International Journal of Innovative Research and Advanced Studies (IJIRAS)
Volume 4 Issue 7, July 2017

ISSN: 2394-4404

Prospective Teacher Educators' Educational Usage Of ICT

Dr. S. Singaravelu

Assistant Professor, St. Xavier College of Education,
Kumbakonam, Thanjavur, TN, India

Abstract: ***This study focuses on prospective teacher educators' educational usage of ICT. The sample for this study consists of prospective teacher educators of M.Ed. colleges of Kumbakonam Taluk of Thanjavur District, Tamilnadu, India. The total sample consists of 160 prospective teacher educators. The tool used for the study was prepared by the investigator considering the three dimensions such as learning activities, pedagogical approach and evaluation & research. Statistical analysis of percentage scores was calculated. Three null hypotheses were tested at 0.05 levels of significance. The findings of the study reveal that 75% prospective teacher educators have high level of educational usage of ICT.***

Keyword: ICT, Prospective teacher educator, Educational use.

I. INTRODUCTION

The teacher education programme designed to equip teachers with knowledge, attitude, behaviour, and skills that are required to perform their tasks effectively in the school and classroom. The National Council for Teacher Education (1998) has defined "teacher education as a programme of education, research and training of persons to teach from pre-primary to higher education level". The in-service programme gives teaching skill; simplify the complex concepts, self-evaluation of their own performance, supplementary educational activities, and workshop for new syllabus. The pre- service period of teacher training student which are trained microteaching, demonstration lesson, preparing models and SUPW. Teacher training students during the internship period which are to be write a lesson plan, preparing teaching aids, teaching sample lesson, practicing teaching skill, evaluated student performance and conducting action research. Now this era teacher education programme changing rapidly by use of ICT. According to UNESCO (2002) "ICT is a scientific, technological, education, engineering discipline and management technique used in handling information, its application and association with social, economic and cultural matters". ICT is the most powerful dart which teacher can use to change the learning society. According to Zhao and Cziko (2001) three conditions are necessary for teachers to introduce ICT into their classrooms: teachers should believe in the effectiveness of technology, teachers should believe that the use of technology will not cause any disturbances, and finally teachers should believe that they have control over technology. ICT provided online resources being used to professional development such as new method of teaching, modern practical ideas. ICTs also allow for the creation of digital resources like digital libraries where the students, teachers and professionals can access research material and course material from any place at any time (Cholin, 2005).Using power point presentation can enhance a traditional lecture. Using multimedia cases to teach topic that have previously been addressed through lectures could be provided good learning experience. CAI and WBI are useful in supporting student centred approaches to instruction and promoting collaborative activities. According to Bontempi and Hazelwood (2003), "one of the most powerful features of CAI is its capacity to individualize instruction to meet the specific needs of the learner".

The uses of ICT develop reference skill and demonstrate a critical understanding content. ICT can be used to remove communication barriers such as that of space and time (Lim and Chai, 2004). Teacher used in ICT to communicate between learning groups and beyond the classroom and also experts global communities. Quality of education can be greatly improved and benefit the teachers by using ICT. Tinio

(2002), states the "potentials of ICTs in increasing access and improving relevance and quality of education in developing countries". By using ICT the teacher education can provide increased flexibility and multisensory learning to student teachers while training them to be teachers ahead. ICT helps in providing a catalyst for rethinking teaching practice (Flecknoe, 2002).

II. REVIEW OF RELATED STUDIES

Bottino (2003) mention that use of ICT can improve performance, teaching, administration, and develop relevant skills in the disadvantaged communities. Norzita (2004) conclude that the minimum level of the skill of using computers and ICT amongst teachers in teaching and learning of Science was high. Deaney et al. (2006) showed that the teachers stressed the benefits of access to a wider range of resources and more meaningful learning experiences that ICT use affords. They stressed the teacher's strategic role in structuring tasks and activities requiring the use of ICT. The teachers under study also underscored the importance of the teacher in carefully managing activities involving ICT use so that intended outcomes could be achieved. Plomp et al. (2007) state that the experience of many teachers, who are early innovators, is that the use of ICT is motivating for the students as well as for the teachers themselves. The findings revealed that while teachers were making use of ICT in all areas of the lesson, the focus of use tend to be for the speedy delivery of content and syllabus completion rather than the construction of knowledge as reported in the studies by Liu (2010). Obakhume (2012) assessed secondary school teachers' use of ICT in Oyo metropolis of Oyo state. They examined that the availability and usability of Information and communication technology among secondary school teachers in Oyo Metropolis. The research design employed is the descriptive survey design. Data collected were analyzed using frequency tables and simple percentage. They concluded that ICT facilities are not available in most of the schools covered. It was also observed most teachers used as the sample for the study, are not competent in the use of ICT. Mingaine (2013) to investigate skills challenges in adoption and use ICT in public secondary school, Kenya. They explored that the teachers' skills that influenced the process of adoption and use of ICT in public secondary schools. They adopted a descriptive survey research design. Data collected was analyzed by use of descriptive and inferential statistical techniques. They showed the findings established that there was limited supply of qualified ICT teachers in Kenya.

III. OBJECTIVES OF THE STUDY

The following are the objectives formulated by the investigator for the present investigation:

- ✓ To study the prospective teacher educators' educational usage of ICT,
- ✓ To study if there is any significant difference between the male and female prospective teacher educators in respect of their educational usage of ICT,
- ✓ To study if there is any significant difference between prospective teacher educators who belong to arts subject and science subject in respect of their educational usage of ICT,
- ✓ To study if there is any significant difference between prospective teacher educators having internet facility at home and not having internet facility at home in respect of their educational usage of ICT.

IV. METHODOLOGY

Research design: The investigator adapted normative survey method to pursue his study.

Sample and sampling technique: The sample comprises 160 randomly selected prospective teacher educators (M.Ed. students) from 3 M.Ed. College in Kumbakonam Taluk of Thanjavur District, Tamilnadu, India selected by lottery method.

Tool: Educational usage of ICT scale constructed and validated by the investigator used for collecting the data. It included 30 items from strongly agree to strongly disagree; it measures in three dimensions such as learning activities, pedagogical approach and evaluation & research. For the present tool validity was established by taking the opinion of experts and teachers who were active ICT users across various faculty and relevant changes were made hence the tool has got content and constructs validity. Reliability was found by crobach's alpha (0.89) and tool was found to be reliable.

Delimitation: The present investigation is confined to selected master of education colleges from Kumbakonam Taluk, TN, India. The study is conducted by considering some demographical variables.

Data analysis and interpretation: The data was analysed through descriptive as well as inferential statistics. The normality of data is assessed by calculating the values of mean, median, S.D. In order to study the significant difference in educational usage of ICT with regard to gender, subject and internet facility at home t-test was employed.

Levels	Entire sample	Male prospective teacher educators	Female prospective teacher educators	Prospective teacher educators who belong to arts subject	Prospective teacher educators who belong to science subject	Prospective teacher educators having internet facility at home	Prospective teacher educators not having internet facility at home
High	75.0%	85.5%	52.0%	62.8%	86.5%	79.4%	68.3%
Average	12.0%	5.4%	26.0%	10.3%	11.3%	17.5%	3.2%
Low	13.0%	9.1%	22.0%	26.9%	2.2%	3.1%	28.5%

Table 1: The levels of educational usage of ICT of entire sample and its sub-samples

From the Table-1, it is inferred that the majority of the prospective teacher educators' educational usage of ICT is high. The proportion of students in each category is detailed as follows: Out of the entire sample of prospective teacher educators, 75.0% of them are having high level of educational usage of ICT, 12.0% of them have an average level of educational usage of ICT and 13.0% of them have low levels of educational usage of ICT. The same trend has been seen in respect of the sub-sample also.

Variables	N	Mean	SD	't' Value	Significance at 0.05 level
Male prospective teacher educators	110	122.05	18.83	3.68	Significant
Female prospective teacher educators	50	106.78	26.42		

Table 2: Significance of the difference between the means of the educational usage of ICT scores based on Gender

It is evident form table-2 the calculated 't' value is 3.68, which is significant at 0.05 level. Hence it is inferred that there is a significant difference between male and female prospective teacher educators with respect to their educational usage of ICT.

Variables	N	Mean	SD	't' Value	Significance at 0.05 level
prospective teacher educators who belong to arts subject	78	109.45	25.53	4.48	Significant
prospective teacher educators who belong to science subject	82	124.72	16.24		

Table 3: Significance of the difference between the means of the educational usage of ICT scores based on Subject

It is evident form table-3 the calculated 't' value is 4.48, which is significant at 0.05 level. Hence it is inferred that there is a significant difference between prospective teacher educators who belong to arts subject and science subject in respect of their educational usage of ICT.

Variables	N	Mean	SD	't' Value	Significance at 0.05 level
prospective teacher educators having internet facility at home	97	120.52	17.62	2.08	Significant
prospective teacher educators not having internet facility at home	63	112.29	27.96		

Table 4: Significance of the difference between the means of the educational usage of ICT scores based on internet facility at home

It is evident form table-4 the calculated 't' value is 2.08, which is significant at 0.05 level. Hence it is inferred that there is a significant difference between prospective teacher educators having internet facility at home and not having internet facility at home in respect of their educational usage of ICT.

V. IMPORTANT FINDINGS

The following are the important findings obtained from the present investigation:

- ✓ The entire samples of the prospective teacher educators have high level of educational usage of ICT. This trend is seen in respect of the sub-samples, too.
- ✓ There is a significant difference in educational usage of ICT between male and female prospective teacher educators. Moreover male prospective teacher educators are found to be better than the female prospective teacher educators in respect of their educational usage of ICT.
- ✓ There is a significant difference in educational usage of ICT between prospective teacher educators who belong to arts subject and science subject. Moreover prospective teacher educators who belong to science subject are found to be better than the prospective teacher educators who belong to arts subject in respect of their educational usage of ICT.
- ✓ There is a significant difference in educational usage of ICT between prospective teacher educators having internet facility at home and not having internet facility at home. Moreover prospective teacher educators having internet facility at home are found to be better than the prospective teacher educators not having internet facility at home in respect of their educational usage of ICT.

VI. CONCLUSION

ICTs have provided various possibilities to teaching professions. Innovative teaching experience can be endowed with using through ICT. So prospective teacher educators use those technologies in their teaching and research process to continuously retain themselves and acquire new knowledge and skill.

REFERENCES

[1] Bontempi E, Hazlewood LW . (2003). Factors in effective computer-assisted instruction. Accessed September 8, 2007 from http://www.xplanaziecomarcieves/2003 /u/factors in effc.php

[2] Bottino, R. M. (2003). ICT, national policies, and impact on schools and teachers' development' 'CRPIT '03: Proceedings of the 3.1 and 3.3 working groups' conference on International federation for information processing. Australian Computer Society, Inc., Darlinghurst, Australia, Australia, 3-6.

[3] Cholin,V. S. (2005). Study of the application of information technology for effective access to resources in Indian university libraries. The International Information & Library Review, 37(3), 189-197.

[4] Deaney, R., Ruthven, K., & Hennessy, S. (2006). Teachers developing practical theories of the contribution of information and communication technologies to subject teaching and learning: an analysis of cases from English secondary schools. British Educational Research Journal, 32 (3), 459-480.

[5] Flecknoe, M. (2002). How can ICT help us to improve education? Innovations in Education & Teaching International, 39(4), 271-280.

[6] Lim, C. P. & Chai, C.S. (2004). An activity-theoretical approach to research of ICT integration in Singapore schools: Orienting activities and learner autonomy. Computers & Education, 43(3), 215-236.

[7] Liu, S.H. (2010). Factors related to pedagogical beliefs of teachers and technology integration. Computers & Education, 56, 1012-1022.

[8] Mingaine, L. (2013). Skill challenges in adoption and use of ICT in public secondary schools, Kenya. International Journal of Humanities and Social Science, 3(13), 61-72.
[9] National Council for Teacher Education (NCTE). (1998). NCTE Document New Delhi, Published by Member Secretary, NCTE.
[10] Norzita Mohd Darus. (2004). Review of the implementation of the willingness of teachers in teaching of Science and Mathematics in English. Master's project paper of education, Universiti Kebangsaan Malaysia.
[11] Obakhume, A. S. A. (2012). Assessment of secondary school teachers' use of information and communication technology (ICT) in Oyo metropolis, Nigeria. Journal Plus Education/Educatia Plus, 8(1).
[12] Plomp, T., Pelgrum, W. J. & Law, N. (2007). SITES 2006- International comparative survey of pedagogical practices and ICT in education. Education and Information Technologies, 12 (2), 83- 92.
[13] Tinio, V.L. (2002). ICT in Education: UN Development Programme.
[14] UNESCO. (2002). Information and Communication Technologies in Teacher Education, A Planning Guide. Paris: UNESCO.
[15] Zhao, Y. & Cziko, G. A. (2001). Teacher adoption of technology: a perceptual control theory perspective. Journal of Technology and Teacher Education, 9 (1), 5-30.