

CHAPTER –IV
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4.1 Introduction :

Raw data is worthless without analysis. However valid reliable and adequate the data may be, it does not serve any worth while purpose, unless it is carefully edited systematically classified & tabulated, scientifically analyzed, systematic interpreted rationally concluded. Good research is characterized by what care has taken in the analysis and interpretation of data. After careful & depth answer to the research questions of decision makers & information user.

Analysis of data means studying the tabulated material in order to determine inherent facts or factors in simple parts & putting the parts together in new arrangements for the purpose of interpretation. The process of interpretation is essentially one of the stating that the result finding show what do you mean? What is their significance? What is answer to the original problem? This part is the heart of the research. It calls for a critical examination of the result of ones analysis in light of all the limitations of data gathering. This chapter includes the data collected from People Public School, Bhopal.

4.2 Technique used in data analysis

This study has undertaken a comparative effect of achievement in science, self efficacy, intelligence and attitude towards science studying through traditional approach and multimedia approach.

1. **Independent variable :** Traditional approach and multimedia approach.
2. **Dependent variables :** Achievement in science self efficacy, intelligence and attitude towards science.

The mean scores and standard deviations for each group were computed & mean scores were compared using 't' test.

4.3 Achievement Analysis :

Hypothesis 1 : There is no significant difference in mean achievement of score between the students studying through traditional approach and multimedia based teaching approach.

Table No. 4.1 't' value for the mean scores difference of achievement in science among students studying through traditional approach and multimedia approach.

Category	N	Mean (M)	Standard deviation ()	't' value	Degree of freedom (df)
Traditional approach	20	11.75	2.124	(2.709)*	39
Multimedia approach	21	13.19	1.167		

* 't' value is significant at 0.05 level.

The table 4.1 gives mean difference of the achievement in science of students studying through traditional approach and multimedia approach.

The calculated value of 't' is found to be 2.709. The calculated value of 't' is greater than that of the table value of 't' at 0.05 level of significance. The value of 't' is significant at 0.05 level. Hence the null hypothesis is rejected at 0.05 level.

From the above table it is found that there is significant difference in the achievement in science of the students studying through the traditional approach and multimedia approach . The comparison of the means of both the approaches show that the students achievement exposed to the multimedia approach is better than those under the traditional approach. This vindicates to findings of study Khare (1986).

Hypothesis 2 : There is no significant difference in mean self efficacy between the students studying through traditional and multimedia based teaching approach.

Table No. 4.2 Gives the mean difference of the scores of self-efficacy of students studying through traditional and multimedia approach.

Category	N	Mean (M)	Standard deviation ()	't' Value	Degree of freedom (df)
Traditional approach	20	29.65	4.452	(0.387)*	39
Multimedia approach	21	30.14	3.692		

* 't' value is not significant at 0.05 level.

The table 4.2 gives mean difference of the scores of self efficacy of students studying through traditional approach and multimedia approach. The calculated value of 't' is found to be .387. The calculated value of 't' is smaller than the table value of 't' at 0.05 level of significance. The value of 't' is not significant at 0.05 level. Hence the null hypothesis is accepted at 0.05 level.

So the table informs us that there is no significant difference in the mean scores of self-efficacy of the students studying through traditional and multimedia approach. The 't' value computed in this analysis reveals that both traditional and multimedia approaches can be used to improve the self efficacy among the students.

Hypothesis 3. There is no significant difference in mean science attitude score between students studying through traditional and multimedia based teaching approach.

Table 4.3 't' value for the mean score difference of science attitude of the student studying through traditional and Multimedia approach.

Category	N	Mean (M)	Standard deviation ()	't' Value	Degree of freedom (df)
Traditional approach	20	63.60	15.749	(0.0870)*	39
Multimedia approach	21	59.33	15.625		

* 't' value is not significant at 0.05 level.

Table 4.3 gives mean score difference of science attitude of the students studying through Traditional and Multimedia approach. The calculated value of 't' is found to be .870. The calculated value of 't' is smaller than the table value at 0.05 level of significant. So the value of 't' is not significant at 0.05 level of significance.

Hence the null hypothesis is accepted at 0.05 level. The 't' value computed in this analysis reveal that both the methodologies, Traditional and Multimedia approach can be used to improve science attitude among the students.

Hypothesis 4. There is no significant correlation between achievement and intelligence among students of both the groups.

Table 4.4 Pearson correlation value between achievement and intelligence among students of both the groups.

		Intelligence	Achievement
Intelligence	Pearson Correlation	1	0.316 (*)
	N	41	41
Achievement	Pearson Correlation	0.316 (*)	1
	N	41	41

* correlation value is significant at 0.05 level.

Table 4.4 gives the correlation value between achievement and intelligence among students of both the groups. The calculated value of correlation is found to be .316 at 0.05 level of significance which is greater than table value. Hence the value of correlation is significant at 0.05 level. Hence the null hypothesis is rejected at 0.05 level.

Hence the correlation value reveals that good I.Q. leads to better achievement in science.

Hypothesis 5 : There is no significant correlation between attitude and achievement among students of both the groups.

Table 4.5 Pearson correlation value between attitude and achievement among students of both the groups.

		Attitude	Achievement
Attitude	Pearson Correlation	1	(0.112)*
	N	41	41
Achievement	Pearson Correlation	(0.112)*	1
	N	41	41

* correlation value is not significant at 0.05 level.

Table 4.5 gives the correlation value between attitude and achievement among students of both the groups. The calculated value of correlation is found to be 0.112 at 0.05 level which is than table value. Hence the value of correlation is not significant at 0.05 level. Hence the null hypothesis is accepted at 0.05 level.

Hence the correlation value reveals that there is no significant correlation between attitude and achievement. Hence science attitude doesn't effect the achievement in science among the students.

Having seen the results of the study hypothesis wise, researcher these under, makes an attempt to present the overall results to have a bird eye-view on the findings of the study. This exercise is done with a view to see the overall effect of both the approaches, namely traditional and multimedia a on achievement in science, attitude, intelligence and self-efficacy of VIII standard students of People's Public School, Bhopal.