

Effects of 5E learning Cycle Model on Achievement in Social Science of Std-8

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ABSTRACT

Education is the most potent instrument of individual development, social transformation and means of national development. It helps to individual to acquire knowledge, skills and attitudes, which enable them to develop their faculties in full and thereby improve the quality of life for themselves, their communities and the nation as a whole. The objective of the study is to find the effect of 5 E learning cycle model on Achievement in Social Science in Std.-8. The lesson transcript for teaching selected content based on 5E learning cycle model developed by Rodger Bybee of "The Biological Science Curriculum Study is planned for study. The sample of the study has been selected in two stages. Purposive sampling technique was adopted for selecting the schools from Surat city, than two sections of eighth standard in both the schools lottery method was used to select the classes for the experiment. The section consisted of 60 students. Randomized pretest posttest match design was adopted as the research design for the study The mean, standard deviation, 't' test and ANOVA are the statistical technique used. It is concluded that it is significant difference on Achievement score of Experimental and control group and 5E learning cycle model is more effective in enhancing Achievement in Social Science when compared to Traditional Method.

INTRODUCTION

Education is the most potent instrument of individual development, social transformation and means of national development. It helps to individual to acquire knowledge, skills and attitudes, which enable them to develop their faculties in full and thereby improve the quality of life for themselves, their communities and the nation as a whole. Only through proper education, human beings can adapt themselves to the demands of their physical, social, and spiritual environments. The goal of education is not to increase the amount of knowledge, but to create the possibilities of a child to invent and discover and to prepare the pupil to face challenges.

The most recent view about learning is that it not just passive transmission of knowledge from the teacher to the students. the students to learn has to actively construct the new knowledge acquired through his past experience. Students learn best when they are provided with the opportunity to experience the richness of social Science through active inquiry, collaboration with peers and adults, and the use of technological tools that promote their learning. The context of learning in this vision is humanistic through creative and imaginative encounters with teachers.

5E learning cycle model is a constructivist model which is systematically organised cycle that give real experiences that leads to the construction of knowledge,incorporates

hands on activity, directed discussion and problem solving. 5 E learning cycle model ,learning occurs not by passive reception of transmitted information but by active interaction with object and ideas.

5E learning cycle model created a natural, genuine interest and directed the investigator to find its effectiveness in teaching. Any meaningful attempt to involve the new strategy of teaching will be great help and remedy to the present monotonous system of instruction. Hense the study is investigated to find out the effect of 5E learning cycle model on Achievement in Social Science in Std.-8.

Objectives of the study

1. To study the effect of 5 E learning cycle model on Achievement in Social Science in Std.-8
2. To study the interaction effect of treatment and gender on achievement in Social Science of students in Std.-8

Hypothesis of the study

1. There is no significant difference in post test Achievement score in social science of experimental and control group.
2. There is no significant interaction effect of treatment and Gender with respect to Achievement in social science.

Method of the study

In the present study, effectiveness of 5E learning cycle model on Achievement in social science was required to checked so experimental research method was used. The lesson transcript for teaching selected content based on 5E learning cycle model developed by Rodger Bybee of ‘The Biological Science Curriculum Study’. The 5E Learning Cycle Model consists of the five phases namely, Engagement, Exploration, Explanation, Elaboration and Evaluation. Each phase has a specific function and contributes to the teacher’s coherent instruction and to the learners’ formulation of a better understanding of scientific and technological knowledge, attitudes and skills. The model frames a sequence and organization of programs, units and lessons.

Design of the Experiment

Randomized pre test post test match design was adopted as the research design for the study

Sample of the study

The sample of the study has been selected in two stages.

Selection of School

Purposive sampling technique was adopted for selecting the schools from Surat city.

Selection of classes

Since there were more than two sections of eighth standard in both the schools lottery method was used to select the classes for the experiment. The section consisted of nearly 60 students. They were administered GMA test and those students who were matched on their GMA were selected for the experimental and the control group . 30 students out of which 15 male and 15 female students who were matched on their GMA were selected for the experiment.

Tools used for data collection

The research tools that were used to collect the necessary data are(1) Reven’s standard Progressive Matrices(RPM) (2) Achievement test in social Science std._8

Statistical techniques used for Analysis of data

The mean, standard deviation, ‘t’ test and ANOVA are the statistical technique used in this study.

Results and Discussion

Hypothesis-1”There is no significant difference in post test Achievement score in social science of experimental and control group.” The results pertaining to the above hypothesis are presented in table -1

Table 1 show the number, mean scores, SD, t-value and level of significance for Achievement in Social Science.

Groups	N	Mean	SD	Df	t value	Level of significant
Experimental	60	46.03	2.19	59	23.49	**
Control	60	30.08	4.78			

** → Significant at 0.01 level

Table -1 show the obtained ‘t’ value 23.49 is greater than the tabled value of 2.62 at 0.01 level of significance with df 59. Hence the null hypothesis is rejected.

Hypothesis-2” There is no significant interaction effect of treatment and Gender with respect to Achievement in social science.” The results pertaining to the above hypothesis are presented in table -2 .

Table2 Summary of ANOVA with reference to interaction effect between Gender and Treatment on Achievement in social science

Source of variance	df	Sum of squares	Mean squares	f	Level of Significance
Gender	1	63.08	63.08	0.759	0.385
Treatment	1	7632.07	7632.07		
Interaction	1	10.20	10.20		

Table2 shows that the obtained F value of 0.759 was not significant (P=385>.05). Hence the null hypothesis stating that there is no significant interaction effect between Gender and Treatment with respect to Achievement in Social Science is accepted.

Findings

1. It is found that there is a significant difference in post test scores of Achievement in Social Science of Experimental and Control Groups. Since the mean score of achievement of Experimental Group is greater than that of the Control Group it is concluded that 5E Learning cycle model is more effective in enhancing Achievement in Social Science when compared to Traditional Method.
2. It is found that there is no interaction effect of Gender and Treatment on Achievement in Social Science. This shows that 5E Learning cycle model are equally effective in enhancing Achievement in Social Science in Std-8

5E learning cycle model is more effective in enhancing Achievement in Social Science when compared to Traditional Method.

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Conclusion

It is concluded that it is significant difference on Achievement score of Experimental and control group and