Multimedia :Teaching Measurement

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Abstract

The present study intended to find the effect of multimedia in teaching measurement for Standard eighth students. The study was conducted on a sample of 52 eighth standard students selected using purposive sampling technique. Tool used was achievement test on measurement. The sample was divided into two groups, experimental group and control group. Both groups were divided by conducting intelligent test. The students of experimental group were taught using multimedia package, while the students of control groups were taught through usual method of teaching. Pre-test and post-test equivalent groups design was followed for this study. The result show that the multimedia package prepared by the investigator was more efficient. It was also found that multimedia proved its effectiveness in teaching measurement over the usual method.

Keywords: Control group, Experimental group, Measurement, Multimedia, Usual Method,Teaching,Pre-test, Post-test

Introduction

Mathematics is a part of science. Mathematics knowledge is indispensable in our daily life. In middle school level, mathematics education is very useful to develop the creativity thinking and self-confident habit of students and it also helps to develop the problem-solving habit. Mathematics is correlated with other subject like as physics, chemistry, biology, history, economics and psychology also. For standard eighth students, learning the mathematics with interest will be most useful to learn other subjects. Measurement is a stimulating topic in mathematics which includes many shapes. Mathematics with its special features has wider applications in daily life and fields of study. Mathematics lays the foundation for the study of all other subjects. Mathematics as a main subject would make the choice of preference very narrow. Mathematics is also important for many professional carriers through competitive examination.

Significance of the study

Mathematics curriculum is a vast curriculum because it is the basis of all sciences and much related to our daily life. Mathematics teachers mostly have been using the textbook, blackboard in the classroom with lecture method and sometimes only they are using geometrical instruments. The number of failures in mathematics in middle school level examination is more as compared to that of other subjects because mathematics is imagined as a highly abstract subject. Many students are scared of this subject. Mathematics subject needs for learning by inductive and deductive approaches. Mathematics teachers should be equipped not only with subject expertise but also effective teaching methodologies. In middle school level mathematics subject has the characteristics of precision, logical sequence, structure, abstractness and imagery also. The eighth standard students are not able to memorize all the mathematical formulae for different shapes in the topic Measurement. Therefore, in this study the investigator selected innovative strategy for teaching Measurement for students and also developing interest to learn measurement.

Objectives

- To conduct pre-test in measurement before using multimedia package.
- To conduct post-test in measurement after using multimedia package.
- To analyze the effect of multimedia package through pre-test and post-test.

Hypotheses

- There is no significant difference between the control group and the experimental group in the learning of measurement at the post-test level.
- There is no significant difference between the pre-test and post-test scores as regards learning measurement by the control group. .
- There is no significant difference between the pre-test and post-test scores as regards learning measurement by the experimental group.

Method of Study

The investigator followed the experimental study The sample was divided into two groups, experimental group and control group. Both groups were divided by conducting intelligent test. The students of experimental group were exposed to multimedia package, while the students of control groups were taught through usual method of teaching.

Sample

The sample was selected by purposive sampling technique which consisted of 52 English medium students from Standard VIII from West Tirunelveli Higher Secondary School at Nallur in Tirunelveli District, Tamil Nadu.

Tool used

An achievement test on measurement was developed by Jancy Rose Mary and Dr.Sundaravalli (2019) .It consists of 39 multiple choice questions under the learning objectives namely Remembering , Understanding , Applying and Analyzing.The content validity was established with the help of five experts.

Experimental Design

The design followed by investigator for the study is given below:

Steps	*Control group (N=26)*	*Experimental group (N=26)*
Step 1	Pre-test	Pre-test
Step 2	Comparison of pre-test score	
Step 3	Usual teaching	Multimedia package based teaching
Step 4	Post-test	Post-test
Step 5	Comparison of post-test score	
Step 6	Comparison of pre-test and post-test score of both group	

Data Analysis

Table 1

Significance of Difference between Posttest Achievement Scores of Students in Control and Experimental Groups.

Group	*N*	*Mean*	*SD*	*t value*	*p value*
Control	26	61.85	13.713	21.806	0.000**
Experimental	26	79.04	10.905		

**- *Significant at 1% level*

In the above table, since the p value is less than 0.01, the null hypothesis is *not accepted* at 1% level of significance. Hence there is a significant difference between the posttest scores of control and experimental groups. The mean scores show that the posttest achievement scores of experimental group are higher than the control group.

Table 2

Significance of Difference between Pretest and Posttest Achievement Scores of the Control Group.

Test	*N*	*Mean*	*SD*	*t value*	*p value*
Pretest	26	29.31	7.50	12.563	0.000**
Posttest	26	61.85	13.71		

** - *Significant at 1% level*

In the above table, since the p value is less than 0.01, the null hypothesis is *not accepted* at 1% level of significance. Hence there is significant difference between pretest and posttest achievement scores of the control group. The mean scores show that the posttest achievement scores of control group are higher than the pretest scores.

Table 3

Significance of Difference between Pretest and Posttest Achievement Scores of the Experimental Group.

Test	*N*	*Mean*	*SD*	*t value*	*p value*

Pretest	26	24.38	8.58	39.54	0.000**
Posttest	26	79.04	10.91		

** - *Significant at 1% level*

In the above table, since the p value is less than 0.01, the null hypothesis is *NOT ACCEPTED* at 1% level of significance. Hence there is significant difference between pretest and posttest achievement scores of the experimental group. The mean scores show that the posttest achievement scores of the experimental group are higher than the pretest scores.

Findings

- There is significant difference between the control group and the experimental group in the learning of measurement at the post-test level. The students learnt with help of the multimedia package performed better in measurement than the students those who learnt through the usual method.
- There is significant difference between the pre-test and post-test scores as regards learning measurement by the experimental group. This is shows that the multimedia package has helped the students to score more marks in the post – test.
- There is significant difference between the pre-test and post-test scores as regards learning measurement by the control group.

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