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IMPACT OF AUDIO-LEARNING IN ALGEBRA FORMULAE IN MATHEMATICS AT STANDARD IX

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ABSTRACT

This study deals with audio-learning is more effective than conventional methods in learning algebra formulae in schools. Learning Mathematics is appeared more problems in learning algebra formulae to the younger students due to conventional method of teaching. Parallel group experimental method (control group and experimental method) was adopted for the study. Equivalent group experimental design was selected for the study. The sample was selected using the random sampling technique. The sample involved two group of students namely experimental group and control group consisting of 30 students in each group in a selected school in Erode district. The t-test was used to find the significant difference between the mean scores of different groups of variables selected for the study.

KEY WORDS: *Audio-Learning, Algebra Formulae.*

INTRODUCTION

Mathematics is a part of universal education and this subject appears in the curriculum for all children. We are living in a dynamic and innovative world and mathematics education can be no exception to the demands of innovation. Mathematics is a great dynamic intellectual enterprise whose development and progress are of fundamental interest to science and technology. A specific mention in the National Policy of Education (1986) about mathematics education states that, mathematics should be visualized as the vehicle to train a child to think, resonate, analyze and articulate logically. Apart from being a specific subject in should be treated as a concomitant to any subject introducing analysis and reasoning. Mathematics trains the child to see relationships to generalize and to use the experience of one situation in a new but similar situation. Mathematics train the mind to think in abstract terms.

Mathematics is a subject that is dynamic. Present trends in mathematics education simply mean today's mathematical education. Today mathematical education is under tremendous pressure due to the explosion of knowledge represented by

1.The change in mathematics.
2.The Change in computer.
3.The change in the breadth and depth of application of mathematics.

4.The change in the psychology of learning.
5.The change in the educational technology.

The science has undergone radical changes during the last two decades. But school mathematics seems to be rather stagnant. Today's method of teaching is conventional where chalk and duster are used by the teacher and pen and paper by the students.

NEED FOR THE STUDY

In mathematics especially in algebra the students have to memorize all the formulae, which will be difficult to remember always. During the course of exam, if they forget the formula, the students won't be able to reach their target. Scoring centum or more marks in mathematics is necessary to get the seats in professional courses. Students of standard IX faced many problems to score more marks in Mathematics through conventional method. Learning Mathematics is appeared more problems in Learning Algebra formulae to the younger students due to conventional method of teaching. Audio-learning is used to learn Algebra Formulae in this study. It describes the idea of Audio as a teaching aid, the training how Audio records are used to assist the learning process. It simplifies the teaching process.

OBJECTIVES

- To find out whether there is any significant difference in achievement mean score between the pretest of control group and post test of control group.
- To find out whether there is any significant difference in achievement means score between the pretest of experimental group and post test of experimental group.
- To find out whether there is any significant difference in achievement means score between the post test of controlled group and the post test of Experimental group.
- To find out whether there is any significant difference in achievement means score between the Pre test of Experimental group and Pre test of control group.
- To find out the impact of Audio-learning Mathematics at standard IX.

HYPOTHESIS

Audio-learning is more effective than conventional methods of learning Mathematics at standard IX.

SCOPE AND LIMITATIONS OF THE STUDY

- The area of the present study was limited to Erode district.
- It is also delimited to standard IX only
- The study confined to formulae of Algebra in Mathematics subject only.
- The investigator selected only one school for the experimentation.
- Since experimental design has been used, the size of the sample was limited.
- Only the effectiveness of Audio-learning was tested in the study.

METHODOLOGY AND SAMPLE

Parallel group Experimental method (Control group and experimental method) was adopted for the study. Equivalent group experimental design was selected for the study. The sample was selected using the random sampling technique. The sample involved two group of students namely experimental group and control group consisting of 30 students in each group in a selected school in Erode district.

Tool

The investigators used self made achievement test as the tool for conducting the study. The investigator prepared a package on Algebra formulae.

Analysis and Interpretation of Data

After practicing Audio-learning, post-test was conducted to the experimental group. Test was conducted to the control group as well. The achievement scores of both control group and experimental group were carefully collected and recorded by the investigator. The investigator used descriptive analysis and inferential analysis for analyzing the data. The t-test was used to find the significant difference between the mean scores of different groups of variables selected for the study.

Table 1: Difference between Pretest Scores and Post Test Scores of the Selected School

Pretests scoring marks		Post tests scoring marks	
Control group	Experimental group	Control group	Experimental group
24%	25%	27%	75%

Table-2

S.No.	Groups	N	Mean	SD	Df	t-value	Level of Significance
(i)	Pre Test of Control Group	30	14.80	2.908	58	1.19	P<0.05
	Pre Test of Experimental Group	30	15.75	3.236			
(ii)	Pre Test of Control Group	30	14.80	2.908	58	1.13	P<0.05
	Post Test of Control Group	30	15.70	3.24			
(iii)	Pre Test of Experimental Group	30	15.75	3.236	58	4.69	P>0.05
	Post Test of Experimental Group	30	19.65	3.21			
(iv)	Post Test of Control Group	30	15.70	3.24	58	4.74	P>0.05
	Post Test of Experimental Group	30	19.65	3.21			

Table 3: Difference between Pretest Scores and Posttest Scores in Learning Algebra Formulae

Methods	Pre test mean scores	Post test mean scores	Gain scores of mean
Conventional	14.80	15.70	0.90
Audio-learning	15.75	19.65	3.90

Table-1 confirms that the selected school achieves the same score in pre test and posttest in traditional method in learning Algebra Formulae. Hence it proves that students of standard IX have learning problems in Learning Algebra Formulae in the selected school by conventional method.

In the Table 2-(i) calculated value (1.19) is less than table value. Hence the null-hypothesis is accepted at 0.05 level. It proves that there is no significant difference in achievement means score between pretest of control group and pretest of Experimental group in learning Algebra Formulae of the students of the selected school.

In the Table 2-(ii) calculated value (1.13) is less than table. Hence the null-hypothesis is accepted at 0.05 level. It proves that there is no significant difference in achievement means score between pre test of control group and posttest of control group in Learning Algebra formulae of the students.

In the Table 2-(iii) calculated value (4.69) is greater than table value. Hence the null-hypothesis is rejected at 0.05 level. It proves that there is a significant difference in achievement mean score between pre test of Experimental group and posttest of Experimental group in Learning Algebra formulae of the students.

In the Table 2-(iv) calculated value (4.74) is greater than table value. Hence the null-hypothesis is rejected at 0.05 level. It proves that there is significant difference in achievement mean score between pre test of Experimental group and posttest of Experimental group in Learning Algebra formulae of the students.

The table witnesses that Audio-learning is more effective than conventional methods in Learning Algebra Formulae at standard IX in the selected school, through mean score of pre test of Experimental group is 15.75 and compares with mean score of posttest of Experimental group is 19.65. Gain scores of Experimental group 3.90 which is greater than gain mean score of Control group 0.90. It substantiates that Audio-learning is more effective than conventional methods in learning Algebra formulae in the selected school.

FINDINGS AND CONCLUSIONS

- It confirms that the selected school achieved the same score in pre test and posttest of control group in

Conventional method in Learning Algebra formulae. Hence it proves that students of standard IX had learning problems in Algebra formulae.

• There is no significant difference in achievement mean score between pre test of control group and pretest of Experimental group in Learning Algebra formulae of the students of standard IX in the selected school.

• There is no significant difference in achievement mean score between pre test of control group and post test of control group in Learning Algebra formulae of the students of standard IX.

• There is a significant difference in achievement mean score between pre test of Experimental group and posttest of Experimental group in Learning Algebra formulae of the students of standard IX

• There is a significant difference in achievement mean score between post test of control group and posttest of Experimental group

• Audio-learning is more effective than conventional methods in learning Algebra formulae in the selected school.

• Audio-learning is fairly a new area and full potential is yet to be realized in the field of education.

• In this way, the research study of investigator can be considered as a small but significant contribution to education.

EDUCATIONAL IMPLICATIONS

• Audio-learning can become an effective strategy in the classroom teaching at Higher Secondary school level and primary level

• It can be extended to all categories of students at higher level.

• Audio-learning is effective both for the slow learners as well as for the average learners.

• Audio-learning helps a student to become self reliant and confident.

• Audio-learning enhances mutual understanding and cooperation among the students at all levels and all subjects.

• It provides the chance of learning to the students by their own pace

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