



Comparative Study of Effectiveness of Computer Assisted Learning (CAL) and Lecture Method in Teaching Research at B.Ed Level

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Abstract:

Technology has brought about major changes in the field of teaching and learning. The use of information and communication technology has acquired importance in the classroom at the present and so computer, internet, web-based study, mobile device and other audio-visual aids become necessary in the learning process. But in our country there is a lack of facilities. In this situation some other methods can also be used for better teaching and learning and so CAL is one of the most current trends which has opened new possibilities and the researcher has tried to explore those possibilities.

The present study was experimental type, in which the students of B.Ed were divided into two groups and sample was chosen randomly. Methodology of the study was experimental method, Pre-Test and Post-Test equivalent group design and purposive sampling method was used for the study. One group was taught with CAL and another group was taught with Traditional method. T-value was found to compare the effectiveness of CAL and Lecture Method. It was found that the CAL programme was found significantly effective than Lecture Method of Teaching Educational Research.

Keywords: Educational Method, Higher Education, Effective Study

1. Introduction

Technology gives better interactions between teachers & students, teachers & teachers, and students & students. It is possible to acquire information through using computers, web based and the internet at different level of education. By using such teaching tools, students could learn the subject matter in a better way, as they are provided with a variety of knowledge, and a medium where they can observe the virtual experiments and repeat the same experiments many times if they request. As a result, it is expected that Computer-Assisted Learning applications affect the student's achievement. One of the common teaching methods that prefer for teaching is the lecture method. In this case the teacher transmits knowledge to the students who sit passively in the classroom and listen. The best part of this method is that it enables the students to apply what they have learnt to what they are living through?

In Computer-Assisted Learning (CAL), the teacher can use computers at different times and places according to the characteristics of the subject matter. Computer programs can be used for

practice, revision, one-to-one instruction, problem solving, or simulations during the applications. With CAL, there is an opportunity for the students to proceed at their own pace, repeating parts of the exercise as they wish. None of these features are easily available in a didactic classroom situation. In addition, there is added variety along with the potential to use vivid and animated graphics, enabling three-dimensional aspects, and other features to be viewed more realistically. This paper describes the development, implementation and administration of Computer-Assisted Learning.

2. Objectives

- To study effectiveness of teaching style on achievement of students.
- To study the use of Computers in developing and administering.
- To study the comparison of CAL and Lecture method

3. Hypotheses

- **H₀₁:** There will be no significance difference between the mean scores of Control group of Pre-test and Post-test.
- **H₀₂:** There will be no significance difference between the mean scores of Experimental group of Pre-test and Post-test.
- **H₀₃:** There will be no significance difference between the mean scores of Pre-test of Control group and Experimental group.
- **H₀₄:** There will be no significance difference between the mean scores of Post-test of Control group and Experimental group.

4. Variables of the Study

Dependent Variable of the study: - Achievement of B.Ed Students.

Independent Variable of the study: - Teaching Method.

There were two types of method of the teaching. (a) Computer Assisted Learning (b) Common Lecture Method.

5. Limitation

The present study was limited to the B.Ed students of Year 2012-2013 of Palanpur Taluka only.

6. Method

The experimental method was used to conduct the present study. The pre test-Post test design of experimental method was used to perform this study. In this way two equal groups were created for examine the effect of CAL on the achievement of the students compare to lecture method.

7. Population and Sample

B.Ed Students of Hemchandracharya North Gujarat University were the population of study.

Among these 100 students of S. S. Govinda B.Ed College, Palanpur, Hemchandracharya North Gujarat University, Gujarat was selected.

8. Tool Used for this Study

Achievement test was introduced for data collection including 100 questions and one mark for each question. So, 100 mark Achievement test was prepared by the researchers.

9. Study of Null Hypothesis (Result)

Table: 1 The Statistical Evaluation of the of the Controlled and the Experimental Group of Pre and Post-test Results

Group	Test	N	Average	SD	MDf	SEd	t-Value	Sig. level
Control Group	Pre- Test	50	48.9	9.32	-20.8	1.65	19.64	0.01
	Post-Test	50	69.7	8.71				
Experimental Group	Pre- Test	50	47.3	8.56	-36.2	1.19	41.51	0.01
	Post-Test	50	83.5	7.03				

From the above table it could be said that H_{01} : There will be no significance difference between the mean scores of Control Group of Pre-Test and Post-Test is rejected ($t= 19.64$, $p < 0.01$). H_{02} There will be no significance difference between the mean scores of Experimental Group of Pre-Test and Post-Test is rejected ($t= 41.51$, $p < 0.01$).

Table: 2 The Statistical Evaluation of the Pre and Post-test Results of the Controlled and the Experimental Group

Test	Group	N	Average (X)	SD	MDf	SEd	t-Value	Sig. level
Pre-Test	Control Group	50	48.9	9.32	1.6	1.43	1.74	N.S
	Experimental Group	50	47.3	8.56				
Post-Test	Control Group	50	69.7	8.71	-13.8	1.41	10.28	0.01
	Experimental Group	50	83.5	7.03				

N: number of students; x: average, SD: standard deviation, t: significance factor

H_{03} : There will be no significance difference between the mean scores of Pre-Test of Control Group and Experimental Group is accepted ($t= 1.74$, $p > 0.05$). H_{04} : There will be no significance difference between the mean scores of Post-Test of Control Group and Experimental Group is rejected ($t= -10.28$, $p < 0.01$).

10. Findings

1. Post-Test result of Control Group scored high as compare to those of Pre-Test result of Control Group.
2. Post-Test result of Experimental Group scored high as compare to those of Pre-Test result of Experimental Group.
3. There will be no significance difference between the mean scores of Pre-test of Control group and Experimental group.
4. Post-Test result of Experimental Group scored high as compare to those of Post-Test result of Control Group.

11. Conclusion

Students in the experimental group were observed to have adequate knowledge and skills to use computers. However, the students have less experience related to technology, concerning the computers. But students of the control group have no knowledge and skills to use computer.

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