



EFFECTIVENESS OF ACTIVITY BASED TEACHING LEARNING STRATEGIES IN RELATION TO ATTITUDE AND INTEREST OF SOCIAL SCIENCE

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Abstract:

Teaching for understanding means helping students to get the habit of thinking, reasoning, solving problems scientifically, if these habits are to be acquired, Educators need to incorporate them into their lesson. Hence systematically designed activity based teaching learning strategies can directly or indirectly leads to human The main purpose of the study is to study the attitude towards Social science and the interest in learning Social science among IX standard students. The researcher selected the school randomly school follows the State Board Syllabus and ready to extend Activity Based Teaching Learning Strategies. From this, school the students of class IX from „A” section were randomly selected. The sample size of 40 students. Thus in a way this was a cluster sampling. This study is completely based on primary data and structured close ended questionnaires with the aid of Likert scale technique. The researcher has been employed descriptive statistics such as Mean and Standard deviation.

Keywords: Teaching, Attitude, Interest, Social Science etc.,

INTRODUCTION

In response to the ongoing global reforms in the education sector and overall technological development of the society, teachers should teach mathematics as a main subject to enhance the national set goals. Froebel (1826) described the importance of activity-based teaching method as “Activities and playing are the highest expression of human development in childhood.” Research findings on effective mathematics teaching focus on instruction that promote student's involvement in activity-based learning, which has been found to be more suitable than the other teaching methods. In addition, recent primary education reforms of Srilanka emphasize the, activity-based teaching methods (primary mathematics teacher guide, 2015). These activity-based teaching methods will help to increase the interest of students and improve their academic performance in mathematics. Therefore in Srilanka, primary mathematics teachers are being requested to embrace activity-based teaching methods such as play-based learning methods.

In activity based teaching learning process classification of concepts, and to develop good attitude and interest of learners in learning process through the use of teaching learning materials makes the process easier. From clarity point of view after implementation of activity based teaching, the teachers were oriented in conducting activity in the classroom. The faculty members of the DIET designed an activity bank matching the competencies of respective subjects. The investigators will give demonstration on activity based teaching learning process to some selected teachers.

The objective was to enhance the competency of the teachers in activity based teaching learning process supported by concept based teaching learning materials. For the benefit of the social science students in learning social science, the investigator decided to take up a study on the topic.

STATEMENT OF THE PROBLEM

“Effectiveness of Activity Based Teaching Learning Strategies in Relation to Interest and Academic Achievement of Social Science among IX Standard Students”

OBJECTIVES OF THE STUDY:

1. To study the attitude towards Social science among IX standard students.
2. To study the interest in learning Social science among IX standard students.
3. To study the achievement in Social science among IX standard students.
4. To prepare Activity Based Teaching Learning Strategies modules in social science to enhance attitude towards Social science, interest in learning Social science and achievement in Social science among IX standard students.
5. To study the effectiveness of Activity Based Teaching Learning Strategies modules as instructional strategies in Social science on attitude towards Social science, interest in learning Social science and achievement in social science among IX standard students.

Hypotheses of the Study

In pursuance of the objectives of the study, the following hypotheses are set up.

1. There is no significant difference between pretest and posttest scores of attitude towards Social science of high school students in control group.
2. There is no significant difference between pretest and posttest scores of attitude towards Social science of IX standard students in experimental group.
3. There is no significant difference between pretest and posttest scores of interest in learning Social science of IX standard students in control group.
4. There is no significant difference between pretest and posttest scores of interest in learning Social science of IX standard students in experimental group.
5. There is no significant difference between pretest and posttest scores of achievement in Social science of IX standard students in control group.

METHOD OF THE STUDY

The data had been collected on pretest and posttest academic performance or achievement, interest in social science and attitude towards activity based teaching learning strategies from IX standard students of high schools in control group and experiment group and it was processed using Microsoft Excel - 2010. Then, the data were analyzed with reference to the objectives and hypotheses by applied different kinds of statistical tools in analyzing and establishing the related variables using independent t test for comparison of control group and experiment group, dependent t test was applied to compare the pretest and posttest scores and analysis of covariance by considering between pretest scores are as a covariate (ANCOVA) was performed to assess the differences between control group and experiment group. The two way ANOVA with interaction design was applied to see the significance of interactions on gain in academic performance or achievement, interest in social science and attitude towards activity based teaching learning strategies of IX standard students of high schools. Lastly, the Karl Pearson's correlation coefficient method was performed for relationships. The statistical software was used is SPSS 20.0 version. The statistical significance was set at 5% level of significance ($p < 0.05$) and the results obtained thereby have been interpreted.

The principle of the expediency, the special sections of chapter IV of the study has been structured under the following sections:

Section I: Comparison between pretest and posttest scores of academic performance or achievement, interest in social science and attitude towards activity based teaching learning strategies from IX standard students of high schools in two groups (control and experiment)

Section II: Comparison between two groups (control and experiment) with respect to pretest and posttest scores of academic performance or achievement, interest in social science and attitude towards activity based teaching learning strategies from IX standard students of high schools

Section I: Comparison between pretest and posttest scores of academic performance or achievement, interest in social science and attitude towards activity based teaching learning strategies of IX standard students of high schools in two groups (control and experiment)

In this section, the mean of pretest and posttest scores of academic performance or achievement, interest in social science and attitude towards activity based teaching learning strategies of IX standard students of high schools in two groups (control and experiment) by dependent t test and the results are presented in the following section.

Null Hypothesis: No significant difference between pretest and posttest scores of academic performance or achievement in social science of IX standard students of high schools in control group and experiment group.

Alternative Hypothesis: A significant difference between pretest and posttest scores of academic performance or achievement in social science of IX standard students of high schools in control group and experiment group.

To accomplish or achieve the above null hypothesis, the paired t-test was performed and the outcome of test is presented in the following table.

Table: Comparison between pretest and posttest scores of academic performance or achievement in social science of IX standard students of high schools in control group and experiment group

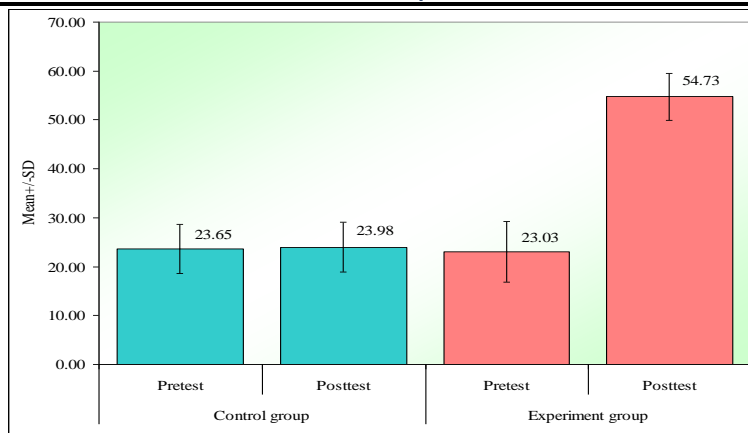
Groups	Test	Mean	SD	Mean Diff.	SD Diff.	Paired t	df	P-value
Control group	Pretest	23.65	5.05	-0.33	1.27	1.6201	39	0.1133
	Posttest	23.98	5.11					
Experiment group	Pretest	23.03	6.18	-31.70	7.92	25.3242	39	0.0001*
	Posttest	54.73	4.78					

*p<0.05

From the results of the above table, it can be seen that

- The calculated value of t is 1.6201, which lesser than the critical value of t i.e. 2.0200 with 39 degrees of freedom at 5% level of significance with p value 0.1133. Therefore, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the pretest (23.65±5.05) and posttest scores (23.98±5.11) of academic performance or achievement in social science of IX standard students of high schools are similar in control group. In another words, the control group is not effective in increasing the academic performance or achievement scores in social science of IX standard students of high schools.
- The calculated value of t is 25.3242, which greater than the critical value of t i.e. 2.0200 with 39 degrees of freedom at 5% level of significance with p value 0.0001. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores (54.73±4.78) of academic performance or achievement are significantly higher as compared to pretest (23.03±6.18) in social science of IX standard students of high schools in control group. In another words, the experiment group is effective in increasing the academic performance or achievement scores in social science of IX standard students of high schools. The mean scores of pretest and posttest of academic performance or achievement of IX standard students of high schools in control group and experiment group are also presented in the figure given below.

Figure: Comparison between pretest and posttest of academic performance or achievement of IX standard students of high schools in control group and experiment group



Null Hypothesis: No significant difference between pretest and posttest scores of interest in social science of IX standard students of high schools in control group and experiment group.

Alternative Hypothesis: A significant difference between pretest and posttest scores of interest in social science of IX standard students of high schools in control group and experiment group.

To accomplish or achieve the above null hypothesis, the paired t-test was performed and the outcome of test is presented in the following table.

Table: Comparison between pretest and posttest scores of interest in social science of IX standard students of high schools in control group and experiment group

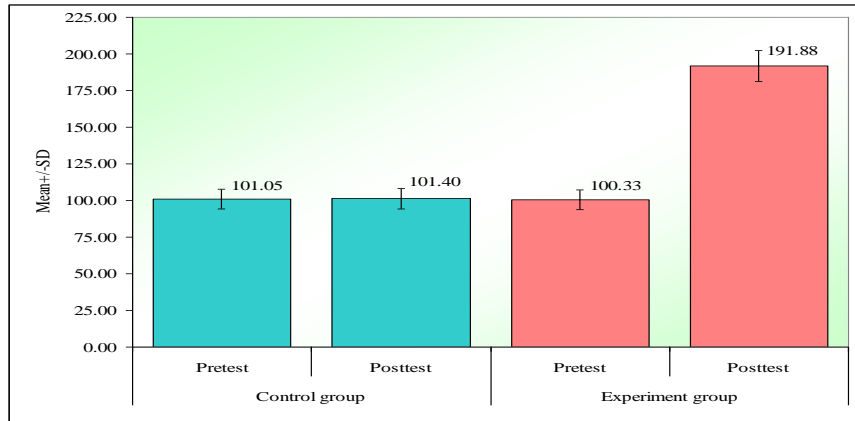
Groups	Test	Mean	SD	Mean Diff.	SD Diff.	Paired t	df	P-value
Control group	Pretest	101.05	6.71	-0.35	1.23	1.7982	39	0.0799
	Posttest	101.40	7.00					
Experiment group	Pretest	100.33	6.67	-91.55	14.26	40.6159	39	0.0001*
	Posttest	191.88	10.44					

*p<0.05

From the results of the above table, it can be seen that

- The calculated value of t is 1.7982, which lesser than the critical value of t i.e. 2.0200 with 39 degrees of freedom at 5% level of significance with p value 0.0799. Therefore, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the pretest (101.05±6.71) and posttest scores (101.40±7.00) of interest in social science of IX standard students of high schools are similar in control group. In another words, the control group is not effective in increasing the interest scores in social science of IX standard students of high schools.
- The calculated value of t is 40.6159, which greater than the critical value of t i.e. 2.0200 with 39 degrees of freedom at 5% level of significance with p value 0.0001. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores (191.88±6.18) of interest are significantly higher as compared to pretest (100.33±10.44) in social science of IX standard students of high schools in control group. In another words, the experiment group is effective in increasing the interest scores in social science of IX standard students of high schools. The mean scores of pretest and posttest of interest of IX standard students of high schools in control group and experiment group are also presented in the figure given below.

Figure: Comparison between pretest and posttest of interest of IX standard students of high schools in control group and experiment group



Null Hypothesis: No significant difference between pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard students of high schools in control group and experiment group.

Alternative Hypothesis: A significant difference between pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard students of high schools in control group and experiment group.

To accomplish or achieve the above null hypothesis, the paired t-test was performed and the outcome of test is presented in the following table.

Table: Comparison between pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard students of high schools in control group and experiment group

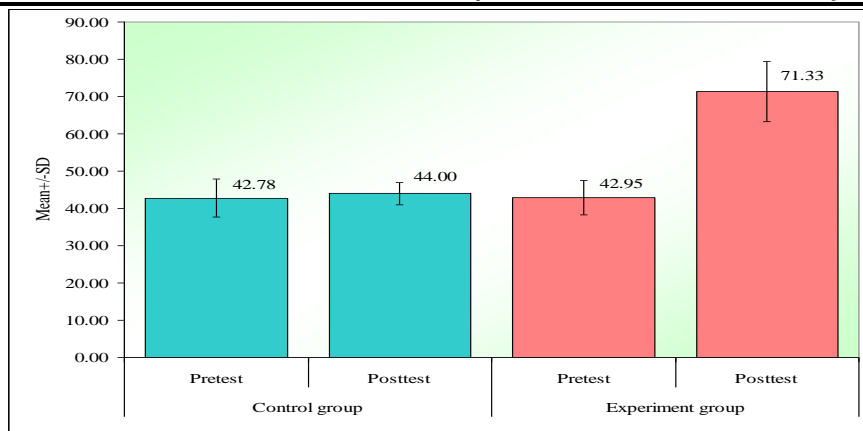
Groups	Test	Mean	SD	Mean Diff.	SD Diff.	Paired t	df	P-value
Control group	Pretest	42.78	5.10					
	Posttest	44.00	2.98	-1.23	5.63	1.3768	39	0.1764
Experiment group	Pretest	42.95	4.61					
	Posttest	71.33	8.15	-28.38	7.62	23.5570	39	0.0001*

*p<0.05

From the results of the above table, it can be seen that

- The calculated value of t is 1.3768, which lesser than the critical value of t i.e. 2.0200 with 39 degrees of freedom at 5% level of significance with p value 0.1764. Therefore, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the pretest (42.78±5.10) and posttest (44.00±2.98) of attitude towards activity based teaching learning strategies in social science of IX standard students of high schools are similar in control group. In another words, the control group is not effective in increasing the attitude towards activity based teaching learning strategies in social science of IX standard students of high schools.
- The calculated value of t is 23.5570, which greater than the critical value of t i.e. 2.0200 with 39 degrees of freedom at 5% level of significance with p value 0.0001. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores (71.33±8.15) of attitude towards activity based teaching learning strategies are significantly higher as compared to pretest (42.95±4.61) in social science of IX standard students of high schools in control group. In another words, the experiment group is effective in increasing the attitude towards activity based teaching learning strategies scores in social science of IX standard students of high schools. The mean scores of pretest and posttest of attitude towards activity based teaching learning strategies of IX standard students of high schools in control group and experiment group are also presented in the figure given below.

Figure: Comparison between pretest and posttest of attitude towards activity based teaching learning strategies of IX standard students of high schools in control group and experiment group



Null Hypothesis: No significant difference between pretest and posttest scores of academic performance or achievement in social science of IX standard boy students of high schools in control group and experiment group.

Alternative Hypothesis: A significant difference between pretest and posttest scores of academic performance or achievement in social science of IX standard boy students of high schools in control group and experiment group.

To accomplish or achieve the above null hypothesis, the paired t-test was performed and the outcome of test is presented in the following table.

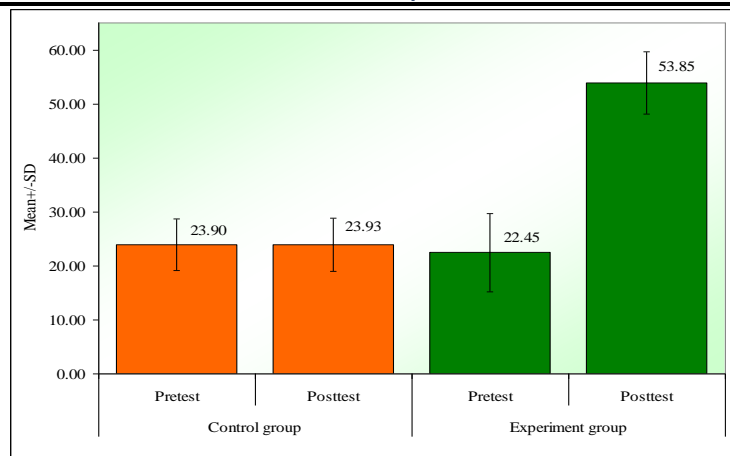
Table: Comparison between pretest and posttest scores of academic performance or achievement in social science of IX standard boy students of high schools in control group and experiment group

Groups	Test	Mean	SD	Mean Diff.	SD Diff.	Paired t	df	P-value
Control group	Pretest	23.90	4.77	0.03	1.38	0.0001	19	1.0000
	Posttest	23.93	4.92					
Experiment group	Pretest	22.45	7.29	-31.40	9.62	14.5953	19	0.0001*
	Posttest	53.85	5.80					

*p<0.05

From the results of the above table, it can be seen that

- The calculated value of t is 0.0001, which lesser than the critical value of t i.e. 2.0900 with 19 degrees of freedom at 5% level of significance with p value 1.0000. Therefore, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the pretest (23.90±4.77) and posttest scores (23.93±4.92) of academic performance or achievement in social science of IX standard boy students of high schools are similar in control group. In another words, the control group is not effective in increasing the academic performance or achievement scores in social science of IX standard boy students of high schools.
 - The calculated value of t is 14.5953, which greater than the critical value of t i.e. 2.0900 with 19 degrees of freedom at 5% level of significance with p value 0.0001. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores (53.85±5.80) of academic performance or achievement are significantly higher as compared to pretest (22.45±7.29) in social science of IX standard boy students of high schools in control group. In another words, the experiment group is effective in increasing the academic performance or achievement scores in social science of IX standard boy students of high schools. The mean scores of pretest and posttest of academic performance or achievement of IX standard boy students of high schools in control group and experiment group are also presented in the figure given below.
- Figure: Comparison between pretest and posttest of academic performance or achievement of IX standard boy students of high schools in control group and experiment group



Null Hypothesis: No significant difference between pretest and posttest scores of interest in social science of IX standard boy students of high schools in control group and experiment group.

Alternative Hypothesis: A significant difference between pretest and posttest scores of interest in social science of IX standard boy students of high schools in control group and experiment group.

To accomplish or achieve the above null hypothesis, the paired t-test was performed and the outcome of test is presented in the following table.

Table: Comparison between pretest and posttest scores of interest in social science of IX standard boy students of high schools in control group and experiment group

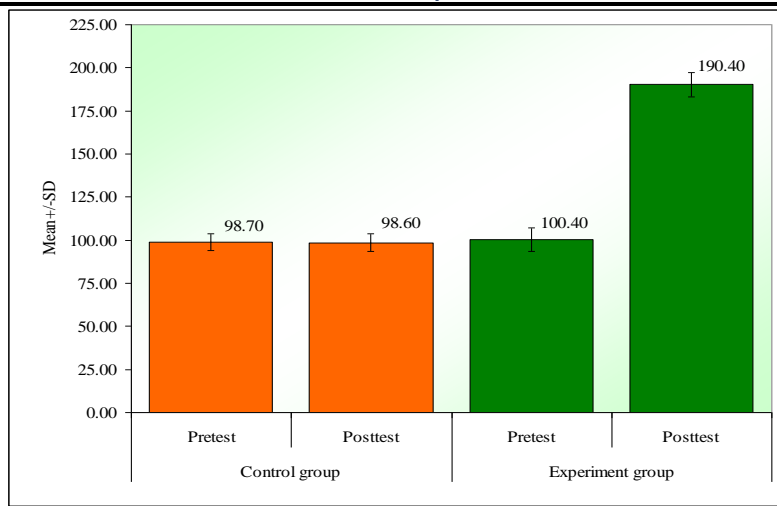
Groups	Test	Mean	SD	Mean Diff.	SD Diff.	Paired t	df	P-value
Control group	Pretest	98.70	4.92	0.10	1.55	0.2880	19	0.7764
	Posttest	98.60	5.28					
Experiment group	Pretest	100.40	6.67	-90.00	11.81	34.0938	19	0.0001*
	Posttest	190.40	7.07					

* $p < 0.05$

From the results of the above table, it can be seen that

- The calculated value of t is 0.2880, which lesser than the critical value of t i.e. 2.0900 with 19 degrees of freedom at 5% level of significance with p value 0.7764. Therefore, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the pretest (98.70 ± 4.92) and posttest scores (98.60 ± 5.28) of interest in social science of IX standard boy students of high schools are similar in control group. In another words, the control group is not effective in increasing the interest scores in social science of IX standard boy students of high schools.
- The calculated value of t is 34.0938, which greater than the critical value of t i.e. 2.0900 with 19 degrees of freedom at 5% level of significance with p value 0.0001. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores (190.40 ± 7.07) of interest are significantly higher as compared to pretest (100.40 ± 6.67) in social science of IX standard boy students of high schools in control group. In another words, the experiment group is effective in increasing the interest scores in social science of IX standard boy students of high schools. The mean scores of pretest and posttest of interest of IX standard boy students of high schools in control group and experiment group are also presented in the figure given below.

Figure: Comparison between pretest and posttest of interest of IX standard boy students of high schools in control group and experiment group



Null Hypothesis: No significant difference between pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard boy students of high schools in control group and experiment group.

Alternative Hypothesis: A significant difference between pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard boy students of high schools in control group and experiment group.

To accomplish or achieve the above null hypothesis, the paired t-test was performed and the outcome of test is presented in the following table.

Table: Comparison between pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard boy students of high schools in control group and experiment group

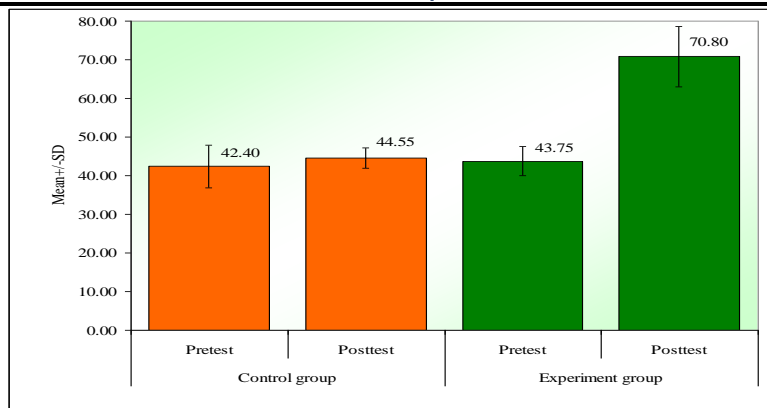
Groups	Test	Mean	SD	Mean Diff.	SD Diff.	Paired t	df	P-value
Control group	Pretest	42.40	5.51			1.6771	19	0.1764
	Posttest	44.55	2.56	-2.15	5.73			
Experiment group	Pretest	43.75	3.73			15.8060	19	0.0001*
	Posttest	70.80	7.88	-27.05	7.65			

*p<0.05

From the results of the above table, it can be seen that

- The calculated value of t is 1.6771, which lesser than the critical value of t i.e. 2.0900 with 19 degrees of freedom at 5% level of significance with p value 0.1764. Therefore, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the pretest (42.40±5.51) and posttest (44.55±2.56) of attitude towards activity based teaching learning strategies in social science of IX standard boy students of high schools are similar in control group. In another words, the control group is not effective in increasing the attitude towards activity based teaching learning strategies in social science of IX standard boy students of high schools.
- The calculated value of t is 15.8060, which greater than the critical value of t i.e. 2.0900 with 19 degrees of freedom at 5% level of significance with p value 0.0001. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores (70.80±7.88) of attitude towards activity based teaching learning strategies are significantly higher as compared to pretest (43.75±3.73) in social science of IX standard boy students of high schools in control group. In another words, the experiment group is effective in increasing the attitude towards activity based teaching learning strategies scores in social science of IX standard boy students of high schools. The mean scores of pretest and posttest of attitude towards activity based teaching learning strategies of IX standard boy students of high schools in control group and experiment group are also presented in the figure given below.

Figure: Comparison between pretest and posttest of attitude towards activity based teaching learning strategies of IX standard boy students of high schools in control group and experiment group



Null Hypothesis: No significant difference between pretest and posttest scores of academic performance or achievement in social science of IX standard girl students of high schools in control group and experiment group.

Alternative Hypothesis: A significant difference between pretest and posttest scores of academic performance or achievement in social science of IX standard girl students of high schools in control group and experiment group.

To accomplish or achieve the above null hypothesis, the paired t-test was performed and the outcome of test is presented in the following table.

Table: Comparison between pretest and posttest scores of academic performance or achievement in social science of IX standard girl students of high schools in control group and experiment group

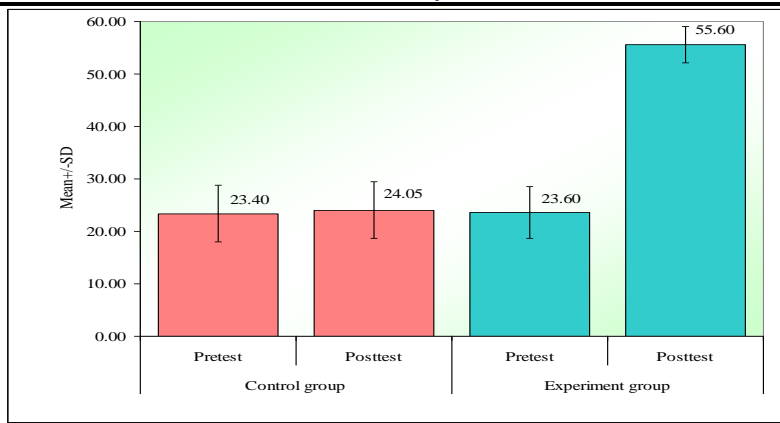
Groups	Test	Mean	SD	Mean Diff.	SD Diff.	Paired t	df	P-value
Control group	Pretest	23.40	5.42					
	Posttest	24.05	5.41	-0.65	1.09	2.6683	19	0.0152
Experiment group	Pretest	23.60	4.96					
	Posttest	55.60	3.41	-32.00	5.99	23.8863	19	0.0001*

*p<0.05

From the results of the above table, it can be seen that

- The calculated value of t is 2.6683, which greater than the critical value of t i.e. 2.0900 with 19 degrees of freedom at 5% level of significance with p value 0.0152. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the pretest (23.40±5.42) and posttest scores (24.05±5.41) of academic performance or achievement in social science of IX standard girl students of high schools are different in control group.
- The calculated value of t is 23.8863, which greater than the critical value of t i.e. 2.0900 with 19 degrees of freedom at 5% level of significance with p value 0.0001. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores (55.60±3.41) of academic performance or achievement are significantly higher as compared to pretest (23.60±4.96) in social science of IX standard girl students of high schools in control group. In another words, the experiment group is effective in increasing the academic performance or achievement scores in social science of IX standard girl students of high schools. The mean scores of pretest and posttest of academic performance or achievement of IX standard girl students of high schools in control group and experiment group are also presented in the figure given below.

Figure: Comparison between pretest and posttest of academic performance or achievement of IX standard girl students of high schools in control group and experiment group



Null Hypothesis: No significant difference between pretest and posttest scores of interest in social science of IX standard girl students of high schools in control group and experiment group.

Alternative Hypothesis: A significant difference between pretest and posttest scores of interest in social science of IX standard girl students of high schools in control group and experiment group.

To accomplish or achieve the above null hypothesis, the paired t-test was performed and the outcome of test is presented in the following table.

Table: Comparison between pretest and posttest scores of interest in social science of IX standard girl students of high schools in control group and experiment group

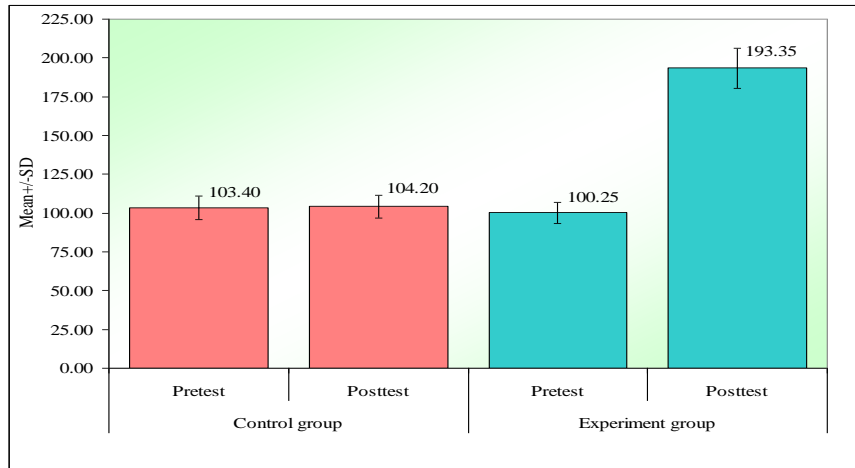
Groups	Test	Mean	SD	Mean Diff.	SD Diff.	Paired t	df	P-value
Control group	Pretest	103.40	7.51			6.8388	19	0.0001*
	Posttest	104.20	7.49	-0.80	0.52			
Experiment group	Pretest	100.25	6.85			25.2116	19	0.0001*
	Posttest	193.35	13.00	-93.10	16.51			

*p<0.05

From the results of the above table, it can be seen that

- The calculated value of t is 6.8388, which greater than the critical value of t i.e. 2.0900 with 19 degrees of freedom at 5% level of significance with p value 0.0001. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the pretest (103.40±7.51) and posttest scores (104.20±7.49) of interest in social science of IX standard girl students of high schools are different in control group. This is surprising finding.
- The calculated value of t is 25.2116, which greater than the critical value of t i.e. 2.0900 with 19 degrees of freedom at 5% level of significance with p value 0.0001. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores (193.35±13.00) of interest are significantly higher as compared to pretest (100.25±6.85) in social science of IX standard girl students of high schools in control group. In another words, the experiment group is effective in increasing the interest scores in social science of IX standard girl students of high schools. The mean scores of pretest and posttest of interest of IX standard girl students of high schools in control group and experiment group are also presented in the figure given below.

Figure: Comparison between pretest and posttest of interest of IX standard girl students of high schools in control group and experiment group



Null Hypothesis: No significant difference between pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard girl students of high schools in control group and experiment group.

Alternative Hypothesis: A significant difference between pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard girl students of high schools in control group and experiment group.

To accomplish or achieve the above null hypothesis, the paired t-test was performed and the outcome of test is presented in the following table.

Table: Comparison between pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard girl students of high schools in control group and experiment group

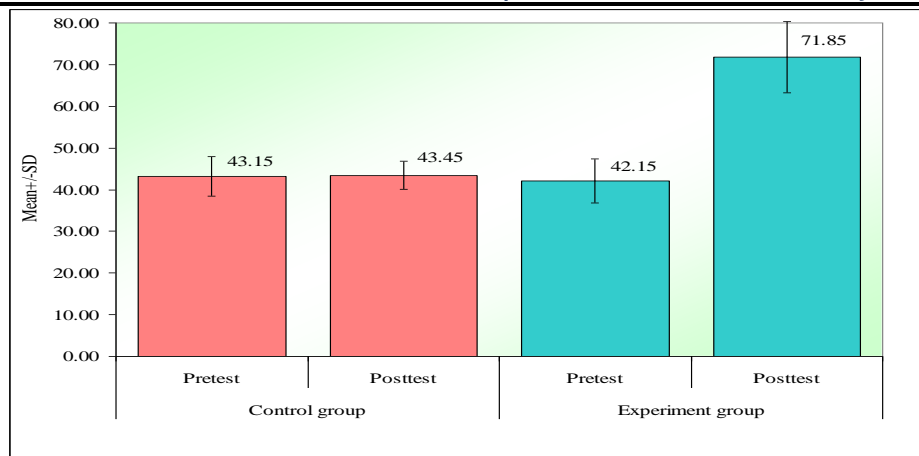
Groups	Test	Mean	SD	Mean Diff.	SD Diff.	Paired t	df	P-value
Control group	Pretest	43.15	4.77	-0.30	5.51	0.2436	19	0.8101
	Posttest	43.45	3.32					
Experiment group	Pretest	42.15	5.32	-29.70	7.54	17.6155	19	0.0001*
	Posttest	71.85	8.58					

*p<0.05

From the results of the above table, it can be seen that

- The calculated value of t is 0.2436, which lesser than the critical value of t i.e. 2.0900 with 19 degrees of freedom at 5% level of significance with p value 0.8101. Therefore, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the pretest (43.15±4.77) and posttest (43.45±3.32) of attitude towards activity based teaching learning strategies in social science of IX standard girl students of high schools are similar in control group. In another words, the control group is not effective in increasing the attitude towards activity based teaching learning strategies in social science of IX standard girl students of high schools.
- The calculated value of t is 17.6155, which greater than the critical value of t i.e. 2.0900 with 19 degrees of freedom at 5% level of significance with p value 0.0001. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores (71.85±8.58) of attitude towards activity based teaching learning strategies are significantly higher as compared to pretest (42.15±5.32) in social science of IX standard girl students of high schools in control group. In another words, the experiment group is effective in increasing the attitude towards activity based teaching learning strategies scores in social science of IX standard girl students of high schools. The mean scores of pretest and posttest of attitude towards activity based teaching learning strategies of IX standard girl students of high schools in control group and experiment group are also presented in the figure given below.

Figure: Comparison between pretest and posttest of attitude towards activity based teaching learning strategies of IX standard girl students of high schools in control group and experiment group



Section II: Comparison between two groups (control and experiment) with respect to pretest and posttest scores of academic performance or achievement, interest in social science and attitude towards activity based teaching learning strategies of IX standard students of high schools

In this section, we compared two groups (control and experiment) with respect to pretest and posttest scores of academic performance or achievement, interest in social science and attitude towards activity based teaching learning strategies of IX standard students of high schools by applying the independent t test and out come of test are presented in the following table.

Null Hypothesis: No significant difference between control group and experiment group with respect to pretest and posttest scores of academic performance or achievement in social science of IX standard students of high schools

Alternative Hypothesis: A significant difference between control group and experiment group with respect to pretest and posttest scores of academic performance or achievement in social science of IX standard students of high schools

To accomplish or achieve above hypothesis, the independent t-test was applied and the out come of test are presented in the following table.

Table: Results of independent t-test between control group and experiment group with respect to pretest and posttest scores of academic performance or achievement in social science of IX standard students of high schools

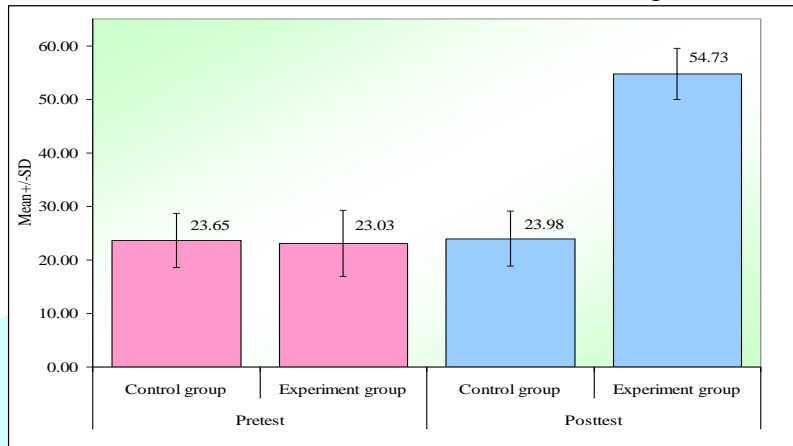
Time	Groups	Mean	SD	SE	t -value	P-value
Pretest	Control group	23.65	5.05	0.80	0.4953	0.6218
	Experiment group	23.03	6.18	0.98		
Posttest	Control group	23.98	5.11	0.81	27.8124	0.0001*
	Experiment group	54.73	4.78	0.76		
Difference	Control group	0.33	1.27	0.20	24.7488	0.0001*
	Experiment group	31.70	7.92	1.25		

*p<0.05

The results of the above table, it can be observed that,

- For comparison of control group and experiment group with pretest academic performance or achievement in social science, the calculated value of independent t test i.e. t is 0.4953, which is lesser than the table value of t is 1.9600 with 78 degrees of freedom at 5% level of significance with p=0.6218. Therefore, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the pretest and posttest scores of academic performance or achievement in social science of IX standard students of high schools are similar in control group and experiment group.
- For comparison of control group and experiment group with posttest academic performance or achievement in social science, the calculated value of independent t test i.e. t is 27.8124, which is greater than the table value of t is 1.9600 with 78 degrees of freedom at 5% level of significance with p=0.0001. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores of academic performance or achievement in social science of IX standard students of high schools are significantly higher in experiment group as compared to control group.

- For comparison of control group and experiment group with improvement scores of academic performance or achievement in social science from pretest to posttest, the calculated value of independent t test i.e. t is 24.7488, which is greater than the table value of t is 1.9600 with 78 degrees of freedom at 5% level of significance with $p=0.0001$. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the improvement scores in academic performance or achievement in social science of IX standard students of high schools after posttest significantly higher in experiment group as compared to control group. The mean scores of pretest and posttest academic performance or achievement in social science of IX standard students of high schools in control group and experiment group are also presented in the figure given below. Figure: Comparison between control group and experiment group with pretest and posttest academic performance or achievement in social science of IX standard students of high schools



Null Hypothesis: No significant difference between control group and experiment group with respect to pretest and posttest scores of interest in social science of IX standard students of high schools

Alternative Hypothesis: A significant difference between control group and experiment group with respect to pretest and posttest scores of interest in social science of IX standard students of high schools

To accomplish or achieve above hypothesis, the independent t-test was applied and the out come of test are presented in the following table.

Table: Results of independent t-test between control group and experiment group with respect to pretest and posttest scores of interest in social science of IX standard students of high schools

Time	Groups	Mean	SD	SE	t -value	P-value
Pretest	Control group	101.05	6.71	1.06	0.4847	0.6293
	Experiment group	100.33	6.67	1.06		
Posttest	Control group	101.40	7.00	1.11	45.5378	0.0001*
	Experiment group	191.88	10.44	1.65		
Difference	Control group	0.35	1.23	0.19	40.3106	0.0001*
	Experiment group	91.55	14.26	2.25		

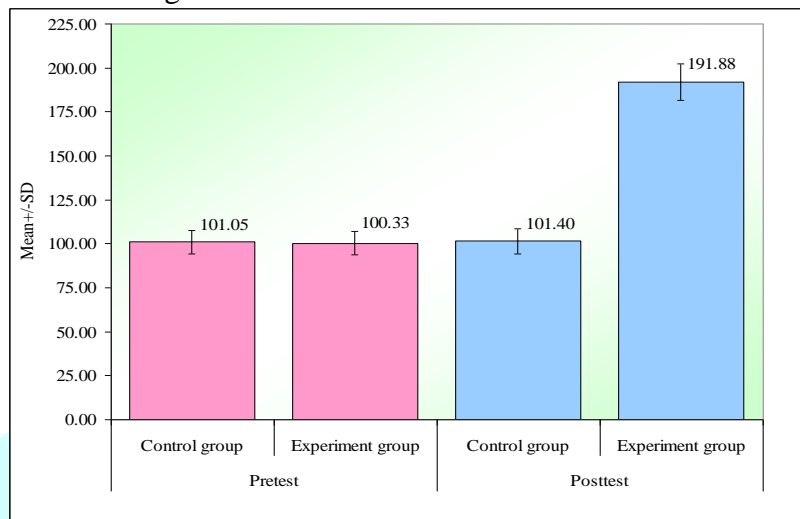
* $p < 0.05$

The results of the above table, it can be observed that,

- For comparison of control group and experiment group with pretest interest in social science, the calculated value of independent t test i.e. t is 0.4847, which is lesser than the table value of t is 1.9600 with 78 degrees of freedom at 5% level of significance with $p=0.6293$. Therefore, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the pretest and posttest scores of interest in social science of IX standard students of high schools are similar in control group and experiment group.
- For comparison of control group and experiment group with posttest interest in social science, the calculated value of independent t test i.e. t is 45.5378, which is greater than the table value of t is 1.9600 with 78 degrees of freedom at 5% level of significance with $p=0.0001$. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores of interest in social science of IX standard students of high schools are significantly higher in experiment group as compared to control group.
- For comparison of control group and experiment group with improvement scores of interest in social science from pretest to posttest, the calculated value of independent t test i.e. t is 40.3106, which is greater than the table value of t is 1.9600 with 78 degrees of freedom at 5% level of significance with $p=0.0001$. Therefore, the

null hypothesis is rejected and alternative hypothesis is accepted. It means that, the improvement scores in interest in social science of IX standard students of high schools after posttest significantly higher in experiment group as compared to control group. The mean scores of pretest and posttest interest in social science of IX standard students of high schools in control group and experiment group are also presented in the figure given below.

Figure: Comparison between control group and experiment group with pretest and posttest interest in social science of IX standard students of high schools



Null Hypothesis: No significant difference between control group and experiment group with respect to pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard students of high schools

Alternative Hypothesis: A significant difference between control group and experiment group with respect to pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard students of high schools

To accomplish or achieve above hypothesis, the independent t-test was applied and the out come of test are presented in the following table.

Table: Results of independent t-test between control group and experiment group with respect to pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard students of high schools

Time	Groups	Mean	SD	SE	t -value	P-value
Pretest	Control group	42.78	5.10	0.81	0.1610	0.8725
	Experiment group	42.95	4.61	0.73		
Posttest	Control group	44.00	2.98	0.47	19.9221	0.0001*
	Experiment group	71.33	8.15	1.29		
Difference	Control group	1.23	5.63	0.89	18.1301	0.0001*
	Experiment group	28.38	7.62	1.20		

*p<0.05

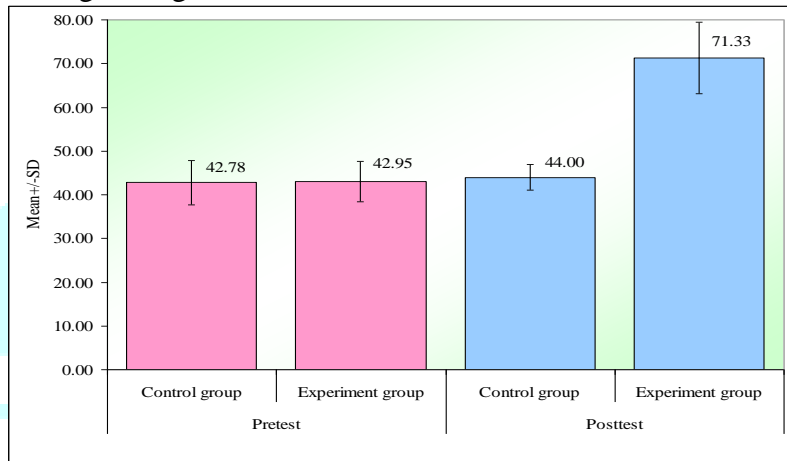
The results of the above table, it can be observed that,

- For comparison of control group and experiment group with pretest attitude towards activity based teaching learning strategies in social science, the calculated value of independent t test i.e. t is 0.1610, which is lesser than the table value of t is 1.9600 with 78 degrees of freedom at 5% level of significance with p=0.8725. Therefore, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard students of high schools are similar in control group and experiment group.
- For comparison of control group and experiment group with posttest attitude towards activity based teaching learning strategies in social science, the calculated value of independent t test i.e. t is 19.9221, which is greater than the table value of t is 1.9600 with 78 degrees of freedom at 5% level of significance with p=0.0001. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest

scores of attitude towards activity based teaching learning strategies in social science of IX standard students of high schools are significantly higher in experiment group as compared to control group.

- For comparison of control group and experiment group with improvement scores of attitude towards activity based teaching learning strategies in social science from pretest to posttest, the calculated value of independent t test i.e. t is 18.1301, which is greater than the table value of t is 1.9600 with 78 degrees of freedom at 5% level of significance with $p=0.0001$. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the improvement scores in attitude towards activity based teaching learning strategies in social science of IX standard students of high schools after posttest significantly higher in experiment group as compared to control group. The mean scores of pretest and posttest attitude towards activity based teaching learning strategies in social science of IX standard students of high schools in control group and experiment group are also presented in the figure given below.

Figure: Comparison between control group and experiment group with pretest and posttest attitude towards activity based teaching learning strategies in social science of IX standard students of high schools



Null Hypothesis: No significant difference between control group and experiment group with respect to pretest and posttest scores of academic performance or achievement in social science of IX standard boy students of high schools

Alternative Hypothesis: A significant difference between control group and experiment group with respect to pretest and posttest scores of academic performance or achievement in social science of IX standard boy students of high schools

To accomplish or achieve above hypothesis, the independent t-test was applied and the out come of test are presented in the following table.

Table: Results of independent t-test between control group and experiment group with respect to pretest and posttest scores of academic performance or achievement in social science of IX standard boy students of high schools

Time	Groups	Mean	SD	SE	t -value	P-value
Pretest	Control group	23.90	4.77	1.07	0.7442	0.4614
	Experiment group	22.45	7.29	1.63		
Posttest	Control group	23.92	4.92	1.10	17.6164	0.0001*
	Experiment group	53.85	5.80	1.30		
Difference	Control group	0.02	1.38	0.31	14.4482	0.0001*
	Experiment group	31.40	9.62	2.15		

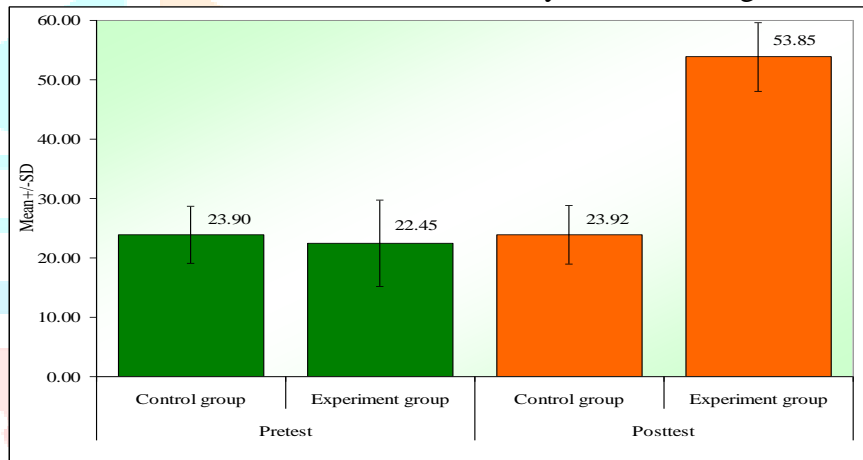
* $p < 0.05$

The results of the above table, it can be observed that,

- For comparison of control group and experiment group with pretest academic performance or achievement in social science, the calculated value of independent t test i.e. t is 0.7442, which is lesser than the table value of t is 2.0800 with 38 degrees of freedom at 5% level of significance with $p=0.4614$. Therefore, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the pretest and posttest scores of academic performance or achievement in social science of IX standard boy students of high schools are similar in control group and experiment group.

- For comparison of control group and experiment group with posttest academic performance or achievement in social science, the calculated value of independent t test i.e. t is 17.6164, which is greater than the table value of t is 2.0800 with 38 degrees of freedom at 5% level of significance with $p=0.0001$. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores of academic performance or achievement in social science of IX standard boy students of high schools are significantly higher in experiment group as compared to control group.
- For comparison of control group and experiment group with improvement scores of academic performance or achievement in social science from pretest to posttest, the calculated value of independent t test i.e. t is 14.4482, which is greater than the table value of t is 2.0800 with 38 degrees of freedom at 5% level of significance with $p=0.0001$. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the improvement scores in academic performance or achievement in social science of IX standard boy students of high schools after posttest significantly higher in experiment group as compared to control group. The mean scores of pretest and posttest academic performance or achievement in social science of IX standard boy students of high schools in control group and experiment group are also presented in the figure given below.

Figure: Comparison between control group and experiment group with pretest and posttest academic performance or achievement in social science of IX standard boy students of high schools



Null Hypothesis: No significant difference between control group and experiment group with respect to pretest and posttest scores of interest in social science of IX standard boy students of high schools

Alternative Hypothesis: A significant difference between control group and experiment group with respect to pretest and posttest scores of interest in social science of IX standard boy students of high schools

To accomplish or achieve above hypothesis, the independent t-test was applied and the out come of test are presented in the following table.

Table: Results of independent t-test between control group and experiment group with respect to pretest and posttest scores of interest in social science of IX standard boy students of high schools

Time	Groups	Mean	SD	SE	t -value	P-value
Pretest	Control group	98.70	4.92	1.10	0.9174	0.3647
	Experiment group	100.40	6.67	1.49		
Posttest	Control group	98.60	5.28	1.18	46.5539	0.0001*
	Experiment group	190.40	7.07	1.58		
Difference	Control group	-0.10	1.55	0.35	33.8403	0.0001*
	Experiment group	90.00	11.81	2.64		

* $p < 0.05$

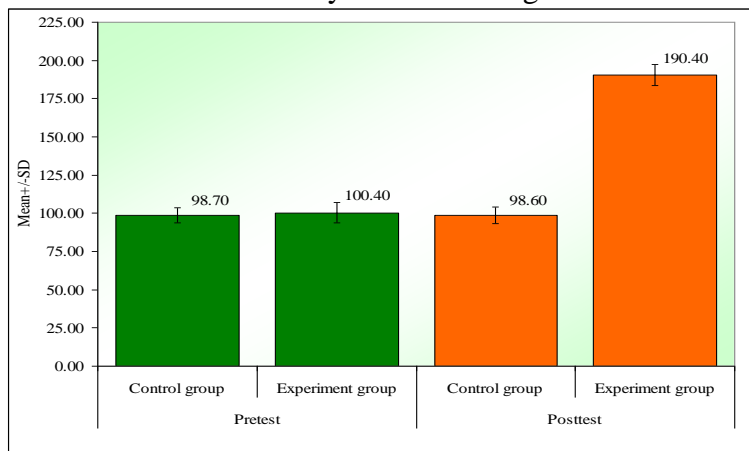
The results of the above table, it can be observed that,

- For comparison of control group and experiment group with pretest interest in social science, the calculated value of independent t test i.e. t is 0.9174, which is lesser than the table value of t is 2.0800 with 38 degrees of freedom at 5% level of significance with $p=0.3647$. Therefore, the null hypothesis is accepted and alternative

hypothesis is rejected. It means that, the pretest and posttest scores of interest in social science of IX standard boy students of high schools are similar in control group and experiment group.

- For comparison of control group and experiment group with posttest interest in social science, the calculated value of independent t test i.e. t is 46.5539, which is greater than the table value of t is 2.0800 with 38 degrees of freedom at 5% level of significance with $p=0.0001$. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores of interest in social science of IX standard boy students of high schools are significantly higher in experiment group as compared to control group.
- For comparison of control group and experiment group with improvement scores of interest in social science from pretest to posttest, the calculated value of independent t test i.e. t is 33.8403, which is greater than the table value of t is 2.0800 with 38 degrees of freedom at 5% level of significance with $p=0.0001$. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the improvement scores in interest in social science of IX standard boy students of high schools after posttest significantly higher in experiment group as compared to control group. The mean scores of pretest and posttest interest in social science of IX standard boy students of high schools in control group and experiment group are also presented in the figure given below.

Figure: Comparison between control group and experiment group with pretest and posttest interest in social science of IX standard boy students of high schools



Null Hypothesis: No significant difference between control group and experiment group with respect to pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard boy students of high schools

Alternative Hypothesis: A significant difference between control group and experiment group with respect to pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard boy students of high schools

To accomplish or achieve above hypothesis, the independent t-test was applied and the out come of test are presented in the following table.

Table: Results of independent t-test between control group and experiment group with respect to pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard boy students of high schools

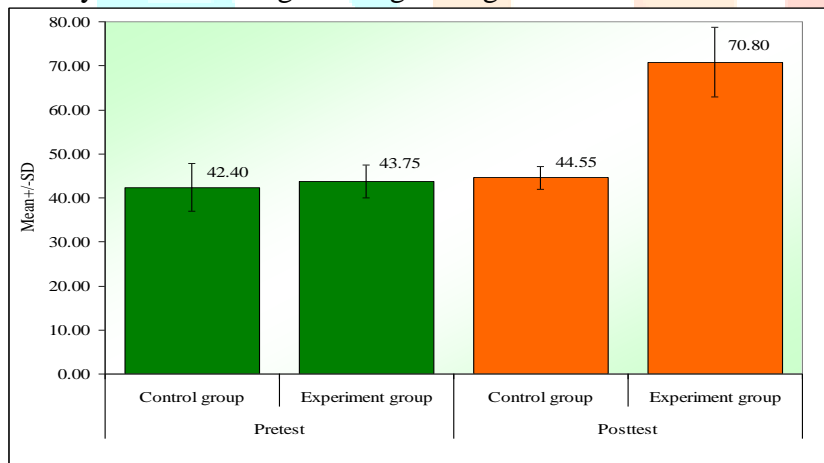
Time	Groups	Mean	SD	SE	t -value	P-value
Pretest	Control group	42.40	5.51	1.23	0.9077	0.3698
	Experiment group	43.75	3.73	0.83		
Posttest	Control group	44.55	2.56	0.57	14.1696	0.0001*
	Experiment group	70.80	7.88	1.76		
Difference	Control group	2.15	5.73	1.28	11.6447	0.0001*
	Experiment group	27.05	7.65	1.71		

* $p < 0.05$

The results of the above table, it can be observed that,

- For comparison of control group and experiment group with pretest attitude towards activity based teaching learning strategies in social science, the calculated value of independent t test i.e. t is 0.9077, which is lesser than the table value of t is 2.0800 with 38 degrees of freedom at 5% level of significance with $p=0.8725$. Therefore, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard boy students of high schools are similar in control group and experiment group.
- For comparison of control group and experiment group with posttest attitude towards activity based teaching learning strategies in social science, the calculated value of independent t test i.e. t is 14.1696, which is greater than the table value of t is 2.0800 with 38 degrees of freedom at 5% level of significance with $p=0.0001$. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard boy students of high schools are significantly higher in experiment group as compared to control group.
- For comparison of control group and experiment group with improvement scores of attitude towards activity based teaching learning strategies in social science from pretest to posttest, the calculated value of independent t test i.e. t is 11.6447, which is greater than the table value of t is 2.0800 with 38 degrees of freedom at 5% level of significance with $p=0.0001$. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the improvement scores in attitude towards activity based teaching learning strategies in social science of IX standard boy students of high schools after posttest significantly higher in experiment group as compared to control group. The mean scores of pretest and posttest attitude towards activity based teaching learning strategies in social science of IX standard boy students of high schools in control group and experiment group are also presented in the figure given below.

Figure: Comparison between control group and experiment group with pretest and posttest attitude towards activity based teaching learning strategies in social science of IX standard boy students of high schools



Null Hypothesis: No significant difference between control group and experiment group with respect to pretest and posttest scores of academic performance or achievement in social science of IX standard girl students of high schools

Alternative Hypothesis: A significant difference between control group and experiment group with respect to pretest and posttest scores of academic performance or achievement in social science of IX standard girl students of high schools

To accomplish or achieve above hypothesis, the independent t-test was applied and the out come of test are presented in the following table.

Table: Results of independent t-test between control group and experiment group with respect to pretest and posttest scores of academic performance or achievement in social science of IX standard girl students of high schools

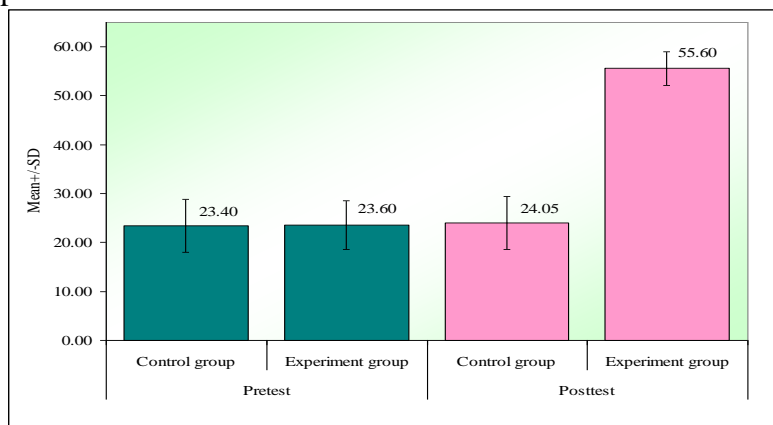
Time	Groups	Mean	SD	SE	t -value	P-value
Pretest	Control group	23.40	5.42	1.21	0.1217	0.9037
	Experiment group	23.60	4.96	1.11		
Posttest	Control group	24.05	5.41	1.21	22.0532	0.0001*
	Experiment group	55.60	3.41	0.76		
Difference	Control group	0.65	1.09	0.24	23.0236	0.0001*
	Experiment group	32.00	5.99	1.34		

* $p < 0.05$

The results of the above table, it can be observed that,

- For comparison of control group and experiment group with pretest academic performance or achievement in social science, the calculated value of independent t test i.e. t is 0.1217, which is lesser than the table value of t is 2.0800 with 38 degrees of freedom at 5% level of significance with $p=0.9037$. Therefore, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the pretest and posttest scores of academic performance or achievement in social science of IX standard girl students of high schools are similar in control group and experiment group.
- For comparison of control group and experiment group with posttest academic performance or achievement in social science, the calculated value of independent t test i.e. t is 22.0532, which is greater than the table value of t is 2.0800 with 38 degrees of freedom at 5% level of significance with $p=0.0001$. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores of academic performance or achievement in social science of IX standard girl students of high schools are significantly higher in experiment group as compared to control group.
- For comparison of control group and experiment group with improvement scores of academic performance or achievement in social science from pretest to posttest, the calculated value of independent t test i.e. t is 23.0236, which is greater than the table value of t is 2.0800 with 38 degrees of freedom at 5% level of significance with $p=0.0001$. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the improvement scores in academic performance or achievement in social science of IX standard girl students of high schools after posttest significantly higher in experiment group as compared to control group. The mean scores of pretest and posttest academic performance or achievement in social science of IX standard girl students of high schools in control group and experiment group are also presented in the figure given below.

Figure: Comparison between control group and experiment group with pretest and posttest academic performance or achievement in social science of IX standard girl students of high schools



Null Hypothesis: No significant difference between control group and experiment group with respect to pretest and posttest scores of interest in social science of IX standard girl students of high schools

Alternative Hypothesis: A significant difference between control group and experiment group with respect to pretest and posttest scores of interest in social science of IX standard girl students of high schools

To accomplish or achieve above hypothesis, the independent t-test was applied and the out come of test are presented in the following table.

Table: Results of independent t-test between control group and experiment group with respect to pretest and posttest scores of interest in social science of IX standard girl students of high schools

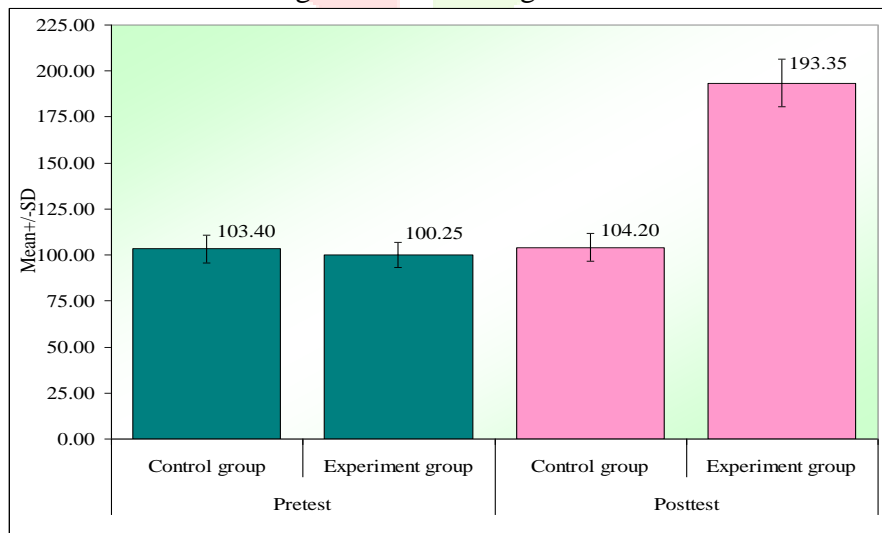
Time	Groups	Mean	SD	SE	t -value	P-value
Pretest	Control group	103.40	7.51	1.68	1.3854	0.1740
	Experiment group	100.25	6.85	1.53		
Posttest	Control group	104.20	7.49	1.68	26.5646	0.0001*
	Experiment group	193.35	13.00	2.91		
Difference	Control group	0.80	0.52	0.12	24.9825	0.0001*
	Experiment group	93.10	16.51	3.69		

* $p < 0.05$

The results of the above table, it can be observed that,

- For comparison of control group and experiment group with pretest interest in social science, the calculated value of independent t test i.e. t is 1.3854, which is lesser than the table value of t is 2.0800 with 38 degrees of freedom at 5% level of significance with $p=0.1740$. Therefore, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the pretest and posttest scores of interest in social science of IX standard girl students of high schools are similar in control group and experiment group.
- For comparison of control group and experiment group with posttest interest in social science, the calculated value of independent t test i.e. t is 26.5646, which is greater than the table value of t is 2.0800 with 38 degrees of freedom at 5% level of significance with $p=0.0001$. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores of interest in social science of IX standard girl students of high schools are significantly higher in experiment group as compared to control group.
- For comparison of control group and experiment group with improvement scores of interest in social science from pretest to posttest, the calculated value of independent t test i.e. t is 24.9825, which is greater than the table value of t is 2.0800 with 38 degrees of freedom at 5% level of significance with $p=0.0001$. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the improvement scores in interest in social science of IX standard girl students of high schools after posttest significantly higher in experiment group as compared to control group. The mean scores of pretest and posttest interest in social science of IX standard girl students of high schools in control group and experiment group are also presented in the figure given below.

Figure: Comparison between control group and experiment group with pretest and posttest interest in social science of IX standard girl students of high schools



Null Hypothesis: No significant difference between control group and experiment group with respect to pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard girl students of high schools

Alternative Hypothesis: A significant difference between control group and experiment group with respect to pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard girl students of high schools

To accomplish or achieve above hypothesis, the independent t-test was applied and the out come of test are presented in the following table.

Table: Results of independent t-test between control group and experiment group with respect to pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard girl students of high schools

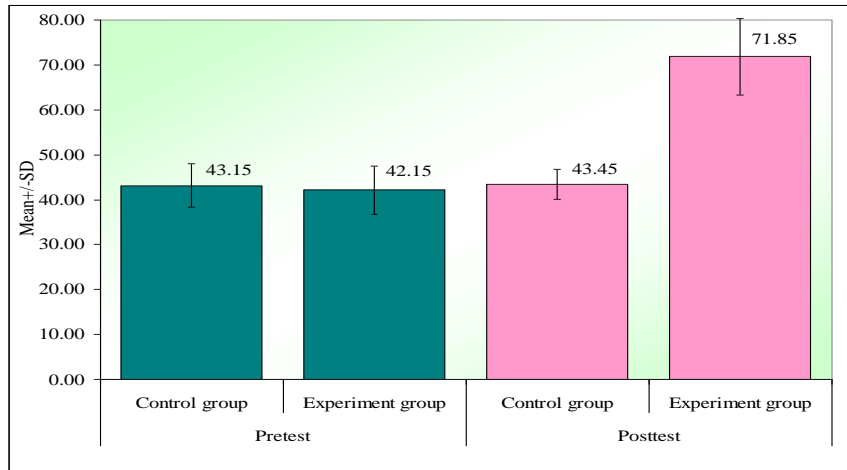
Time	Groups	Mean	SD	SE	t -value	P-value
Pretest	Control group	43.15	4.77	1.07	0.6255	0.5354
	Experiment group	42.15	5.32	1.19		
Posttest	Control group	43.45	3.32	0.74	13.8081	0.0001*
	Experiment group	71.85	8.58	1.92		
Difference	Control group	0.30	5.51	1.23	14.0817	0.0001*
	Experiment group	29.70	7.54	1.69		

* $p < 0.05$

The results of the above table, it can be observed that,

- For comparison of control group and experiment group with pretest attitude towards activity based teaching learning strategies in social science, the calculated value of independent t test i.e. t is 0.6255, which is lesser than the table value of t is 2.0800 with 38 degrees of freedom at 5% level of significance with $p=0.5354$. Therefore, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the pretest and posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard girl students of high schools are similar in control group and experiment group.
- For comparison of control group and experiment group with posttest attitude towards activity based teaching learning strategies in social science, the calculated value of independent t test i.e. t is 13.8081, which is greater than the table value of t is 2.0800 with 38 degrees of freedom at 5% level of significance with $p=0.0001$. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the posttest scores of attitude towards activity based teaching learning strategies in social science of IX standard girl students of high schools are significantly higher in experiment group as compared to control group.
- For comparison of control group and experiment group with improvement scores of attitude towards activity based teaching learning strategies in social science from pretest to posttest, the calculated value of independent t test i.e. t is 14.0817, which is greater than the table value of t is 2.0800 with 38 degrees of freedom at 5% level of significance with $p=0.0001$. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the improvement scores in attitude towards activity based teaching learning strategies in social science of IX standard girl students of high schools after posttest significantly higher in experiment group as compared to control group. The mean scores of pretest and posttest attitude towards activity based teaching learning strategies in social science of IX standard girl students of high schools in control group and experiment group are also presented in the figure given below.

Figure: Comparison between control group and experiment group with pretest and posttest attitude towards activity based teaching learning strategies in social science of IX standard girl students of high schools



Educational Implications

The findings of the study will have following educational implications:

- Activity Based Teaching Learning Strategies help the students to take part actively in learning process.
- Students get opportunity to take part in the experiments conducted in the classrooms.
- Activity based learning helps in better retention among secondary students.
- Activity Based Teaching Learning Strategies promote creativity among secondary students.
- Students prepare models which helps in their self-learning.
- These modules sketch a sequence on various activities involved in teaching learning process.
- To bring out qualitative changes in secondary education we should implement these modules in our class room teaching with certain modifications.
- Activity based teaching learning strategies is especially useful to structure curriculum sequence or courses and to instruct students systematically in the key ideas of a field
- The modules can also be shaped to teach the skills of effective perception, critical thinking and cognitive recognition which can be explained to the learner who perceive direct instruction in orderly thinking and in the notion of knowledge hierarchies.
- Activity based teaching learning strategies can provide the teacher to help the students to grasp relationship and make connections.
- It can help the students to relate new information to prior knowledge.
- These modules help the students to retain the knowledge in proper directions.
- School should organize social science exhibitions that enhance the self-confidence, positive attitude and interest in social science.
- Schools should develop among students a positive attitude towards social science.
- Curriculum should be modified at school level so that lessons should promote the development of positive attitude and interest in learning social science.

CONCLUSION:

Activity Based Teaching Learning Strategies help the students to take part actively in learning process. Students get opportunity to take part in the experiments conducted in the classrooms. Activity based learning helps in better retention among secondary students. Activity Based Teaching Learning Strategies promote creativity among secondary students. Students prepare models which helps in their self-learning. These modules sketch a sequence on various activities involved in teaching learning process. To bring out qualitative changes in secondary education we should implement these modules in our class room teaching with certain modifications. Activity based teaching learning strategies is especially useful to structure curriculum sequence or courses and to instruct students systematically in the key ideas of a field. The modules can also be shaped to teach the skills of effective perception, critical thinking and cognitive recognition which can be explained to the learner who perceive direct instruction in orderly thinking and in the notion of knowledge hierarchies. Activity based teaching learning strategies can provide the teacher to help the students to grasp relationship

and make connections. It can help the students to relate new information to prior knowledge. These modules help the students to retain the knowledge in proper directions.

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