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ORIGINAL ARTICLE

"EFFECTIVENESS OF TEACHING BIOLOGY THROUGH MULTIMEDIA TO SECONDARY SCHOOL STUDENTS"

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Abstract:

In this study the effectiveness of multimedia approach over the conventional method in teaching Biology to IX standard students was followed. The research method used in the study was an experimental method with parallel group design. In the parallel group design two or more groups were selected and their mean and standard deviations of some selected variables are equated. One group is treated as control group and another as the experimental group. The experimental factors are applied on experimental group and the traditional teaching is given to the control group simultaneously. The study is finalized by conducting pre-test and post-test for the control group and experimental group.

KEYWORDS:

Effectiveness , Biology , Multimedia , Methodology.

INTRODUCTION:

Averring that Information communication technology (ICT) is a very powerful resource that can bring about substantial change in teaching and learning of subjects especially Biological sciences. It is learnt that ICT will enable the students to manipulate diagrams dynamically and encourage them to visualize the biological sciences as they generalize their own mental images.

An appropriate educational technology in the hands of computer teachers can ensure better teaching learning process. At present the role of teachers in educating the children has gained paramount importance. The classrooms are overcrowded with heavy amount of syllabus. To improve the level of understanding, develop the interests of the pupils, enrich meaningful development of independent study habits and create purposeful development of self confidence in learning, an alternative process of teaching has to be adopted.

Moreover in the fast developing world, where knowledge explosion is taking place in every sphere, it is unreasonable to expect the spoken or written words alone to convey the volume of relevalent information to the learner. In that sense, multimedia is a unique medium with features of quality, audiovisual recordings and instant feedback.

OBJECTIVES OF THE STUDY

The following are the objectives of the study

1)To develop a multimedia package to teach Biology for IX standard students.
2)To study the effectiveness of multimedia approach over the conventional method of teaching Biology to IX standard students.

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METHODOLOGY

In the present study to achieve the objectives of the study, the experimental method has been used.

SAMPLE

The sample consists of 80 students studying in IX standard from Kumadvathi High school in Shikaripura. The sampling was done through random sampling procedure. The students of the experimental group were given one month training in the selected lessons in multimedia. For the control group same lessons were taught through traditional method. After the treatment, the two groups were tested for their achievement level and in between the treatments, to find out the effectiveness of multimedia in teaching Biological Science the researcher used the tools like pre-test and post-test. The Mean difference score of pre-test and post-test was found by using't'- test score.

Tools Used

Pretest on the selected topic developed by the investigator.
Multimedia package to teach the experimental group.
Achievement test on the selected topic developed investigator.

Analysis and Interpretation

The summary of the results of Mean scores of experimental group and control group in pre-test and post-test is given in the following tables. It is inferred from Table-1 that the calculated 't' value between the experimental group and the control group with respect to their achievement in pre-test is lower than the table value at 0.05 level of significance. Hence there is no significant difference in the achievement of the experimental group and control group in the pre- test.

Table-1: Mean Difference between the Experimental Group and Control Group in their Pre-test.

Category	Number of Students	Mean	Standard Deviation	't' Value
Control Group	40	58.6	10.82	0.043
Experimental Group	40	58.7	10.50	

Table-2: Mean Difference between the Experimental Group and Control Group in their Post-test.

Category	Number of students	Mean	Standard Deviation	't' Value
Control Group	40	50.94	14.36	8.25
Experimental Group	40	77.06	13.86	

It is inferred from Table-2 that the calculated 't' value between the group with respect to their achievement in post-test is higher than the table value at 0.05 level of significance. Hence there is significant difference between experimental group and the control group in their achievement in post-test.

CONCLUSION

This experimental study reveals that there is a significant difference in the achievement of the experimental group over the control group-IX standard students in Biology-due to the exposure of multimedia- based learning to the experimental group. Thus multimedia helps the students to sustain their

interest and also their retention power compared to the traditional method of teaching.

The Mean gain in achievement test of the controlled group and experimental group shows that there is better performance due to the treatment given to the experimental group. That is why the Mean of the experimental group is higher than the Mean of the controlled group. Therefore there should be more and more number of multimedia packages used in classroom. The constant use of multimedia will make students understand more and achieve more in their academic achievement. Hence it is concluded that the multimedia approach is considered to be one of the best techniques for Biology teaching at IX standard level.

EDUCATIONAL IMPLICATIONS

The results of the study have proved that multimedia is more effective than the traditional method in teaching science subjects to standard IX students. It has to be equally effective for the students of other standards also.

Teachers of middle schools and high schools can be given orientation on developing multimedia packages especially Low Technology Instructional Media (LTIM) materials making use of the resources locally available to teach science subject to low achievers.

Keeping the result of study in mind the NCERT and SCERT should take up the work of producing modules. Different multimedia packages can be developed and supplied to all schools.

If it is not possible to supply to all schools, a central library may be set up at District Headquarters to lend the High Technology Instructional Media (HTIM) packages to the aspiring schools. Since almost all the schools have T.V of their own, they can play the packages and the students can view the instructional programs based on their subject units.

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