EFFECTIVENESS OF EPISODIC CONCEPTUALIZATION STRATEGY ON ACHIEVEMENT IN PHYSICS AMONG SECONDARY SCHOOL STUDENTS

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ABSTRACT

The aim of this study is to find out the impact of episodic conceptualization strategy for the enhancement of achievement of secondary school students. The sample consists of 80 secondary school students of IX standard. The pre-test and post test equivalent group design was followed for this study. The data was analyzed using t test. In this episodic conceptualization based Instructional Strategy could significantly enhance the achievement of IX standard students. Traditional method of teaching could not attribute anything in enhancing the achievement of IX standard students.

Keywords: Episodic conceptualization strategy

INTRODUCTION

Science is the system of knowing the universe though data collected by observation and controlled experimentation. Science looks for different kinds of path and relationship such as relationship between different things relationship between the parts of things relationship between the properties possessed by several things etc. After discovering relationships, the science formulates statement that describes them. Man is able to conquer time and distance with the help of science. Science helped to travel in a space beyond the sky. Science improved his life conditions remarkably. Science gave eyes to blind, hearing for deaf, legs to lame. Science improved the quality and quantity of plants and animals. Thus science and scientific invention changed man's whole life by making it costly, comfortable and luxurious. It is changing entire existence of man in important aspects such as health, power, communication and transportation. It helps us to develop scientific attitude in the mind of the learner.

Science results from a process of conceptualization of a subject matter. The task of the science teacher is to help student to understand some of the content knowledge of science. Science learning requires presentation of learning material leading to formation of concepts. So concepts are to be presented by using a definite strategy like episodic conceptualization for increasing the content knowledge of the students.

NEED OF THE STUDY

The call for transforming schools from teaching basic skills towards schools for thought (Bruer, 1993) seems to a growing consensus among educators. Researchers and educators worldwide have responded to that call, investing costly resources in projects whose primary goal is to enhance students thinking. However, a serious impediment to wide and successful implementation of many such projects is the lack of adequate methods; episodic conceptualization strategy is a new direction on this area.

If science is poorly taught by teacher or badly learnt by pupil, then it is just like the burdening mind with dead information. It generates new superstitions. Science is a subject where a teacher must select an appropriate strategy for teaching by internalizing the knowledge acquired in different concepts because this is the only subject where the students feel as a remedy to their problems, a leisure that they want to keep forever and many other things. So the teacher must equip himself with a skill of analyzing the concept and with an instructional strategy as well. Concept helps to understand the language of science. Thus concepts have wide applicability in science teaching.

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OBJECTIVES

1. To prepare Episodic conceptualization strategy for teaching physics at secondary level
2. To find out the effectiveness of episodic conceptualization strategy in teaching physics st secondary level.
3. To compare the effectiveness of episodic conceptualization strategy in teaching physics with traditional method of teaching physics.

HYPOTHESES

1. There is no significant difference between the experimental group and control group in the achievement of physics at pretest level
2. There is no significant difference between the experimental group and control group in the achievement of physics at post test level.
3. There is no significant difference between the pretest and post test in the achievement in physics for the experimental group.

SAMPLE

The sample of the study consists of 100 students studying under CBSE syllabus at Malappuram. The sample consists of both boys and girls.

TOOLS USED

The tools used for the study are

1. Episodic conceptualization strategy
2. An achievement test

ANALYSIS AND INTERPRETATION

Hypotheses 1

There is no significant difference between the experimental group and control group in the achievement of physics at pretest level 't' test is applied to test the significance of difference between the mean achievement test scores of the experimental group and control group at pretest level

Table 1: Mean Achievement score on the experimental group compared with that of the control group at pretest level

Groups	N	Mean	S.D	't' value	Level of significance at 0.05 level
Experimental	50	20.23	2.17	0.49	Not significant
Control	50	19.90	1.97		

Table 1 indicate that the't' value is not significant at 0.05 level. The students of the experimental group do not differ significantly from the students of the control group in the mean achievement test scores at pre test level.

Hypotheses 2

There is no significant difference between the experimental group and control group in the achievement of physics at posttest level.

Table 2: Mean Achievement score on the experimental group compared with that of the control group at post test level

Groups	N	Mean	S.D	't' value	Level of significance at 0.01 level
Experimental	50	37.50	3.69	15.06	significant
Control	50	20.00	5.17		

Table 2 reveals that the't' value is significant at 0.01 level. Hence it could be inferred that there is a significant difference between the two groups as indicated by the mean value, it can be concluded that the students of the experimental group fared better in achievement test than the students of the control group. This again clearly shows that learning with the help of episodic conceptualization strategy will increase the achievement of the students better than learning through the conventional method.

Hypotheses 3

There is no significant difference between the pretest and post test in the achievement in physics for the experimental group.

Table 3: Mean Achievement test scores of pretest compared with that of the post test for the experimental group

Groups	N	Mean	S.D	't' value	Level of significance at 0.01 level
pretest	50	20.23	32.17	20.72	significant
Post test	50	37.50	3.69		

't' value is applied to test the significance of the difference between the mean achievement test scores of the pretest with that of the post test for the experimental group.

Table 3 indicate that the 't' value is significant at 0.01 level. Hence it could be inferred that there is a significant difference between the pretest and post test in the achievement in physics for the experimental group. The higher mean value in the post test shows that the students fared better in the post test than in the pretest. This further shows that episodic conceptualization strategy has helped the students to score more in the post test.

CONCLUSION

1. There is no significant difference between the experimental group and control group in the achievement of physics at pretest level
2. There is significant difference between the experimental group and control group in the achievement of physics at post test level. The students learning with the help of episodic conceptualization strategy fared better in science than the students learning through the conventional method.
3. There is significant difference between the pretest and post test in the achievement in physics for the experimental group. This shows that episodic conceptualization strategy has helped the students to score more marks in the posttest.

EDUCATIONAL SIGNIFICANCE

1. Episodic conceptualization strategy is effective in developing content knowledge and achievement among students.
2. Topics are to be presented by using a episodic conceptualization strategy so that knowledge of students can be enhanced.
3. Previous knowledge is given more importance while teaching topic in physics.

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