



EFFECTIVENESS OF CONCEPT MAPPING ON INTEREST OF SCIENCE SUBJECT

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Abstract

Science is systematic enterprise that build and organizes knowledge in the form of testable explanation and prediction about universe so experiencing such beauty concept mapping is useful to understand the various concepts of science subject easily. An attempt is being made to find the effectiveness of concept mapping for Science subject of 9th standard student. The objective of the research to develop concept mapping teaching program and find its effectiveness. Multi-method research was adopted, by using survey method, researcher identifies the difficult units and teaching method use by the teachers with help of Questionnaire to Science subject teachers. Researcher developed concept mapping teaching program for Science subject of 9th standard student. Researcher also used Experimental Method and Science Interest test as a data collection tool. So researcher developed concept mapping is useful as a teaching method to learn the concepts of Science of students very easily.

Keywords: *Concept Mapping.*



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INTRODUCTION

A concept map is a type of graphic organizer used to help students organize and represent knowledge of a subject. Concept maps begins with a main idea and branch out to that main idea can be broken down into specific topics. The teaching process is mostly teacher oriented, it also reflects that only methods of teaching are taken into account and very less use of other instructional modes of teaching methodologies such as; approaches, models, strategies, teaching materials and resources etc. The success of educational process depends on a large extent on the teacher who is considered as the backbone of the educational system. In the words of Edmund Amidon (1967), "Teaching is an interactive process primarily involving class room talk which takes place between teacher and pupils and occurs during definable activities". Teaching is a system of actions intending to induce learning through interpersonal relationships. According to Louis Rath (1971) "The good teaching is explaining, informing, initiating, directing, administering, unifying the group, giving security, clarifying, diagnosing, learning problems, preparing curriculum material, evaluating, recording, reporting, enriching community activities, organizing and arranging classrooms, participating in school activities".

The present research is focused on the utility of Concept Mapping which include Methods, Types, Approaches, and Technological aspects, Activities, and Use of Teaching Aids etc. in teaching learning process.

REVIEW OF RELATED LITERATURE

Patil, P. (2007). Conducted research on to develop a program for enhancing achievement of the students of class X in mathematics & find the effectiveness of program for enhancing achievement of the students of class X in mathematics. It found that there is significant difference between the program for enhancing achievement of the students of class X in mathematics & traditional method i.e. the researcher made program was effective.

Helen, R. (2010). Conducted research objectives are to try out a set of lessons developed on concept based teaching & learning principle & to ascertain the impact of concept base teaching & learning on achievement through concept based teaching. It found that the objectives & statistical tool , also helpful for develop constructive classroom teaching program.

Paul, N. (2010). Conducted research objectives are to study 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 found that concept attainment & concept formation model are more effective than tradition method.

Upalane, M. (2011). Conducted research objectives are to analyze the science text book of upper primary stage prescribed for English medium schools to identify the topic related to physics, to developed text book based computer multimedia software packages for the topic of physics & to test the effectiveness for developed package software for enhancing academic achievement of students for the topic of physics. Experimental method of research was used, two schools used as a sample. Z test used as a statistical tool. It found that text book based computer multimedia software package can be effectively used for enhancement of academic achievement of students.

Dane, H.G. (2011). Conducted research objectives are to design special design teaching strategy of teaching mathematics to middle school children and to ascertain comparative effectiveness of special design and traditional strategy of maths. In present research experimental method was used the sample of research was 59 student. T- test and ANNOVA was used as tool. It found that there is no significant difference so strategy was not found to be effective for developing mathematical creativity for boys but there is significant difference was found for girls.

OBJECTIVE OF THE STUDY:-

1. To assess the existing status regarding the use of teaching method by teachers and interest of 9th standard students for Science subject.
2. To develop Concept Mapping teaching program for 9th standard students of science subject.
3. To find out the effectiveness of Concept Mapping teaching program on interest for 9th standard students of science subject.

HYPOTHESIS:-

There is a significant difference between the mean scores of interest in science subject of Experimental and Control Group on the post test.

NULL HYPOTHESIS

There is no significant difference between the mean scores of interest in science subject of Experimental and Control Group on the post test.

ASSUMPTION

1. Activity-Based Teaching Learning and Evaluation Strategy were brings a significant improvement in the students from all the eight experimental groups. (Vartak, 2001).

SCOPE, LIMITATION AND DELIMITATION

SCOPE: -

1. The research is conducted in Maharashtra State.
2. This study is related to 9th 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 Teacher of Tal; khed.
2. Only two schools from Pune district are included in the Experiment.
3. This experiment is delimited to the 9th standard students only.
4. The research study includes only Marathi Medium School.
5. This study is delimited to the use of concept mapping teaching program.

6. Only two 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 60 teachers selected as a sample, Questionnaire used as tool of data collection. Researcher made Questionnaire given to 60 teachers and Standardize test of interest by L.N.Dubey and Archana given to 100 students of 9th standard. Concept mapping teaching program developed by Researcher. Developed Concept mapping teaching program implemented on 44 students of 9th standard students and compare interest scores of science subject. Researcher used only posttest equivalent group design for Experiment.

DATA ANALYSIS:-

In the present study for survey percentage used as tool of analysis for questionnaire and rating scale also used. 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 interest of science subject.

Table No: 01

Paired T test for post test of Experimental and control group

Group	N	Mean	S.D.	df value	Paired T-value	T table	Sig.(2 tailed)
Control	44	23.73	3.014	43	25.72	2.021	Significant
Experimental	44	31.18	2.713				

FINDINGS:

1. 9th standard teacher used the traditional method of teaching and learning while teaching the science subject
2. There is a significant difference between the mean scores of interest in science subject 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 use of teaching methods by the Teacher and interest of students. The findings regarding the Survey reflected that Teachers are aware about general theoretical aspects of Concept mapping teaching but they do not use the concept mapping while teaching.

The third objective of the present research study was to find out the effectiveness of the program on the interest of the students. For fulfill this objective Experimental Method was followed. This objective was assessed by conducting Interest Test on the students. The test was administered on Experimental and Control Group. The finding indicates that the interest of students of Experimental Group was increased than the interest of students of Control Group because of the implemented Program of concept mapping in science. The developed Program was effective. Similar finding regarding the effect of concept mapping were found in the research of Gargi M (2016) and the result was there is a significant difference between the mean scores of achievement in science subject of Experimental and Control Group on the post test.

CONCLUSION:

Concept Mapping teaching program were increased the effectiveness on the Interest level of the students of the Experimental Group in Science of 9th 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 Concept Mapping teaching and learning.
2. To acquaint with various Concept Mapping teaching strategies.
3. To plan their teaching by including Concept Mapping teaching.
4. To evaluate Concept Mapping teaching in their teaching of other subject.

The present study is helpful to the students -

1. To get an idea about learning through interactive ways.
2. To learn the things with group or peers.
3. To do self study by using various Concept Mapping learning ways.

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