

CONSTRUCTIVIST BASED PEDAGOGY FOR ACADEMIC IMPROVEMENT AT ELEMENTARY LEVEL

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Abstract

This study is aimed to evaluate the difference in academic achievement of students after the Constructivist training of the teachers. For this purpose, two Government schools from Delhi were selected randomly. From these two schools, a sample of 40 students was selected randomly. Pre and post -test data was collected by administering achievement test on the students. It was found that there was significant difference in the achievement scores of the students who were taught by Constructivist trained and Conventional approach by the teachers. Empirical findings revealed that training of Constructivism brought an improvement in the achievement score in social science subject.

Keywords: Constructivism, Achievement, Training, Teachers, Students.



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1. Introduction

Constructivism is a theory of learning which advocates that we learn from experiences or learning by doing. Its central idea is that human learning is constructed, that learners construct new knowledge upon the foundation of previous learning.

Earlier researches also focused on teacher strategies or teacher activities in the classroom. Till the 1970s, teachers were considered the main actors in the classroom and little attention was paid to how pupils engage in classroom learning and how students thinking, experiences and learning strategies contribute to learning. By the 1980s, many researchers had recognized that in order to understand the effects of classroom teaching upon pupil's achievements, one need to understand the pupils thought processes. However, the studies conducted on pupils, thought processes during this period also focused on teachers and as Wittrock (1986) pointed out, most of the studies on pupils thought processes studied the effects of teachers and instructions upon student's perceptions, achievements, attitudes, metacognitive processes, motivation and understanding.

Teachers were still seen as the main actors in the classroom and effects of their teaching on pupils learning were studied. The extent to which pupils are aware of their own learning

strategies also seems to be related to the effectiveness of their learning. Wang and Palincsar (1989) summarized the research finding in this area as follows:

Research suggests that the amount of effort that students are willing to put into learning activity and their degree of persistence is determined by their expectations regarding success and failure, the value they give to the activity and the extent to which they believe that their own strategic effort influences the outcome. An increase in a student's sense of personal control can lead, in turn, to greater self-responsibility, achievement, motivational and learning.

Achievement of students

Achievement tests, as the name signifies, are used for measuring the amount of success or achievement of any individual in a specific field or area of accomplishment. In the school situation, an achievement test is used as a tool for measuring the nature and extent of students learning in a particular subject or a group of subjects. How far a particular student has been able to learn and acquire or has been benefitted from the learning experiences given to him is ascertained with the help of these tests. An achievement test in Social Studies is essentially a tool or device of measurement that helps in ascertaining quantity and quality of learning attained in the subject of social studies after a period of instruction by measuring the present ability of the student concerned.

Here, in this research, achievement test was used to see the difference in the achievement level of students, before and after the training of Constructivism to the teachers and between the results of Conventional and Constructivist trained teachers.

2. Rationale of the study

It is proclaimed by researchers that achievement is one of the most important components to evaluate the success of teaching-learning process. Therefore, it can be said that student's achievement is based on teacher's effectiveness of teaching. Thereby, the present study has been carried out to see the differences in the academic achievement of the students, taught by Constructivist trained and Conventional approach teachers.

The study of such aim is needed because today also, teachers in majority are applying traditional approach of teaching to their teaching methods. Whereas, NCF 2005, has also recommended that the teachers of our nation should shift their teaching approach from Behaviourist to Constructivist approach.

In Constructivist approach, the role of teacher is that of a facilitator and students themselves learn to construct knowledge and this kind of knowledge is long term and does not fade away easily from memory of a child.

Hence, in the present study, Researcher imparted the training to the teachers, based on Constructivist approach. In order to see the difference in Constructivist and Conventional approach, the effect has been studied with the help of achievement scores of the students.

Therefore, it can be said that the present research work is one of the few works in this area of research, where it has been analysed whether the Constructivist approach of learning to students will bring an upliftment of Achievement scores, if compared to the Conventional approach of learning.

3. Objectives of the Study

1. To study the pre and post achievement test scores of students taught through Constructivist approach.
2. To study the pre and post achievement test scores of students taught through Conventional approach.
3. To compare the scores of students taught through Constructivist approach and conventional approach.

4. Hypothesis of the study

The following null hypotheses have been formulated and tested.

1. There is no significant difference in the pre and post achievement test scores of students taught by Constructivist trained teachers.
2. There is no significant difference in the pre and post achievement test scores of students taught by Conventional approach teachers.
3. There is no significant difference in the pre achievement test scores of students taught by Constructivist trained and Conventional approach teachers.
4. There is no significant difference in the post achievement test scores of students taught by Constructivist trained and Conventional approach teachers.

5. Methodology

Two Government schools from Delhi were selected using the technique of 'draw of lots'. From these two schools, a sample of 40 students was selected randomly. A sample of 20 students from each school was selected. 20 students were taught by conventionally trained teacher and 20 by constructivist trained teacher. Pre and post test data was collected by administering Achievement tests of Social science for class VIth, which was developed by
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the researcher. The students were chosen from the class in which the in-service teachers were teaching. An objective type test, consisting of 40 multiple choice questions of 40 marks each was administered.

6. Results and Discussion

1. There is no significant difference in the pre and post achievement test scores of students taught by Constructivist trained teachers.

Table 1: Pre and Post Achievement Mean Scores of ConstructivistGroup

Variable	N	Mean	S.D	df	t value	Result
Pre achievement test scores	20	20.35	5.556	38	7.139*	Significant difference
Post achievement test scores	20	32.75	5.428			

Note: * $p > 0.01$

Chart 1: Pre and Post Achievement Mean scores of ConstructivistGroup

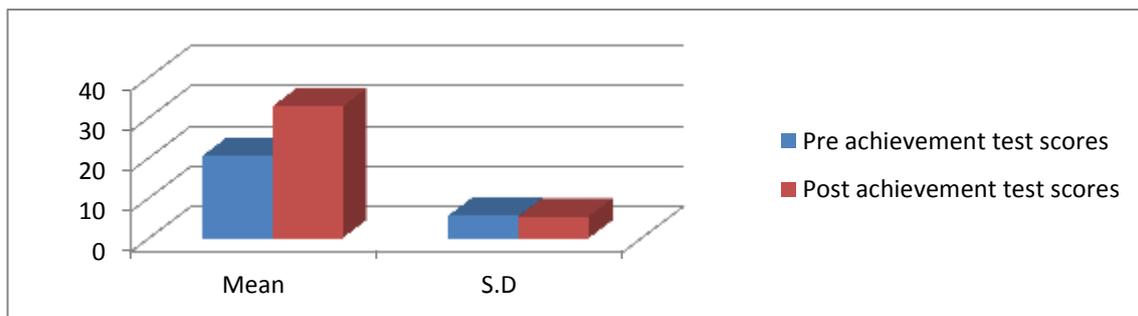


Table 1 shows that the pre and post mean score of achievement taught through Constructivist teaching is 20.35 and 32.75 respectively. Calculated t value is 7.139, which is more than the table value 2.71. Therefore, the null hypothesis that there is no significant difference in the score of pre test and post test of achievement taught through constructivist training is rejected. Henceforth, it can be concluded that the students achievement enhanced significantly after the students were taught through constructivist teaching.

2. There is no significant difference in the pre and post achievement test scores of students taught by Conventional approach teachers.

Table 2: Pre and Post Achievement Mean scores of ConventionalGroup

Variable	N	Mean	S.D	df	t value	Result
Pre achievement test scores	20	20.70	6.148	38	1.147*	No Significant difference
Post achievement test scores	20	23.00	6.521			

Note: * $P < 0.01$

Chart 2: Pre and Post Achievement Mean scores of Conventional Group

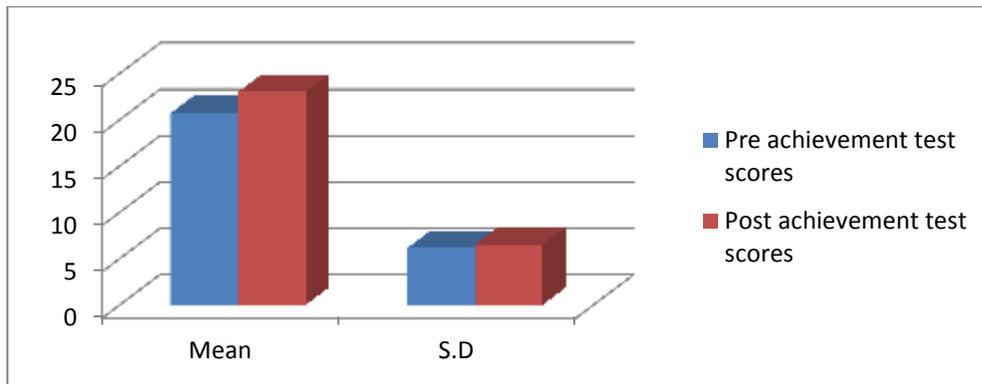


Table 2 represents that the pre and post mean score of achievement taught through Conventional teaching is 20.70 and 23.00 respectively. Calculated t value is 1.14, which is less than the table value 2.71. Therefore, the null hypothesis that there is no significant difference in the score of pre test and post test of achievement taught through conventional method is accepted. Henceforth, it can be concluded that the student’s achievement did not saw any significant difference in the pre and post phase of conventional teaching.

3. There is no significant difference in the pre achievement test scores of students taught by Constructivist trained and Conventional approach teachers.

Table 3: Pre Achievement Mean scores of Conventional and Constructivist group

Variable	Compared group of students	N	Mean	S.D	df	t value	Result
Achievement Pre test scores	Conventional	20	20.70	6.148	38	0.188*	No Significant difference
	Constructivist	20	20.35	5.556			

Note: * p < 0.01

Chart 3: Pre Achievement Mean scores of Conventional and Constructivist group

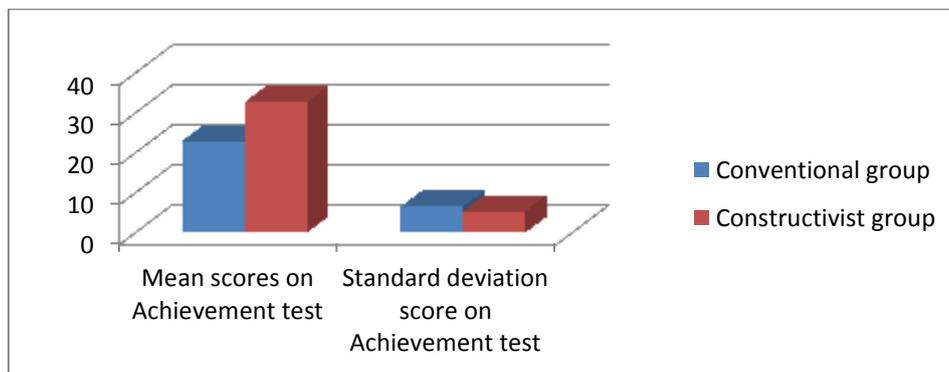


Table 3 depicts that the pre mean score of achievement taught through Conventional teaching and Constructivist teaching is 20.70 and 20.35 respectively. Calculated t value is 0.188, which is less than the table value 2.71. Therefore, the null hypothesis that there is no significant difference in the mean score of achievement of pre test score of control and experimental group is accepted. Henceforth, it can be concluded that the student's achievement did not saw any significant difference in the pre phase scores of conventional and constructivist teaching.

4. There is no significant difference in the post achievement test scores of students taught by Constructivist trained and Conventional approach teachers.

Table 4: Post Achievement Mean scores of Conventional and Constructivist group

Variable	Compared group	N	Mean	S.D	df	t value	Result
Achievement post test scores	Conventional	20	23.00	6.521	38	5.139*	Significant difference
	Constructivist	20	32.75	5.428			

Note: * $p > 0.01$

Chart 4: Post Achievement Mean scores of Conventional and Constructivist Group

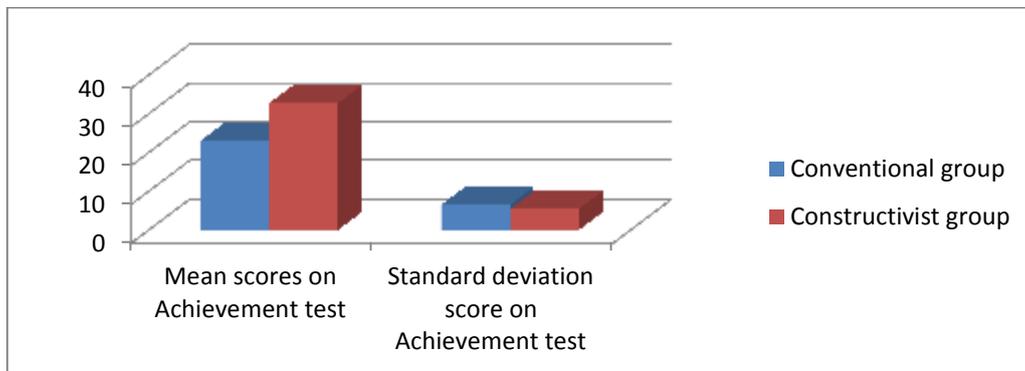


Table 4 represents that the post mean score of achievement taught through Conventional teaching and Constructivist teaching is 23.00 and 32.75 respectively. Calculated t value is 5.139, which is more than the table value 2.71. Therefore, the null hypothesis that there is no significant difference in the mean score of achievement of post test score of control and experimental group is rejected. Henceforth, it can be concluded that the student's achievement saw significant difference in the post phase scores of conventional and constructivist teaching.

7. Conclusion

From the above findings, it can be concluded that the teacher's undergone constructivist training approach brought a significant upgradation in the academic achievement of the students. It would not be wrong to say that the Constructivist training has helped the teachers in enhancing their teaching skills, which result in the improvement of achievement scores of the students. It has also been found that conventional approach teachers student perform low on achievement test as compared to constructivist trained teacher.

Hence, it can be rightly said that if the teachers are trained with Constructivist teaching approach, there can be significant increase in the academic level of the students. After the outcomes of this research, the researcher wants to suggest that the government should take initiatives towards this purpose of initiating the teacher's growth by organising refresher courses of such kind. The purpose of teaching-learning i.e. the overall development of the students can only be achieved, if the teachers are fully equipped. If teachers are trained with today's pace of development in education, student's growth in academics will be inevitable.

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