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EFFECTIVENESS OF CONSTRUCTIVIST APPROACH FOR LEARNING ACHIEVEMENT IN GEOGRAPHY AMONG IX CLASS STUDENTS.

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ABSTRACT

The present was aimed to determine the effectiveness of constructivist approach for learning achievement in geography among IX class students. An achievement test was administered before and after the treatment i.e. pre test and post test. NCF 2005 has mentioned that learners have to construct their own knowledge as per their previous experiences and culture in which they live.

Learning occurs when a learner is actively involved in the learning process. Knowledge cannot be transmitted to the learners mind from a text book or by the teacher. Instead child constructs their knowledge by making links between their ideas and new concepts through experience. The major finding of the study was that the constructivist approach had a positive effect on achievement in Geography. It was also found that gender did not produce any significant effect on achievement in Geography.

Keywords: Effectiveness, Constructivist, Learning, Constructivism, Scientific Study.

Introduction

Education in a narrow sense is the modification of behavior of children in a controlled environment. To shape the behavior or to bring about some change it is necessary to study the teaching process, teaching is an activity which is designed and performed for multiple objectives in terms of changes in pupil behaviors. Constructivism is basically a theory-based on observation and scientific study about how people learn. It says that people construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences. Constructivist approach seems to be very

effective in providing meaningful learning. This constructivist philosophy is rooted in **John Dewey philosophy of pragmatism.**

According to Bruner ‘constructivism is the learning theory in which learning is seen as an active process in which learner construct new ideas and concept based upon their current and past knowledge. Knowledge cannot be transmitted to the learner’s mind from a textbook or by the teacher. Instead, child constructs their knowledge by making links between their ideas and new concepts through experience they acquire school, surrounding environment or daily life. Jean Piaget believed that learning is strongly influenced by the learner’s developmental stage. He laid the foundation for constructivism. According to him learning occurs through adaptation to interactions with the environment. Lev Vygotsky believed that the meanings are constructed and shared with references to social and cultural context which situate the individual in the classroom; learning involves interaction between learner and teacher and amongst learners. Constructivism believes that students do not come to the class with ‘*TABULARASA*’- clean slate, and their previous experiences, beliefs and ideas affect the interpretations they make of their observations (Driver, 1983).

Objectives of the Study

1. To study the difference between experimental group and control group in the pre test.
2. To study the difference between experimental group and control group in the post test.
3. To study the effect of gender on students achievement in geography.

Hypotheses of the Study

1. There will be no significant difference between experimental group and control group in the pre test.
2. There will be no significant difference between experimental group and control group in the post test.
3. There will be no significant effect of gender on students’ achievement in geography.

Delimitations

1. The study is limited to Meerut district
2. The study limited to CBSE affiliated public school.
3. The study is limited to class IX
4. The study is limited to Geography Subject.

Methodology

This study was experimental in nature quasi experimental design was employed. The treatment in the study had two levels namely, constructivist approach and the traditional approach.

The study was conducted in Saraswati Vidya Mandir School, Ganganagar, Meerut, English Medium School affiliated to CBSE. The two sections of IX standard were selected as experimental and control group. Out of two sections of class IX, one section i.e. IX A was selected for teaching through constructivist approach, consists 30 students of which 23 were boys and 7 were girls and the other section IX B had 37 students of which 20 were boys 17 were girls taught through traditional approach. Two variables were taken into this study: 1. Independent variable i.e. constructivist approach and traditional approach. 2. Dependent variable i.e. achievement in Geography.

Tools for data collection

In the present study self developed tool –achievement test was used for the data collection. This was verified by subject teacher and supervisor.

Procedure for data collection

1. Pre test

The first phase, an achievement test in geography was administered to both the group i.e. experimental group and control group.

2. Treatment

At the second phase, the experimental group was taught through constructivist approach. Control group was taught through traditional approach. The teaching learning process was carried out for a period of two weeks.

3. Post test

The last third phase, after the treatment post test was administered to both the groups i.e. experimental group and control group.

Analysis and Interpretation of Data

Pre and post test was administered to both experimental and control groups. For the analysis SPSS were used for the result testing. Descriptive statistics were used for the analysis of the data. Table 1 shows number of students included in the pre test and post test. During pre test total number of students was 67 in both group i.e. experimental and control group. After given the treatment during post test 4 students were absent. Therefore, four students were excluded from this.

Hypothesis 1.

There will be no significant difference between experimental group and control group in the pre test.

Table 1 Number of students included and excluded in pre and post test.

	Case Processing Summary					
	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
pre test * group * gender	67	100.0%	0	0.0%	67	100.0%
post test * group * gender	63	94.0%	4	6.0%	67	100.0%

Table 2: Mean and S.D scores of Experimental and Control Group of Pre Test

Group Statistics						
Pre Test	Group	N	Mean	S.D	Std. Error Mean	t value
	1 Experimental	30	13.950	4.3576	.7956	-.043
	2 Control	37	14.000	5.0028	.8225	-.044

Table 3: Mean and S.D scores of Achievement test of Girls and Boys of Experimental and Control Group.

Groups	Gender	Pre test			Post test			Change
		N	Mean	S.D	N	Mean	S.D	

Table 4: Showing results of t- test for equality of Means.

Independent Samples Test

Experimental	Male	23	14.174	4.309	21	26.690	4.0512	12.516
	Female	7	13.214	5.0320	6	26.667	3.5024	13.453
	Total	30	13.955	4.3958	27	23.202	5.4547	9.247
Control	Male	21	13.714	4.6625	21	19.714	4.3577	6
	Female	16	14.375	5.5513	15	19.133	4.6769	4.758
	Total	37	14.022	5.3118	36	21.286	5.5262	7.264
Total	Male	44	13.955	4.3958	42	23.202	5.4527	9.247
	Female	23	14.022	5.3118	21	21.286	5.5262	7.264
	Total	67	13.978	4.6900	63	22.563	5.5084	8.585

pre test	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	1.260	.266	-.043	65	.966	-.0500	1.1611	-2.3688	2.2688
Equal variances not assumed			-.044	64.637	.965	-.0500	1.1443	-2.3355	2.2355

Table 2. Indicates that experimental and control group consist of 30 and 37 student respectively. The descriptive statistics showed that the mean score of experimental group is 13.950 and mean score of control group is 14.000. The difference between means is 0.05. After using t test, it indicates t value i.e. 0.44 is not significant at 0.05 level of significance. So, the null hypothesis was accepted and stating that there is no significant difference between experimental and control group in the pre test.

Hypothesis 2

There will be no significant difference between experimental and control group in the post test.

Table 5. Mean and S.D scores of Experimental and Control Group of Post Test

Group Statistics						
post test	group	N	Mean	S.D	Std. Error Mean	t
	Experimental	27	26.685	3.8709	.7449	6.738
	Control	36	19.472	4.4368	.7395	6.872

Table 6. Showing results of t- test for equality of Means.

Post test	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	.563	.456	6.738	61	.000	7.2130	1.0705	5.0723	9.3536
Equal variances not assumed			6.872	59.539	.000	7.2130	1.0496	5.1130	9.3129

The second hypothesis of the study was there will be no significant difference between experimental and control group in the post test. Table 5 reveals that experimental group consist of 27 and control group consist of 36 students. Mean score of experimental is 26.685 and control group is 19.472. The difference of mean is 7.213. Standard deviation of experimental group was 3.8709 and control group was 4.4368. The t value was 6.87 which is significant at 0.05 level of significance. So, the null hypothesis was rejected and show that there is significant difference between experimental and control group in the post test.

Hypothesis 3

There will be no significant effect of constructivist approach on gender, achievement in geography.

Table 7. Mean and S.D scores of gender on post test.

Group	Gender	Mean	S.D	N
Experimental	Male	26.690	4.0512	21
	Female	26.667	3.5024	6
	Total	23.202	5.4547	27

Control	Male	19.714	4.3577	21
	Female	19.133	4.6769	15
	Total	21.286	5.5262	36
Total	Male	23.202	5.4527	42
	Female	21.286	5.5262	21
	Total	22.563	5.5084	63

Table 8 Results of analysis of variance- Tests between subjects with respect to Gender.

Tests of Between-Subjects Effects					
Dependent Variable: post test					
Source	Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	401.663^a	2	200.832	8.144	.001
Intercept	1364.505	1	1364.505	55.333	.000
Pre test	350.233	1	350.233	14.203	.000
Gender	69.620	1	69.620	2.823	.098
Error	1479.583	60	24.660		
Total	3395.250	63			
Corrected Total	1881.246	62			
a. R Squared = .214 (Adjusted R Squared = .187)					

Table 8 reveals that the F-value for gender is 2.823 which is not significant at 0.05 levels with df equal to 1/60 the table value shows 4.00 which is more than calculated value of F i.e. 2.823. So, the null hypothesis ‘there will be no significant effect of constructivist approach on gender, achievement in geography’ was accepted.

Conclusion

Constructivist approach is effective in raising the achievement of the subject concerned. It also experienced during the present study that this approach is not only effective in cognitive development but also effective in interpersonal development. The skills those are practiced by the students can be further mastered by them. As constructivist approach advocates for the contextually, therefore, the content should be meaningful to the learner. Steps should be taken to help the students to make sense of learning content

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