Vol 3 Issue 9 Oct 2013

ISSN No : 2230-7850

Monthly Multidisciplinary Research Journal

Indian Streams Research Journal

Welcome to ISRJ

RNI MAHMUL/2011/38595 **ISSN No.2230-7850**

Indian Streams Research Journal is a multidisciplinary research journal, published monthly in English, Hindi & Marathi Language. All research papers submitted to the journal will be double - blind peer reviewed referred by members of the editorial Board readers will include investigator in universities, research institutes government and industry with research interest in the general subjects.

Address:-Ashok Yakkaldevi 258/34, Raviwar Peth, Solapur - 413 005 Maharashtra, India
Cell : 9595 359 435, Ph No: 02172372010 Email: ayisrj@yahoo.in Website: www.isrj.net

Indian Streams Research Journal
Volume-3, Issue-9, Oct-2013
ISSN 2230-7850

Available online at www.isrj.net

Effectiveness Of Multimedia Package To Enhance The Academic Achievement In Physics For Higher Secondary Students

P. Arunraj And S. Kulasekara Perumal Pillai
Department of Education, Annamalai University, Tamil Nadu, India

Abstract:-Multimedia is more effective than a single medium for teaching and learning. It is needed to provide varieties and higher quality of information. Multimedia is not a product but a combination of technologies. The students of the experimental group and control group do not differ significantly in the mean achievement test scores in the pre test and the students of the experimental group and control group differ significantly in the mean achievement test scores in the post test.

Keywords: Multimedia , achievement , education, nonlinear environment .

INTRODUCTION

Multimedia is the powerful combination of text, graphics, sound, animation and video under computer control. For education, multimedia has the following characteristics: multimedia types, nonlinear environment and users as products. The computers are available mostly in all schools. But appropriate software according to the needs of the higher secondary level physics classes in particular lesson is not available. The software developed by the researcher can serve as an instructional aid for the higher secondary level physics classes. The computer multimedia programme is developed in accordance with the content prescribed for the twelth standard physics syllabus (Electro Statics) in Tamilnadu state board syllabus. Hence this can be used as an instructional aid for the twelth standard students throughout Tamilnadu. The method and techniques of teaching the concepts in physics should be changed in accordance with the technological developments. This study will be of immense help for the teachers to make the teaching of physics more interesting and for the longer retention of concepts in the minds of the learner.

OBJECTIVES

1. To prepare multimedia package for the teaching of physics at higher secondary level.
2. To find out whether there is a significant difference between the mean achievement test scores of the experimental group and control group in the pre-test.
3. To find out whether there is a significant difference between the mean achievement test scores of the experimental group and control group in the post-test.

HYPOTHESES

1. There is no significant difference between the mean achievement test scores of the experimental group and control group in the pre-test.
2. There is no significant difference between the mean achievement test scores of the experimental group and control group in the post-test.

METHODOLOGY

Sample

The sample of the study consisted of 200 students studying twelfth standard under state board syllabus from four different schools in Nagapattinam District in Tamilnadu. The schools were selected based on the availability of facilities to use the multimedia programme. The samples include both boys and girls.

Tools

1. Multimedia package was developed by the investigator for the teaching of the concepts in Electrostatics topics included in the twelfth standard Physics in Tamil Nadu state board syllabus.
2. An achievement test constructed and validated by the investigator.

Procedure

The administration of the pre-test aims at assessing the entry level behaviour of the students. Pre-test was administered to the control group and experimental group before treatment. The pupils were seated conveniently and they were instructed strictly not to consult with others. There is no time limit. However it took 90 minutes to complete the task. The sample of the study was divided into two groups viz., experimental group and control group. Based on the mean value in the achievement test two equivalent groups were formed. Both groups were equal in number. The students of the experimental group were asked to assemble in a convenient hall where computer is laced and taught the science lessons from the unit of Electrostatics with the help

of the multimedia programme developed by the investigator throughout the treatment period. The students of the control group were taught (the same topics for the experimental group) through the conventional method. The administration of the post-test aims at finding out the impact of the multimedia programme for teaching physics among the twelfth standard students over the conventional method of teaching. After the treatment period an achievement test in physics were administered to both the groups. The collected data were subjected to statistical analyses and the results obtained were interpreted.

The 't' test is applied to test the significance of difference between the mean achievement test scores of the experimental group and the control group in the pre-test.

TABLE 4.1
MEAN ACHIEVEMENT TEST SCORES OF THE EXPERIMENTAL GROUP COMPARED WITH THAT OF THE CONTROL GROUP IN THE PRE-TEST

Group	N	Mean	SD	't' Value	Level of Significance at 0.05 level
Experimental	100	27.04	4.75	0.78	Not Significant
Control	100	25.47	6.12		

The details of the calculations are given in Table 4.1. The 't' value is found to be 0.78 which is lesser than the table value (1.96) and not significant at 0.05 level. Therefore, the null hypothesis is accepted and it is concluded that the students of the experimental group do not differ significantly from the students of the control group in the mean achievement test scores in the pre-test.

The 't' test is applied to test the significance of difference between the mean achievement test scores of the experimental group and the control group in the post-test.

TABLE 4.2
MEAN ACHIEVEMENT TEST SCORES OF THE EXPERIMENTAL GROUP COMPARED WITH THAT OF THE CONTROL GROUP IN THE POST-TEST

Group	N	Mean	SD	't' Value	Level of Significance at 0.01 level
Experimental	100	39.65	6.70	9.83	Significant
Control	100	31.46	7.57		

The details of the calculations are given in Table 4.6. The 't' value is found to be 9.83 which is greater than the table value (2.58) and significant at 0.01 level. Therefore, the null hypothesis is rejected and it is concluded that the students of the experimental group differ significantly from the students of the control group in the mean achievement test scores in the post-test.

FINDINGS

1. The students of the experimental group and control group do not differ significantly in the mean achievement test scores in the pre test.
2. The students of the experimental group and control group differ significantly in the mean achievement test scores in the post test. The students of the experimental group scored better in the achievement test in physics than the students of the control group.

CONCLUSION

The experimental group and control group are equal at pre-test level. But in post-test level the students of the experimental group scored better in the achievement test in physics than the students of the control group. Hence, the students learning through multimedia will have more achievement in physics than those who learn through the conventional method.

REFERENCES

Nimavathi, V., and R. Gnanadevan, 2007. Impact of Multimedia Programme in Teaching Science for the Development of Study Habits. Recent Researches in Education and Psychology, 14, 93-96.

Ravindranath, M.J., 1982. Development of Multimedia Instruction Strategry for Teaching science (Biology) at Secondary Level. Third Survey of Research in Education, 640.

Reddy, G. Lokanatha, and R. Ramar, 1996. Effectiveness of Multiemdai Based Modular Approach in Teaching English to Slow Learners. Indian Educational Abstract, 4, 63.