

CHAPTER - 4

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

CHAPTER - 4**4.1 INTRODUCTION**

The word statistics is sometimes used to describe the numerical data that are gathered. Statistical data described group behavior of group characteristics abstracted from a number of individual observations that are combined to make generalizations possible.

The research worker who uses statistics is concerned with more than the manipulation of data. The statistical method serves the fundamental purpose of description and analysis, and its proper application involves answering the following question:

1. What facts need to be gathered to provide the information necessary to answer the question of to test the hypothesis?
2. How are these data to be selected, 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?

DESCRIPTIVE ANALYSIS .

Descriptive statistical analysis limits generalization to the particular group of individuals observed. No conclusions are extended beyond this group and any similarity to those outside the group cannot be assumed. The data describe one group and that group only. Much simple action research

involves descriptive analysis and provides valuable information about the nature of a particular group of individuals.

INFERENCEAL ANALYSIS .

Inferential statistical analysis always involves the process of sampling and the selection of a small group that is assumed to be related to the population from which it is drawn. The small group is known as the sample and the large group is the population. Drawing conclusions about populations based upon observations of samples is the purpose of inferential analysis.

4.2 STATISTICS USED

For the analysis and inferential of data raw scores were classified and tabulated in to different categories mean, standard deviation were calculated for all test. Significance of difference among the categories were determined

STANDARD DEVIATION: The standard deviation, the square root of the variance is most frequently used as a measure of spread or dispersion of scores in a distribution. The formula for standard deviation is

$$\text{S.D.} = \sqrt{\sum x^2 / N}$$

Where

\sum = sum of

x = deviation from mean

N = number of scores



4.3 TESTING OF HYPOTHESES

- Hypothesis1:- There is no significant difference in the performance in mathematics of the student's taught through programmed learning method and conventional method.

On verification of the hypothesis, results are presented in Table 4.

Table 4 :- Critical ratio between post – test scores
of experimental and controlled group.

Category	A.M.	S.D.	N	df	T	Significance
Experimental group	19.62	2.50	26	49	0.85	Not significant
Controlled group	19.04	2.35	25			

The value of “t” is found to be not significant hence hypothesis is not rejected. It indicates that students of experimental and controlled group do not differ in their post test performance. From this it may be inferred that programmed learning method is not influencing the performance of students in mathematics when post test scores of two groups are compared. However “t” value is not significant it is observed that students of experimental group (A.M.=19.62) are superior in comparison to controlled group(A.M.=19.04).

Hence it can be said that the programmed learning to improve students performance in mathematics but not at significant level.

- Hypothesis2:- There is no significant difference in the performance of boys and girls of experimental group separately.

On verification of the hypothesis, results are presented in Table 5.

Table 5:- Critical ratio between post – test scores
of boys and girls of experimental group.

category	A.M.	S.D.	N	df	t	Significance
Boys	19.83	1.73	12	24	.045	Not significant
Girls	19.43	3.06	14			

The difference between the means is not significant hence hypothesis is not rejected. It shows that boys and girls of experimental group do not differ significantly from each other in their performance in mathematics. From this it may be implied that programmed learning method has no differential effect on boys and girls in respect of their performance.

4.4 FINDINGS

- Programmed learning method has no effect on performance of students.
- Programmed learning has no differential effect on boys and girls of experimental group in respect of their performance in mathematics.