DATA ANALYSIS, INTERPRETATION AND DISCUSSION

CHAPTER V
DATA ANALYSIS, INTERPRETATION AND DISCUSSION

5.0 INTRODUCTION

This chapter presents analysis of collected data. The data were analyzed with the help of appropriate statistical techniques and were interpreted in order to arrive at inferences. These include the data collected through different tools. The main objective of the present study has been to develop a strategy for multigrade teaching on Environment for class III and IV.

5.1 ANALYSIS AND INTERPRETATION OF THE SITUATIONAL ANALYSIS OBTAINED THROUGH QUESTIONNAIRE

Purpose : To identify the administrative and padagogical problems faced by multi-grade teaching schools.

1. 100 percent (25) of the schools were located in the vasahat itself that was within 1 kilometer. But the teachers were either commuting from the Dabhoi village or Vadodara city.
2. Out of twentyfive schools majority sixtyeight percent (17) schools were belonging to Gujarat followed by twentyfour percent (6) schools were belonging to Madhyapradesh and only eight percent (2) schools belonging to Maharashtra.
3. forty eight percent (12) schools were running classes I to V followed by twenty-eight percent (7) schools running classes I to VI and twenty-four percent (6) schools running classes I to IV.
4. As far as the rooms in the school were concerned forty percent (10) of the schools were having 2 rooms followed by thirty-six percent (9) schools were having 3 rooms and twenty percent (5) schools were having one room and only four percent (1) school was having 6 rooms irrespective of number of class.
5. Majority seventy-six percent (19) schools were having 2 teachers followed by sixteen percent (4) schools were having 3 teachers and only eight percent (2) schools had single teacher.
6. 100 percent (25) teachers have Primary Teacher Certificate (PTC) qualification.

7. Majority forty-four percent (11) teachers were having experience of 5 years, followed by twenty-eight percent (7) teachers were having 3 years of experience. Further, twenty-four percent (6) teachers were having experience of two years and only four percent (1) teacher was having 10 years of teaching experience.
8. The teacher student ratio ranged from 1:15 to 1:50 according to number of classes.
9. 100 percent (25) schools were not having any extra-staff member.
10. Total number of children in single school range from 10 to 150.
11. On an average, class III students ranged from five to eight in each school.
12. On an average class IV students ranged from 4 to 12 in each school.
13. Sixty percent (15) schools were having drinking water facility that was hand –pump /water tap and only forty percent (10) schools were having either earthen pot or steel vessel.
14. fifty-six percent (14) schools were having common toilet facility, twenty-four percent (6) school were not having toilet facility and only twenty percent (5) school having separate toilet for girls and boys.
15. 100 percent of the vasahat schools were having school building.
16. 100 percent of the schools were following the similar timing that was 10.30 a.m. to 5.00 p.m.
17. 100 percent (25) schools were not following period system.
18. 100 percent (25) schools were following multigrade teaching, where they handle more than 1 grade simultaneously.
19. Eighty percent (20) of the schools were giving more emphasis to Gujarati and mathematics and only twenty percent (5) schools were teaching environment everyday.
20. 100 percent (25) schools were preparing time-table but none of the school were practicing.

21. Majority eighty percent (20) teachers were not teaching environment everyday. Only twenty percent (4) of the teachers were teaching environment everyday.
22. eighty percent (20) of the teachers were employing a story telling and poem for teaching some content as a major activities and only twenty percent (5) teachers were using field visit as an activity.
23. Eighty percent (20) teachers had in-service training in minimum levels of learning (MLLs) and the rest twenty percent (5) teachers were Vidyasahayak and had not taken any in-service training.
24. 100 percent (25) teachers were not given any training related to multigrade.
25. 100 percent (25) teachers were using lecture method with recitation.
26. 100 percent (25) teachers used text-books as major teaching aid (although they had teaching aids related to our body, charts on animals, birds, season, weather, map etc. but were not used.)
27. Eighty percent (20) teachers responded that they used the available teaching aids and twenty percent (5) teachers sometime used this teaching aid.
28. 100 percent (25) teachers had no training with respect to use of available teaching aids.
29. 100 percent (25) teachers preplanned the lesson as they have to prepare *nondhbook* (dairy) as per the rules.
30. 100 percent (25) teachers responded that there no provision for transfer and promotion.
31. Supervision was conducted twice or thrice in 6 months.
32. Vidyasahayak gets twelve casual leaves only. But teachers who were permanent gets optional leave, medical leave, maternity leave for three months apart from twelve casual leaves.
33. 100 percent of the teachers were following grade combination technique on the mutual basis.

34. 100 percent of the teachers told that there was no substitute teacher when they go on leave.

35. 100 percent of the teachers responded that they had no training related to multigrade.

5.1.1 Analysis and Interpretation of Semi-structured Interview Schedule for Studying Administrative and Pedagogical Problems

Posting and transfer of teacher : Teacher don't get transferred unless they demand and put forward an application for transfer to Jilla Panchayat. Vidhayasahayak sometime get transferred where and when the requirement of teacher exists. Sometimes on the mutual basis that was if teacher was going from Padra to Dabhoi and wants to get transferred to Padra, teacher can communicate with the teacher working at that place, thus on the mutual basis adjustment was made.

Supervision : Supervisors hardly visit the Vasahati school. In year, twice or thrice. Actually they have to supervise the schools twice a month. But due to heavy workload as they have to supervise many talukas simultaneously and so they were unable to handle there duty properly.

Grants of leave for teachers and appointment of substitute : Vidhayasahayak gets twelve casual leaves only. But the teacher who were permanent gets optional leave, medical leave, maternity leave for 3 months apart from 12 casual leaves. Most of the time there was no appointment of their substitute and single teacher has to handle the whole school.

Organisation of Special Training for Teachers : As far as this statement was concerned no such special training to handle more than one class or the whole school was given. Only the training related to change in the text-book was given.

Grade-combination : Grade combination was done on mutual basis for example before it was like that teacher who has taken training for particular class will take that class but now on the mutual understanding and due to lack of teachers the grades were combine systematically. For example, if the school

was having 1 to 4 class then one teacher will take 1st and 2nd class and another teacher takes 3rd and 4th class. So that it becomes easy for teacher to take the class without wasting teaching learning time.

Time-table : Teacher prepare time-table but they don't follow it. In a day they either take one or at the most two subjects that was preferably Gujarati and Mathematics. Further reported that they make change in subject only when they see that students doesn't carry any more interest in that particular subject and some change was required.

5.1.2 Interpretation of classroom observations before the workshop

Purpose : To identify the pedagogic problems in multigrade teaching.

Twenty schools were observed and in all the twenty school students of class III and class IV were sitting in one room and they were sitting separately according to their class.

In all the observed schools, the pattern of teaching was similar with the emphasis on recitation, syllabic reading, dictation and copying of exercises from the blackboard. Further, teacher was teaching one class and another class given some kind of recitation or copying of exercises from the text-book. Teacher starts the class with the new concept /lessen hence recapitualization was not emphasized. Teacher interacting with the class usually began the lesson by reading or by solving certain problem on the backboard and the students was suppose to listen, recite (if necessary) and then copy in their notebooks. The teaching learning process was routine and mechanically emphasizes seemed to be given on rote learning. Further, observed that the teachers generally, adhered to the set curriculum prescribed in the textbook. Teacher's mean concern was to complete the syllabus than to make students understand and achieved the competency. IN this teacher oriented process, the students neither encouraged to raise questions nor to make observations. Thus, the type of environment created in the classroom led to mechanical ways of learning. Teacher hardly provided opportunities to the students for interaction. Hence, the classroom climate under such situations was dull, boring, tensed and

students appear tired and frustrated. Also, the teachers were not seen to be enthusiastic. Thus, the classroom environment was not conducive and productive.

Although not many teaching aids related to environment were available but the teaching aids which were available, were hardly used for example teacher teaching about "our body" chart was available but was kept in the cupboard /box or was hanged in another room. Apart from this chart other teaching aids available were charts on weather, living and non-living things, vegetables and fruits globe, map of Gujarat, etc.

While interacting the investigator came to know that they were not trained on how and when to use the particular teaching aid. Further, they informed that they have to produce teaching aids and other teaching learning materials before the supervisor at the end of the academic year.

5.2 ANALYSIS AND INTERPRETATION OF THE DATA OBTAINED THROUGH ACHIEVEMENT TEST

The achievement test was administered to 200 students of Class III and Class IV in 20 schools same was scored according to scoring key. The distribution of marks showing in table 5.1.

Table 5.1

Distribution of achievement score

Class-Interval	Frequency
10-19	5
20-29	56
30-39	68
40-49	61
50-59	10
	$\Sigma f = 200$

Table 5.2

Mean, Median, Mode, Standard deviation, Skewness, Quartiles, Kurtosis and Percentile.

Mean	35.25
Median	35.2
Mode	35.1
Standard deviation	9.37
Skewness	0.016
Quartiles	7.705
Kurtosis	0.30
Percentile	P10=22.18, P20=25.75, P30=29.32, P40=32.29, P50=35.23, P60=38.18, P70=41.30, P80=44.58, P90=47.86

Table 5.2 shows that the mean, median, mode fall at the same point in the distribution. Thus, it can be concluded that the score of the students in achievement test was normally distributed. The average achievement of the student was 35.25 and mode was found to be 35.1, standard deviation was found to be 9.37. The percentile shows that 50 percent of the students scored less than 35.23. This indicates that the majority of the students have achieved the identified competencies.

The achievement test was administered to 115 students of Class III in 20 schools .same was scored according to the scoring key. The distribution of marks is shown in table 5.3

Table 5.3

Distribution of the achievement scores of the class III students

Class-Interval	Frequency
10-19	3
20-29	32
30-39	44
40-49	31
50-59	5
	$\Sigma f = 115$

Table 5.4

Mean, Median, Mode, Standard deviation and Skewness.

Mean	34.76
Median	34.61
Mode	34.31
Standard deviation	8.6
Skewness	0.051

Table 5.4 shows that the mean, median, mode fall at the same point in the distribution. Thus, it can be concluded that the score of the students in achievement test was normally distributed. The average achievement of the student was 34.76, median was 34.61 and mode was 34.31, standard deviation was found to be 8.6. Thus, the above data implied that majority of the students have achieved the identified competencies.

The achievement test was administered to 85 students of Class IV in 20 schools. Same was scored according to the scoring key and distribution of marks is shown in table 5.5.

Table 5.5

Distribution of the achievement scores of the class IV students

Class-Interval	Frequency
10-19	2
20-29	24
30-39	24
40-49	30
50-59	5
	$\Sigma f = 85$

Table 5.6

Mean, Median, Mode, Standard deviation and Skewness.

Mean	35.9
Median	36.4
Mode	37.4
Standard deviation	9.7
Skewness	-0.15

Table 5.6 shows that the mean, median, mode fall almost at the same point in the distribution. Thus, it can be concluded that the score of the students in achievement test was slightly negatively skewed. The average achievement of the student was 35.9, median was 36.4 and mode was 37.4, standard deviation was found to be 9.7. Thus, the above data implies that majority of the students have achieved the identified competencies.

Table 5.7

Distribution of mean achievement according to school

Schools	Mean	Schools	Mean
1	32.91	11	35.56
2	33.73	12	38.88
3	44.80	13	41.25
4	32.60	14	30.94
5	37.90	15	38.50
6	40.38	16	35.00
7	34.50	17	33.91
8	45.50	18	30.38
9	34.50	19	40.83
10	34.45	20	40.00

Table 5.7 indicated that mean achievement of school eighteen was minimum, 30.38 and that of school three was maximum, 44.80. The average achievement of twenty schools was 36.83.

To see whether there was any difference in the achievement of students schoolwise, following null hypothesis was formulated

"*There will be no significant difference in the mean achievement of students with respect to schools*"

To test this hypothesis ANOVA was computed and presented in table 5.8.

Table 5.8

Overall achievement of twenty schools.

Source	df	SS	MS(V)	SD	F-value
Between means	19	7582.56	399.08	7.63	6.9
Within means	180	4654.56	58.18		
	199	12237.12			

Level of significance at 0.05 and 0.01 level, expected values 1.88 and 2.28 respectively.

As the F-value was found to be greater than expected F-value. The null hypothesis stating that there will be no significant difference in the mean achievement of the students with respect to schools was rejected. Indicating that difference exists in the mean achievement of the students with respect to schools. To know where exactly the difference exists, the post-ANOVA test of differences was applied. Same has been presented in the following pages.

Table 5.9

Tests of difference by use of post-ANOVA between school one and school two.

Mean of school 1	Mean of school 2	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	33.73	0.82	3.25	6.40 8.45

Table 5.9 indicated that mean achievement of school 1 was 32.91 and that of school 2 was 33.73. There was a observed difference of 0.82 which was lesser than expected value at the both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 1 and school 2 was accepted.
So it can be concluded that there was no significant difference in the mean achievement of school 1 and school 2.

Table 5.10

Tests of difference by use of post-ANOVA between school one and school three.

Mean of school 1	Mean of school 3	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	44.8	11.89	3.32	6.54 8.63

Table 5.10 indicate that mean achievement of school one was 32.91 and that of school three was 44.8. There was a observed difference of 11.89 which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 1 and school 3 was rejected.
So it can be concluded that there was a significant difference in the mean achievement of school 1 and school 3.

Table 5.11

Tests of difference by use of post-ANOVA between school one and school four.

Mean of school 1	Mean of school 4	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	32.6	0.31	3.32	6.54 8.63

Table 5.11 indicate that mean achievement of school one was 32.91 and that of school four was 32.6. There was a observed difference of 0.31 which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 1 and school 4 was accepted.
So it can be concluded that there was a no significant difference in the mean achievement of school 1 and school 4.

Table 5.12

Tests of difference by use of post-ANOVA between school one and school five.

Mean of school 1	Mean of school 5	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	37.9	4.99	3.32	6.54 8.63

Table 5.12 indicate that mean achievement of school one was 32.91 and that of school three was 37.9. There was a observed difference of 4.99 which was lesser than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 1 and school 5 was rejected.

So it can be concluded that there was a significant difference in the mean achievement of school 1 and school 5.

Table 5.13

Tests of difference by use of post-ANOVA between school one and school six.

Mean of school 1	Mean of school 6	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	40.38	7.47	3.12	6.15 8.11

Table 5.13 indicate that mean achievement of school one was 32.91 and that of school six was 40.38. There was observed difference of 7.47, which was found to be greater than expected value at 0.05 level. So, the null hypothesis stating that there will be no significant difference in achievement of school 1 and school 6 was rejected.

So it can be concluded that there was a significant difference in the mean achievement of school 1 and school 6.

Table 5.14

Tests of difference by use of post-ANOVA between school one and school seven.

Mean of school 1	Mean of school 3	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	34.5	1.59	3.32	6.54 8.63

Table 5.14 indicated that mean achievement of school one was 32.91 and that of school three was 34.5. There was a observed difference of 1.59 which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be

no significant difference in achievement of school 1 and school seven was accepted.

So it can be concluded that there was a no significant difference in the mean achievement of school 1 and school 7.

Table 5.15

Tests of difference by use of post-ANOVA between school one and school eight.

Mean of school 1	Mean of school 8	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	45.5	12.59	3.54	6.97 9.20

Table 5.15 indicate that mean achievement of school one was 32.91 and that of school eight was 45.5. There was a observed difference of 12.59 which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 1 and school 8 was rejected.

So it can be concluded that there was a significant difference in the mean achievement of school 1 and school 8.

Table 5.16

Tests of difference by use of post-ANOVA between school one and school nine.

Mean of school 1	Mean of school 3	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	34.5	1.59	3.32	6.54 8.63

Table 5.16 indicate that mean achievement of school one was 32.91 and that of school nine was 34.5. There was a observed difference of 1.59 which was

lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 1 and school 9 was accepted.

So it can be concluded that there was a no significant difference in the mean achievement of school 1 and school 9.

Table 5.17

Tests of difference by use of post-ANOVA between school one and school ten.

Mean of school 1	Mean of school 10	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	34.45	1.54	3.25	6.40 8.45

Table 5.17 indicate that mean achievement of school one was 32.91 and that of school three was 34.45. There was observed difference of 1.54, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 1 and school 10 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 1 and school 10.

Table 5.18

Tests of difference by use of post-ANOVA between school one and school eleven

Mean of school 1	Mean of school 11	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	35.56	2.65	3.41	6.72 8.87

Table 5.18 indicated that mean achievement of school one was 32.91 and that of school three was 35.56. There was observed difference of 2.65, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 1 and school 11 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 1 and school 11.

Table 5.19

Tests of difference by use of post-ANOVA between school one and school twelve.

Mean of school 1	Mean of school 12	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	38.88	5.97	3.54	6.97 9.20

Table 5.19 indicated that mean achievement of school one was 32.91 and that of school three was 34.45. There was observed difference of 5.97, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 1 and school 12 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 1 and school 12.

Table 5.20

Tests of difference by use of post-ANOVA between school one and school thirteen.

Mean of school 1	Mean of school 13	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	41.25	8.34	3.15	6.20 8.19

Table 5.20 indicated that mean achievement of school one was 32.91 and that of school thirteen was 41.25. There was observed difference of 8.34, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 1 and school 13 was rejected.
So it can be concluded that there was significant difference in the mean achievement of school 1 and school 13.

Table 5.21

Tests of difference by use of post-ANOVA between school one and school fourteen.

Mean of school 1	Mean of school 14	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	30.94	1.97	2.98	5.87 7.75

Table 5.21 indicated that mean achievement of school one was 32.91 and that of school fourteen was 30.94. There was observed difference of 1.97, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 1 and school 14 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 1 and school 14.

Table 5.22

Tests of difference by use of post-ANOVA between school one and school fifteen.

Mean of school 1	Mean of school 15	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	38.5	5.59	3.32	6.54 8.63

Table 5.22 indicated that mean achievement of school one was 32.91 and that of school fifteen was 38.5. There was observed difference of 5.59, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 1 and school 15 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 1 and school 15.

Table 5.23

Tests of difference by use of post-ANOVA between school one and school sixteen.

Mean of school 1	Mean of school 16	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	35	2.09	3.32	6.54 8.63

Table 5.23 indicated that mean achievement of school one was 32.91 and that of school sixteen was 35. There was observed difference of 2.09, which was lesser than expected value at both the levels. Thus, the mean difference was

found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 1 and school 16 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 1 and school 16.

Table 5.24

Tests of difference by use of post-ANOVA between school one and school seventeen.

Mean of school 1	Mean of school 17	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	33.91	1	3.25	6.40 8.45

Table 5.24 indicated that mean achievement of school one was 32.91 and that of school seventeen was 33.91. There was observed difference of 1, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 1 and school 17 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 1 and school 17.

Table 5.25

Tests of difference by use of post-ANOVA between school one and school eighteen.

Mean of school 1	Mean of school 18	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	30.38	2.53	3.54	6.97 9.20

Table 5.25 indicated that mean achievement of school one was 32.91 and that of school eighteen was 30.38. There was observed difference of 2.53, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 1 and school 18 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 1 and school 18.

Table 5.26

Tests of difference by use of post-ANOVA between school one and school nineteen.

Mean of school 1	Mean of school 19	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	40.83	7.92	3.89	7.39 10.11

Table 5.26 indicated that mean achievement of school one was 32.91 and that of school nineteen was 40.83. There was observed difference of 7.92, which was greater than expected value at 0.05 level. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 1 and school 19 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 1 and school 19.

Table 5.27

Tests of difference by use of post-ANOVA between school one and school twenty.

Mean of school 1	Mean of school 20	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.91	40	7.09	3.89	7.39 10.11

Table 5.27 indicated that mean achievement of school one was 32.91 and that of school three was 40. There was observed difference of 7.09, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 1 and school 20 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 1 and school 20.

Table 5.28

Tests of difference by use of post-ANOVA between school two and school three

Mean of school 2	Mean of school 3	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.73	44.8	11.07	3.32	6.54 8.63

Table 5.28 indicated that mean achievement of school two was 33.73 and that of school three was 44.8. There was observed difference of 11.07, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 2 and school 3 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 2 and school 3.

Table 5.29

Tests of difference by use of post-ANOVA between school two and school four

Mean of school 2	Mean of school 4	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.73	32.6	1.13	3.32	6.54 8.63

Table 5.29 indicated that mean achievement of school two was 33.73 and that of school three was 32.6. There was observed difference of 1.13, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 2 and school 4 was accepted. So it can be concluded that there was no significant difference in the mean achievement of school 2 and school 4.

Table 5.30

Tests of difference by use of post-ANOVA between school two and school five

Mean of school 2	Mean of school 5	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.73	37.9	4.17	3.32	6.54 8.63

Table 5.30 indicated that mean achievement of school two was 33.73 and that of school three was 37.9. There was observed difference of 4.17, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 2 and school 5 was accepted. So it can be concluded that there was no significant difference in the mean achievement of school 2 and school 5.

Table 5.31

Tests of difference by use of post-ANOVA between school two and school six.

Mean of school 2	Mean of school 6	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.73	40.38	6.65	3.13	6.17 8.14

Table 5.31 indicated that mean achievement of school two was 33.73 and that of school six was 40.38. There was observed difference of 6.65, which was greater than expected value at 0.05 level. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 2 and school 6 was rejected.
So it can be concluded that there was significant difference in the mean achievement of school 2 and school 6.

Table 5.32

Tests of difference by use of post-ANOVA between school two and school seven

Mean of school 2	Mean of school 7	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.73	34.5	0.77	3.32	6.54 8.63

Table 5.32 indicated that mean achievement of school two was 33.73 and that of school seven was 34.5. There was observed difference of 0.77, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 2 and school 7 was accepted.
So it can be concluded that there was no significant difference in the mean achievement of school 2 and school 7.

Table 5.33

Tests of difference by use of post-ANOVA between school two and school eight

Mean of school 2	Mean of school 8	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.73	45.5	11.77	3.54	6.97 9.20

Table 5.33 indicated that mean achievement of school two was 33.73 and that of school three was 45.5. There was observed difference of 11.77, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 2 and school 8 was rejected.
So it can be concluded that there was significant difference in the mean achievement of school 2 and school 8.

Table 5.34

Tests of difference by use of post-ANOVA between school two and school nine

Mean of school 2	Mean of school 9	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.73	34.5	0.77	3.32	6.54 8.63

Table 5.34 indicated that mean achievement of school two was 33.73 and that of school nine was 34.5. There was observed difference of 0.77, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 2 and school 9 was accepted.
So it can be concluded that there was no significant difference in the mean achievement of school 2 and school 9.

Table 5.35

Tests of difference by use of post-ANOVA between school two and school ten

Mean of school 2	Mean of school 10	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.73	34.45	0.72	3.25	6.40 8.45

Table 5.35 indicated that mean achievement of school two was 33.73 and that of school ten was 34.45. There was observed difference of 0.72, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 2 and school 10 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 2 and school 10.

Table 5.36

Tests of difference by use of post-ANOVA between school two and school eleven

Mean of school 2	Mean of school 11	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.73	35.56	1.83	3.41	6.80 8.87

Table 5.36 indicated that mean achievement of school two was 33.73 and that of school eleven was 35.56. There was observed difference of 1.83, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 2 and school 11 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 2 and school 11.

Table 5.37

Tests of difference by use of post-ANOVA between school two and school twelve

Mean of school 2	Mean of school 12	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.73	38.88	5.97	3.54	6.97 9.20

Table 5.37 indicated that mean achievement of school two was 33.73 and that of school ten was 38.88. There was observed difference of 5.97, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 2 and school 12 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 2 and school 12.

Table 5.38

Tests of difference by use of post-ANOVA between school two and school thirteen

Mean of school 2	Mean of school 13	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.73	41.25	7.52	3.15	6.20 8.19

Table 5.38 indicated that mean achievement of school two was 33.73 and that of school ten was 41.85. There was observed difference of 7.52, which was greater than expected value at 0.05 level. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 2 and school 13 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 2 and school 13.

Table 5.39

Tests of difference by use of post-ANOVA between school two and school fourteen

Mean of school 2	Mean of school 14	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.73	30.94	1.97	2.98	5.87 7.75

Table 5.39 indicated that mean achievement of school two was 33.73 and that of school fourteen was 30.94. There was observed difference of 1.97, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 2 and school 14 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 2 and school 14.

Table 5.40

Tests of difference by use of post-ANOVA between school two and school fifteen

Mean of school 2	Mean of school 15	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.73	38.5	4.77	3.32	6.54 8.63

Table 5.40 indicated that mean achievement of school two was 33.73 and that of school fifteen was 38.5. There was observed difference of 4.77, which was lesser than expected value at both the levels. Thus, the mean difference was

found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 2 and school 15 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 2 and school 15.

Table 5.41

Tests of difference by use of post-ANOVA between school two and school sixteen

Mean of school 2	Mean of school 16	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.73	35	1.27	3.32	6.54 8.63

Table 5.41 indicated that mean achievement of school two was 33.73 and that of school ten was 1.27. There was observed difference of 1.27, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 2 and school 16 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 2 and school 16.

Table 5.42

Tests of difference by use of post-ANOVA between school two and school seventeen

Mean of school 2	Mean of school 17	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.73	33.91	0.18	3.25	6.40 8.45

Table 5.42 indicated that mean achievement of school two was 33.73 and that of school ten was 33.91. There was observed difference of 0.18, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 2 and school 17 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 2 and school 17.

Table 5.43

Tests of difference by use of post-ANOVA between school two and school eighteen

Mean of school 2	Mean of school 18	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.73	30.38	3.35	3.54	6.97 9.20

Table 5.43 indicated that mean achievement of school two was 33.73 and that of school eighteen was 30.35. There was observed difference of 3.35, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 2 and school 18 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 2 and school 18.

Table 5.44 indicated that mean achievement of school two was 33.73 and that of school nineteen was 40.83. There was observed difference of 7.1, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be

no significant difference in achievement of school 2 and school 19 was accepted.

Table 5.44

Tests of difference by use of post-ANOVA between school two and school nineteen

Mean of school 2	Mean of school 19	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.73	40.83	7.1	3.89	7.39 10.11

So it can be concluded that there was no significant difference in the mean achievement of school 2 and school 19.

Table 5.45

Tests of difference by use of post-ANOVA between school two and school twenty

Mean of school 2	Mean of school 20	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.73	40	6.27	3.89	7.39 10.11

Table 5.45 indicated that mean achievement of school two was 33.73 and that of school twenty was 40. There was observed difference of 6.27, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 2 and school 20 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 2 and school 20.

Table 5.46

Tests of difference by use of post-ANOVA between school three and school four

Mean of school 3	Mean of school 4	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
44.8	32.6	12.2	3.41	6.72 8.87

Table 5.46 indicated that mean achievement of school three was 44.8 and that of school four was 32.6. There was observed difference of 12.2, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 3 and school 4 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 3 and school 4.

Table 5.47

Tests of difference by use of post-ANOVA between school three and school five

Mean of school 3	Mean of school 5	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
44.8	37.9	6.9	3.41	6.72 8.87

Table 5.47 indicated that mean achievement of school three was 44.8 and that of school five was 37.9. There was observed difference of 6.9, which was greater than expected value at 0.05 level. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 3 and school 5 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 3 and school 5.

Table 5.48

Tests of difference by use of post-ANOVA between school three and school six

Mean of school 3	Mean of school 6	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
44.8	40.38	4.42	3.24	6.38 8.42

Table 5.48 indicated that mean achievement of school three was 44.8 and that of school six was 40.38. There was observed difference of 4.42, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 3 and school 6 was accepted. So it can be concluded that there was no significant difference in the mean achievement of school 3 and school 6.

Table 5.49

Tests of difference by use of post-ANOVA between school three and school seven

Mean of school 3	Mean of school 7	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
44.8	34.5	10.3	3.41	6.72 8.87

Table 5.49 indicated that mean achievement of school three was 44.8 and that of school seven was 34.5. There was observed difference of 10.3, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 3 and school 7 was rejected. So it can be concluded that there was significant difference in the mean achievement of school 3 and school 7.

Table 5.50

Tests of difference by use of post-ANOVA between school three and school eight

Mean of school 3	Mean of school 8	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
44.8	45.5	0.7	3.62	7.13 9.41

Table 5.50 indicated that mean achievement of school three was 44.8 and that of school eight was 45.5. There was observed difference of 0.7, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 3 and school 8 was accepted. So it can be concluded that there was no significant difference in the mean achievement of school 3 and school 8.

Table 5.51

Tests of difference by use of post-ANOVA between school three and school nine

Mean of school 3	Mean of school 9	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
44.8	34.5	10.3	3.41	6.72 8.87

Table 5.51 indicated that mean achievement of school three was 44.8 and that of school four was 34.5. There was observed difference of 10.3, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 3 and school 9 was rejected.
So it can be concluded that there was significant difference in the mean achievement of school 3 and school 9.

Table 5.52

Tests of difference by use of post-ANOVA between school three and school ten

Mean of school 3	Mean of school 10	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
44.8	34.5	10.3	3.32	6.54 8.63

Table 5.52 indicated that mean achievement of school three was 44.8 and that of school four was 34.5. There was observed difference of 10.3, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 3 and school 10 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 3 and school 10.

Table 5.53

Tests of difference by use of post-ANOVA between school three and school eleven

Mean of school 3	Mean of school 11	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
44.8	35.56	9.24	3.50	6.89 9.1

Table 5.53 indicated that mean achievement of school three was 44.8 and that of school eleven was 35.56. There was observed difference of 9.24, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 3 and school 11 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 3 and school 11.

Table 5.54

Tests of difference by use of post-ANOVA between school three and school twelve

Mean of school 3	Mean of school 12	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
44.8	38.88	5.92	3.62	7.13 9.41

Table 5.54 indicated that mean achievement of school three was 44.8 and that of school twelve was 38.88. There was observed difference of 5.92, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 3 and school 12 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 3 and school 12.

Table 5.55

Tests of difference by use of post-ANOVA between school three and school thirteen

Mean of school 3	Mean of school 13	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
44.8	41.25	3.55	3.24	6.38 8.42

Table 5.55 indicated that mean achievement of school three was 44.8 and that of school thirteen was 41.25. There was observed difference of 3.55, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be

no significant difference in achievement of school 3 and school 13 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 3 and school 13.

Table 5.56

Tests of difference by use of post-ANOVA between school three and school fourteen

Mean of school 3	Mean of school 14	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
44.8	30.94	13.86	3.07	6.05 7.98

Table 5.56 indicated that mean achievement of school three was 44.8 and that of school fourteen was 30.94. There was observed difference of 13.86, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 3 and school 14 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 3 and school 14.

Table 5.57

Tests of difference by use of post-ANOVA between school three and school fifteen

Mean of school 3	Mean of school 15	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
44.8	38.5	6.3	3.41	6.72 8.87

Table 5.57 indicated that mean achievement of school three was 44.8 and that of school fifteen was 38.5. There was observed difference of 6.3, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 3 and school 15 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 3 and school 15.

Table 5.58

Tests of difference by use of post-ANOVA between school three and school sixteen

Mean of school 3	Mean of school 16	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
44.8	35.0	9.8	3.41	6.72 8.87

Table 5.58 indicated that mean achievement of school three was 44.8 and that of school sixteen was 35. There was observed difference of 9.8, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 3 and school 16 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 3 and school 16.

Table 5.59

Tests of difference by use of post-ANOVA between school three and school seventeen

Mean of school 3	Mean of school 17	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
44.8	33.91	10.89	3.32	6.54 8.63

Table 5.59 indicated that mean achievement of school three was 44.8 and that of school seventeen was 33.91. There was observed difference of 10.89, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 3 and school 17 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 3 and school 17.

Table 5.60

Tests of difference by use of post-ANOVA between school three and school eighteen

Mean of school 3	Mean of school 18	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
44.8	30.38	14.42	3.62	7.13 9.41

Table 5.60 indicated that mean achievement of school three was 44.8 and that of school eighteen was 30.38. There was observed difference of 14.42, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 3 and school 18 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 3 and school 18.

Table 5.61

Tests of difference by use of post-ANOVA between school three and school nineteen

Mean of school 3	Mean of school 19	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
44.8	40.83	3.97	3.97	7.82 10.32

Table 5.61 indicated that mean achievement of school three was 44.8 and that of school nineteen was 40.83. There was observed difference of 3.97, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 3 and school 19 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 3 and school 19.

Table 5.62

Tests of difference by use of post-ANOVA between school three and school twenty

Mean of school 3	Mean of school 20	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
44.8	40.0	4.8	3.97	7.82 10.32

Table 5.62 indicated that mean achievement of school three was 44.8 and that of school twenty was 40.0. There was observed difference of 4.8, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 3 and school 20 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 3 and school 20.

Table 5.63 indicated that mean achievement of school four was 32.6 and that of school five was 37.9. There was observed difference of 5.3, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 4 and school 5 was accepted.

Table 5.63

Tests of difference by use of post-ANOVA between school four and school five

Mean of school 4	Mean of school 5	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.6	37.9	5.3	3.41	6.72 8.87

So it can be concluded that there was no significant difference in the mean achievement of school 4 and school 5.

Table 5.64

Tests of difference by use of post-ANOVA between school four and school six

Mean of school 4	Mean of school 6	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.6	40.38	7.78	3.24	6.38 8.42

Table 5.64 indicated that mean achievement of school four was 32.6 and that of school six was 40.38. There was observed difference of 7.78, which was greater than expected value at 0.05 level. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 4 and school 6 was rejected.
So it can be concluded that there was significant difference in the mean achievement of school 4 and school 6.

Table 5.65 indicated that mean achievement of school four was 32.6 and that of school seven was 34.5. There was observed difference of 1.9, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 4 and school 7 was accepted.

Table 5.65

Tests of difference by use of post-ANOVA between school four and school seven.

Mean of school 4	Mean of school 7	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.6	34.5	1.9	3.41	6.72 8.87

So it can be concluded that there was no significant difference in the mean achievement of school 4 and school 7.

Table 5.66

Tests of difference by use of post-ANOVA between school four and school eight

Mean of school 4	Mean of school 8	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.6	45.5	12.9	3.62	7.13 9.41

Table 5.66 indicated that mean achievement of school four was 32.6 and that of school eight was 45.5. There was observed difference of 12.9, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 4 and school 8 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 4 and school 8.

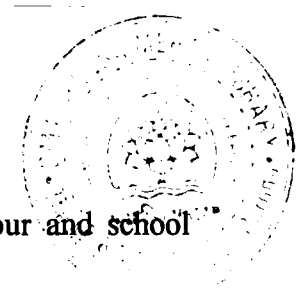

Table 5.67

Tests of difference by use of post-ANOVA between school four and school nine

Mean of school 4	Mean of school 9	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.6	34.5	1.9	3.41	6.72 8.87

Table 5.67 indicated that mean achievement of school four was 32.6 and that of school five was 34.5. There was observed difference of 1.9, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 4 and school 9 was accepted.
So it can be concluded that there was no significant difference in the mean achievement of school 4 and school 9.

Table 5.68

Tests of difference by use of post-ANOVA between school four and school ten

Mean of school 4	Mean of school 10	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.6	34.45	1.85	3.32	6.54 8.63

Table 5.68 indicated that mean achievement of school four was 32.6 and that of school ten was 34.45. There was observed difference of 1.85, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 4 and school 10 was accepted.
So it can be concluded that there was no significant difference in the mean achievement of school 4 and school 10.

Table 5.69

Tests of difference by use of post-ANOVA between school four and school eleven

Mean of school 4	Mean of school 11	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.6	35.56	2.96	3.50	6.89 9.1

Table 5.69 indicated that mean achievement of school four was 32.6 and that of school eleven was 35.56. There was observed difference of 2.96, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 4 and school 11 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 4 and school 11.

Table 5.70

Tests of difference by use of post-ANOVA between school four and school twelve

Mean of school 4	Mean of school 12	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.6	38.88	6.28	3.62	7.13 9.41

Table 5.70 indicated that mean achievement of school four was 32.6 and that of school twelve was 6.28. There was observed difference of 6.28, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 4 and school 12 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 4 and school 12.

Table 5.71

Tests of difference by use of post-ANOVA between school four and school thirteen

Mean of school 4	Mean of school 13	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.6	41.25	8.65	3.24	6.38 8.42

Table 5.71 indicated that mean achievement of school four was 32.6 and that of school thirteen was 41.25. There was observed difference of 8.65, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 4 and school 13 was rejected.
So it can be concluded that there was significant difference in the mean achievement of school 4 and school 13.

Table 5.72

Tests of difference by use of post-ANOVA between school four and school fourteen

Mean of school 4	Mean of school 14	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.6	30.94	1.66	3.07	6.05 7.98

Table 5.72 indicated that mean achievement of school four was 32.6 and that of school fourteen was 30.44. There was observed difference of 1.66, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be

no significant difference in achievement of school 4 and school 14 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 4 and school 15.

Table 5.73

Tests of difference by use of post-ANOVA between school four and school fifteen

Mean of school 4	Mean of school 15	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.6	38.5	5.9	3.41	6.72 8.87

Table 5.73 indicated that mean achievement of school four was 32.6 and that of school fifteen was 38.5. There was observed difference of 5.9, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 4 and school 15 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 4 and school 15.

Table 5.74

Tests of difference by use of post-ANOVA between school four and school sixteen

Mean of school 4	Mean of school 16	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.6	35	2.4	3.41	6.72 8.87

Table 5.74 indicated that mean achievement of school four was 32.6 and that of school sixteen was 35.0. There was observed difference of 2.4, which was

lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 4 and school 16 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 4 and school 16.

Table 5.75

Tests of difference by use of post-ANOVA between school four and school seventeen

Mean of school 4	Mean of school 17	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.6	33.91	1.31	3.32	6.54 8.63

Table 5.75 indicated that mean achievement of school four was 32.6 and that of school seventeen was 33.91. There was observed difference of 1.31, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 4 and school 17 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 4 and school 17.

Table 5.76

Tests of difference by use of post-ANOVA between school four and school eighteen

Mean of school 4	Mean of school 18	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.6	30.38	2.22	3.62	7.13 9.41

Table 5.76 indicated that mean achievement of school four was 32.6 and that of school eighteen was 30.38. There was observed difference of 2.22, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 4 and school 18 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 4 and school 18.

Table 5.77

Tests of difference by use of post-ANOVA between school four and school nineteen

Mean of school 4	Mean of school 19	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.6	40.83	8.23	3.97	7.82 10.32

Table 5.77 indicated that mean achievement of school four was 32.6 and that of school nineteen was 37.9. There was observed difference of 8.23, which was greater than expected value at 0.5 level. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 4 and school 19 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 4 and school 19.

Table 5.78 indicated that mean achievement of school four was 32.6 and that of school twenty was 40.0. There was observed difference of 7.4, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 4 and school 20 was accepted.

Table 5.78

Tests of difference by use of post-ANOVA between school four and school twenty

Mean of school 4	Mean of school 20	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
32.6	40.0	7.4	3.97	7.82 10.32

So it can be concluded that there was no significant difference in the mean achievement of school 4 and school 20.

Table 5.79

Tests of difference by use of post-ANOVA between school five and school six

Mean of school 5	Mean of school 6	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
37.9	40.38	2.48	3.24	6.38 8.42

Table 5.79 indicated that mean achievement of school five was 37.9 and that of school six was 40.38. There was observed difference of 2.48, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 5 and school 6 was accepted.
So it can be concluded that there was no significant difference in the mean achievement of school 5 and school 6.

Table 5.80

Tests of difference by use of post-ANOVA between school five and school seven

Mean of school 5	Mean of school 7	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
37.9	34.5	3.4	3.41	6.72 8.87

Table 5.80 indicated that mean achievement of school five was 37.9 and that of school seven was 34.5. There was observed difference of 3.4, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 5 and school 7 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 5 and school 7.

Table 5.81

Tests of difference by use of post-ANOVA between school five and school eight

Mean of school 5	Mean of school 8	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
37.9	45.5	7.6	3.62	7.13 9.41

Table 5.81 indicated that mean achievement of school five was 37.9 and that of school eight was 45.5. There was observed difference of 7.6, which was greater than expected value at 0.05 level. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 5 and school 8 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 5 and school 8.

Table 5.82

Tests of difference by use of post-ANOVA between school five and school nine

Mean of school 5	Mean of school 9	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
37.9	34.5	3.4	3.41	6.72 8.87

Table 5.82 indicated that mean achievement of school five was 37.9 and that of school nine was 34.5. There was observed difference of 3.4, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 5 and school 9 was accepted.
So it can be concluded that there was no significant difference in the mean achievement of school 5 and school 9.

Table 5.83

Tests of difference by use of post-ANOVA between school five and school ten

Mean of school 5	Mean of school 10	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
37.9	34.45	3.45	3.32	6.54 8.63

Table 5.83 indicated that mean achievement of school five was 37.9 and that of school ten was 34.45. There was observed difference of 3.45, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 5 and school 10 was accepted.
So it can be concluded that there was no significant difference in the mean achievement of school 5 and school 10.

Table 5.84

Tests of difference by use of post-ANOVA between school five and school eleven

Mean of school 5	Mean of school 11	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
37.9	35.56	2.34	3.50	6.89 9.1

Table 5.84 indicated that mean achievement of school five was 37.9 and that of school eleven was 35.56. There was observed difference of 2.34, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 5 and school 11 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 5 and school 11.

Table 5.85

Tests of difference by use of post-ANOVA between school five and school twelve

Mean of school 5	Mean of school 12	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
37.9	38.88	0.98	3.62	7.13 9.41

Table 5.85 indicated that mean achievement of school five was 37.9 and that of school twelve was 38.88. There was observed difference of 0.98, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be

no significant difference in achievement of school 5 and school 12 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 5 and school 12.

Table 5.86

Tests of difference by use of post-ANOVA between school five and school thirteen

Mean of school 5	Mean of school 13	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
37.9	41.25	3.39	3.24	6.38 8.42

Table 5.86 indicated that mean achievement of school five was 37.9 and that of school thirteen was 41.25. There was observed difference of 3.39, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 5 and school 13 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 5 and school 13.

Table 5.87

Tests of difference by use of post-ANOVA between school five and school fourteen

Mean of school 5	Mean of school 14	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
37.9	30.94	6.98	3.07	6.05 7.98

Table 5.87 indicated that mean achievement of school five was 37.9 and that of school fourteen was 30.94. There was observed difference of 6.98, which was lesser than expected value at 0.05 level. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 5 and school 14 was rejected.
So it can be concluded that there was significant difference in the mean achievement of school 5 and school 14.

Table 5.88

Tests of difference by use of post-ANOVA between school five and school fifteen

Mean of school 5	Mean of school 15	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
37.9	38.5	0.6	3.41	6.72 8.87

Table 5.88 indicated that mean achievement of school five was 37.9 and that of school fifteen was 38.5. There was observed difference of 0.6, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 5 and school 15 was accepted.
So it can be concluded that there was no significant difference in the mean achievement of school 5 and school 15.

Table 5.89

Tests of difference by use of post-ANOVA between school five and school sixteen

Mean of school 5	Mean of school 16	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
37.9	35.0	2.9	3.41	6.72 8.87

Table 5.89 indicated that mean achievement of school five was 37.9 and that of school sixteen was 40.38. There was observed difference of 2.9, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 5 and school 16 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 5 and school 16.

Table 5.90

Tests of difference by use of post-ANOVA between school five and school seventeen

Mean of school 5	Mean of school 17	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
37.9	33.91	3.99	3.32	6.54 8.63

Table 5.90 indicated that mean achievement of school five was 37.9 and that of school seven was 33.91. There was observed difference of 3.99, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 5 and school 17 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 5 and school 17.

Table 5.91

Tests of difference by use of post-ANOVA between school five and school eighteen

Mean of school 5	Mean of school 6	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
37.9	30.38	7.52	3.62	7.13 9.41

Table 5.91 indicated that mean achievement of school five was 37.9 and that of school eighteen was 30.38. There was observed difference of 7.52, which was greater than expected value at 0.05 level. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 5 and school 18 was rejected.
So it can be concluded that there was significant difference in the mean achievement of school 5 and school 18.

Table 5.92

Tests of difference by use of post-ANOVA between school five and school nineteen

Mean of school 5	Mean of school 19	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
37.9	40.83	2.93	3.97	7.82 10.32

Table 5.92 indicated that mean achievement of school five was 37.9 and that of school six was 40.83. There was observed difference of 2.93, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 5 and school 19 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 5 and school 19.

Table 5.93

Tests of difference by use of post-ANOVA between school five and school twenty

Mean of school 5	Mean of school 20	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
37.9	40.0	2.1	3.97	7.82 10.32

Table 5.93 indicated that mean achievement of school five was 37.9 and that of school twenty was 40.0. There was observed difference of 2.1, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 5 and school 20 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 5 and school 20.

Table 5.94

Tests of difference by use of post-ANOVA between school six and school seven

Mean of school 6	Mean of school 7	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
40.38	34.5	5.88	3.24	6.38 8.42

Table 5.94 indicated that mean achievement of school six was 40.38 and that of school seven was 34.5. There was observed difference of 5.88, which was lesser than expected value at both the levels. Thus, the mean difference was

found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 6 and school 7 was accepted. So it can be concluded that there was no significant difference in the mean achievement of school 6 and school 7.

Table 5.95

Tests of difference by use of post-ANOVA between school six and school eight

Mean of school 6	Mean of school 7	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
40.38	45.5	5.12	3.45	6.80 8.97

Table 5.95 indicated that mean achievement of school six was 40.38 and that of school eight was 45.5. There was observed difference of 5.12, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 6 and school 8 was accepted.
So it can be concluded that there was no significant difference in the mean achievement of school 6 and school 8.

Table 5.96

Tests of difference by use of post-ANOVA between school six and school nine

Mean of school 6	Mean of school 9	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
40.38	34.5	5.88	3.24	6.38 8.42

Table 5.96 indicated that mean achievement of school six was 40.38 and that of school nine was 34.5. There was observed difference of 5.88, which was lesser than expected value at both the levels. Thus, the mean difference was found to

be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 6 and school 9 was accepted. So it can be concluded that there was no significant difference in the mean achievement of school 6 and school 9.

Table 5.97

Tests of difference by use of post-ANOVA between school six and school ten

Mean of school 6	Mean of school 10	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
40.38	34.45	5.93	3.15	6.20 8.19

Table 5.97 indicated that mean achievement of school six was 40.38 and that of school ten was 34.45. There was observed difference of 5.93, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 6 and school 10 was accepted. So it can be concluded that there was no significant difference in the mean achievement of school 6 and school 10.

Table 5.98

Tests of difference by use of post-ANOVA between school six and school eleven

Mean of school 6	Mean of school 11	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
40.38	35.56	4.82	3.33	6.56 8.66

Table 5.98 indicated that mean achievement of school six was 40.38 and that of school eleven was 35.56. There was observed difference of 4.82, which was lesser than expected value at both the levels. Thus, the mean difference was

found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 6 and school 11 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 6 and school 11.

Table 5.99

Tests of difference by use of post-ANOVA between school six and school twelve

Mean of school 6	Mean of school 12	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
40.38	38.88	1.5	3.45	6.80 8.97

Table 5.99 indicated that mean achievement of school six was 40.38 and that of school twelve was 38.88. There was observed difference of 1.5, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 6 and school 12 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 6 and school 12.

Table 5.100

Tests of difference by use of post-ANOVA between school six and school thirteen

Mean of school 6	Mean of school 13	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
40.38	41.25	0.87	3.05	6.01 7.93

Table 5.100 indicated that mean achievement of school six was 40.38 and that of school thirteen was 41.25. There was observed difference of 0.87, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 6 and school 13 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 6 and school 13.

Table 5.101

Tests of difference by use of post-ANOVA between school six and school fourteen

Mean of school 6	Mean of school 14	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
40.38	30.94	9.44	2.85	5.61 7.41

Table 5.101 indicated that mean achievement of school six was 40.38 and that of school fourteen was 30.94. There was observed difference of 9.44, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 6 and school 14 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 6 and school 14.

Table 5.102 indicated that mean achievement of school six was 40.38 and that of school fifteen was 38.5. There was observed difference of 1.5, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be

no significant difference in achievement of school 6 and school 15 was accepted.

Table 5.102

Tests of difference by use of post-ANOVA between school six and school fifteen

Mean of school 6	Mean of school 15	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
40.38	38.5	1.5	3.24	6.38 8.42

So it can be concluded that there was no significant difference in the mean achievement of school 6 and school 15.

Table 5.103

Tests of difference by use of post-ANOVA between school six and school sixteen

Mean of school 6	Mean of school 16	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
40.38	35.0	5.38	3.24	6.38 8.42

Table 5.103 indicated that mean achievement of school six was 40.38 and that of school seven was 35.0. There was observed difference of 5.38, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 6 and school 16 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 6 and school 16.

Table 5.104

Tests of difference by use of post-ANOVA between school six and school seventeen

Mean of school 6	Mean of school 17	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
40.38	33.91	6.47	3.15	6.20 8.19

Table 5.104 indicated that mean achievement of school six was 40.38 and that of school seventeen was 33.91. There was observed difference of 6.47, which was greater than expected value at 0.05 level. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 6 and school 17 was rejected.
So it can be concluded that there was significant difference in the mean achievement of school 6 and school 17.

Table 5.105

Tests of difference by use of post-ANOVA between school six and school eighteen

Mean of school 6	Mean of school 18	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
40.38	30.38	10.0	3.45	6.80 8.97

Table 5.105 indicated that mean achievement of school six was 40.38 and that of school eighteen was 30.38. There was observed difference of 10.0 which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 6 and school 18 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 6 and school 18.

Table 5.106

Tests of difference by use of post-ANOVA between school six and school nineteen

Mean of school 6	Mean of school 19	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
40.38	40.83	0.45	3.81	7.51 9.91

Table 5.106 indicated that mean achievement of school six was 40.38 and that of school nineteen was 40.83. There was observed difference of 0.45, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 6 and school 19 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 6 and school 19.

Table 5.107

Tests of difference by use of post-ANOVA between school six and school twenty

Mean of school 6	Mean of school 20	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
40.38	40.0	0.38	3.81	7.51 9.91

Table 5.107 indicated that mean achievement of school six was 40.38 and that of school twenty was 40.0. There was observed difference of 0.38, which was lesser than expected value at both the levels. Thus, the mean difference was

found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 6 and school 20 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 6 and school 20.

Table 5.108

Tests of difference by use of post-ANOVA between school seven and school eight

Mean of school 7	Mean of school 8	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.54	45.5	11.0	3.62	7.13 9.41

Table 5.108 indicated that mean achievement of school seven was 34.5 and that of school eight was 45.5. There was observed difference of 11.0, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 7 and school 8 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 7 and school 8.

Table 5.109

Tests of difference by use of post-ANOVA between school seven and school nine

Mean of school 7	Mean of school 9	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	34.5	0.0	3.41	6.72 8.87

Table 5.109 indicated that mean achievement of school seven was 34.5 and that of school eight was 34.5. ,there was no difference observed. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 7 and school 9 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 7 and school 9.

Table 5.110

Tests of difference by use of post-ANOVA between school seven and school ten

Mean of school 7	Mean of school 10	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	34.45	0.05	3.32	6.54 8.63

Table 5.110 indicated that mean achievement of school seven was 34.5 and that of school ten was 34.45. There was observed difference of 0.05, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 7 and school 8 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 7 and school 10.

Table 5.111

Tests of difference by use of post-ANOVA between school seven and school eleven

Mean of school 7	Mean of school 11	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	35.56	1.06	3.50	6.89 9.1

Table 5.111 indicated that mean achievement of school seven was 34.5 and that of school eleven was 35.56. There was observed difference of 1.06, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 7 and school 11 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 7 and school 11.

Table 5.112

Tests of difference by use of post-ANOVA between school seven and school twelve

Mean of school 7	Mean of school 12	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	38.88	4.38	3.62	7.13 9.41

Table 5.112 indicated that mean achievement of school seven was 34.5 and that of school twelve was 38.88. There was observed difference of 4.38, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 7 and school 12 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 7 and school 12.

Table 5.113

Tests of difference by use of post-ANOVA between school seven and school thirteen

Mean of school 7	Mean of school 13	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	41.25	6.75	3.24	6.38 8.42

Table 5.113 indicated that mean achievement of school seven was 34.5 and that of school thirteen was 41.25. There was observed difference of 6.75, which was greater than expected value at 0.05 level. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 7 and school 13 was rejected.
So it can be concluded that there was significant difference in the mean achievement of school 7 and school 13.

Table 5.114

Tests of difference by use of post-ANOVA between school seven and school fourteen

Mean of school 7	Mean of school 8	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	30.94	3.56	3.07	6.05 7.98

Table 5.114 indicated that mean achievement of school seven was 34.5 and that of school fourteen was 30.94. There was observed difference of 3.56, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 7 and school 8 was accepted.

So it can be concluded that there was significant difference in the mean achievement of school 7 and school 14.

Table 5.115

Tests of difference by use of post-ANOVA between school seven and school fifteen

Mean of school 7	Mean of school 15	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	38.5	4	3.41	6.72 8.87

Table 5.115 indicated that mean achievement of school seven was 34.5 and that of school fifteen was 38.5. There was observed difference of 4, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 7 and school 15 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 7 and school 15.

Table 5.116

Tests of difference by use of post-ANOVA between school seven and school sixteen

Mean of school 7	Mean of school 8	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	35	0.5	3.41	6.72 8.87

Table 5.116 indicated that mean achievement of school seven was 34.5 and that of school sixteen was 35. There was observed difference of 0.5, which was lesser than expected value at both the levels. Thus, the mean difference was

found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 7 and school 16 was accepted. So it can be concluded that there was significant difference in the mean achievement of school 7 and school 16.

Table 5.117

Tests of difference by use of post-ANOVA between school seven and school seventeen

Mean of school 7	Mean of school 17	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	33.91	0.59	3.32	6.54 8.63

Table 5.117 indicated that mean achievement of school seven was 34.5 and that of school seventeen was 33.91. There was observed difference of 0.59, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 7 and school 17 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 7 and school 17.

Table 5.118

Tests of difference by use of post-ANOVA between school seven and school eighteen

Mean of school 7	Mean of school 18	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	30.38	4.12	3.62	7.13 9.41

Table 5.118 indicated that mean achievement of school seven was 34.54 and that of school eighteen was 30.38. There was observed difference of 4.12, which was greater than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 7 and school 18 was accepted. So it can be concluded that there was no significant difference in the mean achievement of school 7 and school 18.

Table 5.119

Tests of difference by use of post-ANOVA between school seven and school nineteen

Mean of school 7	Mean of school 19	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	40.83	6.33	3.97	7.82 10.32

Table 5.119 indicated that mean achievement of school seven was 34.5 and that of school 19 was 45.5. There was observed difference of 6.33, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 7 and school 19 was accepted. So it can be concluded that there was no significant difference in the mean achievement of school 7 and school 19.

Table 5.120

Tests of difference by use of post-ANOVA between school seven and school 20

Mean of school 7	Mean of school 8	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	40	5.5	3.97	7.82 10.32

Table 5.120 indicated that mean achievement of school seven was 34.5 and that of school eight was 40. There was observed difference of 5.5 which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 7 and school 20 was accepted.
So it can be concluded that there was no significant difference in the mean achievement of school 7 and school 20.

Table 5.121

Tests of difference by use of post-ANOVA between school eight and school nine

Mean of school 8	Mean of school 9	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
45.5	34.5	11	3.62	7.13 9.41

Table 5.121 indicated that mean achievement of school eight was 45.5 and that of school nine was 34.5. There was observed difference of 11.0, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 8 and school 9 was rejected.
So it can be concluded that there was significant difference in the mean achievement of school 8 and school 9.

Table 5.122

Tests of difference by use of post-ANOVA between school eight and school ten

Mean of school 8	Mean of school 10	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
45.5	34.45	11.05	3.5	6.97 9.20

Table 5.122 indicated that mean achievement of school eight was 45.5 and that of school ten was 34.45. There was observed difference of 11.05, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 8 and school 10 was rejected.
So it can be concluded that there was significant difference in the mean achievement of school 8 and school 10.

Table 5.123

Tests of difference by use of post-ANOVA between school eight and school eleven

Mean of school 8	Mean of school 11	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
45.5	35.56	9.94	3.70	7.29 9.62

Table 5.123 indicated that mean achievement of school eight was 45.5 and that of school eleven was 35.56. There was observed difference of 9.94, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 8 and school 11 was rejected.
So it can be concluded that there was significant difference in the mean achievement of school 8 and school 11.

Table 5.124

Tests of difference by use of post-ANOVA between school eight and school twelve

Mean of school 8	Mean of school 12	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
45.5	38.88	6.62	3.82	7.52 9.93

Table 5.124 indicated that mean achievement of school eight was 45.5 and that of school twelve was 38.88. There was observed difference of 6.62, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 8 and school 12 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 8 and school 12.

Table 5.125

Tests of difference by use of post-ANOVA between school eight and school thirteen

Mean of school 8	Mean of school 13	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
45.5	41.25	4.25	3.45	6.80 8.97

Table 5.125 indicated that mean achievement of school eight was 45.5 and that of school thirteen was 41.25. There was observed difference of 4.25, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 8 and school 13 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 8 and school 13.

Table 5.126 indicated that mean achievement of school eight was 45.5 and that of school fourteen was 30.94. There was observed difference of 14.56, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be

no significant difference in achievement of school 8 and school 14 was rejected.

Table 5.126

Tests of difference by use of post-ANOVA between school eight and school fourteen

Mean of school 8	Mean of school 14	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
45.5	30.94	14.56	3.30	6.50 8.58

So it can be concluded that there was significant difference in the mean achievement of school 8 and school 14.

Table 5.127

Tests of difference by use of post-ANOVA between school eight and school fifteen

Mean of school 8	Mean of school 15	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
45.5	38.5	7.0	3.62	7.13 9.41

Table 5.127 indicated that mean achievement of school eight was 45.5 and that of school fifteen was 38.5. There was observed difference of 7.0, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 8 and school 15 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 8 and school 15.

Table 5.128

Tests of difference by use of post-ANOVA between school eight and school sixteen

Mean of school 8	Mean of school 16	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
45.5	35.0	10.5	3.62	7.13 9.41

Table 5.128 indicated that mean achievement of school eight was 45.5 and that of school sixteen was 35.0. There was observed difference of 10.5, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 8 and school 16 was rejected.
So it can be concluded that there was significant difference in the mean achievement of school 8 and school 16.

Table 5.129

Tests of difference by use of post-ANOVA between school eight and school seventeen

Mean of school 8	Mean of school 17	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
45.5	33.91	11.59	3.55	6.99 9.23

Table 5.129 indicated that mean achievement of school eight was 45.5 and that of school seventeen was 33.91. There was observed difference of 11.59, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 8 and school 17 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 8 and school 17.

Table 5.130

Tests of difference by use of post-ANOVA between school eight and school eighteen

Mean of school 8	Mean of school 18	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
45.5	30.38	15.12	3.82	7.52 9.93

Table 5.130 indicated that mean achievement of school eight was 45.5 and that of school eighteen was 30.38. There was observed difference of 15.12, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 8 and school 18 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 8 and school 18.

Table 5.131

Tests of difference by use of post-ANOVA between school eight and school nineteen

Mean of school 8	Mean of school 19	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
45.5	40.83	4.67	4.12	8.12 10.71

Table 5.131 indicated that mean achievement of school eight was 45.5 and that of school nineteen was 40.83. There was observed difference of 4.67, which was lesser than expected value at both the levels. Thus, the mean difference

was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 8 and school 19 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 8 and school 19.

Table 5.132

Tests of difference by use of post-ANOVA between school eight and school twenty

Mean of school 8	Mean of school 20	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
45.5	40.0	5.5	4.12	8.12 10.71

Table 5.132 indicated that mean achievement of school eight was 45.5 and that of school twenty was 40.0. There was observed difference of 5.5, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 8 and school 20 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 8 and school 20.

Table 5.133

Tests of difference by use of post-ANOVA between school nine and school ten

Mean of school 9	Mean of school 10	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	34.45	0.05	3.33	6.56 8.66

Table 5.133 indicated that mean achievement of school nine was 34.5 and that of school ten was 34.45. There was observed difference of 0.05, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 9 and school 10 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 9 and school 10.

Table 5.134

Tests of difference by use of post-ANOVA between school nine and school eleven

Mean of school 9	Mean of school 11	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	35.56	1.06	3.50	6.89 9.1

Table 5.134 indicated that mean achievement of school nine was 34.5 and that of school eleven was 35.56. There was observed difference of 1.06, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 9 and school 11 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 9 and school 11.

Table 5.135 indicated that mean achievement of school nine was 34.5 and that of school twelve was 38.88. There was observed difference of 4.38, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be

no significant difference in achievement of school 9 and school 12 was accepted.

Table 5.135

Tests of difference by use of post-ANOVA between school nine and school twelve

Mean of school 9	Mean of school 12	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	38.88	4.38	3.62	7.13 9.41

So it can be concluded that there was no significant difference in the mean achievement of school 9 and school 12.

Table 5.136

Tests of difference by use of post-ANOVA between school nine and school thirteen

Mean of school 9	Mean of school 13	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	41.25	6.75	3.27	6.44 8.50

Table 5.136 indicated that mean achievement of school nine was 34.5 and that of school thirteen was 41.25. There was observed difference of 6.75, which was greater than expected value at 0.05 level. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 9 and school 13 was rejected.
So it can be concluded that there was significant difference in the mean achievement of school 9 and school 13.

Table 5.137

Tests of difference by use of post-ANOVA between school nine and school fifteen

Mean of school 9	Mean of school 15	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	30.94	3.56	3.07	6.05 7.98

Table 5.137 indicated that mean achievement of school nine was 34.5 and that of school fifteen was 30.94. There was observed difference of 3.56, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 9 and school 15 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 9 and school 15.

Table 5.138

Tests of difference by use of post-ANOVA between school nine and school sixteen

Mean of school 9	Mean of school 16	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	35.0	0.5	3.41	6.72 8.87

Table 5.138 indicated that mean achievement of school nine was 34.5 and that of school ten was 35.0. There was observed difference of 0.5, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 9 and school 16 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 9 and school 16.

Table 5.139

Tests of difference by use of post-ANOVA between school nine and school seventeen

Mean of school 9	Mean of school 17	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	33.91	0.59	3.32	6.54 8.63

Table 5.139 indicated that mean achievement of school nine was 34.5 and that of school seventeen was 34.45. There was observed difference of 0.59, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 9 and school 17 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 9 and school 17.

Table 5.140

Tests of difference by use of post-ANOVA between school nine and school eighteen

Mean of school 9	Mean of school 18	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	30.38	4.12	3.62	7.13 9.41

Table 5.140 indicated that mean achievement of school nine was 34.5 and that of school eighteen was 30.38. There was observed difference of 4.12, which was lesser than expected value at both the levels. Thus, the mean difference

was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 9 and school 18 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 9 and school 18.

Table 5.141

Tests of difference by use of post-ANOVA between school nine and school nineteen

Mean of school 9	Mean of school 19	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	40.83	6.33	3.97	7.82 10.32

Table 5.141 indicated that mean achievement of school nine was 34.5 and that of school nineteen was 40.83. There was observed difference of 6.33, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 9 and school 19 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 9 and school 19.

Table 5.142

Tests of difference by use of post-ANOVA between school nine and school twenty

Mean of school 9	Mean of school 20	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.5	40.0	5.5	3.97	7.82 10.32

Table 5.142 indicated that mean achievement of school nine was 34.5 and that of school twenty was 40.0. There was observed difference of 5.5, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 9 and school 20 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 9 and school 20.

Table 5.143

Tests of difference by use of post-ANOVA between school ten and school eleven

Mean of school 10	Mean of school 11	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.45	35.56	1.11	3.42	6.74 8.89

Table 5.143 indicated that mean achievement of school ten was 34.45 and that of school eleven was 35.56. There was observed difference of 1.11, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 10 and school 11 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 10 and school 11.

Table 5.144 indicated that mean achievement of school ten was 34.45 and that of school twelve was 38.88. There was observed difference of 4.43, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be

no significant difference in achievement of school 10 and school 12 was accepted.

Table 5.144

Tests of difference by use of post-ANOVA between school ten and school twelve

Mean of school 10	Mean of school 12	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.45	38.88	4.43	3.54	6.97 9.20

So it can be concluded that there was no significant difference in the mean achievement of school 10 and school 12.

Table 5.145

Tests of difference by use of post-ANOVA between school ten and school thirteen

Mean of school 10	Mean of school 13	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.45	41.25	6.8	3.15	6.20 8.19

Table 5.145 indicated that mean achievement of school ten was 34.45 and that of school thirteen was 41.25. There was observed difference of 6.8, which was greater than expected value at 0.05 level. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 10 and school 13 was rejected. So it can be concluded that there was significant difference in the mean achievement of school 10 and school 13.

Table 5.146

Tests of difference by use of post-ANOVA between school ten and school fourteen

Mean of school 10	Mean of school 14	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.45	30.94	3.51	2.98	5.87 7.75

Table 5.146 indicated that mean achievement of school ten was 34.45 and that of school fourteen was 30.94. There was observed difference of 3.51, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 10 and school 14 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 10 and school 14.

Table 5.147

Tests of difference by use of post-ANOVA between school ten and school fifteen

Mean of school 10	Mean of school 15	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.45	38.5	4.05	3.32	6.54 8.63

Table 5.147 indicated that mean achievement of school ten was 34.45 and that of school fifteen was 38.5. There was observed difference of 4.05, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 10 and school 15 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 10 and school 15.

Table 5.148

Tests of difference by use of post-ANOVA between school ten and school sixteen

Mean of school 10	Mean of school 16	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.45	35.0	0.55	3.32	6.54 8.63

Table 5.148 indicated that mean achievement of school ten was 34.45 and that of school sixteen was 35.0. There was observed difference of 0.55, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 10 and school 16 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 10 and school 16.

Table 5.149

Tests of difference by use of post-ANOVA between school ten and school seventeen

Mean of school 10	Mean of school 17	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.45	33.91	0.54	3.24	6.38 8.42

Table 5.149 indicated that mean achievement of school ten was 34.45 and that of school seventeen was 33.91. There was observed difference of 0.54, which was lesser than expected value at both the levels. Thus, the mean difference

was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 10 and school 17 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 10 and school 17.

Table 5.150

Tests of difference by use of post-ANOVA between school ten and school eighteen

Mean of school 10	Mean of school 18	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.45	30.38	4.07	3.54	6.97 9.20

Table 5.150 indicated that mean achievement of school ten was 34.45 and that of school eighteen was 30.38. There was observed difference of 4.07, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 10 and school 18 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 10 and school 18.

Table 5.151

Tests of difference by use of post-ANOVA between school ten and school nineteen

Mean of school 10	Mean of school 19	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.45	40.83	6.38	3.89	7.66 10.11

Table 5.151 indicated that mean achievement of school ten was 34.45 and that of school nineteen was 40.83. There was observed difference of 6.38, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 10 and school 19 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 10 and school 19.

Table 5.152

Tests of difference by use of post-ANOVA between school ten and school twenty

Mean of school 10	Mean of school 20	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
34.45	40.00	5.55	3.89	7.66 10.11

Table 5.152 indicated that mean achievement of school ten was 34.45 and that of school twenty was 40.00. There was observed difference of 5.55, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 10 and school 20 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 10 and school 20.

Table 5.153 indicated that mean achievement of school eleven was 35.56 and that of school twelve was 38.88. There was observed difference of 3.32, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will

be no significant difference in achievement of school 11 and school 12 was accepted.

Table 5.153

Tests of difference by use of post-ANOVA between school eleven and school twelve

Mean of school 11	Mean of school 12	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
35.56	38.88	3.32	3.70	7.29 9.62

So it can be concluded that there was no significant difference in the mean achievement of school 11 and school 12.

Table 5.154

Tests of difference by use of post-ANOVA between school eleven and school thirteen

Mean of school 11	Mean of school 13	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
35.56	41.25	5.69	3.35	6.60 8.71

Table 5.154 indicated that mean achievement of school eleven was 35.56 and that of school thirteen was 41.25. There was observed difference of 5.69, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 11 and school 13 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 11 and school 13.

Table 5.155

Tests of difference by use of post-ANOVA between school eleven and school fourteen

Mean of school 11	Mean of school 14	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
35.56	30.94	4.62	3.17	6.24 8.24

Table 5.155 indicated that mean achievement of school eleven was 35.56 and that of school fourteen was 30.94. There was observed difference of 4.62, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 11 and school 14 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 11 and school 14.

Table 5.156

Tests of difference by use of post-ANOVA between school eleven and school fifteen

Mean of school 11	Mean of school 15	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
35.56	38.5	2.94	3.50	6.89 9.1

Table 5.156 indicated that mean achievement of school eleven was 35.56 and that of school fifteen was 38.5. There was observed difference of 3.32, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 11 and school 15 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 11 and school 15.

Table 5.157

Tests of difference by use of post-ANOVA between school eleven and school sixteen

Mean of school 11	Mean of school 16	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
35.56	35.0	0.56	3.50	6.89 9.1

Table 5.157 indicated that mean achievement of school eleven was 35.56 and that of school sixteen was 35.0. There was observed difference of 0.56, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 11 and school 16 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 11 and school 16.

Table 5.158

Tests of difference by use of post-ANOVA between school eleven and school seventeen

Mean of school 11	Mean of school 17	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
35.56	33.91	1.65	3.41	6.72 8.87

Table 5.158 indicated that mean achievement of school eleven was 35.56 and that of school seventeen was 33.91. There was observed difference of 1.65, which was lesser than expected value at both the levels. Thus, the mean

difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 11 and school 17 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 11 and school 17.

Table 5.159

Tests of difference by use of post-ANOVA between school eleven and school eighteen

Mean of school 11	Mean of school 18	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
35.56	30.38	5.18	3.70	7.29 9.62

Table 5.159 indicated that mean achievement of school eleven was 35.56 and that of school eighteen was 30.38. There was observed difference of 5.18, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 11 and school 18 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 11 and school 18.

Table 5.160

Tests of difference by use of post-ANOVA between school eleven and school nineteen

Mean of school 11	Mean of school 19	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
35.56	40.83	5.27	4.03	7.94 10.48

Table 5.160 indicated that mean achievement of school eleven was 35.56 and that of school nineteen was 40.83. There was observed difference of 5.27, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 11 and school 19 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 11 and school 19.

Table 5.161

Tests of difference by use of post-ANOVA between school eleven and school twenty

Mean of school 11	Mean of school 20	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
35.56	40.0	4.44	4.03	7.94 10.48

Table 5.161 indicated that mean achievement of school eleven was 35.56 and that of school twenty was 40.0. There was observed difference of 4.44, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 11 and school 20 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 11 and school 20.

Table 5.162 indicated that mean achievement of school twelve was 38.88 and that of school thirteen was 41.25. There was observed difference of 2.37, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will

be no significant difference in achievement of school 12 and school 13 was accepted.

Table 5.162

Tests of difference by use of post-ANOVA between school twelve and school thirteen

Mean of school 12	Mean of school 13	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
38.88	41.25	2.37	3.45	6.80 8.97

So it can be concluded that there was no significant difference in the mean achievement of school 12 and school 13.

Table 5.163

Tests of difference by use of post-ANOVA between school twelve and school fourteen

Mean of school 12	Mean of school 14	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
38.88	30.94	7.94	3.30	6.50 8.58

Table 5.163 indicated that mean achievement of school twelve was 38.88 and that of school fourteen was 30.94. There was observed difference of 7.94, which was greater than expected value at 0.05level. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 12 and school 14 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 12 and school 14.

Table 5.164

Tests of difference by use of post-ANOVA between school twelve and school fifteen

Mean of school 12	Mean of school 15	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
38.88	38.5	0.38	3.62	7.13 9.41

Table 5.164 indicated that mean achievement of school twelve was 38.88 and that of school fifteen was 38.5. There was observed difference of 0.38, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 12 and school 15 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 12 and school 15.

Table 5.165

Tests of difference by use of post-ANOVA between school twelve and school sixteen

Mean of school 12	Mean of school 16	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
38.88	35.0	3.88	3.62	7.13 9.41

Table 5.165 indicated that mean achievement of school twelve was 38.88 and that of school sixteen was 35.0. There was observed difference of 3.88, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 12 and school 16 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 12 and school 16.

Table 5.166

Tests of difference by use of post-ANOVA between school twelve and school seventeen

Mean of school 12	Mean of school 17	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
38.88	33.91	4.97	3.54	6.97 9.20

Table 5.166 indicated that mean achievement of school twelve was 38.88 and that of school seventeen was 33.91. There was observed difference of 4.97, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 12 and school 17 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 12 and school 17.

Table 5.167

Tests of difference by use of post-ANOVA between school twelve and school eighteen

Mean of school 12	Mean of school 18	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
38.88	30.38	8.5	3.82	7.52 9.93

Table 5.167 indicated that mean achievement of school twelve was 38.88 and that of school eighteen was 30.38. There was observed difference of 8.5, which was greater than expected value at 0.05 level. Thus, the mean difference was

found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 12 and school 18 was rejected.
So it can be concluded that there was significant difference in the mean achievement of school 12 and school 18.

Table 5.168

Tests of difference by use of post-ANOVA between school twelve and school nineteen

Mean of school 12	Mean of school 19	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
38.88	40.83	1.95	4.12	8.12 10.71

Table 5.168 indicated that mean achievement of school twelve was 38.88 and that of school nineteen was 40.83. There was observed difference of 1.95, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 12 and school 19 was accepted.
So it can be concluded that there was no significant difference in the mean achievement of school 12 and school 19.

Table 5.169

Tests of difference by use of post-ANOVA between school twelve and school twenty

Mean of school 12	Mean of school 20	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
38.88	40.0	1.12	4.12	8.12 10.71

Table 5.169 indicated that mean achievement of school twelve was 38.88 and that of school twenty was 40.0. There was observed difference of 1.12, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 12 and school 20 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 12 and school 20.

Table 5.170

Tests of difference by use of post-ANOVA between school thirteen and school fourteen

Mean of school 13	Mean of school 14	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
41.25	30.94	10.31	2.90	5.71 7.54

Table 5.170 indicated that mean achievement of school thirteen was 41.25 and that of school fourteen was 30.94. There was observed difference of 10.31, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 13 and school 14 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 13 and school 14.

Table 5.171 indicated that mean achievement of school thirteen was 41.25 and that of school fifteen was 38.58. There was observed difference of 2.75, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will

be no significant difference in achievement of school 13 and school 15 was rejected.

Table 5.171

Tests of difference by use of post-ANOVA between school thirteen and school fifteen

Mean of school 13	Mean of school 15	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
41.25	38.58	2.75	3.24	6.38 8.42

So it can be concluded that there was no significant difference in the mean achievement of school 13 and school 15.

Table 5.172

Tests of difference by use of post-ANOVA between school thirteen and school sixteen

Mean of school 13	Mean of school 16	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
41.25	35.0	6.25	3.24	6.38 8.42

Table 5.172 indicated that mean achievement of school thirteen was 41.25 and that of school sixteen was 35.0. There was observed difference of 6.25, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 13 and school 16 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 13 and school 16.

Table 5.173

Tests of difference by use of post-ANOVA between school thirteen and school seventeen

Mean of school 13	Mean of school 17	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
41.25	33.91	7.34	3.15	6.20 8.19

Table 5.173 indicated that mean achievement of school thirteen was 41.25 and that of school seventeen was 33.91. There was observed difference of 7.34, which was greater than expected value at 0.05 level. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 13 and school 17 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 13 and school 17.

Table 5.174

Tests of difference by use of post-ANOVA between school thirteen and school eighteen

Mean of school 13	Mean of school 18	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
41.25	30.38	10.87	3.45	6.80 8.97

Table 5.174 indicated that mean achievement of school thirteen was 41.25 and that of school eighteen was 30.38. There was observed difference of 10.87, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 13 and school 18 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 13 and school 18.

Table 5.175

Tests of difference by use of post-ANOVA between school thirteen and school nineteen

Mean of school 13	Mean of school 19	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
41.25	40.83	0.42	3.81	7.50 9.91

Table 5.175 indicated that mean achievement of school thirteen was 41.25 and that of school nineteen was 40.83. There was observed difference of 0.42, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 13 and school 94 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 13 and school 19.

Table 5.176

Tests of difference by use of post-ANOVA between school thirteen and school twenty

Mean of school 13	Mean of school 20	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
41.25	40.0	1.25	3.81	7.50 9.91

Table 5.176 indicated that mean achievement of school thirteen was 41.25 and that of school twenty was 40.0. There was observed difference of 1.25, which was lesser than expected value at both the levels. Thus, the mean difference

was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 13 and school 20 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 13 and school 20.

Table 5.177

Tests of difference by use of post-ANOVA between school fourteen and school fifteen

Mean of school 14	Mean of school 15	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
30.94	38.5	7.56	3.07	6.05 7.98

Table 5.177 indicated that mean achievement of school fourteen was 30.94 and that of school fifteen was 38.5. There was observed difference of 7.56, which was greater than expected value at 0.05 level. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 14 and school 15 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 14 and school 15.

Table 5.178

Tests of difference by use of post-ANOVA between school fourteen and school sixteen

Mean of school 14	Mean of school 16	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
30.94	35.0	4.06	3.07	6.05 7.98

Table 5.178 indicated that mean achievement of school fourteen was 30.94 and that of school sixteen was 35.0. There was observed difference of 4.06, which was lesser than expected value at the both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 14 and school 16 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 14 and school 16.

Table 5.179

Tests of difference by use of post-ANOVA between school fourteen and school seventeen

Mean of school 14	Mean of school 17	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
30.94	33.91	2.97	2.89	5.89 7.77

Table 5.179 indicated that mean achievement of school fourteen was 30.94 and that of school seventeen was 33.91. There was observed difference of 2.97, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 14 and school 17 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 14 and school 17.

Table 5.180 indicated that mean achievement of school fourteen was 30.94 and that of school eighteen was 30.38. There was observed difference of 0.56, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating

that there will be no significant difference in achievement of school 14 and school 18 was accepted.

Table 5.180

Tests of difference by use of post-ANOVA between school fourteen and school eighteen

Mean of school 14	Mean of school 18	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
30.94	30.38	0.56	3.30	6.50 8.58

So it can be concluded that there was no significant difference in the mean achievement of school 14 and school 18.

Table 5.181

Tests of difference by use of post-ANOVA between school fourteen and school nineteen

Mean of school 14	Mean of school 19	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
30.94	40.83	9.89	3.68	7.25 9.57

Table 5.181 indicated that mean achievement of school fourteen was 30.94 and that of school nineteen was 40.83. There was observed difference of 9.89, which was greater than expected value at both the levels. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 14 and school 19 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 14 and school 19.

Table 5.182

Tests of difference by use of post-ANOVA between school fourteen and school twenty

Mean of school 14	Mean of school 20	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
30.94	40.0	9.06	3.68	7.25 9.57

Table 5.182 indicated that mean achievement of school fourteen was 30.94 and that of school twenty was 40.0. There was observed difference of 9.06, which was greater than expected value at 0.05 level. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 14 and school 20 was rejected. So it can be concluded that there was significant difference in the mean achievement of school 14 and school 20.

Table 5.183

Tests of difference by use of post-ANOVA between school fifteen and school sixteen

Mean of school 15	Mean of school 16	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
38.5	35.0	3.5	3.41	6.72 8.87

Table 5.183 indicated that mean achievement of school fifteen was 38.5 and that of school sixteen was 35.0. There was observed difference of 3.5, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 15 and school 16 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 15 and school 16.

Table 5.184

Tests of difference by use of post-ANOVA between school fifteen and school seventeen

Mean of school 15	Mean of school 17	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
38.5	33.91	4.59	3.32	6.54 8.63

Table 5.184 indicated that mean achievement of school fifteen was 38.5 and that of school seventeen was 33.91. There was observed difference of 4.59, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 15 and school 17 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 15 and school 17.

Table 5.185

Tests of difference by use of post-ANOVA between school fifteen and school eighteen

Mean of school 15	Mean of school 18	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
38.5	30.38	8.12	3.62	7.13 9.41

Table 5.185 indicated that mean achievement of school fifteen was 38.5 and that of school eighteen was 30.38. There was observed difference of 8.12, which was lesser than expected value at 0.05 level. Thus, the mean difference

was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 15 and school 18 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 15 and school 18.

Table 5.186

Tests of difference by use of post-ANOVA between school fifteen and school nineteen

Mean of school 15	Mean of school 19	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
38.5	40.83	2.33	3.96	7.80 10.30

Table 5.186 indicated that mean achievement of school fifteen was 38.5 and that of school nineteen was 40.83. There was observed difference of 2.33, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 15 and school 19 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 15 and school 19.

Table 5.187

Tests of difference by use of post-ANOVA between school fifteen and school twenty

Mean of school 15	Mean of school 20	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
38.5	40.0	1.5	3.96	7.80 10.30

Table 5.187 indicated that mean achievement of school fifteen was 38.5 and that of school twenty was 40.0. There was observed difference of 1.5, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 15 and school 20 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 15 and school 20.

Table 5.188

Tests of difference by use of post-ANOVA between school sixteen and school seventeen

Mean of school 16	Mean of school 17	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
35.0	33.91	1.09	3.32	6.54 8.63

Table 5.188 indicated that mean achievement of school sixteen was 38.5 and that of school seventeen was 33.91. There was observed difference of 1.09, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 16 and school 17 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 16 and school 17.

Table 5.189 indicated that mean achievement of school sixteen was 38.5 and that of school eighteen was 30.38. There was observed difference of 4.62, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating

that there will be no significant difference in achievement of school 16 and school 18 was accepted.

Table 5.189

Tests of difference by use of post-ANOVA between school sixteen and school eighteen

Mean of school 16	Mean of school 18	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
35.0	30.38	4.62	3.62	7.13 9.41

So it can be concluded that there was no significant difference in the mean achievement of school 16 and school 18.

Table 5.190

Tests of difference by use of post-ANOVA between school sixteen and school nineteen

Mean of school 16	Mean of school 19	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
35.0	40.83	5.83	3.96	7.80 10.30

Table 5.190 indicated that mean achievement of school sixteen was 38.5 and that of school nineteen was 40.83. There was observed difference of 5.83, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 16 and school 19 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 16 and school 19.

Table 5.191

Tests of difference by use of post-ANOVA between school sixteen and school twenty

Mean of school 16	Mean of school 20	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
35.0	40.0	5.0	3.96	7.80 10.30

Table 5.191 indicated that mean achievement of school sixteen was 38.5 and that of school twenty was 40.0. There was observed difference of 5.0, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 16 and school 20 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 16 and school 20.

Table 5.192

Tests of difference by use of post-ANOVA between school seventeen and school eighteen

Mean of school 17	Mean of school 18	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.91	30.38	3.53	3.54	6.97 9.20

Table 5.192 indicated that mean achievement of school seventeen was 33.91 and that of school eighteen was 30.38. There was observed difference of 3.53, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 17 and school 18 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 17 and school 18.

Table 5.193

Tests of difference by use of post-ANOVA between school seventeen and school nineteen

Mean of school 17	Mean of school 19	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.91	40.83	6.92	3.86	7.60 10.04

Table 5.193 indicated that mean achievement of school seventeen was 33.91 and that of school nineteen was 40.83. There was observed difference of 6.92, which was lesser than expected value at both the levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 17 and school 19 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 17 and school 19.

Table 5.194

Tests of difference by use of post-ANOVA between school seventeen and school twenty

Mean of school 17	Mean of school 20	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
33.91	40.0	6.09	3.86	7.60 10.04

Table 5.194 indicated that mean achievement of school seventeen was 33.91 and that of school twenty was 40.0. There was observed difference of 6.09, which was lesser than expected value at both the levels. Thus, the mean

difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 17 and school 20 was accepted.

So it can be concluded that there was no significant difference in the mean achievement of school 17 and school 20.

Table 5.195

Tests of difference by use of post-ANOVA between school eighteen and school nineteen

Mean of school 18	Mean of school 19	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
30.38	40.83	10.45	4.14	8.16 10.76

Table 5.195 indicated that mean achievement of school eighteen was 30.38 and that of school nineteen was 30.38. There was observed difference of 10.45, which was greater than expected value at 0.05 level. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 18 and school 19 was rejected.

So it can be concluded that there was significant difference in the mean achievement of school 18 and school 19.

Table 5.196

Tests of difference by use of post-ANOVA between school eighteen and school twenty

Mean of school 18	Mean of school 20	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
30.38	40.0	9.62	4.14	8.16 10.76

Table 5.196 indicated that mean achievement of school eighteen was 30.38 and that of school twenty was 40.0. There was observed difference of 9.62, which was greater than expected value at 0.05 level. Thus, the mean difference was found to be significant and so the null hypothesis stating that there will be no significant difference in achievement of school 18 and school 20 was rejected.
So it can be concluded that there was significant difference in the mean achievement of school 18 and school 20.

Table 5.197

Tests of difference by use of post-ANOVA between school nineteen and school twenty

Mean of school 19	Mean of school 20	Mean difference	SE_D	$D_{.05}$ $D_{.01}$
40.83	40.0	0.83	4.45	8.77 11.57

Table 5.197 indicated that mean achievement of school nineteen was 40.83 and that of school twenty was 40.0. There was observed difference of 0.83, which was lesser than expected value at both levels. Thus, the mean difference was found to be not significant and so the null hypothesis stating that there will be no significant difference in achievement of school 19 and school 20 was rejected.
So it can be concluded that there was no significant difference in the mean achievement of school 19 and school 20.

Although the facilities provided to the vasahati schools were more or less same but still within some schools some differences were found. Especially, with school 3 the difference observed was maximum, may be because teachers in this school were more committed, dedicated and enthusiastic. They might have prepared teaching- learning materials and may be using them while teaching.

5.3 COMPETENCY WISE ANALYSIS

Table 5.198

Overall item-wise and competency wise analysis of Class III and Class IV students (N=200)

Competency no.	Item no.	Number of students with correct response	% of correct response	Order of difficulty
7.3.1	2	130	65	9
7.3.1	3	119	59.5	5
7.3.1	4	118	58	4
7.3.1	5	123	61.5	7
7.3.1	6	128	64	8
10.3.2	7	152	72	15
10.3.2	8	122	61	6
10.3.2	9	158	79	22
10.3.4	10	150	75	19
10.3.5	11	143	71.5	14
10.3.5	12	110	55	2
10.3.3	13	142	71	13
10.3.3	14	145	72.5	16
10.3.3	15	128	64	8
10.3.3	16	155	77.5	21
10.3.6	17	143	71.5	14
10.3.3	18	175	87.5	26
10.4.5	19	180	90	28
10.4.5	20	162	81	24
10.4.7	21	132	66	10
10.4.8	22	148	74	18
10.4.7	23	133	66.5	11
10.4.7	24	115	57.5	3
10.4.7	25	183	91.5	30
10.4.11	26	145	72.5	16

10.4.11	27	188	94	32
10.4.12	28	141	70.5	12
10.4.13	29	182	91	29
7.4.1	30	148	74	18
7.4.1	31	142	71	13
7.4.1	32	158	79	22
7.4.1	33	166	83	25
7.4.3	34	146	73	17
7.4.2	35	152	76	20
7.4.4	36	159	79.5	23
3.4.2	37	176	88	27
3.4.1	38	192	96	35
3.4.1	39	189	94.5	33
3.4.1	40	182	91	29
3.4.1	41	194	97	36
3.4.1	42	190	95	34
3.4.1	43	148	74	18
3.4.1	44	185	92.5	31
3.4.1	45	194	97	36
3.4.1	46	180	90	28
3.4.1	47	143	53	1
3.4.1	48	192	96	35
3.4.1	49	194	97	36
3.4.1	50	192	96	35
8.3.1	51	189	94.5	33
8.3.2	52	192	96	35
10.3.4	53	190	95	34

(most difficult competency was indicated by the number 1, second most difficult by number 2 and so on)

Table 5.198 indicated that item no. 47 that was 'where does the weaving of raw cotton takes place?'(3.4.1) was mastered by only 53 per cent of the

students which shows that the item was found to be most difficult. Further, item no. 41 that was 'Name the Implement through which water is taken out from the well' (3.4.1), 45 'who ploughs the Land' (3.4.1) and item 49 that was Identify the tool (3.4.1) was mastered by 97 per cent of the students which shows that these items were found to be least difficult. Average, 77 percent of students have mastered the overall competencies.

Table 5.199

Item-wise and competency wise analysis of Class III students (N=115)

Competency no.	Item no.	Number of students with correct response	% of correct response	Order of difficulty
7.3.1	2	60	52.17	7
7.3.1	3	64	55.65	10
7.3.1	4	43	37.39	2
7.3.1	5	51	44.35	4
7.3.1	6	52	45.22	5
10.3.2	7	48	41.74	3
10.3.2	8	51	44.35	4
10.3.2	9	86	46.96	6
10.3.4	10	88	76.52	22
10.3.5	11	68	59.13	11
10.3.5	12	41	35.65	1
10.3.3	13	62	53.91	9
10.3.3	14	74	64.35	14
10.3.3	15	75	65.22	15
10.3.3	16	76	66.09	16
10.3.6	17	69	60.0	12
10.3.3	18	105	91.30	27
10.4.5	19	109	94.78	31
10.4.5	20	110	95.65	32
10.4.7	21	61	53.04	8

10.4.8	22	72	62.61	13
10.4.7	23	80	69.56	17
10.4.7	24	62	53.91	9
10.4.7	25	103	89.56	26
10.4.11	26	82	71.30	18
10.4.11	27	110	95.65	32
10.4.12	28	83	72.17	19
10.4.13	29	106	92.17	28
7.4.1	30	92	80.0	24
7.4.1	31	90	78.26	23
7.4.1	32	102	88.69	25
7.4.1	33	108	93.91	30
7.4.3	34	84	73.04	20
7.4.2	35	85	73.91	21
7.4.4	36	72	62.61	13
3.4.1	37	96	93.48	29
3.4.1	38	108	93.91	30
3.4.1	39	109	94.78	31
3.4.1	40	111	96.52	33
3.4.1	41	110	95.65	32
3.4.1	42	112	97.39	34
3.4.1	43	108	93.91	30
3.4.1	44	114	99.13	35
3.4.1	45	110	95.65	32
3.4.1	46	112	97.39	34
3.4.1	47	102	88.69	25
3.4.1	48	112	97.39	34
3.4.1	49	112	97.39	34
3.4.1	50	110	95.65	32
8.3.1	51	111	96.52	33
8.3.2	52	109	94.78	31
10.3.4	53	110	95.65	32

(most difficult competency was indicated by the number 1, second most difficult by number 2 and so on)

Table 5.199 indicated that 99.13 percent of the students found the competency 3.4.1that was item number 44 'who make the plough' least difficult whereas only 35.65 percent of the students responded the item 12 'where does large amount of river water flows?' correctly. This indicated that competency 10.3.5 was found to be most difficult.

Table 5.200

Item-wise and competency wise analysis of Class IV students (N=85)

Competency no.	Item no.	Number of students with correct response	% of correct response	Order of difficulty
7.3.1	2	70	82.35	13
7.3.1	3	55	64.70	5
7.3.1	4	75	88.23	18
7.3.1	5	72	84.70	15
7.3.1	6	76	89.41	20
10.3.2	7	73	85.88	16
10.3.2	8	71	83.53	14
10.3.2	9	72	84.70	15
10.3.4	10	62	72.94	8
10.3.5	11	75	88.23	19
10.3.5	12	69	81.18	12
10.3.3	13	80	94.12	24
10.3.3	14	71	83.53	14
10.3.3	15	53	62.35	4
10.3.3	16	79	92.94	23
10.3.6	17	74	87.06	17
10.3.3	18	70	82.35	13

10.4.5	19	71	83.53	14
10.4.5	20	70	82.35	13
10.4.7	21	71	83.53	14
10.4.8	22	76	89.41	20
10.4.7	23	53	62.35	4
10.4.7	24	53	62.35	4
10.4.7	25	80	94.12	24
10.4.11	26	63	74.12	9
10.4.11	27	78	91.76	22
10.4.12	28	58	68.23	7
10.4.13	29	76	89.41	20
7.4.1	30	56	65.88	6
7.4.1	31	52	61.18	3
7.4.1	32	56	65.88	6
7.4.1	33	68	80	11
7.4.3	34	62	72.94	8
7.4.2	35	67	78.82	10
7.4.4	36	77	90.59	21
3.4.1	37	80	94.12	24
3.4.1	38	84	98.82	27
3.4.1	39	80	94.12	24
3.4.1	40	71	83.53	14
3.4.1	41	84	98.82	27
3.4.1	42	78	91.76	22
3.4.1	43	40	47.06	1
3.4.1	44	71	83.53	14
3.4.1	45	84	98.82	27
3.4.1	46	68	80.0	11
3.4.1	47	41	48.23	2
3.4.1	48	80	94.12	24
3.4.1	49	82	96.47	25
3.4.1	50	82	96.47	25

8.3.1	51	78	91.76	22
8.3.2	52	83	97.65	26
10.3.4	53	80	94.12	24

(most difficult competency was indicated by the number 1, second most difficult by number 2 and so on)

Table 5.200 indicated that 98.82 percent of the students found the item no. 38 'which part of the Iron Rod is the part of which tool?' (3.4.1), 41 Name the Implement with which the water is taken out from the well'(3.4.1) and 45 'who ploughs the land?'(3.4.1) least difficult whereas, only 47.06 percent of the students responded the item 43 'who prepares cotton?' correctly. This indicated that competency 3.4.1 was found to be most difficult.

5.4 ANALYSIS AND INTERPRETATION OF REACTION SCALE

1 Out of twenty-five teachers seventy-six percent (19) teachers strongly agreed that they were informed about the different approaches that can be applied in multi-grade teaching and rest twenty-four (6) percent teachers agreed to the item.

2. Ninety-two percent (23) teachers strongly agreed that they understood the meaning of multigrade teaching and only eight percent (2) teachers somewhat agreed to the same.

3. Ninety-six percent (24) teachers strongly agreed that they understood the need for multigrade teaching whereas only four percent (1) teacher somewhat agreed to the item.

4. Out of twenty-five teachers majority that was nine-two percent (23) strongly agreed that they were clear about the need for appropriate environment and atmosphere in multigrade teaching and only eight percent (2) teachers somewhat agreed.

5. Majority, eighty-eight percent (22) teachers strongly agreed that they were clear about the different skills required in multigrade teaching and only twelve percent (3) teachers somewhat agreed to the item.

6. 100 percent of the teachers somewhat agreed that they understood the student in the multigrade teaching.
7. 100 percent of the teachers strongly agreed that they were informed about how to teach about environment in multigrade teaching.
8. Majority, ninety-two percent (23) teachers strongly agree that they were informed about grouping techniques in multigrade teaching and only eight percent (2) somewhat agreed to the same.
9. Eighty-four percent (16) teachers strongly agree that they were satisfied with the model lesson plan given by the resource person and only sixteen percent (4) teachers somewhat agreed.
10. 100 percent of the teachers strongly agreed that they were agreed with the answer given by the resource person.
11. Majority eighty-four person (21) teachers strongly agreed that the timing of the training was appropriate whereas twelve percent (3) teaches disagreed with the same.

5.4.1 Analysis And Interpretation Of The Data Obtained Through Reaction Scale For The Feedback Of The Workshop

To plan the strategy for multi-grade teaching in schools, a workshop was organized on 6th and 7th October, 2003, at Training (D.I.E.T.), Baroda. Twenty-five trainees of Dabhoi taluka were invited for two days workshop. These twenty-five participants were teaching to class III and IV in multigrade classes. At the end of workshop, reaction scale was administered to participants in order to study their reaction about the workshop. Participant responded on 3-point scale for each statement. Responses were analysed by applying chi-square test. Same has been presented in lines to follow:

Table 5.201 indicate that observed value of chi-square (χ^2) was found to be 22.05 and expected value was 5.99 and 9.21 at 0.05 and 0.01 level respectively. Hence, here was the difference in the opinion on the given statement. Thus, it

can be concluded that participants strongly agreed that they acquired information about various strategies for multigrade teaching.

Table 5.201

Information about various strategies about Multi-grade teaching

	Strongly agree	Somewhat agree	Disagree	χ^2 – value
f_0	19	6	0	22.65
f_e	8.33	8.33	8.33	
(f_o-f_e)	10.67	-2.33	-8.33	
$(f_o-f_e)^2$	111.85	5.43	69.39	
$(f_o-f_e)^2/fe$	13.67	0.65	8.33	

χ^2 value at 0.05 level is 5.99 and at 0.01 level is 9.21 df = 2

Table 5.202

Meaning of multi-grade teaching

	Strongly agree	Somewhat agree	Disagree	χ^2 – value
f_0	23	2	0	38.98
f_e	8.33	8.33	8.33	
(f_o-f_e)	14.67	-6.33	-8.33	
$(f_o-f_e)^2$	215.21	40.07	69.39	
$(f_o-f_e)^2/fe$	25.84	4.81	8.33	

χ^2 value at 0.05 level is 5.99 and at 0.01 level is 9.21 df = 2

Table 5.202 indicates that observed value of chi-square (χ^2) was found to be 38.98 and expected value was 5.99 and 9.21 at 0.05 and 0.01 level respectively. So, there was a difference in the opinion on the given statement. Thus, it can be concluded that teachers strongly agreed that they could understand meaning of multi-grade.

Table 5.203

Importance of multi-grade teaching

	Strongly agree	Somewhat agree	Disagree	χ^2 – value
f_0	24	01	0	44.26
f_e	8.33	8.33	8.33	
(f_o-f_e)	15.67	-7.33	-8.33	
$(f_o-f_e)^2$	245.55	53.73	69.39	
$(f_o-f_e)^2/fe$	29.48	6.45	8.33	

χ^2 value at 0.05 level is 5.99 and at 0.01 level is 9.21,df = 2

Table 5.203 indicates that observed value of chi-square (χ^2) was found to be 44.26 and expected value was 5.99 and 9.21 at 0.05 and 0.01 level respectively. So, there was a difference in the reaction of the teachers for the given statement. Thus, it can be concluded that teachers strongly agreed that they understood the importance of multi-grade teaching.

Table 5.204

Information about various strategies in multi-grade teaching

	Strongly agree	Somewhat agree	Disagree	χ^2 – value
f_0	19	6	0	22.65
f_e	8.33	8.33	8.33	
(f_o-f_e)	10.67	-2.33	-8.33	
$(f_o-f_e)^2$	113.85	5.43	69.39	
$(f_o-f_e)^2/fe$	13.67	0.65	8.33	

χ^2 value at 0.05 level is 5.99 and at 0.01 level is 9.21 df = 2

Table 5.204 indicates that observed value of chi-square (χ^2) was found to be 22.65 and expected value was 5.99 and 9.21 at 0.05 and 0.01 level respectively. So, there was a difference in the opinion on the given statement. Thus, it can be

concluded that teachers strongly agreed that they acquired information about the various strategies for multi-grade teaching.

Table 5.205

Appropriate Atmosphere in multi-grade teaching

	Strongly agree	Somewhat agree	Disagree	χ^2 – value
f_0	23	2	0	
f_e	8.33	8.33	8.33	
(f_o-f_e)	14.67	-6.33	-8.33	38.98
$(f_o-f_e)^2$	215.21	40.07	69.39	
$(f_o-f_e)^2/fe$	25.84	4.81	8.33	

χ^2 value at 0.05 level is 5.99 and at 0.01 level is 9.21 df = 2

Table 5.205 indicates that observed value of chi-square (χ^2) was found to be 38.98 and expected value was 5.99 and 9.21 at 0.05 and 0.01 level respectively. So, there was a difference in the reaction of the teachers for the given statement. Thus, it can be concluded that teachers strongly agreed that they were clear about the need for appropriate atmosphere in multi-grade teaching.

Table 5.206

Essential Skills in multi-grade teaching

	Strongly agree	Somewhat agree	Disagree	χ^2 – value
f_0	22	3	0	
f_e	8.33	8.33	8.33	
(f_o-f_e)	13.67	5.33	-8.33	34.15
$(f_o-f_e)^2$	186.69	28.41	69.39	
$(f_o-f_e)^2/fe$	22.41	3.41	8.33	

χ^2 value at 0.05 level is 5.99 and at 0.01 level is 9.21 df = 2

Table 5.206 indicates that observed value of chi-square (χ^2) was found to be 34.15 and expected value was 5.99 and 9.21 at 0.05 and 0.01 level respectively. So, there was a difference in the reaction of the teachers for the given statement. Thus, it can be concluded that teachers strongly agreed to the statement that they understood the importance essential skills in multi-grade teaching.

Table 5.207

Identifying the students in multi-grade teaching

	Strongly agree	Somewhat agree	Disagree	χ^2 – value
f_0	25	0	0	50.02
f_e	8.33	8.33	8.33	
(f_o-f_e)	16.67	-8.33	-8.33	
$(f_o-f_e)^2$	277.89	69.39	69.39	
$(f_o-f_e)^2/fe$	33.36	8.33	8.33	

χ^2 value at 0.05 level is 5.99 and at 0.01 level is 9.21 df = 2

Table 5.207 indicates that observed value of chi-square (χ^2) was found to be 50.02 and expected value was 5.99 and 9.21 at 0.05 and 0.01 level respectively. So, there was a difference in the reaction of the teachers for the given statement. Thus, it can be concluded that teachers strongly agreed that they understood the need for identifying the students in multi-grade teaching.

Table 5.208

Teaching Environment in multi-grade

	Strongly agree	Somewhat agree	Disagree	χ^2 – value
f_0	25	0	0	44.26
f_e	8.33	8.33	8.33	
(f_o-f_e)	15.67	-7.33	-8.33	
$(f_o-f_e)^2$	245.55	53.73	69.39	
$(f_o-f_e)^2/fe$	29.48	6.45	8.33	

χ^2 value at 0.05 level is 5.99 and at 0.01 level is 9.21 df = 2

Table 5.208 indicates that observed value of chi-square (χ^2) was found to be 44.26 and expected value was 5.99 and 9.21 at 0.05 and 0.01 level respectively. So, there was a difference in the reaction of the teachers for the given statement. Thus, it can be concluded that teachers strongly agreed to the statement that they were informed about the teaching environment in multi-grade.

Table 5.209

Grouping Techniques in multi-grade teaching

	Strongly agree	Somewhat agree	Disagree	χ^2 – value
f_0	23	2	0	
f_e	8.33	8.33	8.33	
(f_o-f_e)	14.67	-6.33	-8.33	38.98
$(f_o-f_e)^2$	215.21	40.07	63.39	
$(f_o-f_e)^2/fe$	25.84	4.81	8.33	

χ^2 value at 0.05 level is 5.99 and at 0.01 level is 9.21 df = 2

Table 5.209 indicates that observed value of chi-square (χ^2) was found to be 38.98 and expected value was 5.99 and 9.21 at 0.05 and 0.01 level respectively. So, there was a difference in the reaction of the teachers for the given statement. Thus, it can be concluded that teachers strongly agreed that they were informed about different grouping techniques.

Table 5.210

Model Lesson Plan on Environment of Class III and Class IV

	Strongly agree	Somewhat agree	Disagree	χ^2 – value
f_0	21	4	0	
f_e	8.33	8.33	8.33	
(f_o-f_e)	12.67	4.33	8.33	29.85
$(f_o-f_e)^2$	160.53	18.75	69.39	
$(f_o-f_e)^2/fe$	19.27	2.25	8.33	

χ^2 value at 0.05 level is 5.99 and at 0.01 level is 9.21 df = 2

Table 5.210 indicates that observed value of chi-square (χ^2) was found to be 29.85 and expected value was 5.99 and 9.21 at 0.05 and 0.01 level respectively. So, there was a difference in the reaction of the teachers for the given statement. Thus, it can be concluded that teachers strongly agreed that they were satisfied with the model lesson plan given by the Resource Person.

Table 5.211

Satisfaction with the answer given by the Resource Person

	Strongly agree	Somewhat agree	Disagree	χ^2 – value
f_0	25	0	0	50.02
f_e	8.33	8.33	8.33	
(f_o-f_e)	16.67	-8.33	-8.33	
$(f_o-f_e)^2$	277.89	69.39	69.39	
$(f_o-f_e)^2/fe$	33.36	8.33	8.33	

χ^2 value at 0.05 level is 5.99 and at 0.01 level is 9.21 df = 2

Table 5.211 indicates that observed value of chi-square (χ^2) was found to be 50.02 and expected value was 5.99 and 9.21 at 0.05 and 0.01 level respectively. So, there was a difference in the reaction of the teachers for the given statement. Thus, it can be concluded that teachers strongly agreed that they were satisfied with the answer given by the Resource Person.

Table 5.212

Timing of the Training Program

	Strongly agree	Somewhat agree	Disagree	χ^2 – value
f_0	21	1	3	29.13
f_e	8.33	8.33	8.33	
(f_o-f_e)	12.67	-7.33	-5.33	
$(f_o-f_e)^2$	160.53	53.73	28.41	
$(f_o-f_e)^2/fe$	19.27	6.45	3.41	

χ^2 value at 0.05 level is 5.99 and at 0.01 level is 9.21 df = 2

Table 5.212 indicates that observed value of chi-square (χ^2) was found to be 29.13 and expected value was 5.99 and 9.21 at 0.05 and 0.01 level respectively. So, there was a difference in the reaction of the teachers for the given statement. Thus, it can be concluded that teachers strongly agreed that the timing of the training program was appropriate.

Last statement in the reaction scale on over all view regarding two days workshop was content analyse.

Overall 100 percent of the participants were satisfied with the two days workshop and opined that more such trainings which were practical and related to actual situation should be organized frequently. Further, they suggested that the training should be kept at the beginning of the academic session and for more days. Also, informed that they may face the problem with evaluation with this kind of strategy of compiling the competence of two classes as the exams were taken by the Jilla Punchayat where they follow the syllabus sequentially. Thus, here the participants suggested to decentralized the evaluation system. So that, they can maximally make use of the developed strategy.

5.4.2 Opinion of Teachers regarding effectiveness of the developed strategy

The opinion of teachers were collected regarding the effectiveness of the developed strategy, quality of a strategy/intervention programmes and change in behaviour of students on the whole the strategy was found to be effective in terms of the achievement of students and improvement in the quality of interaction with the teacher. It has helped the learner in self learning and has also developed more interest and curiosity in students.

Regarding the quality of strategy, the teachers expressed satisfaction the comprehensiveness in covering the content matter. Further, the combination of different methods TLM and techniques used for clarifying important concepts of the subject was also liked by them. Finally, all this helped to improve academic achievement of the students.

Regarding the change in students classroom behaviour, the teacher admitted that she could see significant change in students' behaviour with regard to their involvement in the classroom instructional process as they became more active and more interactive. Thus, the strategy has not only helped students but even teachers opinion has become more positive.

Teachers found the strategy feasible. Yes, it was time consuming, as it requires pre-planning but finally it reduces the burden of handling multigrade situation effectively.

Teachers, liked the strategy of merging the competencies. Further, opined that the merging of competencies helped in handling the two classes together without wasting the time of the students of either of the grades.

Teacher's no more look multigrade as a problem but look more positive. Towards this type of schools. Further, they opined that this strategy helped in managing the time. More time was utilized for productive work.

Overall, the strategy was found to be very interesting and effective as it was related to multigrade situation.

This strategy not only developed curiosity and interest in students but has also developed interest in teacher / them in teaching and making the maximum utilization of time productively.

Further, they opined that merging of competencies saves the time of both the grades.

5.4.3 Data analysis and interpretation of classroom observation after the workshop

Purpose : To study the effectiveness of the developed strategy.

The following was the summary of the anecdotal record based on the classroom observation. The observation recorded were present in the descriptive form as follows :

Teaching – learning process in almost all the twenty schools started with recapitualisation. Most of the times the questions were related to content learn on the previous day. The teachers were concern with introducing meaning and

relevance to the questions and allowed students to contribute to the lesson. The students become alert to the teachers question and the content was discussed by using the illustrations relevant to the students experiences. Also, it was observed that questioning mode was less reliant on reasoning. While teaching about the "**Air**" – following interaction took place.

Teacher : All of you standup and go out of class and bring air.

Students : Stood up, teacher where we will get air.

Teacher : Out side in the ground.

Students : Silence

Teacher : Go and search air

Student : Air is not there (from the back the class)

Teacher : (called the student in front) how ?

Student : Air is not seen.

Teacher : Listen everybody, what Krishna is saying. he can't the air. Do you agree with him.

Students : Yes, (Chores)

Teacher : Good, I also agreed with Krishna but air is there.

Students : (one of the student sitting on the right side corner classed his palm) teacher goes near the Vishal)

Teacher : What you are doing with your hand ? Why you have closed your palm ?

Student : Air is there.

Teacher : Show me.

Student : (Opens the palms) Air is vanished.

Teacher : Very good. So one of the characteristic of air is that we cannot see air. But can we feel the air ?

Students : Silence

Teacher : Come on lets perform one activity.

(Students giggles)

Teacher : (Ask Nina) close the door and windows of the room.

(Teacher switch off the fan)

After the five minutes)

Teacher opens the door – windows and switch on the fan.

Students : Hash..... (chores)

Teacher : What happened ?

Students : Suffocation.

Teacher : Now, you all are feeling.

Students : Good and airy

Teacher : So, we can't see air but we can feel it.

Students : Hum..... (nodding their heads)

In this process, the students were encouraged to raise the question or make comment. This led to more involvement of the students in the classroom transaction. Further, teacher seemed to be comfortable and competent in handling the interactive pattern of teaching. The classroom teaching was interesting, relaxed, logical and students appear active, enthusiastic and attentive. Thus, reinforcing the teachers' sense of satisfaction.

Thus the teaching – learning process in the most of the classroom were learner centered and teachers' and students were more interactive. Students were encouraged to respond to the questions either by probing or by giving clues. They were appreciated for their efforts. This led the students to be free and curious in posing questions in the classroom and also influenced students' participation and learning the competency.

5.5 DISCUSSION

In this section investigator has discussed the findings of the study supported by the previous research studies and other official documents.

On the basis of questionnaire and pre-workshop observation investigator observed that teachers perceived many problems in their teaching environment right from lack of classroom, lack of furniture, electricity, toilet facility, safe drinking water facility, instructional material, lack of teaching aids, no proper training due to which multi-grade teaching is pursued as a problem supported by Jhanghirasingh (1995), Muthayan (2000).

Teaching was more teacher's centered with negligible interaction with students, lot of rote learning, lack of activity based materials and methods in environment which leads to lack of curiosity, enthusiasm and interest among teachers and students in teaching learning process. Also, discussed by Mali (1984), Tomar (1998). It was further found that there was a lack of common time-table, supervision, which was conducted one's or twice in a year, lack of emphasis on environment, teachers were not aware of suitable teaching methods and strategies. Similar finding was cited by Lalitha and Sharda (1977), Mali (1984), Miller (1991) and Tomar (1998).

Investigator believes that time-table and teaching plans should be flexible and proper weightage should be given to the students pace of learning. Time-management in multigrade was second important factor after the curriculum and text-books which was also supported by Bharadwaj (2000).

Overall, majority of the students (68 %) of the students falls between the score range of 30 – 39 and only (5%) of the students were scoring between 10 – 19. It shows that strategy was effective. Moreover, chi-square value was also found to be significant with respect to all the items in reaction scale. As teachers perceived that strategy was program related to real classroom situation and further opined that there should be more such related training. Activities in environment were not to be limited only within the classroom but should be extended beyond the four walls of classroom involving various activities like songs, drama, role play, game, story telling, field visits etc. which make an

environment subject more lively and interesting. As activities have a definite place in the environment curriculum, environment subject needs to be taught in such a manner so that the students perceived it as a dynamic activity rather than as a static body of knowledge to be memorized and reproduced.

The test which was administered on students after the implementation of the strategy indicates the overall effectiveness of strategy as the whole intervention program helps the students for their all round development. This was because the strategy had raised the scope of creativity, independency, more interaction between teacher and student, activity oriented teaching, use of different methods and media, combing the competencies, all these leads to active participation and involvement of students in teaching learning process. Further, as far as competencies were concerned students were able to master most of the competencies with respect to selected units which were included in the development of the strategy. Thus, intervention whenever taken up have shown to improve the achievement of students. This was proved by many researches Govinda and Verghees (1991), Gupta and Gupta (1992), Das (1996), Tomar (1998) and Mehta (1999).

After the workshop the teachers opined that developed strategy on environment was found to be effective and interesting as teachers specifically expressed the view that multigrade teaching was an acceptable teaching for teaching in difficult circumstances. That they have gain greater confidence in their ability to handle a multigraded class and that they have learned fundamental principle of teaching. One of the important aspect was devices of motivating the children and keeping them engaged in learning activities. Some teachers, however felt that because they have to do challenging job it need extra labour in merging competencies of more than one class, planning, organizing and taking the class, and so they opined that their work should be recongnised as unique effort as that of other teachers who serve in monograde. Further opined that they should be given special training related to multigrade. Muthayan (2000) has also pointed out due to lack of pre and in service training related to multigrade teaching teacher perceived multigrade teaching as a problem. Moreover,

education system as a whole also pays inadequate attention to the proper functioning of multigrade schools. Further, there was no reference to multigrade teaching in national policy documents. Thus, multigrade teaching was considered as a 'Big Problem' reported by Gupta, et al (1996), Nagaraju, Jain and Anitha. Thus, prospective teachers were encouraged to develop negative attitude towards multigrade teaching.

Beyond the mastery of the subject matter of instruction, teacher needs to have a wide range of teaching skills to be effective. A reflective practices and collaboration for example, make teachers more responsive to cater the students needs in the classroom Jangira (1995). Moreover, two-third of the teachers were facing multigrade classroom, so they have to be prepared for the same supported by Saxena, Singh and Gupta (1995). Thus, there was a dire need for in service training in multigrade teaching.

Mostly, all the training given was content oriented and this training do not play much attention to actual classroom practices. Real picture of the education system that was multigrade situation was almost neglected, so there was a need for separate strategy on multigrade teaching was also felt by the teachers. As the teachers working in multigrade schools do not have much knowledge of curriculum organisation, multilevel grouping, class management, use of teaching-learning materials and time management. Moreover teachers do not have much information about integrating minimum levels of learning of all grades they teach. Further, time-table and teaching plan should be flexible and proper weightage should be given to the students pace of learning for which proper professional preparation of multi-grade teachers should be organized periodically.

Although, the facilities provided to Sardar Sarovar Punahvasahat Agency (SSPA) Schools were more or less same but still within some schools some difference was found. May be because teachers in these schools were more committed, dedicated and enthusiastic. Teachers might have prepared activity based material which helped them while teaching and handling two or more classes at a time.