



Effectiveness of Instructional Strategy on Computer Literacy Among Elementary School Students

KEYWORDS

Instructional strategy, Computer literacy, Elementary school students.

Dr. T. Pradeep Kumar

Assistant Professor, St.Pauls M.Ed College, Bangalore, Karnataka & Project Director, ICSSR Major Research Project, New Delhi.

ABSTRACT *The present study aims to find out the effectiveness of Instructional strategy on computer literacy among elementary school students. Findings revealed that there is no significant effect of Instructional Strategy, Gender and their interaction on computer literacy of students by considering Pre-Computer Literacy as covariate. There is a significant effect of Instructional strategy on computer literacy. There is a significant effect of gender on computer literacy. There is no significant effect of Instructional Strategy, Intelligence and their interaction on computer literacy of students by considering Pre-Computer Literacy as covariate. There is no significant effect of Intelligence on Computer literacy of the students. There is a significant effect of Instructional Strategy, Type of school and their interaction on computer literacy of students by considering Pre-Computer Literacy as covariate. There is a significant effect of Types of school on Computer literacy of the students.*

Introduction:

Computer literacy is an understanding of computer characteristics, capabilities, and applications, as well as an ability to implement this knowledge in the skillful, productive use of computer applications suitable to individual roles in society. Computer Literacy refers to having the skills and the knowledge to use computers competently (Bertz, Johnson, 2000). Computer Literacy also implies that one is comfortable with using computer software and other applications that are related to the computer. Another important part of being computer literate is to know how the computer functions and operates. People having basic computer skills are considered very important assets in developed countries. In India, "Sarva Shiksha Abhiyan" (SSA) felt that use of Information and Communication Technology (ICT) and computers in the form of Computer Aided Learning (CAL) may help in achieving the Computer literacy in schools.

Methodology:

Objectives of the study:

- ✓ To study the effect of Instructional Strategy, Gender and their interaction on computer literacy of students by considering Pre-Computer Literacy as covariate.
- ✓ To study the effect of Instructional Strategy, Intelligence and their interaction on computer literacy of students by

considering Pre-Computer Literacy as covariate.

- ✓ To study the effect of Instructional Strategy, Types of School and their interaction on computer literacy of students by considering Pre-Computer Literacy as covariate.

Sampling design:

Data was collected during the academic year 2012-2013 from St.Micheals Elementary school (Private Unaided School) and Bantmaramma Elementary school (government school) of Kanakapura taluk. Total 154 VII standard students from both the schools were formed as control and experimental group.

Tools used for the study:

Standard Progressive Matrices (Non Intelligence test) developed by Raven and Computer literacy achievement test developed by Dr.T.Pradeep Kumar

Statistical technique employed:

TWO-WAY ANCOVA

Analysis and Interpretation:

1. There is no significant effect of Instructional Strategy, Gender and their interaction on computer literacy of students by considering Pre-Computer Literacy as covariate.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
PretestComputerliteracy	6750.065	1	6750.065	3282.466	.000
Treatment	607.942	1	607.942	295.634	.000
Gender	63.433	1	63.433	30.847	.000
Treatment X Gender	0.133	1	0.133	.065	.800
Error	306.404	149	2.056		
Total	8044.260	153			

A 2 by 2 between groups of covariance was conducted to assess the effectiveness of Instructional strategy, Gender and their interaction on computer literacy. The independent Variables were the Instructional strategy (Treatment i.e., Traditional Method and Multimedia strategy) and Gender (Boys and Girls). The Dependent Variable was scores of Computer Literacy Achievement test (CLAT) administered following completion of the intervention programs (Post- test). Scores of Computer Literacy Achievement test (CLAT) prior to the commencement of the programs (Pre-test) were used as a Covariate.

The obtained 'f' value = 0.065 is lesser than the tabled 'f' value of 3.90 at 0.05 level hence the null hypothesis is accepted and therefore it is concluded that there is no significant effect of Instructional Strategy, Gender and their interaction on computer literacy of students by considering Pre-Computer Literacy as covariate.

The obtained 'f' value 295.634 is greater than the tabled 'f' value of 6.81 at 0.01 level hence the null hypothesis is rejected and alternative hypothesis is accepted, therefore it is concluded that there is a significant effect of Instructional

strategy on computer literacy, comparing the mean value of multimedia strategy (33.37) is higher than the traditional method (28.31) on computer literacy of the students.

The obtained 'f' value = 30.847 is greater than the tabled 'f' value of 6.81 at 0.01 level hence the null hypothesis is rejected and alternative hypothesis is accepted, therefore it is concluded that there is a significant effect of gender on computer literacy, comparing the mean value of gender it is seen that the mean value of boys (33.46) and girls (32.23) towards multimedia strategy is higher than the mean value of boys (29.53) and girls (28.17) towards traditional method. Therefore it is concluded that multimedia strategy on computer literacy are found to be effective on boys and girls.

2. There is no significant effect of Instructional Strategy, Intelligence and their interaction on computer literacy of students by considering Pre-Computer Literacy as covariate.

Source	Type III sum of squares	df	Mean square	F	Sig.
Pre test computer literacy	2711.819	1	2711.819	1193.013	.000
Treatment	381.556	1	381.556	167.858	.000
Non Verbal Intelligence test	84.905	36	2.358	1.038	.431
Treatment x Non Verbal Intelligence test	81.131	23	3.527	1.552	.074
Error	209.124	92	2.273		
Total	8044.260	153			

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
PretestComputerliteracy	4933.934	1	4933.934	2045.380	.000
Treatment	601.785	1	601.785	249.472	.000
Type of Institution	5.423	1	5.423	12.248	.000
Treatment X Type of Institution	5.447	1	5.447	12.258	.000
Error	359.423	149	2.412		
Total	8044.260	153			

A 2 by 2 between groups of covariance was conducted to assess the effectiveness of Instructional strategy, Type of School and their interaction on Computer literacy. The independent Variables were the Instructional strategy (Treatment i.e., Traditional Method and Multimedia strategy) and Type of School (Government and Private School). The Dependent Variable was scores of Computer Literacy Achievement test (CLAT) administered following completion of the intervention programs (Post- test). Scores of Computer Literacy Achievement test (CLAT) prior to the commencement of the programs (Pre-test) were used as a Covariate.

The obtained 'f' value = 12.258 is greater than the tabled 'f' value of 6.81 at 0.01 level hence the null hypothesis is rejected and alternative hypothesis is accepted and therefore it is concluded that there is a significant effect of Instructional Strategy, Type of school and their interaction on computer literacy of students by considering Pre-Computer Literacy as covariate.

The obtained 'f' value 249.472, greater than the tabled 'f' value of 6.81 at 0.01 level hence the null hypothesis is rejected and alternative hypothesis is accepted, therefore it is concluded that there is a significant effect of Instructional strategy on computer literacy, comparing the mean value of multimedia strategy (33.376) is higher than the traditional method (28.311) on computer literacy of the students.

A 2 by 2 between groups of covariance was conducted to assess the effectiveness of Instructional strategy, Intelligence and their interaction on computer literacy. The independent Variables were the Instructional strategy (Treatment i.e., Traditional Method and Multimedia strategy) and Non Verbal Intelligence test. The Dependent Variable was scores of Computer Literacy Achievement test (CLAT) administered following completion of the intervention programs (Post-test). Scores of Computer Literacy Achievement test (CLAT) prior to the commencement of the programs (Pre-test) were used as a Covariate.

The obtained 'f' value = 1.552 is lesser than the tabled 'f' value of 3.95 at 0.05 level hence the null hypothesis is accepted and therefore it is concluded that there is no significant effect of Instructional Strategy, Intelligence and their interaction on computer literacy of students by considering Pre-Computer Literacy as covariate.

The obtained 'f' value 167.858 greater than the tabled 'f' value of 6.92 at 0.01 level hence the null hypothesis is rejected and alternative hypothesis is accepted, therefore it is concluded that there is a significant effect of Instructional strategy on computer literacy, comparing the mean value of multimedia strategy (33.376) is higher than the traditional method (28.311) on computer literacy of the students.

The obtained 'f' value = 1.038 is lesser than the tabled 'f' value of 3.95 at 0.05 level hence the null hypothesis is accepted and therefore it is concluded that there is no significant effect of Intelligence on Computer literacy of the students.

3. There is no significant effect of Instructional Strategy, Types of School and their interaction on computer literacy of students by considering Pre-Computer Literacy as covariate.

The obtained 'f' value = 12.248 is greater than the tabled 'f' value of 6.81 at 0.01 level hence the null hypothesis is rejected and alternative hypothesis is accepted and therefore it is concluded that there is a significant effect of Types of school on Computer literacy of the students. Comparing the mean value of Type of school it can be seen that mean value of Private school (35.92) and Government school (30.31) towards multimedia strategy is higher than mean value of Private school (31.85) and Government school (24.05) towards traditional method. It can also be concluded that Private school perform better in computer literacy through multimedia strategy.

Findings of the Study:

- There is no significant effect of Instructional Strategy, Gender and their interaction on computer literacy of students by considering Pre-Computer Literacy as covariate.
- There is a significant effect of Instructional strategy on computer literacy, comparing the mean value of multimedia strategy (33.37) is higher than the traditional method (28.31) on computer literacy of the students.
- There is a significant effect of gender on computer literacy, comparing the mean value of gender it is seen that the mean value of boys (33.46) and girls (32.23) towards multimedia strategy is higher than the mean value of boys (29.53) and girls (28.17) towards traditional method. Therefore it is concluded that multimedia strategy on computer literacy are found to be effective on boys and girls.

- There is no significant effect of Instructional Strategy, Intelligence and their interaction on computer literacy of students by considering Pre-Computer Literacy as covariate.
- There is no significant effect of Intelligence on Computer literacy of the students.
- There is a significant effect of Instructional Strategy, Type of school and their interaction on computer literacy of students by considering Pre-Computer Literacy as covariate.
- There is a significant effect of Types of school on Computer literacy of the students. Comparing the mean value of Type of school it can be seen that mean value of Private school (35.92) and Government school (30.31) towards multimedia strategy is higher than mean value of Private school (31.85) and Government school (24.05) towards traditional method. It can also be concluded that Private school perform better in computer literacy through multimedia strategy.

Educational Implications:

- Students should be provided with open access to the computers. Computers have an important role to play in improving the Quality of education and in imparting

life skills. Computer can provide equal opportunity and required context to children from all types of socioeconomic and cultural background to achieve basic levels of literacy and education.

- Multimedia strategy enhances learning in rural schools; teacher can engage more effectively with students and monitor each Child's participation and progress, enabling all students to become active learners thus enhancing the overall classroom experience (Adem Uzun, Aysan Senturk, 2007). Teachers must be trained with latest available technologies, so that it will improve the performance of the students and reduces teaching burden.
- Multimedia strategy has a great impact on elementary school students belonging to different type of institutions in the rural area (Cuban, 2001). Achievement of computer literacy can be enhanced through the technology process rather than the traditional method i.e., regular class room teaching learning process. It is very much essential for the schools to implement the technology for the teaching learning process. Teachers should make use of these facilities to motivate, create interest and in order to improve the achievement scores of the students in computer literacy and thus enhancing the knowledge and skills in handling the computer.

REFERENCE

- Adem Uzun, Aysan Senturk (2007) Comparison of Blended and Traditional Instruction on Students' Performance and Attitudes in Computer Literacy, *Journal of contemporary educational technology*, 1(3), p 16-27, Turkey. | Bertz, Johnson (2000) Effectiveness of an innovative approach for computer literacy, *Journal of education technology*, 3(2), p2-13, sage publication, USA | Cuban (2001) computer literacy, *journal of Instructional delivery*, 1(2), p 12-18, Columbia international publishing, USA