Effectiveness of Using Activity Based ICT (Information and Communication Technology) Teaching Strategy in Development of Professional Skills Among Student-Teacher in Teacher Education Programme

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***Abstract*: This research paper is an attempt to find out the effectiveness of activity based ICT teaching and learning process in development of professional skills, knowledge and understanding among student teachers. The sample consists of 36 female student teachers and 14 male student teachers from gold field college of education in Bangarpet taluk, kolar district. A total sample of 50 student teachers was selected at random. 25 student teachers were selected randomly to form an experimental group. Another 25 student teachers were selected randomly to form the control group for the study. The experimental group was given activity based ICT strategy and the control group was taught the conventional method of teaching. The data were collected and analyzed with the help of researcher made questionnaire and suitable statistical techniques. A significant difference was found between the mean scores for achievement between the experimental group and control group.**

***Keywords*: Education programme, ICT strategies, Professional skills, Student-teacher, Teacher.**

1. Introduction

One of the most powerful reasons for considering using ICT strategy in an educational system is that they put teaching and learning in the hands of the user. Today is an information age and tremendous flow of information is emerging in all fields thought the world. Educational systems around the world are under increasing pressure to use the new information and communication technologies to train teachers the knowledge and skills they need in 21st century. Teachers at educational training institutes can use advanced information and communication technology based teaching strategies to create better career skills, knowledge and understanding.

2. Objectives of the Study

- To find out the effectiveness of the activity based ICT (Information and Communication Technology) strategy among student teacher trainees.
- To develop professional skills by using of activity based ICT strategy among student teacher trainees.
- To prepare student teachers to use activity based ICT teaching learning strategies in their future teaching field.

3. Hypothesis

- There is no significant difference in the Post-test scores of Activity based ICT teaching strategy between control group and experimental group.
- There is no significant difference in the Post-test scores of Professional skills towards Activity based ICT teaching strategy between control group and experimental group.
- There is no significant difference in Experimental group Post-test scores of Activity based ICT teaching strategy between male and female students.
- There is no significant difference in Experimental group Post-test scores of Understanding towards Activity based ICT teaching strategy between Science stream and Arts stream students.

4. Methodology of the Study

The research design suitable for this type of research study is found to be pre-test and post-test experimental group and control group design also known as 'Equivalent Group Design'.

5. Sample

14 male student teachers and 36 female student teachers trainees studying at the Gold field college of education, Bangarpet, were randomly as the sample for this study.

6. Analysis and Findings

Table 1
Showing the statistics of Post-test scores of Activity based ICT teaching strategy between Experimental and control group

Paired Samples Statistics					
Post test scores of		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Experimental group	211.04	25	7.092	1.418
	Control group	139.96	25	7.877	1.575

Table 2
Showing the t-test result between Experimental and control group post-test scores of Activity based ICT teaching strategy

Paired Samples Test								
Post test scores of	Paired Differences					T	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Experimental vs. Control group	71.080	10.440	2.088	66.771	75.389	34.042	24	.000

Table 3
Showing the statistics of Experimental group Post-test scores of Activity based ICT teaching strategy between Science stream and Arts stream students

Group Statistics					
	Subject Stream	N	Mean	Std. Deviation	Std. Error Mean
Experimental group post-test scores of Activity based ICT teaching strategy	Science stream	10	210.00	6.766	2.140
	Arts stream	15	211.73	7.450	1.923

Table 4
Showing the t-test result of Experimental group Post-test scores of Activity based ICT teaching strategy between Science stream and Arts stream students

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Experimental group post-test scores of Activity based ICT teaching strategy	Equal variances assumed	.283	.600	-.591	23	.561	-1.733	2.935	-7.805	4.339
	Equal variances not assumed			-.602	20.724	.553	-1.733	2.877	-7.721	4.255

A. Analysis and Interpretation

From the above data it is clear that there were 25 students who took control group post-test and 25 students who took part in experimental group post-test. A paired sample t-test was run to determine if there were differences in control group post test scores and experimental group post test scores of students. Mean of experimental group post-test (211.04±7.092) is slightly higher than the mean of control group post-test (139.96±7.877). Hence a statistically significant difference of 71.08 (95% CI 66.771 to 75.389), t (24) =34.042, p=0.000 was observed. Hence null hypothesis; there is no significant difference in the Post-test scores of Activity based ICT teaching strategy between control group and experimental group is rejected and the alternative hypothesis is accepted.

B. Analysis and Interpretation

Independent sample t-test was computed to find out the differences in the Post-test scores of Activity based ICT teaching strategy between Science stream and Arts stream students. Mean and standard deviation scores of Science stream students are found to be 210.00 and 6.766 respectively. Mean and standard deviation scores of Arts stream students are found to be 211.73 and 7.450 respectively. t = -0.591, p>0.05 at 5% level of confidence. Hence, the null hypothesis is accepted. That is there is no significant difference in Experimental group Post-test scores of Activity based ICT teaching strategy between Science stream and Arts stream students and therefore the alternative hypothesis is rejected.

7. Conclusion

The major objective of the study was to find out the effectiveness of activity based ICT teaching strategy among student teachers. The present study has revealed the superiority of activity based ICT strategy of teaching over the conventional method of teaching in educational teacher training institution.

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