CHAPTER - 4

ANALYSIS AND INTERPRETATION

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ANALYSIS AND INTERPRETATION

4.1.0 Introduction

After discussing the uses of constructivist learning situation and taking a brief review of researches conducted in this area to support the rational of the present study, detailed the plan of the study was presented in the third chapter. The hypothesis to be tested, variable involved, sample selected, tools employed and the manner in which the relevant data was collected and other methodological details are discussed in that chapter. The data thus collected was subjected to appropriate statistical procedure to test the hypothesis with which this study was initiated. The details of the statistical techniques employed for analysis of the data, results obtained through this analysis and the designs regarding the rejection or non rejection of hypothesis are presented in this chapter.

Statistical techniques are used for organizing analyzing and interpreting numerical data. Statistics is a basic tool of measurement and evaluation, when research has quantifiable data. Statistical method goes to the fundamental purposes of description and analysis. By statistic we can analyze and interpret the data and can draw conclusion. If the collective data are systematically arranged, and analyzed through appropriate scientific and statistical technique, the results obtained are scientific and correct.

Interpretation of data refers to that important part of the investigation, with is associated with the drawing of the inference from the collected facts after an analytical study. It is the interpretation that makes it possible for us to utilize collected data in various fields.

According to the hypothesis of the study the data collected were analyzed on the basis of score of the pre test and post test. The statistical method serves the fundamental purpose of description and analysis, and their proper application involves answering the following questions :

1. What facts need to be gathered to provide the information necessary to answer to test the hypothesis?

2. How are these data to be gathered, organized, and analyzed ?

3. What assumptions underlie the statistical methodology to be employed ?

4. What conclusions can be validly drawn from the analysis of the data?

4.2.0 Statistical Procedure Employed

First to understand the distribution of variable, basic statistic such as mean and standard deviation were calculated for all the variables involved in the study. For the total sample based on gender and types of school were compared 't' value for independent and co-related sample were calculated.

4.3.0 Verification Of The Hypotheses

There are 11 hypotheses and verified by using appropriate statistic like mean, S.D. and 't' test -

4.3.1 Analysis Pertaining To Total Sample

HYPOTHESIS (1)

There will be no significant difference in influence of constructivist approach on achievement of class V student in geometry.

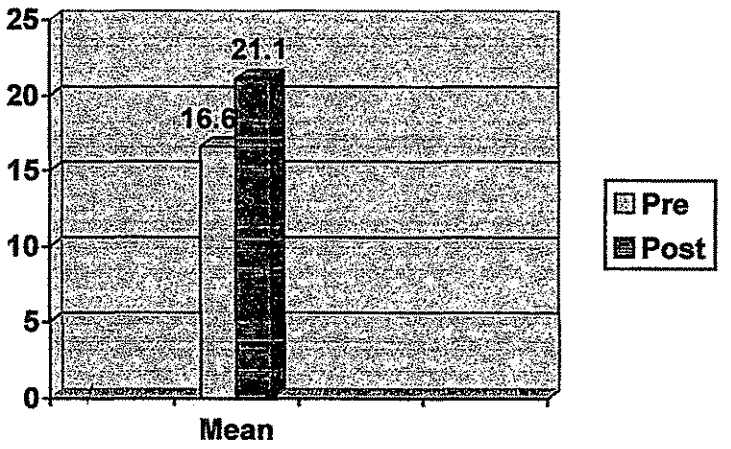
Table 4.3.1 Mean Difference Between Pre Test And Post Test Scores Of Total Student

Statistical Analysis of Difference							
S.NO.	Test	Number	Mean	Standard deviation (SD)	df	't' value	Significance
1	Pre	70	16.6	3.82	138	8.33	Significant
2	Post	70	21.1	2.33			

The table shows that the computed value of the 't' test is 8.33 and the table value of 't' test is 2.61 at 0.01 level.

They the computed value of 't' is greater than the table value and hence the hypothesis is non accepted. It indicates that the students of experiment group do differ in their post test achievement in comparison to pre test.

The value of mean for post test (A.M. = 21.1) is found to be greater than the pre test (A.M. = 16.6) as mean difference is significant, it may be inferred that achievement of class V students in geometry at significant level. We can also shows these mean difference in graph I.



Graph - 1 Graphical Presentation of mean difference between pre test and post test scores of total student

4.3.2 Analysis Pertaining To Types Of School

Hypothesis (2)

There will be no significant difference between private school and government school on achievement of class V students in geometry.

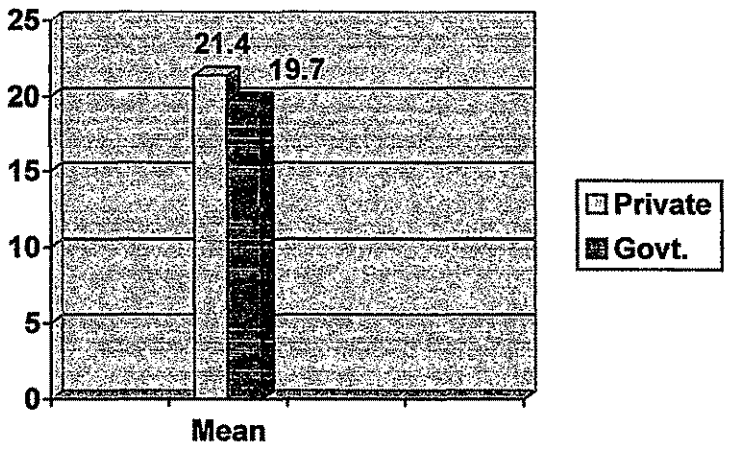
Table 4.3.2 Mean Deference Between Private And Government School

Statistical Analysis of difference							
S.No.	Types of School	Number of student (N)	Mean (M)	Standard deviation	df	"t" Value	Significance
1	Private	40	21.4	2.26	68	3.04	Significant
2	Govt.	30	19.7	1.81			

The table shows that the computed value of the 't' test is 3.04 and the table value of 't' test is 2.65 at 0.01 level.

Thus the computed value of 't' is greater than the table value and hence the hypothesis is non accepted.

It shows that private school and Govt. school of experiment group do differ significantly from each other in geometry. From this if may be implied that achievement of class V student in geometry has differential effect on private school and Govt. School. We can also shows these mean difference in Graph -2



Graph - 2 Graphical Presentation of Mean Deference Between Private And Government School

4.3.3 ANALYSIS PERTAINING TO GENDER

HYPOTHESIS (3)

There will be no significant difference between boys and girls on achievement of class V students in geometry.

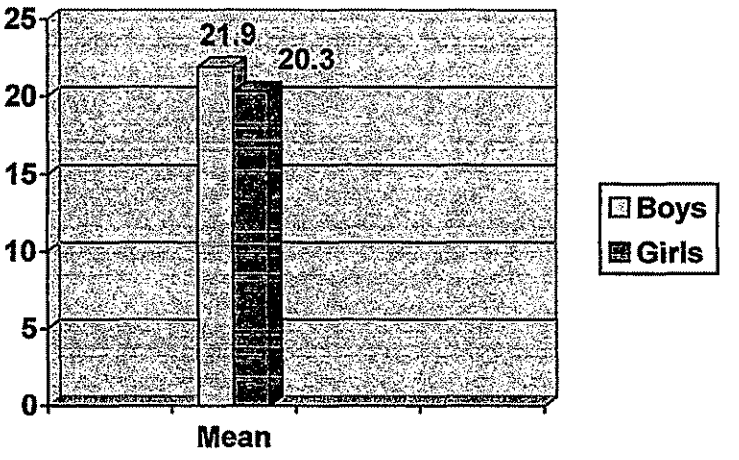
Table 4.3.3 Mean Difference Between Boys And Girls

Statistical Analysis of Difference							
S. No.	Variable	Number of Student (n)	Mean (M)	Standard deviation (SD)	df	't' Value	Significance
1	Boys	35	21.9	2.06	68	3.02	Significant
2	Girls	35	20.3	2.32			

The table shows that the computed value of the 't' test is 3.02 and the table value of ' t' test is 2.65 at 0.01 level.

Thus, the computed value of 't' is greater than the table value, and hence the hypothesis is non accepted.

It shows that boys and girl of private school and government school do differ significantly from each other in geometry. From this it may be implied that achievement of class V students in geometry has differential effect on boys and girls. We can also shows these mean difference in Graph-3



Graph - 3 Graphical Presentation of mean difference between boys and girls

HYPOTHESIS (4) :

There will be no significant difference between boys and girls of private school on achievement of class v student in geometry.

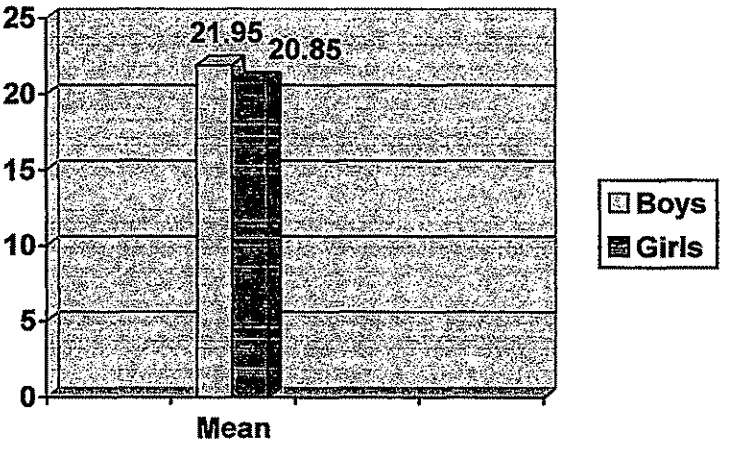
Table 4.3.4 Mean Difference Between Boys And Girls Of Private School

Statistical Analysis of Difference							
S. No.	Variable	Number of Student (n)	Mean (M)	Standard deviation (SD)	df	't' Value	Significance
1	Boys	20	21.95	1.91	38	1.55	Not Significant
2	Girls	20	20.85	2.56			

The table shows that the computed value of the 't' test is 1.55 and the table value of 't' test is 2.65 at 0.01 level.

Thus, the computed value of 't' test is smaller than the table value, hence the null hypothesis accepted.

It mean test the boys and girls of private school do not differ significantly from each other in geometry . From this it may be inferred that achievement of class V students in geometry has differential effect on boys and girls of private school. We can also shows these mean difference in Graph -4



Graph - 4 Graphical Presentation of mean difference between boys and girls of private school

HYPOTHESIS (5)

There will be no difference between boys and girls of Govt. school on achievement of class V student in geometry.

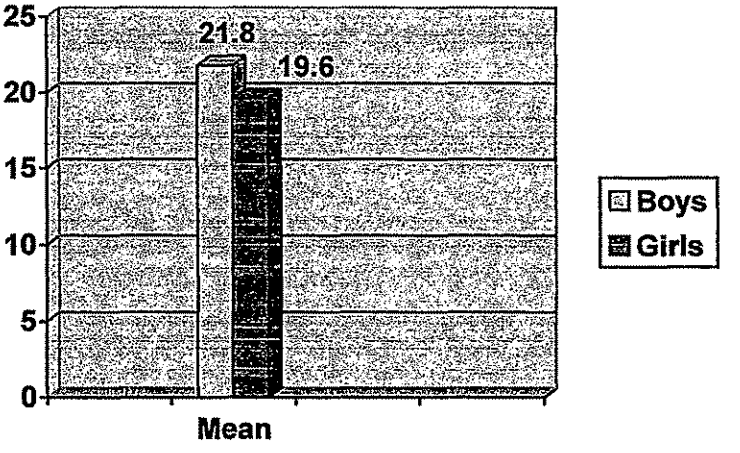
Table 4.3.5 Mean Difference Between Boys And Girls Of Government School

Statistical Analysis of Difference							
S. No.	Variable	Number of Student (n)	Mean (M)	Standard deviation (SD)	df	't' Value	Significance
1	Boys	15	21.8	2.39	28	2.79	Significant
2	Girls	15	19.6	1.92			

The table shows that the computed value of the 't' test is 2.79 and the table value of 't' is 2.76 at 0.01 level.

Thus, the computed value of 't' test is greater than the table value, hence the null hypothesis non accepted.

It means that the boys and girls of Govt. School do differ significantly form each other in geometry. From this it may be inferred that achievement of class V students in geometry has differential effect on boys and girls of Govt. School. We can also shows these mean difference in Graph -5



Graph - 5 Graphical Presentation of mean difference between boys and girls of government school

HYPOTHESIS (6)

There will be no significant difference between pre test and post test on achievement of class V student of private school in geometry.

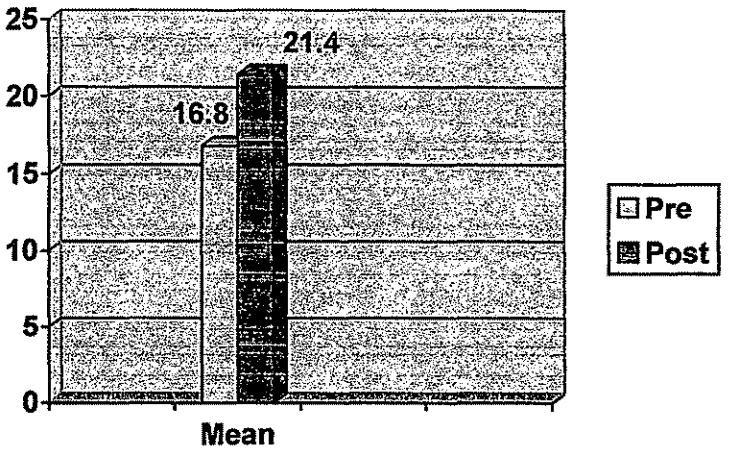
Table 4.3.6 Mean Difference Between Pre Test And Post Test Of Private School

Statistical Analysis of Difference							
S. No.	Test	Number of Student (n)	Mean (M)	Standard deviation (SD)	df	't' Value	Significance
1	Pre	40	16.8	3.76	78	6.57	Significant
2	Post	40	21.4	2.30			

The table shows that the computed value of the 't' test is 6.57 and the table value of 't' test is 2.64 at 0.01 level.

Thus the competed value of 't' is greater than the table value, and hence the hypothesis is non- accepted. It indicates that the student of experiment group do differ in their post test achievement in comparison to pre test.

The value of mean for posttest (AM = 16.8) is found to be greater than pre test (A.M. = 16.8) as mean difference is significant, it may be inferred that achievement of class V student of private school in geometry at significant level. We can also shows these mean difference in Graph -6



Graph - 6 Graphical Presentation of mean difference between pre test and post test of private school

HYPOTHESIS (7)

There will be no significant difference between pre test and post test on achievement of class V students of government School in geometry.

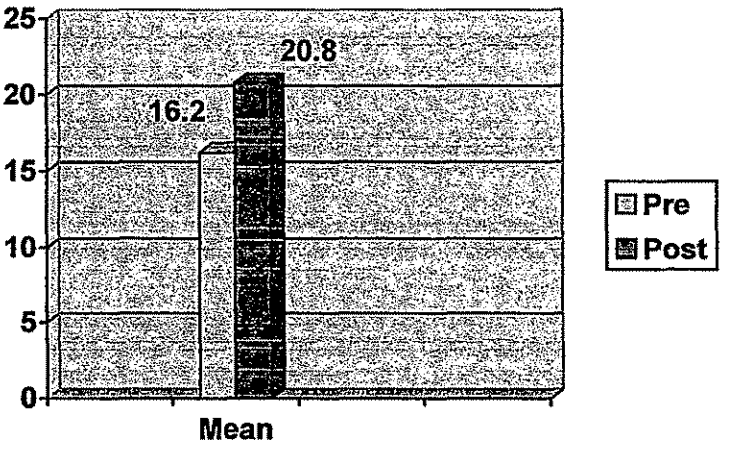
TABLE 4.3.7 MEAN DIFFERENCE BETWEEN PRE TEST AND POST TEST SCORES OF GOVT. SCHOOL

Statistical Analysis of Difference							
S. No.	Test	Number of Student (n)	Mean (M)	Standard deviation (SD)	df	't' Value	Significance
1	Pre	30	16.20	3.86	58	5.54	Significant
2	Post	30	20.8	2.36			

The table shows that the computed value of 't' test 5.54 and the table value of 't' test is 2.66 at 0.01 level.

Thus the computed value of 't' is greater than the table value, and hence the hypothesis is non accepted. It indicates that the students of experiment group do differ in their post test achievement in comparison to pre test.

The value of mean for post test (A.M. = 20.8) is found to be greater than pre test (A.M. = 16.2) as mean difference is significant, It may be inferred that achievement of class V students of Govt. School in geometry at significant level. We can also shows these mean difference in Graph -7



Graph - 7 Graphical Presentation of mean difference between pre test and post test scores of govt. school

HYPOTHESIS (8)

There will be no significant difference between pre test and post test on achievement of class V boys of private school in geometry.

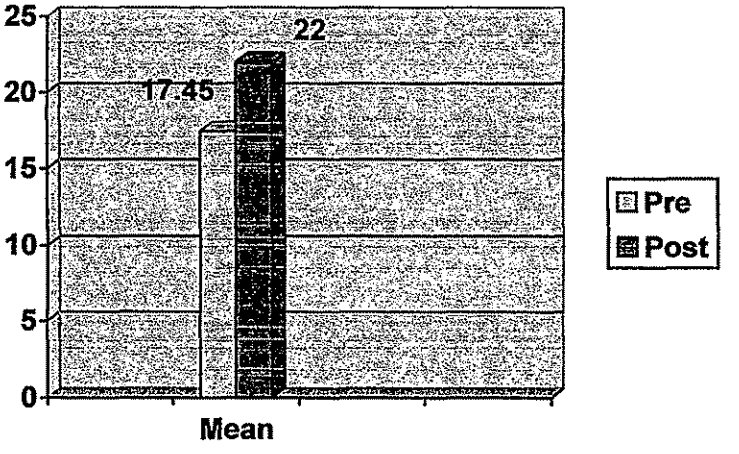
Table 4.2.8 Mean Difference Between Pre Test And Post Test Scores Of Private School Boys

Statistical Analysis of Difference							
S. No.	Test	Number of Student (N)	Mean (M)	Standard deviation (SD)	Df	't' Value	Significance
1	Pre	20	17.45	3.61	38	4.95	Significant
2	Post	20	22	1.95			

The table shows that the computed value of the 't' test is 4.49 and the table value of 't' test is 2.71 at 0.01 level.

Thus the computed value of 't' is greater than the table value, and hence the hypothesis is non accepted. It indicates that the students of experiment group do differ in their post test achievement in comparison to pre test.

The value of mean for post test (A.M. = 20.85) is found to be greater than pre test (A.M. = 16.05) as mean difference is significant, it may be inferred that achievement of class V boys of private school in geometry at significant level. We can also shows these mean difference in Graph -8



Graph - 8 Graphical Presentation of mean difference between pre test and post test scores of private school boys

HYPOTHESIS (9) :

There will be no significant difference between pre test and post test on achievement of class V girls of private school in geometry.

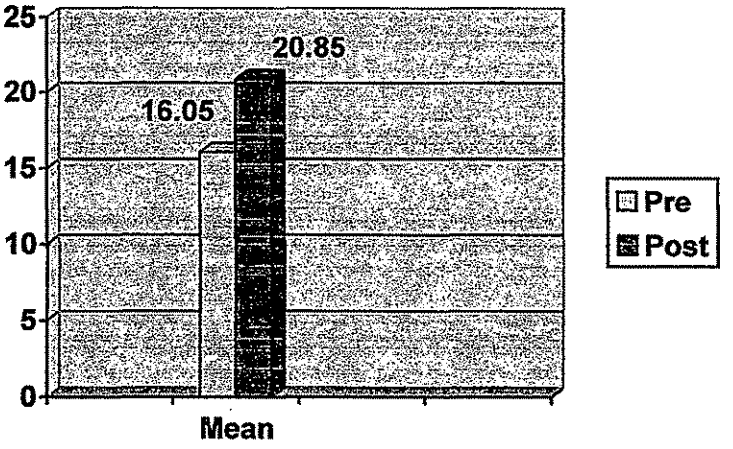
Table 4.3.9 Mean Difference Between Pre Test And Post Test Scores To Private School Girls

Statistical Analysis of Difference							
S. No.	Test	Number of Student (n)	Mean (M)	Standard deviation (SD)	df	't' Value	Significance
1	Pre	20	16.05	4.05	38	4.49	Significant
2	Post	20	20.85	2.56			

The table shows that the computed value of the 't' test is 4.49 and the table value of 't' test is 2.71 at 0.01 level.

Thus, the computed value of 't' is greater than the table value, and hence the hypothesis is non- accepted. It indicates that the students of experiment group do differ in their post test achievement in comparison to pre test.

The value of mean for post test (A.M.= 20.85) is found to be greater that pre test (A.M. = 16.05) as mean difference is significant. It may be inferred that achievement of class V girls of private School in geometry at significant level. We can also shows these mean difference in Graph -9



Graph - 9 Graphical Presentation of mean difference between pre test and post test scores of private school boys.

HYPOTHESIS (10)

There will be no significant difference between pretest and post test on achievement of class V Boys of government school in geometry.

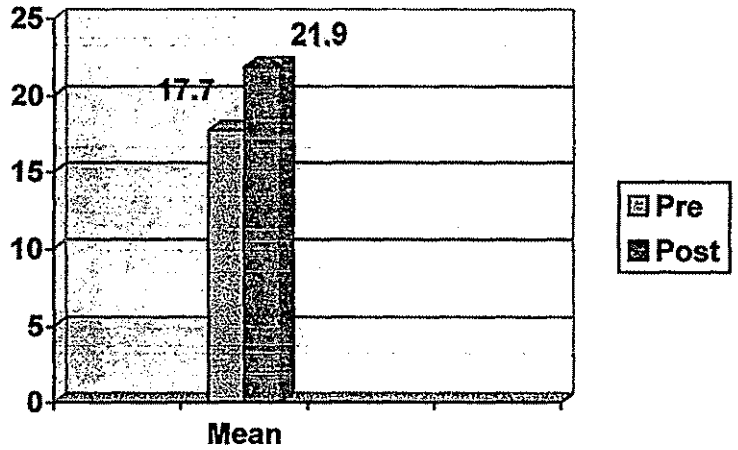
TABLE 4.3.10 MEAN DIFFERENCE BETWEEN PRE TEST AND POST TEST SCORE OF GOVT. SCHOOL BOYS

Statistical Analysis of Difference							
S. No.	Test	Number of Student (N)	Mean (M)	Standard deviation (SD)	df	't' Value	Significance
1	Pre	15	17.7	4.38	28	3.26	Significant
2	Post	15	21.9	2.39			

The table shows that the computed value of the 't' test is 3.26 and the table value of 't' test is 2.71 at 0.01 level.

Thus the computed value of 't' is greater than the table value, and hence the hypothesis is non-accepted. It indicates that the student of experiment group do differ in their posttest achievement in comparison to pre test.

The value of mean for post test (AM = 21.9) is found to be greater than pre test (AM = 17.7) as mean difference is significant, it may be inferred that achievement of class V boys of Govt. School in geometry at significant level. We can also shows these mean difference in Graph -10



Graph - 10 Graphical Presentation of mean difference between pre test and post test score of govt. school boys

HYPOTHESIS (11)

There will be no significant difference between pretest and post test on achievement of class V Girls of government school in geometry.

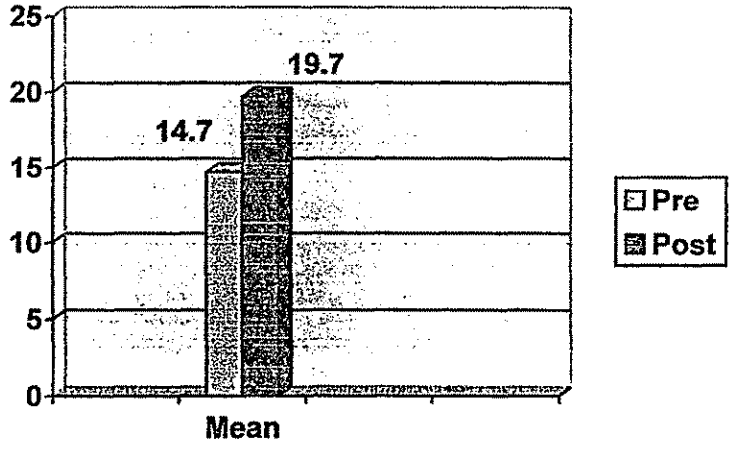
TABLE 4.3.11 MEAN DIFFERENCE BETWEEN PRE TEST AND POST TEST SCORE OF GOVT. SCHOOL GIRLS

Statistical Analysis of Difference							
S. No.	Test	Number of Student (N)	Mean (M)	Standard deviation (SD)	df	't' Value	Significance
1	Pre	15	14.7	2.82	28	5.68	Significant
2	Post	15	19.7	1.92			

The table shows that the computed value of the 't' test is 5.68 and the table value of 't' test is 2.76 at 0.01 level.

Thus the computed value of 't' is greater than the table value, and hence the hypothesis is non-accepted. It indicates that the student of experiment group do differ in their posttest achievement in comparison to pre test.

The value of mean for post test (AM = 19.7) is found to be greater than pre test (AM = 14.7) as mean difference is significant, it may be inferred that achievement of class V girls of Govt. School in geometry at significant level. We can also shows these mean difference in Graph -11



Graph - 11 graphical presentation of mean difference between pre test and post test score of govt. school girls