



# EFFECTIVENESS OF E-LEARNING ON 'STUDENTS' ATTITUDE TOWARDS COMPUTER AT DEGREE COLLEGE LEVEL

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## Abstract:

One of the innovative applications of computer in the teaching and learning process is known as e-Learning. e-Learning can be CD-ROM-based, network-based; Intranet-based or Internet-based. It can include text, video, audio, animation and virtual environments. It is self-paced, hands-on learning. This study is primarily concerned to how much that the multimedia especially e-Learning influences the type of attitude towards Computer at high school level. The researcher is interested to examine the effectiveness of e-Learning on pupils' attitude towards Computer at high school level. e-Learning Package and Students' attitude towards Computer Scale were the tools used to collect the data for this study. Experimental research method was adopted for the study. A total number of 200 students were selected as sample by using purposive sampling technique. Mean, Standard Deviation and 't' test were the Statistical techniques which were employed to analyze the data. The result indicates that the introduction of e-Learning enhances the attitude towards computer.

Key Words: e-Learning enhances, attitude towards computer, degree college

## 1. Introduction:

e-Learning is imparting and facilitating knowledge on media, electronic devices like that on the Internet, CD-ROMs, and DVDs, streaming media etc. It has drifted the method of learning imparted to the students. Unlike conventional chalk and board style of schooling, eLearning makes giving and receiving simpler, prolific, and productive. Shortly, it is the method of teaching purely through technology. The word e-learning is used synonymously with virtual knowledge, online education, computer-based training, web-based knowledge, and networked education. Whatever may be the explanation of e-learning, it is revamping the style traditional academia teaches and the learners grasp.

Computers can be used in an educational environment in three ways ; (i) to assist teachers (ii) to instruct learners and (iii) to help in managing the institution. The first two uses will be based on own interest, in using computer as a potential tool to aid the teaching-learning process. As an instructional tool, it can play two different roles:-

One of the innovative applications of computer in the teaching and learning process is known as e-Learning. e-Learning allows you to learn anywhere and usually at any time, as long as you have a properly configured computer. e-Learning can be CD-ROM-based, network-based; Intranet-based or Internet-based. It can include text, video, audio, animation and virtual environments. It can be a very rich learning experience that can even surpass the level of training you might experience in a crowded classroom. It is self-paced, hands-on learning. The quality of the e-Learning, as in every form of training, is in its content and its delivery. e-Learning can suffer from many of the same pitfalls as classroom training, such as boring slides, monotonous speech and little opportunity for interaction. The beauty of e-Learning, however, is that new software allows the creation of very effective learning environments that can engulf you in the material.

## 2. Objectives of the study:

1. To develop instructional design for selected topics in Mathematics at high school level.
2. To develop suitable e-Learning Package for the selected topics in Mathematics at high school level.
3. To validate the e-Learning Package for the selected topics in Mathematics at high school level.
4. To select suitable scale for measuring attitude towards computer at high school level.
5. To study the effectiveness of e-Learning on pupil's attitude towards computer at high school level.
6. To find-out the significance of difference between the Pre-test and Post-test mean scores in attitude towards Computer of the experimental group and the control group.
7. To find-out the significance of difference between the Post-test mean scores of the attitude towards computer of the experimental group with respect to sex, parents' educational qualification, parents' occupation, parents' income, locality and study habit.

## 3. Hypotheses of the Study:

The followings are the hypotheses framed for this study.

1. There is no significant difference between the Pre-test and Post-test mean scores in attitude towards Computer of the experimental group and the control group.
2. There is no significant difference between the Post-test mean scores of the attitude towards Computer of the experimental group with respect to sex.
3. There is no significant difference between the Post-test mean scores of the attitude towards Computer of the experimental group with respect to parents' educational qualification.
4. There is no significant difference between the Post-test mean scores of the attitude towards Computer of the experimental group with respect to parents' occupation.
5. There is no significant difference between the Post-test mean scores of the attitude towards Computer of the experimental group with respect to parents' income.
6. There is no significant difference between the Post-test mean scores of the attitude towards

Computer of the experimental group with respect to locality.

7. There is no significant difference between the Post-test mean scores of the attitude towards Computer of the experimental group with respect to study habit.

#### 4. Research Procedure:

##### 4.1. Method of study:

In the present study, Experimental research method was adopted for its suitability and accuracy. Two group of pupils, namely the experimental and control group were taken for the study. The control group was taught through conventional method of teaching and e-Learning Package was used for teaching the experimental group. To find-out the difference in the effectiveness of learning through e-Learning Package and through conventional method, the researcher adopts the two groups Pre-test : Treatment : Post-test experimental design, i. e., Parallel group Design.

##### 4.2. Sample of the Experiment:

The sample selected for this experiment was purposive random sample. The 50 pupils studying IX standard in Navodaya Higher Secondary School, Raichur, Raichur District, Tamil Nadu were treated as experimental group and the 50 pupils studying IX standard in Navodaya Higher Secondary School, Raichur, Raichur District, Tamil Nadu were treated as control group.

##### 4.3. Tools Used

The researcher has selected the following tools and used them to collect the data for this study.

1. e-Learning Package for the unit 'Coordinate Geometry' in Mathematics of standard IX.
2. Students' attitude towards Computer Scale was developed and standardized by Antony Stella (1993).

##### 4.4. Statistical Techniques used in the Study:

The data obtained were then analysed by using appropriate statistical techniques such as -lean, standard deviation, West, F-test and Correlation.

#### 5. Analysis and Interpretation:

**Table-1: Test of Significance of Difference Between the Pre-test and Post-test Mean Scores in Attitude Towards Computer of the Experimental Group and the Control Group**

Test	Group	N	Mean	S.D.	't' value	Significance
Pre-test	Control	30	66.89	7.81	1.85	NS
	Experimental	30	68.05	9.83		
Post-test	Control	30	67.09	8.77	9.45*	Significant at 0.01
	Experimental	30	76.65	9.15		

It is inferred from the above table that computed value of 't' (1.85) between the experimental group and control group with respect to their Pre-test is less than the critical values of 2.63 and .98 at 0.01 and 0.05 level of significance. Hence, it is not significant. Consequently, the null hypothesis is not to be rejected and it can be said that, there is no significant difference between the Pre-test mean scores of the attitude towards computer of the experimental group and the control group.

It is also inferred from the above table that computed value of 't' (9.45) between the experimental group and control group with respect to their Post-test is greater than the critical value of 2.63 at 0.01

level of significance. Hence, it is significant. Consequently, the null hypothesis is to be rejected and it can be said that, there is a significant difference between the Post-test mean scores of the attitude towards computer of the experimental group and the control group. From this it is inferred that the introduction of e-Learning enhances the attitude towards computer.

**Table-2: Test of Significance of Difference Between the Post-test Mean Scores of the Attitude Towards Computer of the Experimental Group with Respect to Sex**

Sex	N	Mean	Standard Deviation	't' value	Level of Significance
Male	28	78.536	6.891	4.895 *	0.01
Female	28	80.531	7.854		

Significant at 0.01 level.

The above table shows that the computed value of 't'(4.895) is greater than the critical value of 2.68 at 0.01 level. Hence, it is significant. Consequently, the null hypothesis is to be rejected and it can be said that, there is a significant difference between the Post-test mean scores of the attitude towards computer of the experimental group with respect to sex. It is concluded from the above table that, the female pupils have more favourable attitude towards computer than the male pupils.

**Table-3: Test of Significance of Difference Between the Post-test Mean Scores of The Attitude Towards Computer of the Experimental Group with Respect to Parents' Educational Qualification**

Source of Variation	Sum of Squares	df	Mean Variance of Squares	'F' Value	Level of Significance
Between groups	53.726	3	17.909	0.203	NS
Within groups	4048.594	46	88.013		

The above table shows that the computed value of 'F'(0.203) is less than the critical values of 4.25 and 2.81 at 0.01 and 0.05 levels respectively. Hence, it is not significant. Consequently, the null hypothesis is not to be rejected and it can be said that, there is no significant difference between the Post-test mean scores of the attitude towards computer of the experimental group with respect to parents' educational qualification.

**Table-4: Test of Significance of Difference Between the Post-test Mean Scores of the Attitude Towards Computer of the Experimental Group with Respect to Parents' Occupation**

Source of Variation	Sum of Squares	df	Mean Variance of Squares	'F' Value	Level of Significance
Between groups	573.378	4	143.345	1.828	NS
Within groups	3528.942	45	78.421		

The above table shows that the computed value of 'F'(1.828) is less than the critical values of 3.77 and 2.58 at 0.01 and 0.05 levels respectively. Hence, it is not significant. Consequently, the null hypothesis is

not to be rejected and it can be said that, there is no significant difference between the Post-test mean scores of the attitude towards computer of the experimental group with respect to parents' occupation.

**Table-5: Test of Significance of Difference Between the Post-test Mean Scores of the Attitude Towards Computer of the Experimental Group with Respect to Parents' Income**

Parents' income	N	Mean	Standard	't' value	Significance
Below 60,000	28	71.0357	7.0105	4.532	Significant
60,000 and above	28	74.2273	11.2332		

The above table shows that the computed value of 't' (4.532) is less than the critical values of 2.68 and 2.01 at 0.01 and 0.05 levels respectively. Hence, it is not significant. Consequently, the null hypothesis was rejected and it can be said that, there is a significant difference between the Post-test mean scores of the attitude towards computer of the experimental group with respect to parents' income.

**Table-6: Test of Significance of Difference Between the Post-test Mean Scores of the Attitude Towards Computer of the Experimental Group with Respect to Locality**

Locality	N	Mean	Standard	df	't' value	Level of Significance
Urban	30	71.1071	6.9032	48	1.166	NS
Rural	30	74.1364	11.3444			

NS - Not Significant.

The above table shows that the computed value of 't'(1.166) is less than the critical values of 2.68 and 2.01 at 0.01 and 0.05 levels respectively. Hence, it is not significant. Consequently, the null hypothesis is not to be rejected and it can be said that, there is no significant difference between the Post-test mean scores of the attitude towards computer of the experimental group with respect to locality.

**Table-7:**

**Test of Significance of Difference Between the Post-test Mean Scores of the Attitude Towards Computer of the Experimental Group with Respect to Study Habit**

Study habit	N	Mean	S.D.	't' value	Significance
Self-study	27	75.456	10.152	8.465	Significant
Group-study	33	69.452	6.874		

The above table shows that the computed value of 't'(8.465) is more than the critical values of 2.68 and 2.01 at 0.01 and 0.05 levels respectively. Hence, it is not significant. Consequently, the null hypothesis was rejected and it can be said that, there is a significant difference between the Post-test mean scores of the attitude towards computer of the experimental group with respect to study habit.

## Recommendations of the Study

### The recommendations of the present study are as follows:

- a. e-Learning method may be used to learn Mathematics at high school level. This method may be used to provide equal opportunity in learning irrespective of time, space and person.
- b. Students, who are studying Mathematics at high school level should be trained in using Computer and Internet.
- c. Each school should have e-Learning library along with internet facilities.
- d. Schools should provide learning material along with the e-Learning package, so that learners can be benefited by any time.
- e. For developing effective learning materials, Staff Development Programmes can be conducted in using tools such as Flash, Photoshop, 3D Max etc., so that every teacher can develop his/her own material and globalize it for others use.

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