

EFFECTIVENESS OF CONSTRUCTIVIST LEARNING AND TRADITIONAL TEACHING IN MATHEMATICS

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Abstract

The purpose of this study was an experimental research to examine the effectiveness of Constructivist Learning strategies and Traditional Teaching in mathematics on achievement of student of Ninth standard Marathi medium school. The random sampling was used to select eighty students who are learning in Ninth standard of two Marathi medium schools from urban area of Karad Taluka. Collected data was interpreted by using Mean, S.D. and t-value. The students were found benefited learning through Constructivist Learning (CL) strategies. The students' knowledge and achievement in mathematics was increased after viewing the Constructivist Learning.

Introduction

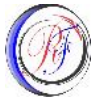
The aim of Mathematics teaching and learning is to help the learners for receiving the information easily. Mathematics subject is difficult to understand because the basic concepts of Ninth standard students are not clear. There is need to develop innovative methods for effective Mathematics learning. Constructivist Teaching is to be an innovative method of mathematics. Constructivist learning method help the learner to learn mathematics easily. The objective of the problem is to develop competency and understanding the basic concept of mathematics.

Objectives

1. To develop Constructivist learning strategies for Ninth standard students of Marathi medium schools in urban area.
2. To find out the effectiveness of Constructivist Learning strategies on achievement of Ninth standard students of Marathi medium schools in urban area.

Research Hypothesis

There is significant difference in learner's mathematical achievement of Ninth standard students of Marathi medium schools in urban area between pre-test and post-test.



Null Hypothesis: There is no significant difference in learner’s mathematical achievement of Ninth standard students of Marathi medium schools in urban area between pre-test and post-test.

Population

This is an experimental research for examining the effectiveness of Constructivist Learning and Traditional Teaching. The Ninth standard students of Marathi medium schools in urban area from Satara Districts as population for the study.

Sample for study

The random sampling was used to select 80 students who are learning in Ninth standard of two Marathi medium schools from urban area of Karad Taluka.

Tools

Constructivist Learning (CL) strategies on Mathematics was developed by researcher.

Research Methodology

The researcher had developed Constructivist Learning (CL) strategies on Mathematics. Researcher conducted two tests pre-test and post-test. Pre-test was conducted before application of Constructivist Learning. After applying Constructivist Learning strategies for Experimental group Researcher conducted post-test. Collected data was interpreted by using Mean, S.D. and t-value

Analysis of Data

Table-1

Mean, S.D., Difference in means and t-value for male learners (N= 80)

Sr No.	Group	Mean	S.D.	Difference in means	t-value	Significance at 0.01 level
1	pre-test	33.85	18.26	29.79	11.64	significant
2	post-test	68.77	14.59			

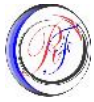
Observation

From above table-1at 0.01 level of significance null hypothesis rejected and research hypothesis accepted. The difference between pre-test and post-test were highly significant at 0.01 level.

Conclusion

Learning basic concepts in Mathematics Constructivist Learning (CL) strategies was very much effective than traditional teaching for male learners.

Table-2



Mean, S.D., Difference in means and t-value for female learners (N= 80)

Sr.No.	Group	Mean	S.D.	Difference in means	t-value	Significance at 0.01 level
1	pre-test	34.16	21.06	35.17	15.24	significant
2	post-test	71.12	16.59			

Observation

From above table-2, at 0.01 level of significance null hypothesis rejected and research hypothesis accepted. The difference between pre-test and post-test were highly significant at 0.01 level.

Conclusion

Learning basic concepts in Mathematics Constructivist Learning (CL) strategies was very much effective than traditional teaching for female learners.

Table-3

Mean, S.D., Difference in means and t-value for all learners (N= 80)

Sr No.	Group	Mean	S.D.	Difference in means	t-value	Significance at 0.01 level
1	pre-test	34.16	21.06	35.17	15.24	significant
2	post-test	71.12	16.59			

Observation

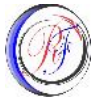
From above table- 3, at 0.01 level of significance null hypothesis rejected and research hypothesis accepted. The difference between pre-test and post-test were highly significant at 0.01 level.

Conclusion

The experiment was initiated with an objective of developing new strategies and examines its effectiveness. Learning basic concepts in Mathematics Constructivist Learning (CL) strategies was very much effective than traditional teaching for all learners who are learning in Ninth standard of two Marathi medium schools from urban area.

Reference

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