency related to excretory system (mm 10)		Total Marks (mm 40)	
	Pre test	Post test	Pre test	Post test	Pretest	Post test	Pre test	Post test	Pre test	Post test
1	3	5	6	7	3	5	7	9	19	26
2	5	9	4	6	5	9	4	5	18	29
3	4	6	4	5	4	6	5	6	17	23
4	3	6	5	7	3	6	6	8	17	27
5	6	9	6	9	6	9	6	9	24	34
6	5	6	7	9	5	6	7	9	24	29
7	7	9	4	5	7	9	3	4	21	27
8	3	5	5	6	3	5	6	7	17	23
9	7	9	5	8	7	9	6	7	25	33
10	4	7	7	9	4	7	6	9	21	31
11	6	8	7	8	7	9	7	9	27	34
12	6	8	5	6	6	7	4	5	21	26

S. No.	Competency related to digestive system (mm 10)		Competency related to respiratory system (mm 10)		Competency related to circulatory system (mm 10)		Competency related to excretory system (mm 10)		Total Marks (mm 40)	
	Pre test	Post test	Pre test	Post test	Pre test	Post test	Pre test	Post test	Pre test	Post test
13	6	8	4	6	6	8	6	8	22	30
14	6	5	5	8	6	8	6	8	23	29
15	7	9	6	8	7	9	6	9	26	35
16	7	9	4	5	7	9	6	7	24	30
17	6	7	5	8	7	8	5	9	22	32
18	6	8	5	8	6	8	6	8	23	32
19	6	7	7	8	6	7	6	9	24	31
20	5	6	7	8	5	8	5	7	24	29
21	6	7	7	8	7	7	6	6	25	28
22	7	9	5	6	7	9	6	9	25	33
23	6	6	6	8	6	7	6	7	25	28
24	7	10	7	8	7	9	6	9	27	36
25	7	10	7	8	7	9	7	9	28	36
26	5	6	7	8	8	6	5	6	22	26
27	6	7	6	8	5	6	6	8	22	29
28	7	8	7	8	7	7	7	9	28	32
29	6	7	7	9	7	8	7	9	27	33
30	5	6	6	8	6	7	7	8	24	29
Average	**5.43**	**7.1**	**5.7**	**7.43**	**5.76**	**7.56**	**6.1**	**7.9**	**23.1**	**30**

GRAPHICAL REPRESENTATION OF DATA



I - Competency related to digestive system

II - Competency related to respiratory system

III - Competency related to circulatory system

IV - Competency related to excretory system

4.1 TESTING OF HYPOTHESIS :-

HYPOTHESIS (1)

"There will be significant difference in students achievement in general science after remedial teaching"

Table 4.2.1

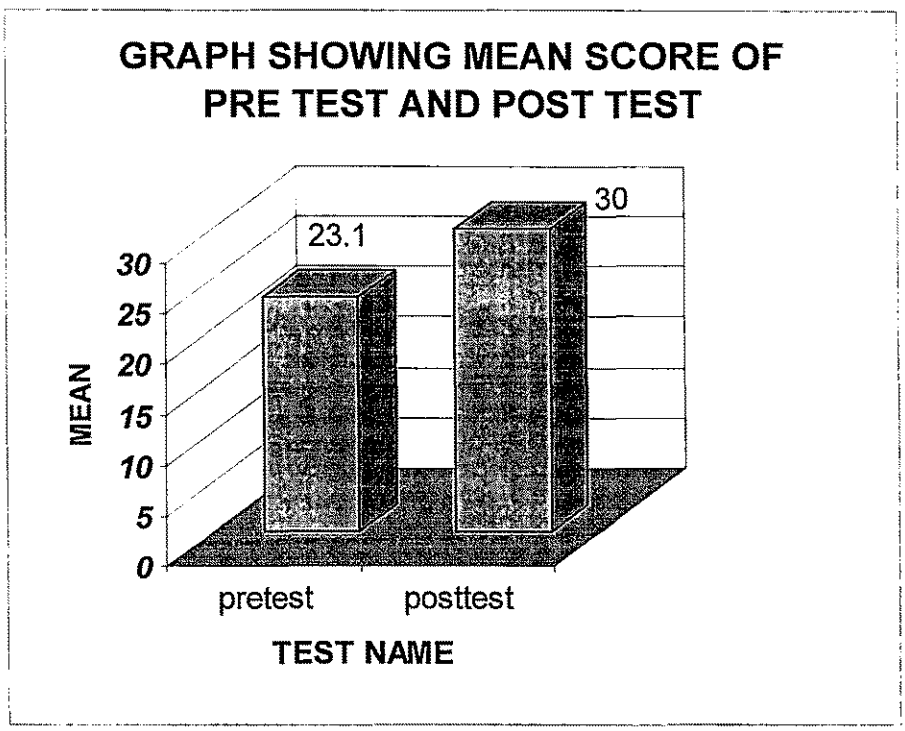
MEAN DIFFERENCE BETWEEN PRE TEST AND POST TEST SCORES

Statistical Analysis of difference							
S. No.	Test	Number of Students	Mean (M)	Standard deviation (SD)	Correlation (r)	't' value	Degree of freedom (df)
1.	Pretest	30	23.1	3.05	0.78	17.7	29
2.	Post test	30	30	3.4			

For 29 degree of freedom, at 0.01 level of significance, the critical 't' value is 2.76 which is far less than the computed value. Hence 't' value is significant at 0.01 level of significance. Therefore the hypothesis (1) is not rejected and we can say that there is significant difference in students achievement in general science after remedial teaching.

It is clear from table 4.2.1 that the mean of post test is greater than the mean of pretest. It shows that there is increase in achievement of students after remedial teaching. Hence, there is significant improvement in students achievement by using remedial materials in general science.

GRAPH SHOWING MEAN SCORE OF PRE- TEST AND POST-TEST



Hypothesis (2) :-

"There will be significant difference in girls achievement in general science after remedial teaching"

Table 4.2.2

't' value of study of girls achievement in general science

Statistical Analysis of difference							
S. No.	Test	Number of girls (N)	Mean (M)	Standard deviation (SD)	Correlation (r)	't' value	Degree of freedom (df)
1.	Pre test	13	23.07	2.75	0.72	11.842	12
2.	Post test	13	29.61	2.61			

For 12 degree of freedom, at 0.01 level of significance, the critical 't' value is 3.06 which is less than the computed value. Hence, the 't' value is significant at 0.01 level of significance. Therefore the hypothesis (2) is not rejected and we can say that there is significant difference in girls achievement in general science after remedial teaching.

The comparison of mean scores of pre test and post test shows that the mean of pretest (23.07) is less than the mean of post test (29.61). It indicates that there is increase in girls achievement after remedial teaching in general science.

Hypothesis (3) :-

"There will be significant difference in boys achievement in general science after remedial teaching"

Table 4.2.3

't' value of study of boys achievement in general science.

Statistical Analysis of difference							
S. No.	Test	Number of boys(N)	Mean (M)	Standard deviation (SD)	Correlation (r)	't' value	Degree of freedom (df)
1.	Pre test	17	23.11	3.25	0.82	13.41	16
2.	Post test	17	30.29	3.87			

For 16 degree of freedom, at 0.01 level of significance, the critical 't' value is 2.92 which is less than the computed value. Therefore, the 't' value is significant at 0.01 level of significance. Hence, hypothesis (3) is not rejected and we can say that there is significant difference in boys achievement in general science after remedial teaching.

The comparison of mean scores of pre test and post test shows that the mean of pre test (23.11) is less then the mean of post test (30.29). It indicates that there is increase in achievement of boys after remedial teaching in general science.

Hypothesis (4) :-

"There will be no effect of remedial materials on gender in achievement in general science.

Table 4.2.4

Mean score of difference of pre test and post test of girls and boys.

	Girls	Boys
No of students (N)	13	17
Mean (M)	6.538	7.176
Standard Deviation (SD)	2.023	2.175
't' value	0.831	
Degree of freedom (df)	28	

From table, for 28 degree of freedom at 0.05 level of significance, the critical 't' value is 2.05 which is more than the computed value

(0.831). Hence the 't' value is not significant at 0.05 level of significance. Therefore, hypothesis (4) is not rejected. It is indicated that there is no significant difference between achievement of girls and boys.

The mean score of girls and boys are approximately same suggesting that there is no effect of remedial materials on gender in achievement in general science.

Hypothesis (5) :-

"There will be significant difference in students achievement related to the concept of digestive system after remedial teaching"

Table 4.2.5

Mean score of students achievement related to the concept of digestive system.

Statistical Analysis of difference							
S. No.	Test	Number of students (N)	Mean	Standard deviation (SD)	Correlation (r)	't' value	Degree of freedom (df)
1.	Pre test	30	5.43	1.56	0.84	8.75	29
2.	Post test	30	7.1	1.95			

From table, for 29 degree of freedom, at 0.01 level of significance, the critical 't' value is 2.76 which is less than the computed 't' value (8.75). Therefore, the 't' value is significant at 0.01 level of significance. Hence, hypothesis (5) is not rejected and we can say that there is significant difference in students achievement related to the concept of digestive system after remedial teaching.

The comparison of mean score of pre test and post test shows that the mean score of pre test (5.43) is less than the mean score of post test (7.1) It indicate that there is increase in students achievement related to the concept of digestive system after remedial teaching.

Hypothesis (6) :-

"There will be significant difference in students achievement related to the concept of respiratory system after remedial teaching"

Table 4.2.6

Mean score of students achievement related to the concept of respiratory system.

Statistical Analysis of difference							
S. No.	Test	Number of students (N)	Mean (M)	Standard deviation (SD)	Correlation (r)	't' value	Degree of freedom (df)
1.	Pre test	30	5.7	1.1	0.77	12.19	29
2.	Post test	30	7.43	1.202			

From table, for 29 degree of freedom at 0.01 level of significance, the critical 't' value in 2.76 which is less than the computed 't' value. Hence, the 't' value is significant at 0.01 level of significance. Therefore, hypothesis (6) is not rejected and we can say that there is significant difference in students achievement related to the concept of respiratory system after remedial teaching.

The comparison of mean score of pre test and post test shows that the mean score of pre test (5.7) is less than the mean score of post test (7.43) It indicates that there is increase in students achievement related to the concept of respiratory system after remedial teaching.

Hypothesis (7) :-

"There will be significant difference in students achievement related to the concept of circulatory system after remedial teaching."

Table 4.2.7

Mean score of students achievement related to the concept of circulatory system.

Statistical Analysis of difference							
S. No.	Test	Number of students (N)	Mean (M)	Standard deviation (SD)	Correlation (r)	't' value	Degree of freedom (df)
1.	Pre test	30	5.76	1.28	0.80	12.24	29
2.	Post test	30	7.56	1.28			

From table, for 29 degree of freedom at 0.01 level of significance, the critical 't' value is 2.76 which is less then the computed 't' value. Therefore, the 't' value is significant at 0.01 level of significance. Hence, the hypothesis (7) is not rejected and we can say that there is significant difference in students achievement related to the concept of circulatory system after remedial teaching.

The comparison of mean score of pre test and post test shows that the mean score of pre test (5.76) is less than the mean score of post test (7.56). It indicates that there is increase in students achievement related to the concept of circulatory system after remedial teaching.

Hypothesis (8)

"There will be significant difference in students achievement related to the concept of excretory system after remedial teaching."

Table 4.2.8

Mean score of students achievement related to the concept of excretory system.

Statistical Analysis of difference							
S. No.	Test	Number of students (N)	Mean (M)	Standard deviation (SD)	Correlation (r)	't' value	Degree of freedom (df)
1.	Pre test	30	6.1	1.19	0.81	11.16	29
2.	Post test	30	7.9	1.51			

From table, for 29 degree of freedom at 0.01 level of significance, the critical 't' value is 2.76 which is less than the computed 't' value. Therefore, the 't' value is significant at 0.01 level of significance. Hence, hypothesis (8) is not rejected and we can say that there is significant difference in students achievement related to the concept of excretory system after remedial teaching.

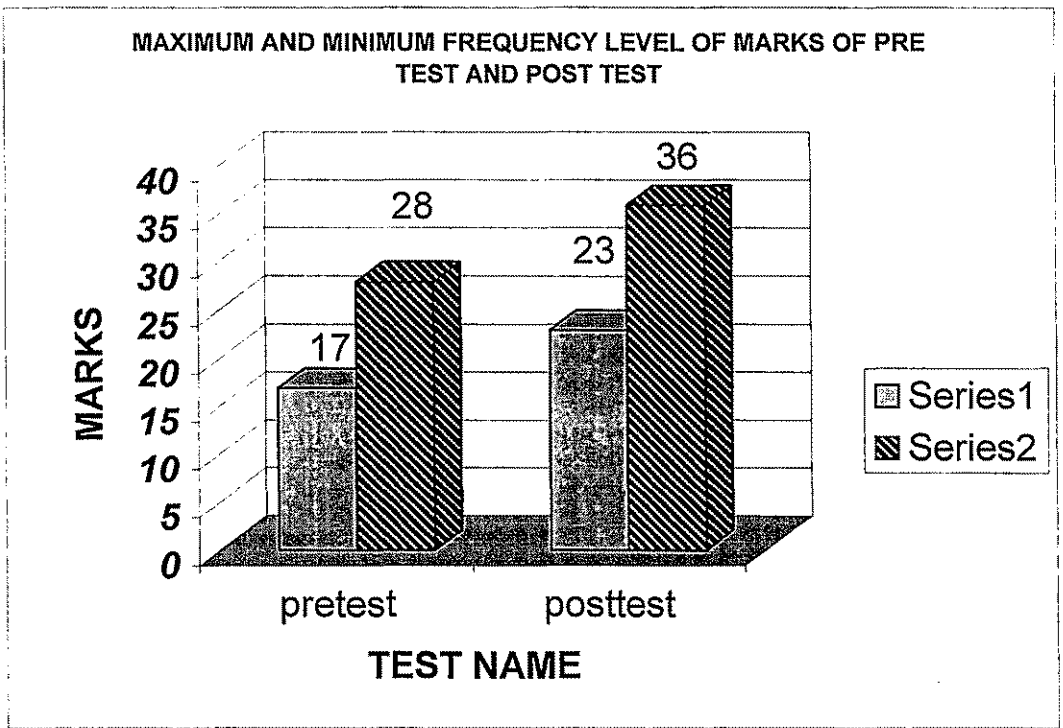
The comparison of mean score of pre test and post test shows that the mean score of pre test (6.1) is less than the mean score of post test (7.56). It indicates that there is increase in students achievement related to the concepts of excretory system after remedial teaching.

4.3 Graphical Representation of Data

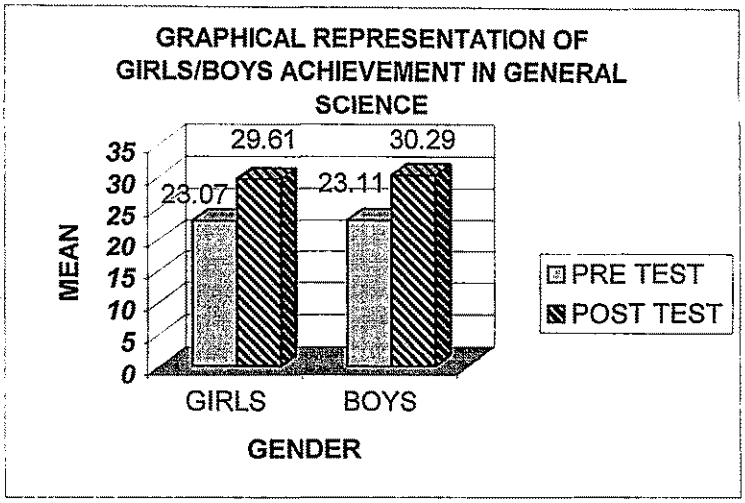
Table 4.3.1

Minimum and maximum marks of pre test and post test

S. No.	Test	Min. Marks	Max. Marks
1	Pre test	17	28
2	Post test	23	36



From the graph it is clear that the remedial teaching is useful for the students to improve their achievement level. In pre test, the min marks were 17 and max marks were 28 but after remedial teaching in post test the min marks were 23 and max mars were 36 showing the importance of remedial teaching in improving the achievement of students.



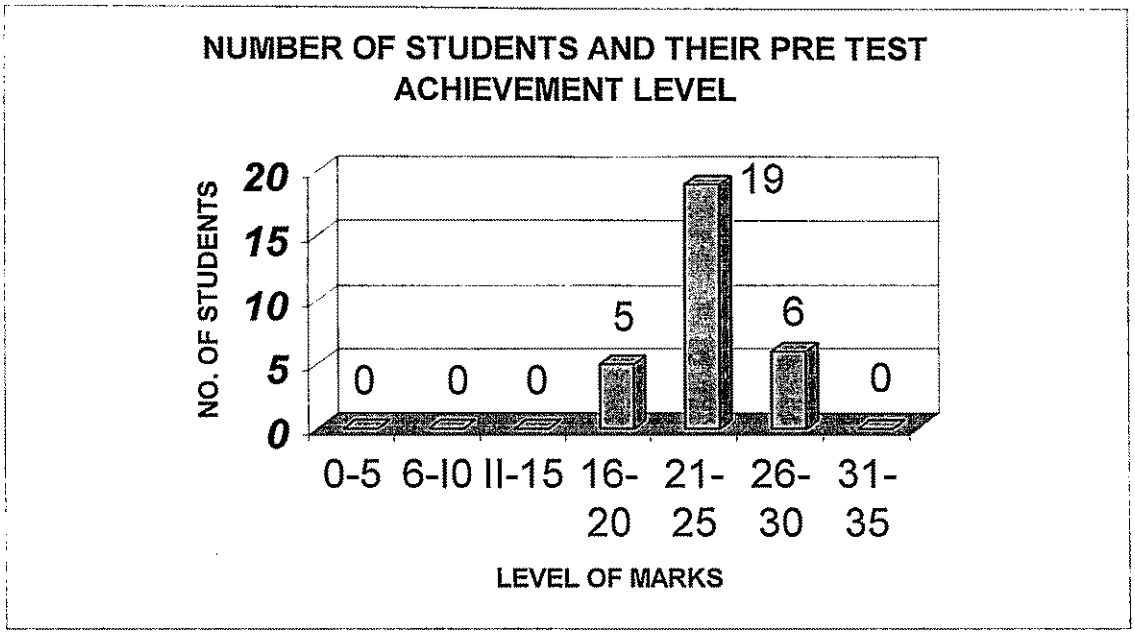
Gender / Test	Girls (Mean)	Boys (Mean)
Pre Test	**23.07**	**23.11**
Post Test	**29.61**	**30.29**

Table 4.3.2

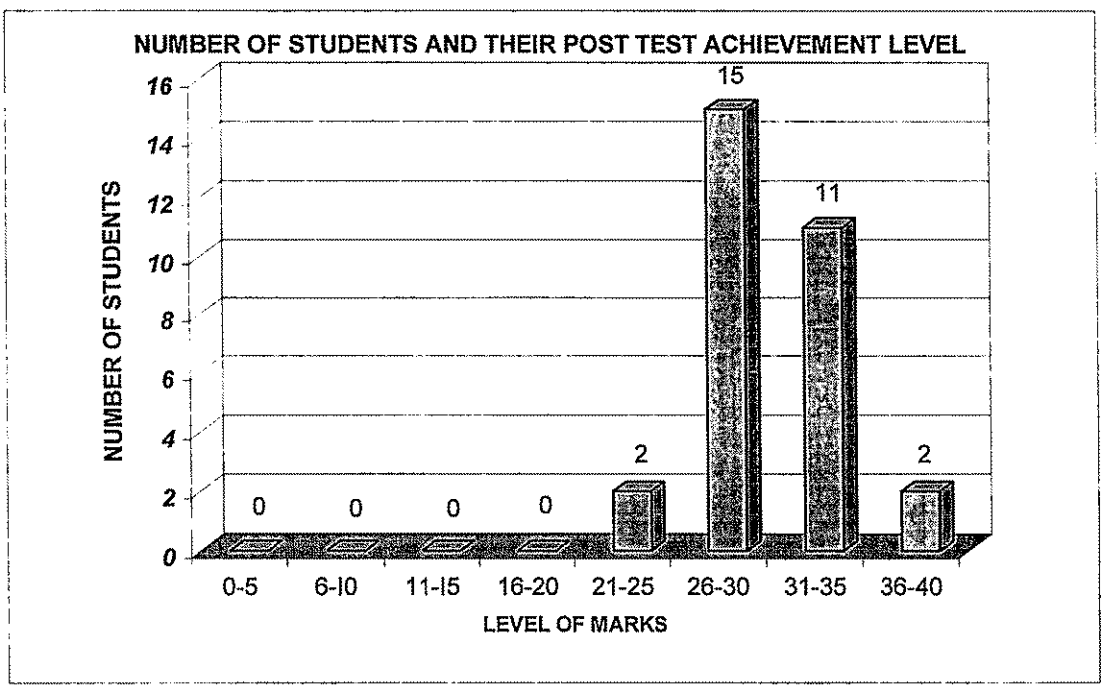
Achievement of students at different levels in pre test and post test.

Level of Marks	Number of students in pretest	Number of students in post test
0-5	0	0
6-10	0	0
11-15	0	0
16-20	5	0
21-25	19	2
26-30	6	15
31-35	0	11
36-40	0	2

Graphical Representation



From the above graph, it is clear that in pre test majority of students have scored marks in between 21-25 and 6 students have scored marks in between 26-30.



From the above graph, it is clear that majority of students have scored marks in between 26-30 which is greater than the score of pre test. 11 students have scored marks in between 31 & 35 and 2 students have scored marks in between 36 and 40.

In pre test only 6 students have scored marks in between 26-30 but in post test, 15 students have scored marks in between 26-30 which shows that there is improvement in performance of students. Number of students obtaining marks in between 26-30 has increased.

By comparing both the graphs, it is found that there is improvement in the achievement level of students after remedial teaching.