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A STUDY OF EFFECTIVENESS OF MULTIMEDIA PACKAGE ON STUDY INVOLVEMENT IN LEARNING BIOLOGY

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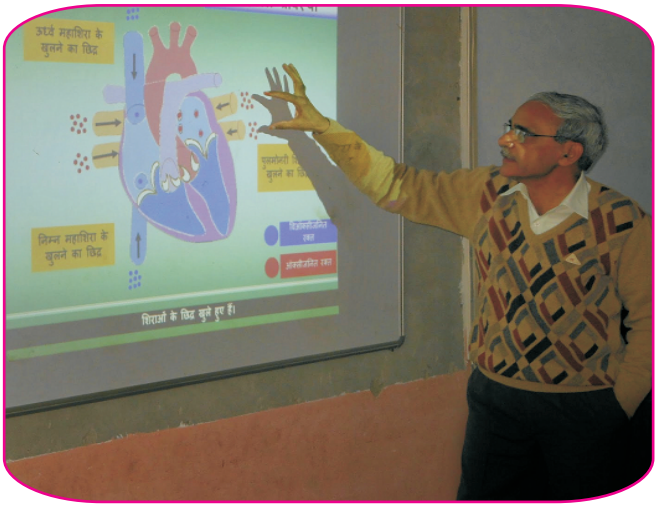
ABSTRACT:

The present study focuses on the effectiveness of multimedia package on study involvement in learning Biology of higher secondary students in Puducherry. The investigator has chosen 160 higher secondary students for this study. Equivalent group experimental design was employed for this study. 80 students were chosen as control group and 80 students were chosen as experimental group. The experimental group was subjected to multimedia package and control group was treated with conventional method of instruction in learning Biology. Study involvement scale was administered before and after the treatments in order to find out the effectiveness of multimedia package on study involvement in learning Biology. The findings of the study shows the experimental group students having good study involvement in their post-test and gain scores than the control group students, which indicates that multimedia package is more effective in teaching learning process of Biology for XI standard students.



KEYWORDS: *Effectiveness, Multimedia, Study Involvement, Biology, Experimental Design.*

INTRODUCTION :

Multimedia ensures flexible learning. Flexibility is recognized in the level access to courses, the place, time and place of study; the form and pattern of interaction among learners, teachers and resources, the type and variety of resources to support study and communication, the goal or outcomes of the educating process and the methods used to measure achievements and success. The method of multimedia instruction is considered as an effective and efficient method. It reveals that multimedia approach will be helpful to increase student's retention, develop various skills and promote student self-esteem and developing high level thinking. In the classroom, multimedia can bridge the gap between theory and practice by giving students the opportunity to practice what they have learned in safe and controlled environment. Multimedia way of teaching make a student to more interest in learning and this lead them to make involvement in study. Biology is considering as a complicated subject and students feels it contains more number of complicated pictures, parts and students do not learn anything interesting present in it. So, in the present paper, the researcher has made an attempt to find out the effectiveness of multimedia package on study involvement in learning Biology.

REVIEW OF RELATED LITERATURE

Chang, Kuo-En et al. (2008) studied the

effects of learning support in simulation based physics learning. The results of the study revealed that the outcome for learning about the basic characteristics of an optical lens was significantly netter for simulation-based learning than for laboratory learning.

Djeassilane (2008) investigated the effect of computer aided instruction (CAI) in enhancing the academic achievement of higher secondary school students in commerce. The findings of the study showed that the computer aided instruction was effective in helping the students of the experimental group to perform better in the post-test. It proved the effectiveness of the computer aided instruction in commerce developed by the investigator. And also it was found that the experimental students had more favorable attitude towards computer assisted instruction.

O'Day, Danton (2010) studied on "using animations to teach biology: past and future research on the attributes that underlie pedagogically sound animations". Multiple technical resources are currently used by many instructors to communicate difficult topics and concepts to their students in meaningful ways. This study shows animations have been used as effective teaching and learning tools in biology. Based on this background, researcher decided to make an attempt to study of effectiveness of multimedia package on study involvement in learning biology.

OBJECTIVES OF THE STUDY

• To find out the effectiveness of multimedia package for XI standard students on study involvement in learning Biology.
• To find out whether there is any significant difference between pre-test score of experimental group and control group students in their study involvement in learning Biology.
• To find out whether there is any significant difference between post-test score of experimental group and control group students in their study involvement in learning Biology.

HYPOTHESES OF THE STUDY

1. The effect of Multimedia package on Study involvement in learning biology is low.
2. There is no significant difference between the means of the control group and the experimental group in the Pre-test scores of Study involvement in learning biology.
3. There is no significant difference between the means of the control group and the experimental group in the Post-test scores of Study involvement in learning biology.

Method

Experimental method was used in the present study. The study adopts pre-test and post-test equivalent group design.

Sample

A total of 160 samples were selected from 4 schools in Puducherry. The total sample was further divided equally into two groups namely, control and experimental group. Control group was teaching through the conventional method of teaching and experimental method was teaching through multimedia package.

Tools

1.Multimedia Package for XI Std. Students in Learning Biology developed and validated by the investigators.
2.Study Involvement Scale by Dr. (Mrs.) Asha Bhatnagar.

Table 1: Design of the Study

S.No.	Randomly selected	Pre-test	Treatments	Post-test
1.	Experimental Group	T1	Multimedia Package	T2
2.	Control Group	T1	Conventional Method	T2

Hypotheses Testing

Hypothesis 1: The effect of Multimedia package on Study involvement in learning biology is low.

Table 2: Significant of the Differences between the Means of the Control and Experimental Group in the Gain Scores of Study Involvement in Learning Biology

Group	Method	Mean	SD	Gain Score	Level	Numbers & Percentage
Experimental Group	Mean + SD	14.9125	5.05462	19.96712 and above	High	40 50.0%
	In between Mean + SD & Mean - SD			10 to 19	Average	42.50 53.75%
	Mean -SD	14.9125	5.05462	9.85788 and below	Low	06 07.50%
Control Group	Mean + SD	4.8500	1.28378	6.13378 and above	High	20 25.00%
	In between Mean + SD & Mean - SD			4 to 6	Average	39 48.75%
	Mean - SD	4.8500	1.28378	3.56622 and below	Low	21 26.25%

From Table-2, it is inferred that average study involvement group in the control groups' fall between the ranges 4 to 6, Whereas in the experimental group, average study involvement group falls between the range of 10 to 19. Therefore experimental group is found to statistically higher than control group in the average level of gain scores. It indicates a multimedia package is higher effective. Therefore hypothesis is rejected and concluded that the effect of Multimedia package on study involvement in learning biology is high.

Hypothesis 2: There is no significant difference between the means of the control group and the experimental group in the Pre-test scores of Study involvement in learning biology.

Table 3: Significant of the Differences between the Means of the Control and Experimental Group in the Pre-Test Scores of Study Involvement in Learning Biology

Group	Count	Mean	SD	Calculated t-value	Remark
Control Group	80	52.28	3.66	0.25	Not significant
Experimental Group	80	54.42	3.36		

From Table-3, in order to find out the significant difference in the Pre-test scores of Study involvement between control and experimental groups, the investigator computed mean, SD and t-value. The mean value of the control group and experimental groups were found to be 52.28 and 54.42 respectively and the t-value is 0.25. The obtained t-value 0.25 is lesser than the table value at 0.05 level of significance. Hence the null hypothesis is accepted and it is concluded that there is no significant difference between the means of the control group and the experimental group in the Pre-test scores of Study involvement.

Hypothesis 3: There is no significant difference between the means of the control group and the experimental group in the Post-test scores of Study involvement in learning biology.

Table 4: Significant of the Differences between the Means of the Control and Experimental Group in the Post-Test Scores of Study Involvement in Learning Biology

Group	Count	Mean	SD	Calculated t-value	Remark
Control Group	80	57.13	3.75	22.54	Significant*
Experimental Group	80	69.33	3.05		

*Significant at 0.01 level.

From Table-4, in order to find out the significant difference in the Post-test scores of Study involvement between control and experimental groups, the investigator computed mean, SD and t-value. The mean value of the control group and experimental groups were found to be 57.13 and 69.33 respectively and the t-value is 22.54. The obtained t-value 22.54 is greater than the table value at 0.01 level of significance. Hence the null hypothesis is rejected and it is concluded that there is significant difference between the means of the control group and the experimental group in the Post-test scores of Study involvement.

The experimental group which was taught with the help of Multimedia package shows a clear advantage (mean=69.33) over the control group (mean=57.13).Thus the Multimedia package promises to be more effective in Study involvement than the conventional method of teaching.

FINDINGS OF THE STUDY

- Effect of Multimedia package on Study involvement in learning biology is high.
- There is no significant difference between the means of the control group and the experimental group in the Pre-test scores of Study involvement in learning biology.
- There is significant difference between the means of the control group and the experimental group in the Post-test scores of Study involvement in learning biology. Therefore it is concluded that the Multimedia package promises to be more effective in Study involvement than the conventional method of teaching in learning biology.

CONCLUSION

The present study aims at developing and using multimedia package in learning biology for higher secondary school students to enable them to understand the concepts very easily and also fostering their study involvement through multimedia package. Multimedia ensures in the level access to study and pattern of interaction among learners, teachers and resources, the type and variety of resources to support study and communication, the goal or outcomes of the educating process and the methods used to fostering self-study and provides opportunities for individual pace and ability and the findings reveals that multimedia package proves the supremacy in the teaching learning process than the conventional method of teaching.

REFERENCES

1.Chang, Kuo-En, Pryor, Caroline R., Bitter, Gary G. (2008). Effects of learning support in simulation based physics learning. Computers in Human Behaviour, 24 (6), 2668-2681.
2.Djeassilane, N. (2008). Effect of computer aided instruction (CAI) in enhancing the academic achievement of higher secondary students in commerce. Unpublished Doctoral Dissertation, Alagappa University, Karaikudi.
3.Garnett, P., Hackling, M., & Oliver, R. (2009). Designing interactive multimedia materials to support concept development in beginning chemistry classes. Computers in the Schools, 24(34), 43-64.
4.Garrett Henry, E. (2008).Statistics in Psychology and Education. Surajeet Publications, Delhi.
5.O'Day, Dnaton H. (2010). Using animations to teach biology: Past and future research on the attributes that underlie pedagogically sound animations. The American Biology Teacher, 70(5), 274-278.