



Effectiveness of Multimedia Strategy on Computer Literacy Among Elementary School Teachers by Considering Covariates

KEYWORDS

Talent nurturing, Performance level, Competency level, learning ability, Learning Time

Dr.T.Pradeep Kumar

Faculty, St.Pauls M.Ed College, Vijayanagar, Bangalore-560079, Karnataka

ABSTRACT *The present study aims to find the effectiveness of multimedia strategy on computer literacy among elementary school teachers by considering covariates. Data was collected from St.Micheals Elementary school (Private Unaided School) and Bantmaramma Elementary school (government school) of Kanakapura taluk. In both the schools total 30 teachers were working and all the teachers were considered for the purpose of the data collection. Educational implications suggested Effective use of technology should increase at all levels in order to ensure a better education for the success of the learners and development of educators.*

Introduction:

Computer technology has gained prominence in most parts of the world. Increase in computer use is rapid and has also generated new challenges. Perhaps more than other fields, teaching are thought to have benefited and established a stronger intrinsic link with the development of computers in recent times. However Anderson, Stephen (1995) has identified four issues as critical to proper and effective use of computer technologies in the classrooms. Top among them is computer attitude, followed by software selection, a proper utilization direction, and web – based professional development teachers, Barrett's (2009).

Methodology:

Objectives of the study:

- To study whether there is any significant effect of Instructional Strategy, Gender and their interaction on computer literacy of teachers by considering Pre-Computer Literacy and Intelligence as covariates.
- To study whether there is any significant effect of Instructional Strategy, Type of schools and their interaction on computer literacy of teachers by considering Pre-Computer Literacy and Intelligence as covariates
- To study whether there is any significant effect of Instructional Strategy, Teaching Experience and their interaction on computer literacy of teachers by considering Pre-Computer Literacy and Intelligence as covariates.

Sampling Design

Data was collected from St.Micheals Elementary school (Private Unaided School) and Bantmaramma Elementary school (government school) of Kanakapura taluk. In both the schools total 30 teachers were working and all the teachers were considered for the purpose of the data collection. In St.Micheals Elementary school (Private Unaided School) total 16 teachers were working and In Bantmaramma Elementary school (government school) 14 teachers were working. Out of 16 teachers in St.Micheals Elementary school two groups of each 8 teachers were selected through simple random sampling technique and were treated as control group and Experimental group. Likewise out of 14 teachers from Bantmaramma Elementary school two groups of each 7 were selected through simple random sampling technique and were treated as control group and Experimental group.

Tools used for data collection:

Computer literacy achievement test constructed by Dr.T.Pradeep Kumar (2012)

Statistical techniques used:

TWO-WAY ANCOVA was the statistical techniques employed

Analysis and Interpretation:

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

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
PretestComputerliteracy	1151.713	1	1151.713	334.596	.000
Non Verbal Intelligence test	18.855	1	18.855	5.478	.028
Treatment	421.420	1	421.420	122.431	.000
Gender	9.205	1	9.205	22.674	.000
Treatment X Gender	13.062	1	13.062	23.795	.000
Error	82.611	24	3.442		
Total	2115.367	29			

The obtained 'f' value = 23.795 is greater than the tabled 'f' value of 7.60 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, Gender and their interaction on computer literacy of teachers by considering Pre-Computer Literacy and Intelligence as covariates.

The obtained 'f' value 122.431, greater than the tabled 'f' value of 7.60 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 (66.33) is higher than the traditional method (58.53) on computer literacy of the teachers.

The obtained 'f' value = 22.674 is greater than the tabled 'f' value of 7.60 at 0.01 level hence the null hypothesis is rejected and alternative hypotheses is accepted and therefore it is concluded that there is a significant effect of Gender on Computer literacy of the teachers. Comparing the mean value of Gender the mean value of male (69.71) and Female (63.37) towards Multimedia strategy is higher than that of mean value of male (63.80) and Female (55.90) towards Traditional method. Hence it can be concluded that both male and female teachers tend more towards Multimedia strategy on computer literacy. It can also be seen that Male teachers tend more towards multimedia strategy compared to female teachers.

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

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
PretestComputerliteracy	1348.221	1	1348.221	303.439	.000
Non Verbal Intelligence test	8.722	1	8.722	1.963	.174
Treatment	440.587	1	440.587	99.161	.000
Type of School	.490	1	.490	11.110	.000
Treatment X Type of School	.407	1	.407	13.092	.000
Error	106.635	24	4.443		
Total	2115.367	29			

The obtained 'f' value = 13.092 is greater than the tabled 'f' value of 7.60 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 teachers by considering Pre-Computer Literacy and Intelligence as covariates.

The obtained 'f' value 99.161, greater than the tabled 'f' value of 7.60 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 (66.33) is higher than the traditional method (58.53) on computer literacy of the teachers.

The obtained 'f' value = 11.110 is greater than the tabled 'f' value of 7.60 at 0.01 level hence the null hypothesis is rejected and alternative hypotheses is accepted and therefore it is concluded that there is a significant effect of type of school on Computer literacy of the teachers. Comparing the mean value of type of school it can be seen that mean value of Government school (67.00) and Private school (65.75) towards multimedia strategy is higher than that of mean value of Government school (55.00) and Private school (61.62) towards traditional method. Hence it can be concluded that both Government and Private schools tend more towards Multimedia strategy on computer literacy. It can also be seen that Government school tend more towards multimedia strategy compared to Private school.

3. There is no significant effect of Instructional Strategy, Teaching Experience and their interaction on computer literacy of teachers by considering Pre-Computer Literacy and Intelligence as covariates.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
PretestComputerliteracy	22.822	1	22.822	8.205	.024
Non Verbal Intelligence test	20.480	1	20.480	7.363	.030
Treatment	102.470	1	102.470	36.840	.000
Teaching Experience	72.691	16	4.543	11.633	.000
Treatment X Teaching Experience	18.856	3	6.285	22.260	.000
Error	19.470	7	2.781		
Total	2115.367	29			

The obtained 'f' value = 22.260 is greater than the tabled 'f' value of 7.60 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, teaching experience and their interaction on computer literacy of teachers by considering Pre-Computer Literacy and Intelligence as covariates.

The obtained 'f' value 36.840, greater than the tabled 'f' value of 7.60 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 (66.33) is higher than the traditional method (58.53) on computer literacy of the teachers.

The obtained 'f' value = 11.633 is greater than the tabled 'f' value of 7.60 at 0.01 level hence the null hypothesis is rejected and alternative hypotheses is accepted and therefore it is concluded that there is a significant effect of teaching Experience on Computer literacy of the teachers. Comparing the mean value of teaching experience it can be seen that mean value of teachers with more teaching experience (66.33) perform better in computer literacy compared to teachers with less teaching experience (58.53). It can also be seen that teachers perform better with multimedia strategy on computer literacy.

Findings of the study:

- There is a significant effect of Instructional Strategy, Gender and their interaction on computer literacy of teachers by considering Pre-Computer Literacy and Intelligence as covariates.
- There is a significant effect of Instructional strategy on computer literacy, comparing the mean value of multimedia strategy (66.33) is higher than the traditional method (58.53) on computer literacy of the teachers.
- There is a significant effect of Gender on Computer literacy of the teachers. Comparing the mean value of Gender the mean value of male (69.71) and Female (63.37) towards Multimedia strategy is higher than that of mean value of male (63.80) and Female (55.90) towards Traditional method. Hence it can be concluded that both male and female teachers tend more towards Multimedia strategy on computer literacy. It can also be seen that Male teachers tend more towards multimedia strategy compared to female teachers.
- There is a significant effect of Instructional Strategy, type of school and their interaction on computer literacy of teachers by considering Pre-Computer Literacy and Intelligence as covariates.
- There is a significant effect of type of school on Computer literacy of the teachers. Comparing the mean value of type of school it can be seen that mean value of Government school (67.00) and Private school (65.75) towards multimedia strategy is higher than that of mean value of Government school (55.00) and Private school (61.62) towards traditional method. Hence it can be concluded that both Government and Private schools tend more towards Multimedia strategy on computer literacy. It can also be seen that Government school tend more towards multimedia strategy compared to Private school.
- There is a significant effect of Instructional Strategy, teaching experience and their interaction on computer literacy of teachers by considering Pre-Computer Literacy and Intelligence as covariates.
- There is a significant effect of teaching Experience on Computer literacy of the teachers. Comparing the mean value of teaching experience it can be seen that mean value of teachers with more teaching experience (66.33) perform better in computer literacy compared to teachers with less teaching experience (58.53). It can also be seen that teachers perform better with multimedia strategy on computer literacy.

Educational Implications:

- Teachers do not fully use technology available to them and that they need technology training, especially small group or one-on-one training
- Teachers should be aware of integrating technology with the teaching-learning process.
- Teachers should develop positive attitude towards computer
- Technology-assisted learning or standardized lessons can mitigate weaknesses in teaching and substantially improve test scores.
- Teachers can complete their assessment easily and fastly with their computer comfort and knowledge.
- Teachers 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, Askin Asan (2003).

REFERENCE

- Anderson, Stephen (1995) Multimedia in the Classroom: Rejuvenating the computer Literacy, Courser work, University of South Carolina, Carolina. |
- Askin Asan (2003) Computer Technology Awareness by Elementary School Teachers: A Case Study from Turkey, Journal of Information Technology Education Volume 2, Turkey. |
- Barrett's (2009) ICT to improve the learning environment in schools, Education millennium development goals, working paper no. 13, university of Bristol. |
- Carl Berger, Elizabeth (2010) Measuring of computer literacy of teacher trainers, Journal of Educational Computing Research, v4 n3, p287-301, USA