

CHAPTER - IV

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

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CHAPTER - IV

ANALYSIS AND INTERPRETATION OF DATA

IV.1 INTRODUCTION :-

In the previous chapter, the research design of the study is thoroughly discussed. The investigator conducted an experiment on the sample under investigation. He prepared media packages for the units and subunits therein for the experimental group and used. He used conventional method for the control group. And students' performance was measured by administering the tests developed by the researcher. He collected the required data through the tests. It is analysed and interpreted as below.

The chapter covers the analysis and interpretation of the data obtained by administering tests. It also covers the coefficient of correlation of tests.

IV.2 ANALYSIS AND INTERPRETATION OF THE DATA OBTAINED ON PREVIOUS TEST :-

As it was already discussed in the previous chapter that two parallel groups were formed with the help of the previous test based on their previous knowledge. The scores obtained by the students in the above said test are further analysed and interpreted in the following paragraphs. The scores are given in Appendix No. E. The analysis was done to confirm the equivalence of the two

groups.

HYPOTHESIS NO. 1

There is no significant difference between the mean performance of the students from group 'A' and 'B' on previous test.

The means and standard deviations on previous test of both groups are given in table no. VIII.

TABLE VIII
MEANS AND STANDARD DEVIATIONS ON
PREVIOUS TEST

Groups	Means	SD
A	8.95	2.70
B	9.00	2.60

Observations and Interpretations :-

As evident from the table the means of the both the groups are slightly different. The difference is only 0.05. The SD. of both the groups do not differ significantly simply 0.10 which the difference SD is negligible. The subjects in both the groups are homogeneous so the groups are equivalent.

Hence in order to test (H_1) the ANOVA was used, the summary of ANOVA is given below in table no.IX.

TABLE IX
SUMMARY TABLE OF ANOVA ON PREVIOUS TEST

Source of Variation	df	Sums of Squares	MS (V)
Between Means	1	0.02	0.02
Within groups	38	282.95	7.45

$$F = \frac{0.02}{7.45} = 0.0027$$

$$\begin{aligned} \text{Required 'F' value for df } 1/38 &= 0.05 = 4.09 \\ &0.01 = 7.36 \end{aligned}$$

Observations and Interpretations :-

The 'F' value in the above table was not significant at both the levels indicating that mean performance of the groups did not differ significantly on previous test.

The calculated 'F' value is 0.0027. It led to the conclusion that both the groups were equal. So the sample selected was comparable. Hence H_1 was retained.

IV.3 ANALYSIS AND INTERPRETATION OF THE DATA OBTAINED

IN TESTING :-

As the researcher described in the preceding chapter, he used various media packages for teaching the units and subunits. After using media packages for each subunit, he administered an achievement test of both the groups. The original scores are given in Appendix No. F. The data obtained after conducting the test is analysed and interpreted below.

The unit one is 'Environment' and the first subunit of the same is 'A Letter From Mother Earth'. The researcher has used the following media package for the above subunit.

Package 1 consisted visual aids such as pictures, flash cards, flannel board and transparencies. It also consisted cassette.

The test was conducted under the supervision of the researcher. The data available after using package 1 is given below.

HYPOTHESIS NO. 2 :-

The achievement of the students of the group 'A' is better than the group 'B' after using visual aids and cassette.

Means and SDs were computed for both the groups from the scores obtained in test 1. Table X shows the same.

TABLE X

MEANS AND STANDARD DEVIATIONS OF BOTH GROUPS
IN TEST 1 AFTER USING VISUAL AIDS AND CASSETTE.

Groups	Means	SD
A	10.00	2.79
B	7.75	2.25

Observations and Interpretations :-

As evident from the table, the means of both the groups differ. The difference is 2.25. The difference in the SDs of both the groups is less. Comparatively performance of the students from group 'A' is better.

In order to test (H_2) the ANOVA was used, the summary of ANOVA is given in table no. XI.

TABLE XI

SUMMARY TABLE OF ANOVA OF BOTH GROUPS
IN TEST 1 AFTER USING VISUAL AIDS AND CASSETTE

Source of Variation	df	Sums of Squares	Ms (V)
Between Means	1	50.62	50.62
Within groups	38	257.75	6.78
Total	39	308.37	

$$F = \frac{50.62}{6.78} = 7.47$$

Required 'F' value for the df 1/38 = 0.05 = 4.09
0.01 = 7.36

Observations and Interpretations :-

- i) The 'F' value is significant at 0.01 level, so the difference is highly significant.
- ii) Performance of two groups differ from one another in test 1.
- iii) Hence H_3 was retained at 0.01 level and Null Hyp. was rejected.

On the basis of above observations the following findings are noted.

Findings :-

- i) The performance of the students from the group 'A' is better than the group 'B'.
- ii) Demonstration of the format of letter using transparencies favourably affects students' ability of writing letters.
- iii) Tape recorder plays vital role to recall the main ideas and events in the passage.
- iv) Flash cards and flannel boards are useful to develop learners' ability to guess the meanings of unfamiliar words.

In order to have the concrete idea it is presented graphically. (See Fig. IV.1). And the table of frequencies of the figures are given in Appendix No.G.

SCALE -

ON X AXIS 2 CM = 3 MARKS

ON Y AXIS 3 CM = 2 STUDENTS

'A' GROUP = ———

'B' GROUP = - - - - -

FREQUENCY OF STUDENTS

12

10

8

6

4

2

0

1-3

4-6

7-9

10-12

13-15

16-18

19-21

CLASS INTERVAL OF MARKS

FIG IV-1 - GRAPH OF SCORES OBTAINED BY GROUP 'A' AND 'B'
ON TEST NO-1

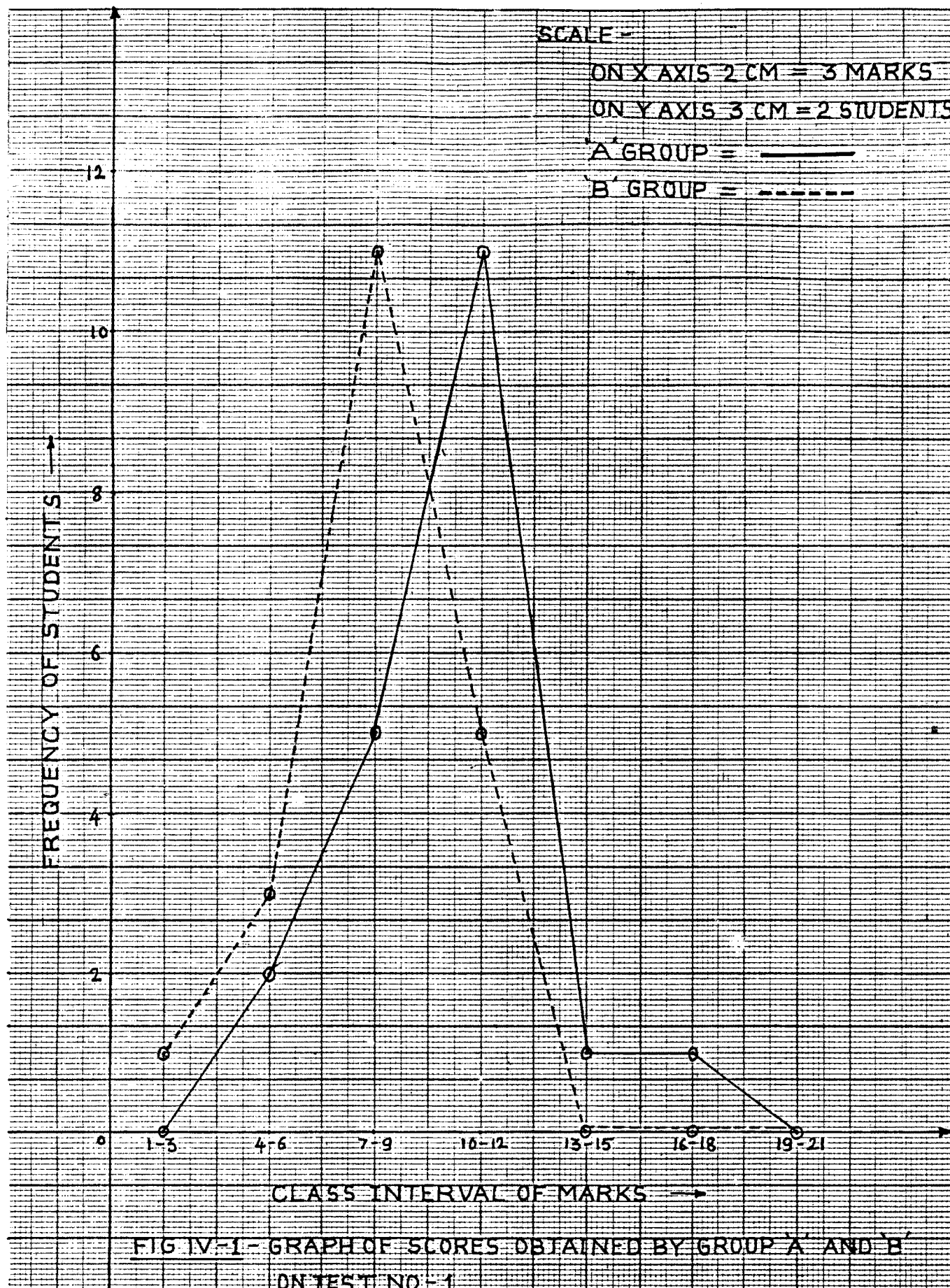


Fig. IV - 1

GRAPH OF SCORES OBTAINED BY GROUP 'A' AND 'B'ON TEST NO - 1

In the graph it shows that the range of marks obtained by group 'A' is from four to eighteen. But that of group 'B' is from one to twelve only. The peaks of the graphs 'A' and 'B' groups clearly show that the average scores of two groups are respectively ten and eight and the graph of group 'A' is completely shifted towards right side with respect to that of group 'B'.

So it is clearly evident from the two graphs group 'A' is markedly superior than the group 'B' in Test No. 1.

The second submit named 'How Could We Live Without You?' is rather lengthy. Hence the researcher used an extensive media package for above said subunit.

Package 2 consisted of enlarging devices such as epidiascope and visual aids as map, flat pictures, photographs, flash cards, transparencies and substitution table. It also included Tape recorder.

After implementing package 2, the researcher conducted a test under his supervision. The means and SDs of the scores obtained from the test 2 were computed for both the groups.

HYPOTHESIS NO. 3 :-

The achievement of the students of the group 'A' is better than the group 'B' after using enlarging devicies, visual aids and substitution table.

The means and standard deviations of test 2 of both the groups are given in Table No. XII.

TABLE XII

MEANS AND STANDARD DEVIATIONS OF BOTH
THE GROUPS IN TEST 2 AFTER USING ENLARGING
DEVICES, VISUAL AIDS AND SUBSTITUTION TABLE

Group	Means	SD
A	12.85	2.81
B	9.5	2.72

Observations and Interpretations :-

As evident from the above table the means of both the groups differ. The difference is 3.35. There is not much difference in the SD's of both the groups from the means. Comparatively achievement of the students from group 'A' is better than the group 'B'.

In order to test (H_3) the ANOVA was calculated. It is given in the following summary table no. XIII.

TABLE XIII
SUMMARY TABLE OF ANOVA OF BOTH GROUPS
ON TEST 2 AFTER USING ENLARGING DEVICES,
VISUAL AIDS AND SUBSTITUTION TABLE

Source of Variation	df	Sums of Squares	MS (V)
Between Means	1	112.23	112.23
Within groups	38	307.55	8.09
Total	39	419.78	

$$F = \frac{112.23}{8.09} = 13.87$$

Required value for the df 1/38 = 0.05 = 4.09
0.01 = 7.36

Observations and Interpretations :-

- i) The 'F' value is significant at 0.01 level.
- ii) The performance of two groups differ significantly with regard to mean performance on test 2.
- iii) Hence H_3 was retained at 0.01 level & Null Hyp. was rejected.

On the basis of above observations the following findings are noted.

Findings :-

- i) It is found that epidiascope brought concreteness and assisted retention to the greater extent.
- ii) Flash cards and flannel board proved very helpful to develop the learners' ability to recall the words of the meanings.
- iii) The context was made clear and idea vivid due to maps.
- iv) Explaining incidents using transparencies affect of student's ability to **comprehend** the passage clearly.
- v) It is pointed out that tape recorder also develops the students' ability to understand the passage clearly.
- vi) Substitution tables help students to construct new sentence patterns and use vocabulary naturally and with ease.

In order to have the concrete idea it is presented graphically. (see Fig. IV - 2)

SCALE -

ON X AXIS 2 CM = 3 MARKS

ON Y AXIS 3 CM = 2 STUDENTS

'A' GROUP = ———

'B' GROUP = - - - - -

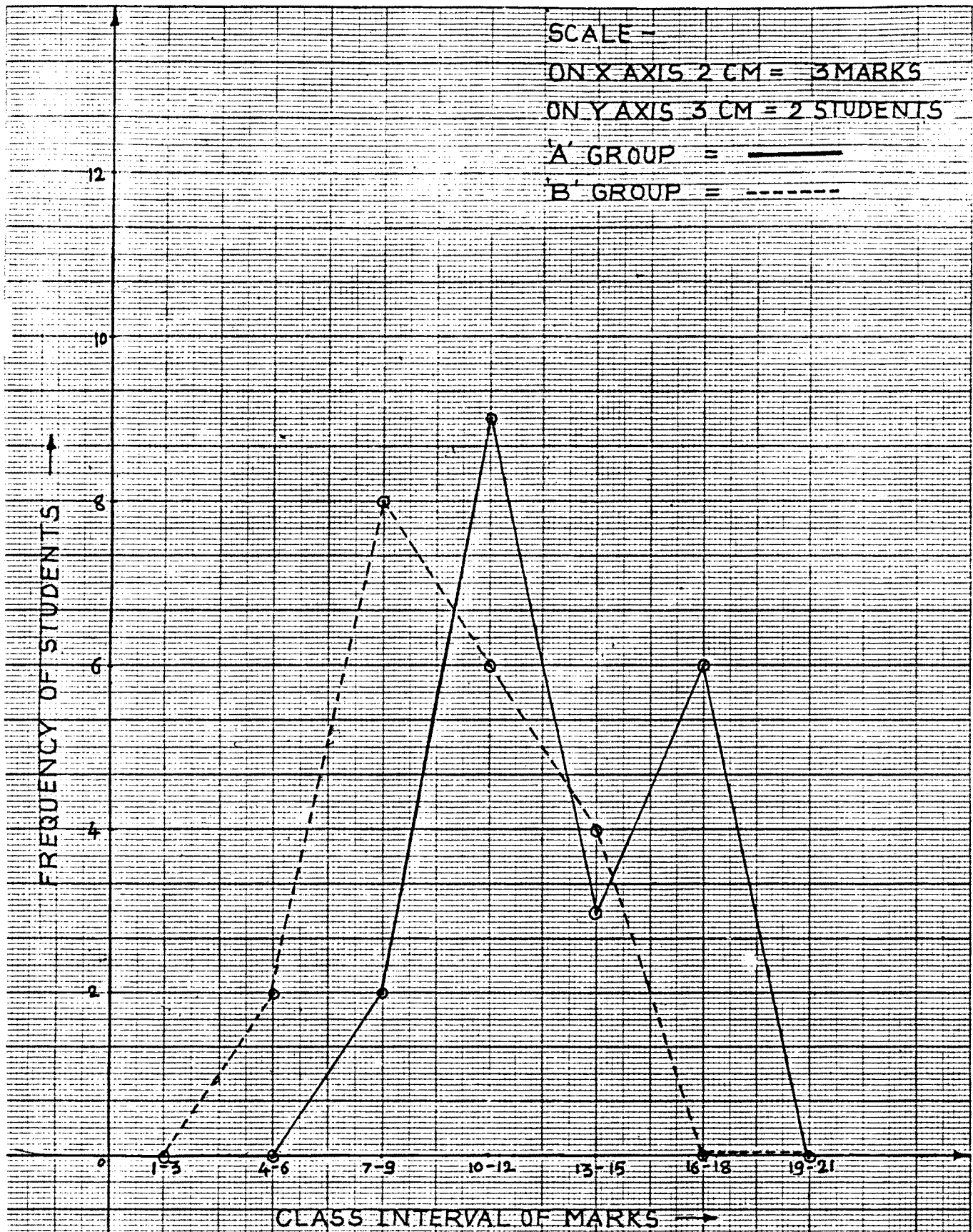


FIG IV-2 - GRAPH OF SCORES OBTAINED BY GROUP 'A' AND 'B' ON TEST NO-2

Fig. IV - 2

GRAPH OF SCORES OBTAINED BY GROUP 'A' AND 'B'ON TEST - 2

In the graph it shows that the range of marks obtained by group 'A' is from seven to eighteen. But that of group 'B' is four to fifteen only. The peaks of the graphs 'A' and 'B' groups clearly show that the average scores of two groups are respectively twelve and nine and the graph of group 'A' is completely shifted towards right side with respect to that of group 'B'.

So it is clearly evident from the two graphs group 'A' is markedly superior than the group 'B' in Test No. 2.

The third subunit named 'Vanishing Forest', the researcher used the following media package for teaching this subunit.

Package 3 included graphic aids such as map, graph and chart. It also consisted transparencies and cassette.

The researcher implemented package 3 and conducted test under his supervision. The means and SDs were computed for both the groups from the scores obtained in Test 3.

HYPOTHESIS NO. 4 :-

The achievement of the students of the group 'A' is superior than the group 'B' after using graphic aids, transparencies and cassette.

The means and standard deviations of test 3 of both the groups are given in table no. XIV.

TABLE XIV
MEANS AND STANDARD DEVIATIONS OF BOTH
THE GROUPS IN TEST 3 AFTER USING GRAPHIC
AIDS, TRANSPARENCIES AND CASSETTE

Groups	Means	SD
A	13.00	3.39
B	10.2	4.22

Observations and Interpretations :-

From the above table, the means of both the groups differ. The difference is 2.8. There is slight difference between the SD's of both the groups i.e. 0.83. Comparatively the achievement of the students from group 'A' is superior.

In order to test (H_4) the ANOVA was calculated. The summary of ANOVA is given in table no. XV.

TABLE XV

SUMMARY TABLE OF ANOVA OF BOTH GROUPS IN TEST 3AFTER USING GRAPHIC AIDS, TRANSPARENCIES AND CASSETTE

Source of Variation	df	Sums of Squares	MS (V)
Between Means	1	78.4	78.4
Withing groups	38	587.2	15.45
Total	39	665.6	

$$F = \frac{78.4}{15.45} = 5.07$$

Required 'F' value for the df 1/38 = 0.05 = 4.09
 = 0.01 = 7.36

Observations and Interpretations :-

- i) The 'F' value is significant at 0.05 level.
- ii) Hence H_4 was accepted at 0.05 level not at 0.01 level and Null Hyp. was rejected.

From the above observation the following findings are noted.

Findings :-

- i) It is found that students could locate the countries and compare the vanishing areas by observing the maps.
- ii) Displaying the pie-chart through transparencies affected the students' ability to interpret and understand the passage.
- iii) Tape recorder strengthened students' listening ability, that resulted in students' progressive performance.
- iv) Explanation with charts and flannel board proved very useful to the pupils to develop the ability to synthesise and apply the same in the new situation.
- v) Graphs were found effective in developing learners' interpretative ability.

In order to have the concrete idea, it is presented graphically. (see Fig. IV - 3)

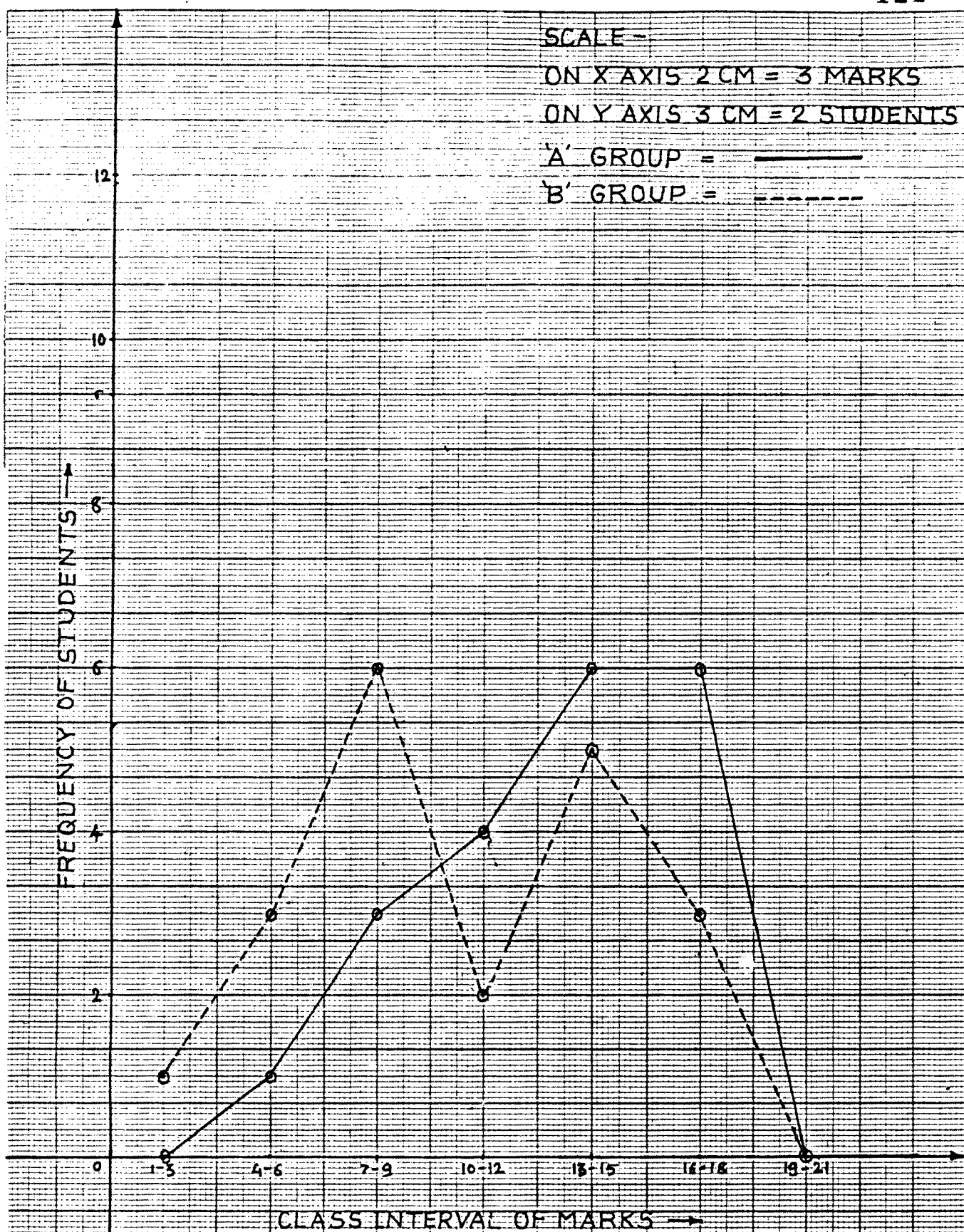
SCALE -

ON X AXIS 2 CM = 3 MARKS

ON Y AXIS 3 CM = 2 STUDENTS

'A' GROUP = —————

'B' GROUP = - - - - -



FIGIV-3 - GRAPH OF SCORES OBTAINED BY GROUP A AND B
ON TEST NO - 3

Fig. IV - 3

GRAPH OF SCORES OBTAINED BY GROUP 'A' AND 'B'ON TEST - 3 |

In the graph it shows that the range of marks obtained by group 'A' is from four to eighteen. But that of group 'B' is one to eighteen only. The peaks of the graphs 'A' and 'B' groups clearly show that the average scores of two groups are respectively thirteen and nine and the graph of group 'A' is completely shifted towards right side with respect to that of group 'B'.

So it is clearly evident from the two graphs group 'A' is markedly superior than the group 'B' in Test No. - 3.

The fourth subunit is poem named 'A Boy's Song'. As it is a narrative poem, the investigator used the following media package.

Package 4 It consisted visual aids - pictures, flannel board, chart, epidiascope, Audio aid - Tape recorder and slogan charts.

He implemented package 4 and conducted a test under his supervision. The means and SDs were computed for both the groups from the scores obtained in Test 4.

HYPOTHESIS NO. 5 :-

The achievement of the students of the group 'A' is better than the group 'B' after using visual aids, audio aid and slogan charts.

Means and standard deviations of both the groups are given in the following table no. XVI.

TABLE XVI
MEANS AND STANDARD DEVIATIONS OF
BOTH GROUPS IN TEST 4 AFTER USING
VISUAL AIDS, AUDIO AID AND SLOGAN CHARTS

Groups	Means	SD
A	12.65	2.17
B	9.75	2.04

As evident from the above table the means of both the groups differ. The difference is considerable that is 2.9.

There is not much difference in the SD's of both the groups from the means. The achievement of the students from group 'A' is comparatively better than the group 'B'.

In order to test (H_5) the ANOVA was calculated. It is given in the following summary table no. XVII.

TABLE XVII

SUMMARY TABLE OF ANOVA OF BOTH GROUPS INTEST 4 AFTER USING VISUAL AIDS, AUDIO AID AND SLOGAN CHART

Source of Variations	df	Sums of Squares	MS (V)
Between Means	1	84.1	84.1
Within groups	38	178.3	4.69
Total	39	262.4	

$$F = \frac{84.1}{4.69} = 17.93$$

$$\begin{aligned} \text{Required 'F' value for df } 1/38 &= 0.05 = 4.09 \\ &= 0.01 = 7.36 \end{aligned}$$

Observations and Interpretations :-

- i) The 'F' value in the above table is 17.93 which is greater than 7.36. So it is significant at 0.01 level.
- ii) Performance of two groups differ from one another.
- iii) Hence H_5 was accepted at 0.01 level and Null Hyp. was rejected.

From above observation the following findings are drawn.

Findings :-

- i) Various pictures affected the performance of the students of group 'A' in developing the ability to understand the meaning of the stanzas of the poem.
- ii) Tape recorder played very important role to develop the ability to recite the poem to enjoy its music, and also to understand and enjoy the rhyme and rhythm of the poem.
- iii) Displaying some proverbs, idioms & instructions through the chart considerably affected the students' ability to learn the comparative language and transfer the appropriate idea into mother tongue.

In order to have the concrete idea it is presented graphically. (see Fig. IV - 4)

SCALE -

ON X AXIS 2 CM = 3 MARKS

ON Y AXIS 3 CM = 2 STUDENTS

'A' GROUP = —————

'B' GROUP = - - - - -

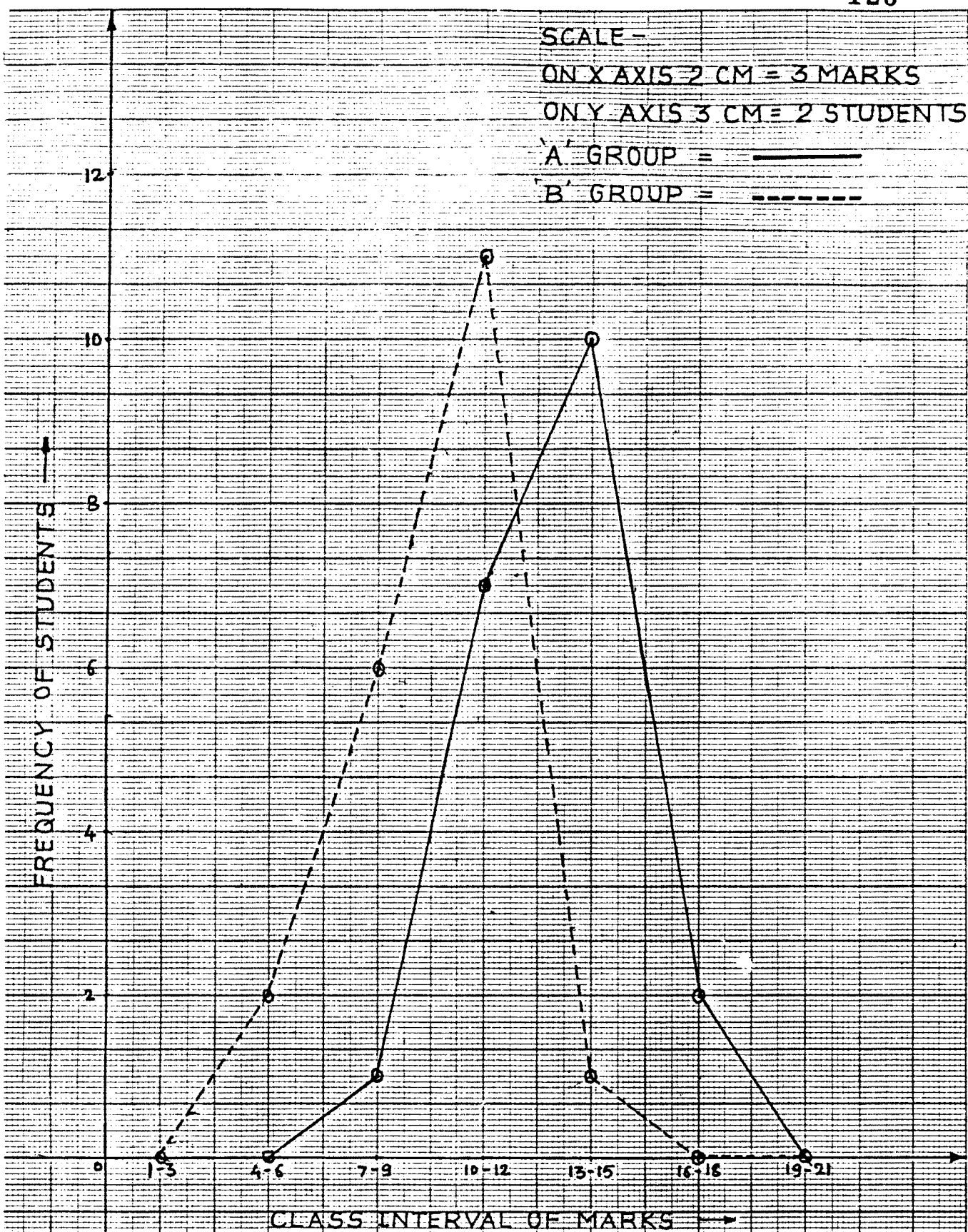


FIG IV-4 - GRAPH OF SCORES OBTAINED BY GROUP 'A' AND 'B'
ON TEST NO-4

Fig. IV - 4

GRAPH OF SCORES OBTAINED BY GROUP 'A' AND 'B'
ON TEST - 4

In the graph it shows that the range of marks obtained by group 'A' is from seven to eighteen. But that of group 'B' is four to fifteen only. The peaks of the graphs 'A' and 'B' groups clearly show that the average scores of two groups are respectively thirteen and ten and the graph of group 'A' is completely shifted towards right side with respect to that of group 'B'.

So it is clearly evident from the two graphs group 'A' is markedly superior than the group 'B' in Test No-4.

After measuring the achievement of the students of both the groups by administering tests on each unit, the investigator conducted a comprehensive Unit Test I based on unit I named 'Environment'. The comprehensive Unit Test I was based on media package 1 to 4.

The means and SDs were computed for both the groups from the scores obtained in the Comprehensive Test I.

HYPOTHESIS NO. 6 :-

The achievement of the students of the group 'A' is superior than the group 'B' after using comprehensive media package.

Means and standard deviations of both the groups are given in the following table no. XVIII.

TABLE XVIII
MEANS AND STANDARD DEVIATIONS OF
BOTH THE GROUPS IN UNIT TEST 1 AFTER USING
COMPREHENSIVE MEDIA PACKAGE

Groups	Means	SD
A	26.8	7.05
b	21.85	5.37

Observations and Interpretations :-

As evident from the above table, the mean performance of both the groups differ. The difference is 4.95.

The SDs of both the groups also differ. The difference is 1.68. The distribution of the scores of both the groups markedly differ from each other.

Hence in order to test (H_0) the ANOVA was used, the summary of ANOVA is given in table no. XIX.

TABLE XIX

SUMMARY TABLE OF ANOVA OF BOTH GROUPSIN UNIT TEST 1 AFTER USING COMPREHENSIVE MEDIA PACKAGE

Source of Variation	df	Sums of	MS (V)
Between Means	1	245.03	245.03
Within groups	38	1569.75	41.31
Total	39	1814.78	

$$F = \frac{245.03}{41.31} = 5.93$$

Required 'F' value for df 1/38

$$0.05 = 4.09$$

$$0.01 = 7.36$$

Observations and Interpretations :-

- i) The 'F' value in the above table is 5.93 which is greater than 4.09 so it is significant at 0.05 level only and not at 0.01 level.
- ii) The mean performance of the groups differ significantly.
- iii) Hence (H_0) was retained at 0.05 level and Null Hyp. was rejected.

From the above observations the following findings are noted.

Findings :-

- i) It is summarised that use of pitcutes, epidiascope, graphs favourably affected the students' ability to enlarge images of matter, illustrate the matter effectively. It is also proved that these media played important role in introducing the subject matter.
- ii) Students' ability to write letters was considerably improved by demonstration of the format of letter using transparencies.
- iii) Demonstration of the pie chart using transparencies affected students' ability to understand the main ideas in the passages.
- iv) It is proved that flash cards and flannel boards were quite useful to develop the vocabulary. That is to develop the ability of analysing, suggesting, guessing and matching.

- v) Considerably the skill of synthesis, transformations were developed due to transparencies, flash cards, and flannel board.
- vi) Tape recorder played vital role in the comprehension of the passage and recitation of poem. It further helped them to enjoy its music and to understand the meaning of stanzas and also to develop the linguistic abilities.

In order to have the concrete idea it is presented graphically. (see Fig. IV - 5)

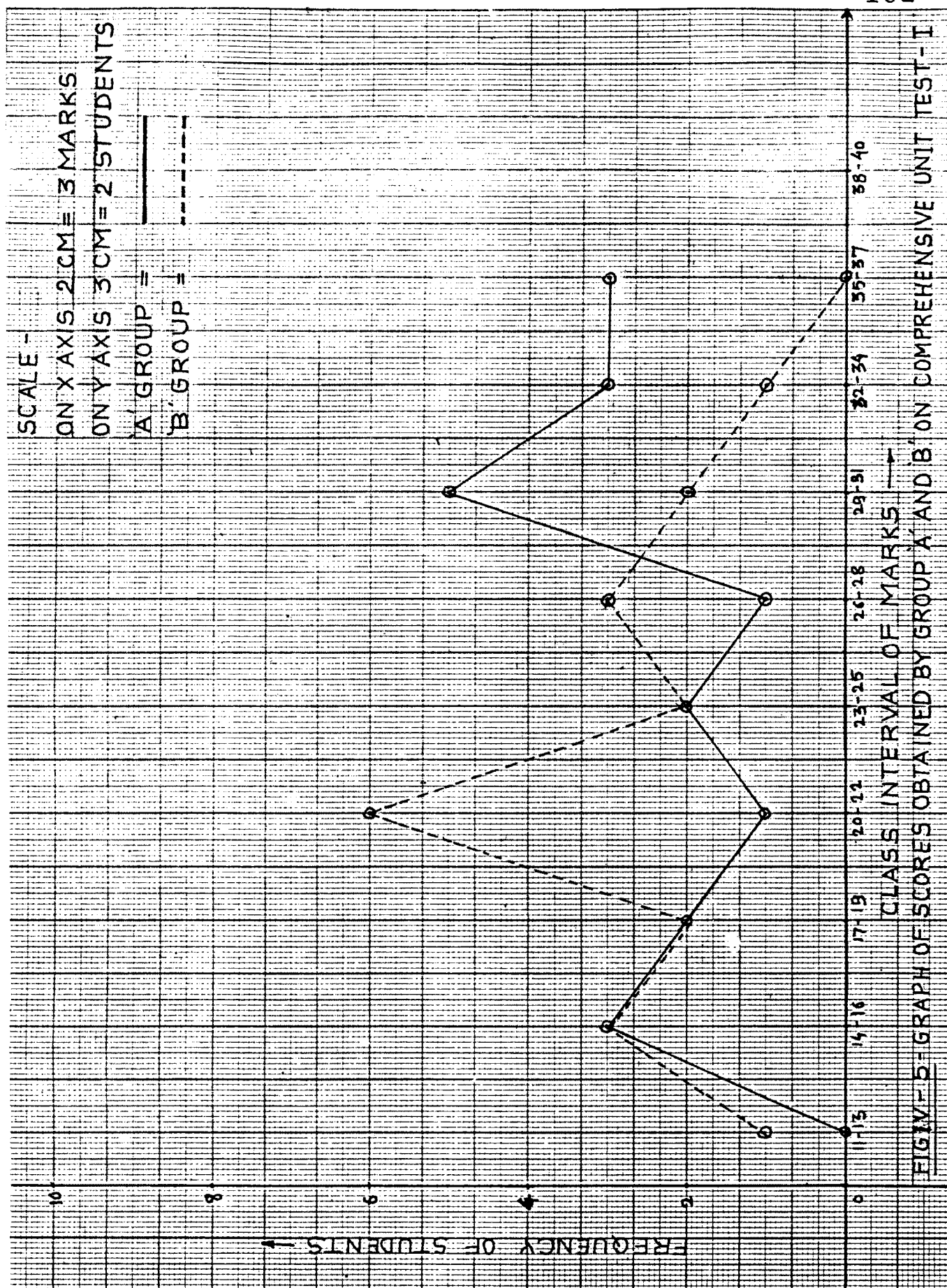


FIG. IV - 5

GRAPH OF SCORES OBTAINED BY GROUP 'A' AND 'B'
ON COMPREHENSIVE UNIT TEST - I

In the graph it shows that the range of marks obtained by group 'A' is from fourteen to thirty seven. but that of group 'B' is eleven to thirty four only. And it is clearly evident that graph of group 'A' goes upwards while graph of group 'B' goes downwards at right.

So it is clearly evident from the two graphs group 'A' is markedly superior than the group 'B' in Comprehensive Unit Test - I.

The second unit is 'Health' and the first subunit is 'Coffee'. The researcher has used the following media package for the above said subunit.

Package 5 It consisted media for expression such as pictures, charts. It also consisted visual aid and cassette.

The test was conducted under the supervision of the researcher. The data available after using media package 5 is given below.

HYPOTHESIS NO. 7 :-

The achievement of the students of the group 'A' is better than the group 'B' after using media for expression, visual aids and cassette.

The means and SDs were computed for both the groups from the scores obtained in Test 5. Table no. XX shows the same.

TABLE XX
MEANS AND STANDARD DEVIATIONS OF BOTH
GROUPS IN TESTS 5 AFTER USING MEDIA FOR
EXPRESSION, VISUAL AIDS AND CASSETTE

Groups	Means	SD
A	15.00	3.04
B	11.45	4.51

Observations and Interpretations :-

From the above table it shows that the means of both the groups differ. The difference is 3.35. The SDs of both the groups also differ. The difference is 1.47. Comparatively the achievement of the students from group 'A' is better.

In order to test (H_7) the ANOVA was calculated. The summary of ANOVA is given in table no. XXI.

TABLE XXI
SUMMARY TABLE OF ANOVA OF BOTH THE
GROUPS IN TEST 5 AFTER USING MEDIA FOR
EXPRESSION, VISUAL AIDS AND CASSETTE

Source of variation	df	Sums of Squares	MS (V)
Between Means	1	126.03	126.03
Within groups	38	592.95	15.60
Total	39	718.98	

$$F = \frac{126.03}{15.60} = 8.07$$

Required 'F' value for the df 1/38

$$= 0.05 = 4.09$$

$$= 0.01 = 7.36$$

Observations and Interpretations :-

- i) The 'F' value for the difference of 'A' and 'B' group was significant at 0.01 level. So Null hypothesis was rejected and (H_7) was retained.
- ii) Performance of two groups differed from one another in test 5.

From the above observation the following findings are noted.

Findings :-

- i) Demonstration of the pie chart to show the effect of coffee on various parts of the body, drinking at different times of the day. Using transparencies favourably affected the students' ability to identify and describe the effects of coffee on various parts of the human body.
- ii) It is found that by using transparencies and flannel board students recognized noun clauses because of demonstration of past participles used as adjectives and nouns which followed them.
- iii) Display of the advertisement by using chart related to coffee and tea increased learners' participation in lesson and giving additional information.
- iv) Tape recorder increased the comprehension of the passage to the greater extent.

In order to have the concrete idea it is presented graphically. (see Fig. IV - 6)

SCALE -

ON X AXIS 2 CM = 3 MARKS

ON Y AXIS 3 CM = 2 STUDENTS

'A' GROUP = —————

'B' GROUP = - - - - -

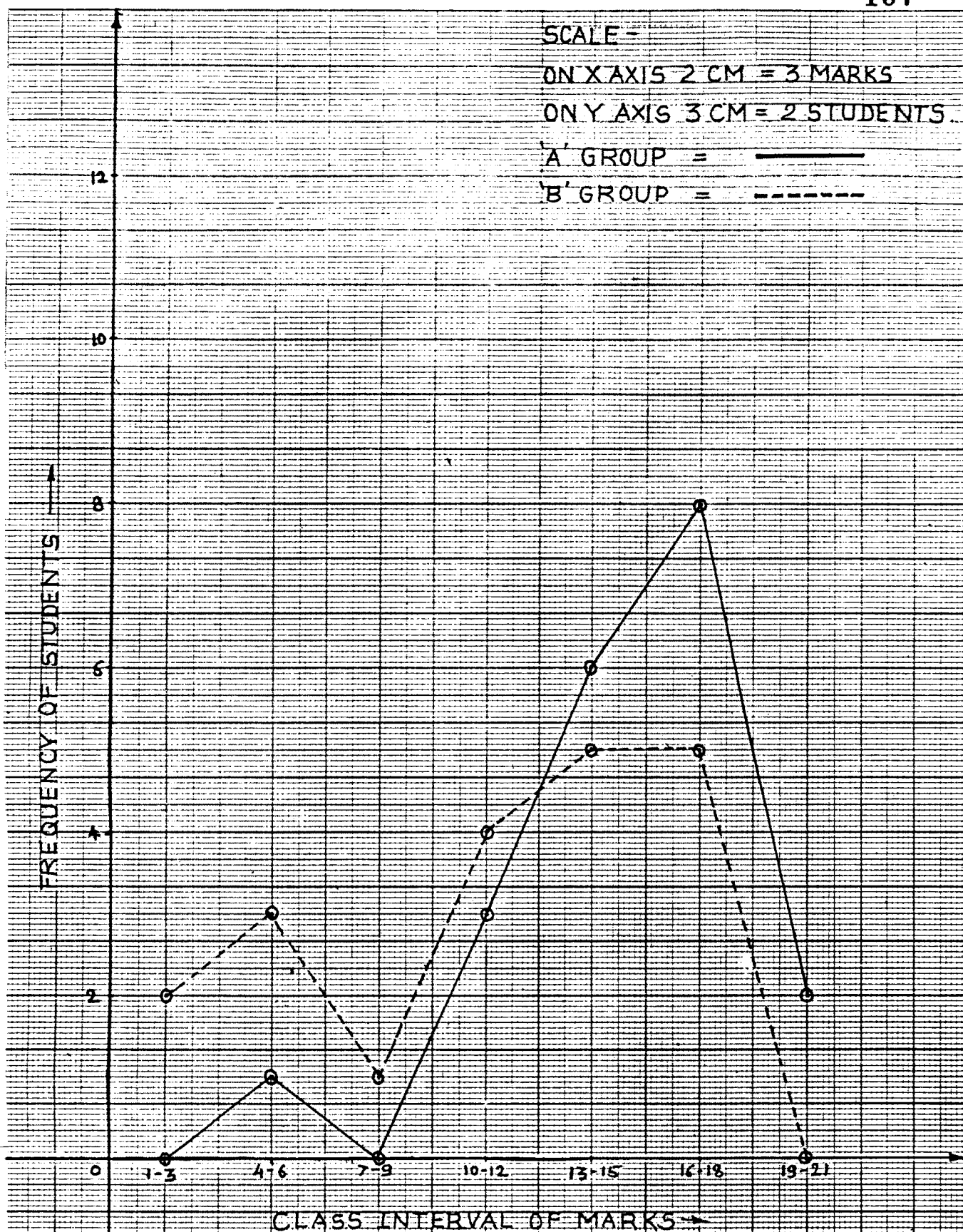


FIG IV-6- GRAPH OF SCORES OBTAINED BY GROUP 'A' AND 'B'
ON TEST NO-5

FIG. IV - 6

GRAPH OF SCORES OBTAINED BY GROUP'A' AND 'B' ON TEST - 5

In the graph it shows that the range of marks obtained by group 'A' is from four to twenty. But that of group 'B' is one to eighteen only. the peaks of the graphs 'A' and 'B' groups clearly show that the average scores of two groups are respectively sixteen and thirteen and the graph of group 'A' is completely shifted towards right side with respect to that of group 'B'.

So it is clarely evident from the two graphs group 'A' is markedly superior than the group 'B' in Test No. 5.

The second subunit named 'T.B. Easy To Cure Fatal To Ignore'. It is rather lengthy and complicated. Hence the researcher used an extensive media package for above said unit.

Package 6 It consisted projective media such as slide projector. It also includes visual aids such as flash cards, transparencies and flannel board and also tape recorder.

The researcher used the Package No. 6 and conducted a test under his supervision. The means and SDs were computed for both the groups from the scores obtained in Test 6.

HYPOTHESIS NO. 8 :-

The achievement of the students of the group 'A' is better than the group 'B' after using projective media, visual aids and cassette.

The means and standard deviations of test 6 of both the groups are given in table no. XXII.

TABLE XXII
MEANS AND STANDARD DEVIATIONS OF BOTH
THE GROUPS IN TEST 6 AFTER USING
PROJECTIVE MEDIA, VISUAL AIDS AND CASSETTE

Groups	Means	SD
A	14.5	1.66
B	9.3	2.41

Observations and Interpretations :-

As evident from the above table the means of both the groups differ. The difference is 5.2. The SDs of both the groups are less different i.e. 0.75 comparatively achievement of the students from group 'A' is better than the group 'B'.

In order to test (H_0) the ANOVA was calculated. It is given in the following summary table no. XXIII.

TABLE XXIII
SUMMARY TABLE OF ANOVA OF BOTH GROUPS
ON TEST 6 AFTER USING PROJECTIVE MEDIA,
VISUAL AIDS AND CASSETTE

Source of Variation	df	Sums of	MS (V)
Between Means	1	270.4	270.4
Within groups	38	171.2	4.50
Total	39	441.6	

$$F = \frac{270.4}{4.50} = 60.08$$

Required 'F' value for the df 1/38 =

$$0.05 = 4.09$$

$$0.01 = 7.36$$

Observations and Interpretations :-

- i) The 'F' value for the difference of 'A' and 'B' groups was highly significant at 0.01 level so Null hypothesis was rejected and H_0 was retained.
- ii) The difference was in favour of group 'A'.

From above observation the following findings are noted.

Findings :-

- i) Students understood the concept of sputum smear test because of demonstration of the process by using slide projector.
- ii) Flash cards and flannel board are useful to develop learners' ability to guess the meaning, match the words, formation of words and suggestability.
- iii) Displaying some facts about T.B. using transparencies favourably affected students' ability to understand the T.B. as infectious diseases and precautions about it.
- iv) Tape recorder helps to understand the passage clearly. It also develop the learners' ability to interpret the facts, write their openions, etc.

In order to have the concrete idea it is presented graphically. (see Fig. IV.7)

SCALE -

ON X AXIS 2 CM = 3 MARKS

ON Y AXIS 3 CM = 2 STUDENTS

'A' GROUP =

'B' GROUP =

FREQUENCY OF STUDENTS

12

10

8

6

4

2

0

1-3

4-6

7-9

10-12

13-15

16-18

19-21

CLASS INTERVAL OF MARKS

FIG IV-7 - GRAPH OF SCORES OBTAINED BY GROUP 'A' AND 'B'
ON TEST NO - 6

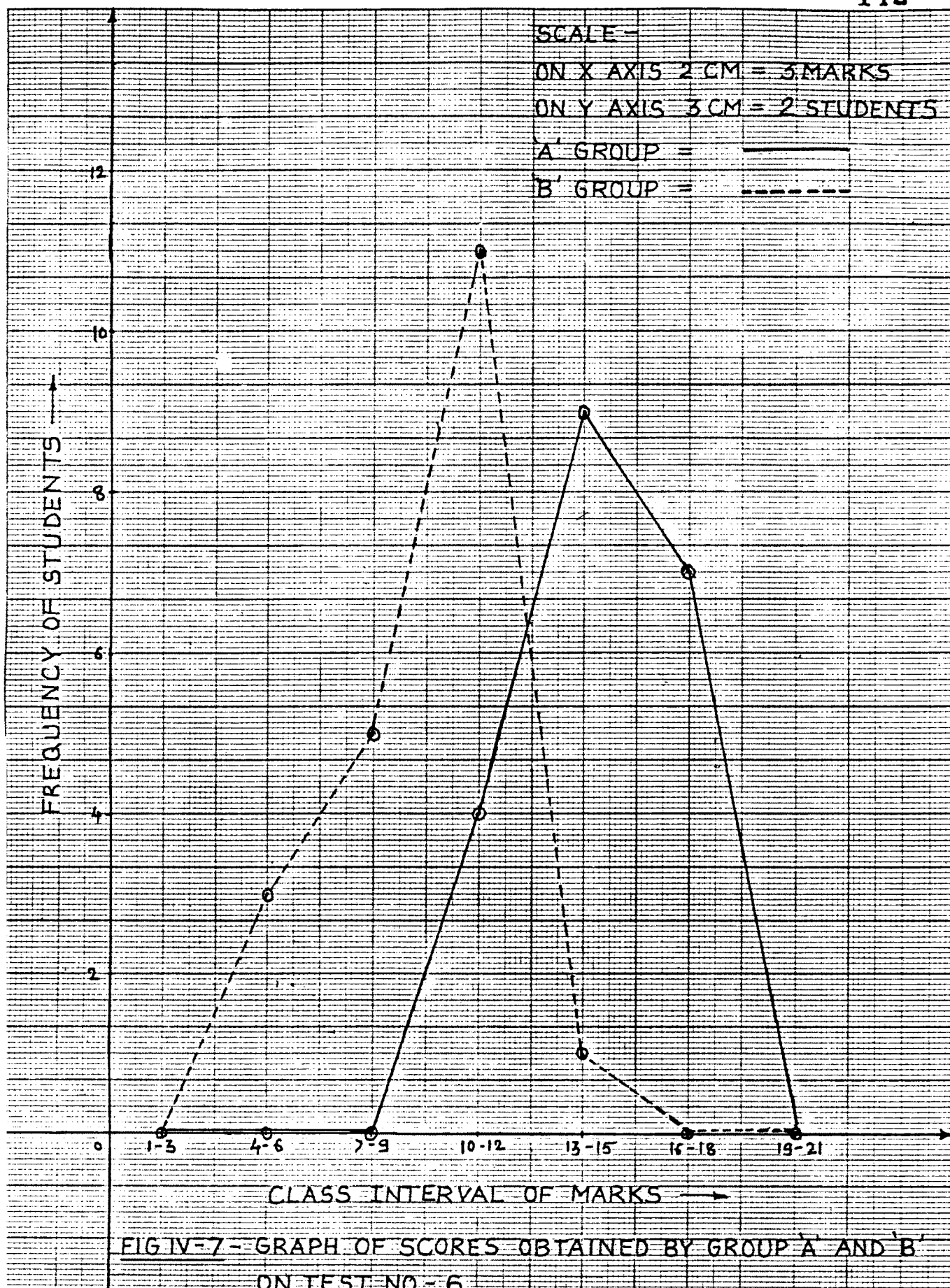


FIG. IV - 7

GRAPH OF SCORES OBTAINED BY GROUP'A' AND 'B' ON TEST - 6

In the graph it shows that the range of marks obtained by group 'A' is from ten to eighteen. But that of 'B' is four to fifteen only. The peaks of the graphs 'A' and 'B' groups clearly show that the average scores of two groups are respectively fourteen and ten and the graph of group 'A' is completely shifted towards right side with respect to that of group 'B'.

So it is clearly evident from the two graphs group 'A' is markedly superior than the group 'B' in Test No.6.

The researcher measured the learners' achievement of both the groups by administering test on each subunit. Then he conducted a comprehensive Unit Test II based on Unit II named 'Health'. The comprehensive Unit Test II was based on media Package No. 5 and 6.

The means and SDs were computed for both the groups from the scores obtained in Comprehensive Unit Test II.

HYPOTHESIS NO. 6 :-

The achievement of the students of the group 'A' is superior than the group 'B' after using comprehensive media package.

Means and standard deviations of both the groups are given in the following table no. XXIV.

TABLE XXIV
MEANS AND STANDARD DEVIATIONS
OF BOTH THE GROUPS IN UNIT TEST II
AFTER USING COMPREHENSIVE MEDIA PACKAGE

Groups	Means	SD
A	22.5	7.05
B	15.55	3.44

Observations and Interpretations :-

As evident from the above table, the mean performance of both the groups differ. The difference is 6.95. The SDs of both the groups differ significantly. The difference is 3.61.

Hence in order to test (H_0) the ANOVA was used, the summary of ANOVA is given in table no. XXV.

TABLE XXV
SUMMARY TABLE OF ANOVA OF
BOTH GROUPS IN UNIT TEST II
AFTER USING COMPREHENSIVE MEDIA PACKAGE

Source of Variation	df	Sums of Squares	MS (V)
Between Means	1	483.02	483.02
Within groups	38	643.95	16.95
Total	39	1126.97	

$$F = \frac{483.02}{16.95} = 28.50$$

Required 'F' value for the df 1/38 =

$$0.05 = 4.09$$

$$0.001 = 7.36$$

Observations and Interpretations :-

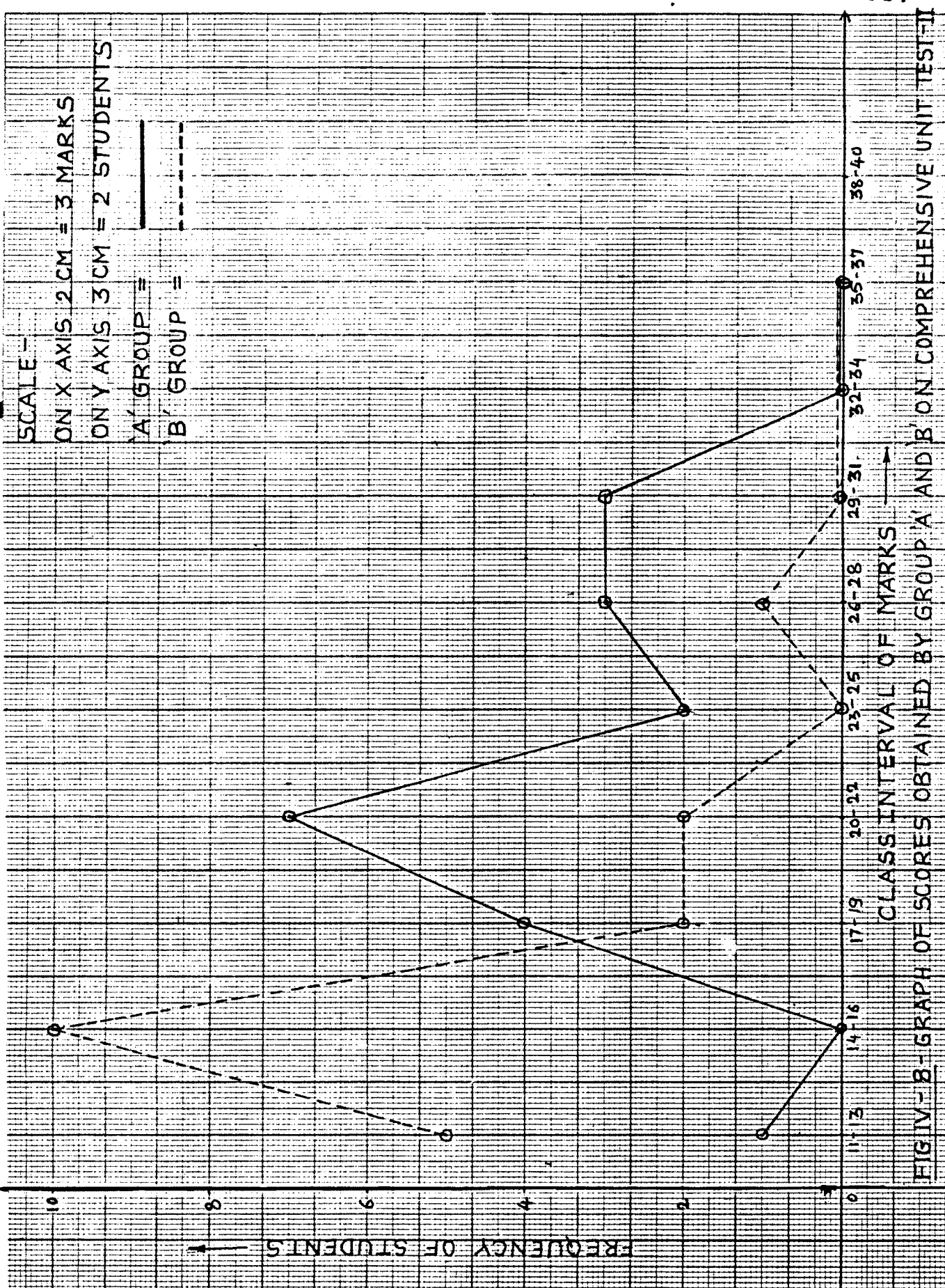
- i) The 'F' value in the above table is 28.50 which is greater than 7.36 so it is significant at 0.01 level.
- ii) The calculated 'F' value is 28.50. It led to the conclusion that both the groups differ from one another.
- iii) Hence H_0 was accepted at 0.01 level and Null Hyp. was rejected.

From the above observation the following findings are noted.

Findings :-

- i) Tape recorder increased the comprehension of the passage to the greater extent.
- ii) Demonstration of pie chart and using transparencies favourably affected students' ability to identify and describe the effects of coffee on various parts of the human body at different times of the day.
- iii) Students understood the concept of sputum smear test by using slid projector.
- iv) Flash cards and flannel board were quite helpful to develop learners' ability of matching, quessing, the meanings and formation of words.

In order to have concrete idea it is presented graphically. (see Fig. IV - 8)



FIGIV-8-GRAPH OF SCORES OBTAINED BY GROUP 'A' AND 'B' ON COMPREHENSIVE UNIT TEST-II

FIG. IV - 8

GRAPH OF SCORES OBTAINED BY GROUP'A' AND 'B' ON COMPREHENSIVE UNIT TEST - II

In the graph it shows that the range of marks obtained by group 'A' is from seventeen to thirtyone. But that of group 'B' is eleven to twentytwo. The peaks of the graphs 'A' and 'B' groups clearly show that the average scores of two groups are respectively twentytwo and sixteen and the graph of group 'A' is completely shifted towards right side with respect to that of group 'B'.

So it is clearly evident from the two graphs group 'A' is markedly superior than the group 'B' in Comprehensive Unit Test No. - II.

IV.4 COEFFICIENT OF CORRELATION OF TESTS :-

It is more important to examine the relationship of one variable to another than to measure performance in either alone. Are certain abilities closely related and others relatively independent? Is it true that good pitch discrimination accompanies musical achievement or that bright children tend to be less neurotic than average children? If we know the general performance of the learners, as measured by tests can be studied by the method of correlation.

Hence the researcher calculated the coefficient of correlation of both the groups to know consistency and seriousness in the performance of the students and activities of the researcher.

IV.4.1 The Interpretation of r In Terms of Verbal Description :-

r From .00 to \pm .20 denotes indifferent or negligible relationship.

r From \pm .20 to \pm .40 denotes low correlation; present but slight.

r From \pm .40 to \pm .70 denotes substantial or marked relationship.

r From \pm .70 to \pm 1.00 denotes high to very high relationship.

IV.4.2 Coefficient of Correlation of tests of The Group 'A' :-

The researcher calculated the coefficient of

correlation among the tests of the group 'A' to know the continuous performance of the learners in each test and its relation with other test. It is given in the following table no. XXVI.

TABLE XXVI
COEFFICIENT OF CORRELATION OF GROUP 'A'

Test No.	Coefficient of Correlation (r)
1 and 2	.73
2 and 3	.82
3 and 4	.76
4 and 5	.68
5 and 6	.67
Unit Test I and II	.71

Observations and Interpretations :-

Correlations between test 1 and 2, 2 and 3, 3 and 4 and Unit Test I and II were respectively .73, .82, .76 and .71. These all correlations are high to very high. But the correlation between the test 4 and 5, 5 and 6 were respectively .68 and .67. These are marked relationship.

Almost all these are positively high correlations. It is found that there is consistency between the performance of the students and action of the teacher.

IV.4.3 Coefficient of Correlation of Tests of Group 'B' :

In order to know the continuous performance of the students in each test and its relation with other test, the researcher calculated the coefficient of correlation of the group 'B'. It is given in the following table no. XXVII.

TABLE XXVII

COEFFICIENT OF CORRELATION OF GROUP 'B'

Test No.	Coefficient of Correlation (γ)
1 and 2	.67
2 and 3	.80
3 and 4	.69
4 and 5	.77
5 and 6	.69
Unit Test I and II	.80

Observations and Interpretations :-

Correlations between test 2 and 3, 4 and 5 and Unit Test I and II were respectively .80, .77 and .80. These all correlations were high to very high. And the correlation between the test 1 and 2, 3 and 4 and 5 and 6 were respectively .67, .69 and .69. These are marked relationship.

Almost all these are positively high correlations.

It is found that there is consistency between the performance of the learners and the action of the teacher.

Findings :-

The students day to day performance was very appreciable. They were very sincere in their learning. There was no problem of indiscipline because they were very attentive in the classroom.

It was also noticed that the tests prepared by the researcher are of the same difficulty level and there was sincerity in teaching process. It also shows the use of proper media for the units and subunits.

IV.5 CONCLUDING REMARKS :-

In the foregoing pages, the researcher has analysed and interpreted each and every aspect of the obtained data regarding the experimentation of the effect of media on learning English. The conclusions based on the analysis and interpretation of the data done in this chapter and also suggestions that follow from conclusions are presented in the next chapter, viz. Summary, Conclusions and recommendations.