



EFFECTIVENESS OF CONSTRUCTIVE CLASSROOM TEACHING PROGRAM ON SCIENTIFIC ATTITUDE AND SCIENTIFIC INTEREST OF STUDENTS

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Abstract

Science has brought about revolutionary changes in every walk of life. Its impact is our universe which is so beautiful with different culture, children is one of part beauty so experiencing such beauty constructive learning is useful to understood the various concepts of science subject easily. An attempt is being made to find the effectiveness of constructive classroom teaching program on scientific attitude and scientific interest of 10th standard students. The objective of the research to develop constructive classroom teaching program and find its effectiveness on scientific attitude and scientific interest. Multi-method research was adopted, by using survey method, researcher assess the scientific attitude and scientific interest of students with help of Test of Scientific attitude scale by Dr. Dharmashila Malviya and Test of Scientific Interest tests by Dr. L. N. Dubey & Archana Dubey. Researcher developed constructive classroom teaching program for Science subject of 10th standard student. Researcher used Quasi Experimental method with non-equivalent control group design and conducted posttest. Data analyzed using t test after normality test were conducting using SPSS program. so study concluded that researcher developed constructive classroom teaching program is useful to improve the scientific attitude and scientific interest of students very easily.

Keywords: *Constructive classroom teaching, scientific attitude, scientific interest.*



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INTRODUCTION

The main aim of education, as we know is to produce the desired changes in the behavior of the children, and when those changes have taken place, we say that the child has learnt. Woodworth (1954) defined learning as the process of acquiring new knowledge and new responses. It is, undoubtedly, right to say that learning is wealth to poor, an honor to rich, an aid to the young and a support and comfort to the aged.

Being student - centered by nature, "A major theme in constructivism was that learning was an active process in which learners constructed new ideas or concepts based upon their current / past knowledge" says Bruner (1969). Learners actively constructed knowledge and connected it to previously assimilated knowledge, and made it theirs by constructing their own interpretation.

Science is one of those human activities that man has created to gratify certain human needs and desires. Curiosity has been the greatest motive power of scientific research. Therefore its

necessary to develop the scientific attitude and interest today, hence it is essential to conduct various programs for practical experiences as to investigate the scientific attitude and interest among the students and lead to development of scientific attitude and scientific interest

REVIEW OF RELATED LITERATURE

Bharambe, I. (1997). Conducted research on 1080 students as a sample & ANNOVA used as statistical tools. It is found that there is significant difference between mean of achievement scores of students taught through advance organizer model, analytical synthetic method

Pathak, S. (1999). Conducted research on study effectiveness of CAM with reference to achievements in concepts of slow learner, and it is found that CAM was effective teaching learning strategy & also MTM teaching – learning strategy found an effective.

Jagtap, A. (2005). Conducted research on, compare effectiveness of constructivist approach and traditional method of teaching mathematics to std. 7th students. It was found that there was no significant difference in post test score of controlled and experimental group as taught by traditional method and constructive approach.

Paul, N. (2010) conducted research on the effectiveness of concept attainment concept formation model of teaching for science to VII standard of English medium school of Pune city. Survey & experimental method of research was used. It was found that concept attainment & concept formation model are more effective than tradition method.

Dhoot, U. M. (2010). It was found that two methods differed significantly from one another in achievement test and teaching pupil taught by constructivism method achieved higher score in achievement test than taught by traditional method pupil were actively participated in the classroom. Group discussion ability of student could developed by constructivist method.

OBJECTIVE OF THE STUDY:-

1. To assess the existing status regarding the scientific attitude and scientific interest of 10th standard students.
2. To develop constructive classroom teaching program for 10th standard for science subject.
3. To find out the effectiveness of constructive classroom teaching program on scientific attitude and scientific interest of 10th standard students.

HYPOTHESIS:-

1. There is a significant difference between the mean scores of scientific attitude of Experimental and Control Group on the posttest.

2. There is a significant difference between the mean scores of scientific interest of Experimental and Control Group on the posttest.

NULL HYPOTHESIS

H01: There is no significant difference between the mean scores of scientific attitude of Experimental and Control Group on the posttest.

H02: There is no significant difference between the mean scores of scientific interest of Experimental and Control Group on the posttest.

ASSUMPTION

1. Social constructivism stresses that learning is a social process. Learning does not take place only within an individual, nor is it passively developed by external forces (McMahon, 1997).

SCOPE, LIMITATION AND DELIMITATION

SCOPE: -

1. The research is conducted in Maharashtra State.
2. This study is related to 10th standard of Science subject students.

LIMITATION:

1. The attitude, interest and fatigue of Teacher and students are beyond the control of researcher.
2. The Teacher and students who were present at the time of data collection are included in the study.

DELIMITATIONS

1. This survey is delimited to the Secondary level students of Tal; Khed, Dist :Pune
2. Only two schools from Pune district are included in the Experiment.
3. This experiment is delimited to the 10th standard students only.
4. The research study includes only Marathi Medium School.
5. This study is delimited to the use of constructive classroom teaching program.
6. Only Six units from whole syllabus are taken into account to frame the program.

PLAN AND PROCEDURE OF STUDY:-

The present study is based on Applied Research and Multi method was used. In survey research 300 students selected as a sample, sample selected as purposive sample method, Test of Scientific attitude scale by Dr. Dharmashila Malviya and Test of Scientific Interest tests by Dr. L. N. Dubey & Archana Dubey used as tool of data collection. Constructive classroom

teaching program developed by Researcher. Developed constructive classroom teaching program implemented on 64 students of 10th standard students. Researcher used nonequivalent pretest-posttest control group design for Experiment.

DATA ANALYSIS:-

In the present study survey study data analyzed using mean after normality test were conducting using SPSS program. For the experimental study descriptive and inferential analysis used. Mean, media and mode, Standard deviation calculated. T-test' used to determine the difference between pretest and posttest scores in scientific attitude and scientific interest of experimental group.

Table No: 01 Two sample T test for posttest of Experimental and control group of scientific Attitude

Group	N	Mean	S.D.	df value	Paired T-value	Decision
Control	60	70.44	2.63	122	12.45	Significant
Experimental	64	79.88	2.713			

Observations:

The result of the experiment shows the t value of Experimental group is 12.45, therefore null hypothesis is rejected at 0.5 level. It reflects that there were a significant difference between the Scientific Attitude of Experimental and Control Group on the posttest after the implementation of the Program.

Table No: 02 Two sample T test for posttest of Experimental and control group of scientific interest

Group	N	Mean	S.D.	df value	Paired T-value	Decision
Control	60	80.53	2.23	122	9.51	Significant
Experimental	64	92.45	3.13			

FINDINGS:

The result of the experiment shows the t value of Experimental group is 9.51, therefore null hypothesis is rejected at 0.5 level. It reflects that there were a significant difference between the Scientific Interest of Experimental and Control Group on the posttest after the implementation of the Program.

MAJOR FINDINGS:

1. There is a significant difference between the mean scores of Scientific Attitude of Experimental and Control Group on the post test.

2. There is a significant difference between the mean scores of Scientific interest of Experimental and Control Group on the post test.

DISCUSSION ON FINDINGS:

The present research study was conducted by using the Multi Research Methods such as; Survey Method, Product Development Method and Experimental Method. The survey Method was conducted to assess the existing condition regarding the scientific attitude and scientific interest of students. The findings regarding the Survey reflected that scientific attitude and scientific interest of students was low. so Constructive classroom teaching program made by researcher.

The objective number three of the present research study was to find out the effectiveness of the program on scientific attitude and scientific interest of students. For fulfill this objective Experimental Method was followed. This objective was assessed by conducting Test of Scientific attitude scale by Dr. Dharmashila Malviya and Test of Scientific Interest tests by Dr. L. N. Dubey & Archana Dubey on the students. The test was administered on Experimental and Control Group. The finding indicates that the Test of Scientific attitude and Scientific Interest of Experimental Group was increased than Control Group because of the implemented Program of Constructive classroom teaching in science. The developed Program was effective. Similar finding regarding the effect of strategies were found in the research of Dhoot, U. M. (2010) found that two methods differed significantly from one another in achievement test and teaching pupil taught by constructivism method achieved higher score in achievement test than taught by traditional method pupil were actively participated in the classroom.

CONCLUSION:

Constructive classroom teaching program were increased the scientific attitude and scientific interest of students of 10th standard.

CONTRIBUTION OF THE STUDY TO THE FIELD OF EDUCATION:

The present study is helpful to the Teacher -

1. To understand the theoretical and practical aspects of the Constructive classroom teaching and learning.
2. To acquaint with various Constructive classroom teaching strategies.
3. To plan their teaching by including Constructive classroom teaching.
4. To evaluate Constructive classroom teaching in their teaching of other subject.

The present study is helpful to the students -

1. To get an idea about students interest of science.
2. To learn the things with group or peers with motive.
3. To do self study by using various Constructive learning ways.

The present study is helpful to the Researchers -

1. To acquaint with research methodological aspects of the present study.
2. To studying similar problem but in other subject.
3. To get the base for their research problem.
4. To select research design, development of tools, development of product, data analysis etc.

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