

A Study on Efficacy of Constructivist Approach on the Performance of VIII Grade Learners in Teaching-Learning of Social Science Curriculum of Assam



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Abstract

The Present paper investigated the efficacy of constructivist approach among the rural and urban VIII grade learners in social science curriculum of elementary education in Assam. The VIII grade learners of social science curriculum are selected from the two districts of Assam namely Lakhimpur and Dhemaji. The study consists of 600 VIII grade social science learners from both of the district equally divided on the basis of locality. The constructivist approach has been given importance in the National Curriculum Framework for School Education-2005 (NCFSE-2005) in teaching-learning process. The constructivist approach has been introduced in the teaching-learning of elementary school education system as a child-centric pedagogy. The present study investigated the effectiveness of constructivist approach on the performance of VIII grade learners in social science curriculum of Assam.

Keywords: Constructivist Approach, National Curriculum Framework, Social Science, Performance, Efficacy.

Introduction

The idea of constructivism has been put forwarded through the works of *Jean Piaget*. However the idea has a long history starting from the writings of *Gautam Buddha*, *Heraclitus*, *Lao Tzo*, a contemporary of *Gautam Buddha* and Italian Philosopher *Giambattista Vico* were the contributor to the idea of constructivism where they emphasized on individual perception of the reality. As the most current psychology of teaching-learning constructivism is based on the works of *Jean Piaget*, *Vygotsky* and supported and extended by the contemporary biologists and cognitive scientists. *Jean Piaget* was the most influential thinker in the development of constructivist idea. *Piaget* is generally attributed to the formalization of the theory of constructivism, who articulated mechanisms by which knowledge is internalized by the learners. There are multiple ideas of various thinkers on constructivism, and it will be unjust to present any single idea. There are various thinkers who have contributed markedly their writings in the development of constructivist idea. In general constructivism is a theory of teaching-learning founded on the premise that we construct knowledge by reflecting on our experiences, every human being having his own understanding of the world he come into contact. From this perspective of constructivism learning is simply a process of adjusting learners own mental process to accommodate new experiences. Constructivism viewed knowledge as constructed by the learner internally, it cannot be transmitted from one person to the other but to be reconstructed using own mental models.

Constructivism implies that the learners are to be encouraged to construct their own ideas instead of copying it from any authentic authority such as a textbook, or a teacher. The theory behind constructivism is to give the opportunity to the learners to construct knowledge by their own effort. Every learner has his/her own mental mechanisms through which he can perform some mental activities to create his/her idea. Knowledge should not be imposed on the learner rather the learner should be given the opportunity to create knowledge by himself/herself. The advocates of constructivist approach suggested that the learners having his/her knowledge and experiences should be considered by the educator in the process of learning. Construction of new knowledge based on background

experiences and multiple resources improves the critical thinking and problem solving skills of the learners (Price, 1997).

The National Curriculum Framework for School Education (NCFSE-2005) has put importance on the constructivist approach in teaching-learning. It has mentioned that the current concern in curriculum development and its reform is to make the curriculum inclusive and meaningful experiences for children along with the effort to remove the culture of textbook. A fundamental change is required for this change in curriculum and in our thinking of the learner which will engage the learner in the learning process. The process of engaging learners in the learning process giving primacy on them is called child-centered pedagogy where their voices and their active participation are given importance. **The National Curriculum Framework for School Education (NCFSE-2005)** has discussed in detail about the child and their learning process. The Learners are to be given all the facilities so that they can construct knowledge by their active participation in the teaching-learning process. The teacher in the process of knowledge construction should allow the learner to ask questions that helps them to relate their prior experiences to the new situations. Active engagement of the learner requires enquiry, exploration, questioning, discussion and reflection that leading the learner towards theory building and creation of their ideas (NCF-2005). Therefore in India the recommendations of National Curriculum for School Education-2005 (NCF-2005) has brought a change in the teaching-learning process giving primacy on the child a change in the role of the teacher as a facilitator.

Social science has a special importance in social awakening, social consciousness, and development of social values, democratic values and a feeling of national integration among the students. In elementary stage the social science curriculum is studied with the primary information of the social issues including history, geography, political and social issues. The primary information's on these areas will arouse interest of the learner to study them as a separate discipline in their later stages of education. In Assam the curriculum development process is imposed on **the State Council of Educational Research and Training (SCERT)**, in the light of recommendations given by the National Council of Educational Research and Training (NCERT). The curriculum followed in the schools run by the Secondary Board of Education Assam are following the curriculum developed by the **State Council of Educational Research and Training (SCERT)** and rest of the school those run by the Central Board of Secondary Education are following the curriculum developed by the **National Council of Educational Research and Training (NCERT)**. The curriculum framework in the schools under the supervision of State Board is based on the recommendations of **National Council of Educational Research and Training (NCERT)** but it is developed according to the history, geography and

culture of Assam and there is a change of medium for the assemese medium learners of social science.

Objectives

The objectives for the present study are- To investigate the effectiveness on the performance of the VIII Grade learners in social science curriculum through teaching delivered by Constructivist Approach in relation to sex, location and management before and after the treatment.

Hypothesis of the Study

There exists a significant difference among rural and urban VIII grade learners of Lakhimpur and Dhemaji district of Assam on the performance in social science curriculum by the use of constructivist approach.

Methodology

For the present study the investigator has adopted the following methodology to carry out the study.

Method

The experimental cum descriptive both methods of educational research has been adopted by the investigators.

Samples of the Study

In the present study a sample of 600 rural and urban students were selected from the elementary schools of Lakhimpur and Dhemaji district of Assam. The sample was selected randomly from the elementary schools of Lakhimpur and Dhemaji district of Assam.

The Study Area

The study area for the present study was elementary schools of Lakhimpur and Dhemaji district of Assam. There were both schools run by Secondary Education Board of Assam (SEBA) and Central Board of Secondary Education (CBSE). Accordingly there are curriculum developed by State council of Educational Research and Training and National Council of Educational Research and Training (NCERT).

Design of The Study

The investigators for investigating the effectiveness of constructivist approach had used the '*quasi-experimental*' non-equivalent group pre-test and post-test design of experimental research. The investigator has conducted a pre-test on the selected sample group before the treatment and after giving treatment the same test was administered on the sample group of student (i.e. post-test).

Tools Used

For the present study the following self developed tools were used by the investigators.

1. Lesson plan on two selected chapters of geographical part of social science curriculum
2. Criterion test questionnaire of 50 multiple choice test items of selected chapters of social science curriculum.

Experimental Phases

The following experimental phases were carried out in the present study.

Pre-test

The investigator in the first phase of the study have administered the criterion test of 50

multiple choice test items taught through conventional way of teaching learning.

Treatment Phase

The investigators in the second phase of the study has done the transaction of selected chapters of geography of social science curriculum to the selected VIII grade learners of rural and urban schools of Lakhimpur and Dhemaji district of Assam.

Post-Test

The third phase (i.e. the after treatment phase) the investigators administered the same criterion test on the same sample group of students.

Statistical Techniques Used

The data collected in the present study were statically analyzed by using the following statistical techniques.

1. Descriptive statistic such as mean and standard deviation were applied to calculate the scores of the students obtained in the criterion test.
2. Inferential statistical techniques such as Analysis of Co-Variance (ANCOVA) was employed for

Table 1.1: The Summary on Results of Analysis of Co-variance (ANCOVA) on the Performance of Rural and Urban VIII Grade Learners of Lakhimpur and Dhemaji District of Assam on the Criterion Test in Social Science Curriculum through Constructivist '5E' Model of Teaching-Learning

Components of Variability	Sum of Squares (SS)	Degrees of Freedom (df)	Variance (V)	Computed F-value	Critical F-Ratio	Remarks
Between samples or Treatment (D)	8773.26	1	8773.26	342.04	3.85 at .05 Level of Significance	P>.05 Significant
Within Samples of Errors (E _w)	15310.31	597	25.65			
Total (E _t)	24083.57	598				

The computed F-value (342.04) is greater than the criterion F-value at .05 level of significance for df 1/597, therefore it is significant. Post- ANCOVA 't' test and the significance of the difference among adjustment means of first and second treatment groups i.e. rural VIII grade learners of Lakhimpur and

testing the difference between the scores obtained in pre-test and post-test scored by the sample group of student.

Results and Discussion

The investigators in order to investigate had administered the criterion test among the rural and urban social science learners at grade VIII. The criterion test has been administered before treatment when the learners were taught through conventional way of teaching-learning and after the treatment when they were taught through constructivist approach of teaching-learning. The scores of both pre-and post-test have been computed just after completing the experiment.

The data collected from the social science learners have been analyzed by using Analysis of Co-Variance. The computation done on criterion pre-test and post-test scores of rural and urban VIII grade social science learners of both Lakhimpur and Dhemaji district on their performance just after completing the experiment has been presented with the following table 1.1.

Dhemaji district and urban VIII grade learners of Lakhimpur and Dhemaji district of Assam in social science curriculum through constructivist '5E' model of teaching-learning has been presented in the following table 1.2.

Table 1.2: The Summary of the Post-ANCOVA 't' Value, Means, 'N' of the Pre and Post-Test Scores on Criterion Test of Rural and Urban VIII Grade Learners in Social Science Curriculum of Lakhimpur and Dhemaji district of Assam by the Use of Constructivist '5E' Model of Teaching-Learning

Groups	N	M _y	M _x	Adjusted Mean M _y -M _x	S _{ED}	Obtained 't' Value	Criterion 't' Value	Remarks
Rural	300	10.16	9.20	18.89	2.44	1.48	1.96 at .05 level of Significance with df 598	P <.05 Not Significant
Urban	300	31.22	19.85	22.49				

Interpretation

An examination into the table 1.1 indicates that the computed F-value estimated to be (342.04) which is greater than the criterion F-ratio (3.85) at .05 level of significance for 1/597 df. The obtained F-value (342.04) is significantly greater than the criterion F-value 1.96 at .05 level of significance. Therefore the hypothesis (1) formulated by the researcher, "There exists a significant difference among rural and urban VIII grade Learners of Lakhimpur and Dhemaji district of Assam on the performance in social science curriculum by the use of constructivist approach" has been accepted. In the true sense there is really a significant difference found on the performance of rural and urban VIII grade learners of Lakhimpur and

Dhemaji district of Assam in social science curriculum by the use of constructivist '5E' model.

So far the post-ANCOVA 't' test is concerned, the table 1.2 depicts that the adjusted mean score of rural VIII grade learners of Lakhimpur and Dhemaji district found to be (18.89) which is less than the adjusted mean score (22.49) of urban VIII grade learners of Lakhimpur and Dhemaji district of Assam in social science curriculum by the use of constructivist '5E' model. The computed post-ANCOVA't' value came out to be (1.48), which is less than the criterion 't' value (1.96) at .05 level of significance for df 598. Henceforth, at the case of testing post ANCOVA't' it is interpreted that, the hypothesis (1) formulated by the researcher "There exists a significant difference among rural and urban

VIII grade Learners of Lakhimpur and Dhemaji district of Assam on the performance in social science curriculum by the use of constructivist approach” has been rejected. In the adjusted mean scores there found no real difference between the rural and urban VIII grade learners of Lakhimpur and Dhemaji district of Assam in social science curriculum by the use of constructivist ‘5E’ model.

Although there is no statistical difference between the rural and urban VIII grade social science learners of elementary education of both Lakhimpur and Dhemaji district of Assam on the performance in social science curriculum by the use of constructivist approach. But looking into the adjusted mean scores it seems that there is a difference among the rural and urban VIII grade social science learners of both the district, this difference is nothing may be declared as chance difference or errors present in the selection of sample or measurement procedures. But the performance of VIII grade social science urban learners is to some extent better than the rural learners at grade-VIII of both Lakhimpur and Dhemaji district of Assam. Thus it is generalized that there was positive influence of constructivist approach among the rural and urban VIII grade learners of Lakhimpur and Dhemaji district of Assam on the performance of social science curriculum.

Educational Implications

1. The efficacy of constructivist approach really depends on the efficiency of the teachers and their awareness to use the approach.
2. The teacher’s technique of teaching can bring a change in the mind of the learners towards any subject of school curriculum.
3. The constructivist approach inculcates higher order thinking ability of the learners by giving the chance of mental exercise.

Conclusion

The present paper had focused on the efficacy of constructivist approach on the performance of the social science learners of Assam at grade-VIII. The findings of the study showed that constructivist approach had a positive influence on the performance of the learners. This does not mean that conventional way of teaching-learning is only teacher centric and common method of teaching-learning. But it could be mentioned that combining the conventional lecture method learners should be given the opportunity to their active participation.

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