Research Paper

Knowledge of ICTS among Teachers of Secondary School Education

Singh Shilpa[1]*, Mishra Sunita[2]

ABSTRACT

ICT is changing processes of teaching and learning by adding elements of vitality to learning environments including virtual environments for the purpose. ICT can enhance the quality of education in several ways, by increasing learner motivation and engagement, by facilitating the acquisition of basic skills, and by enhancing teacher training. ICT provide-motivation to learn. ICT such as videos, television and multimedia computer software that combine text, sound, and colourful moving images can be used to provide challenging and authentic content that will engage the student in the learning process. The study was conducted in urban areas of Lucknow city of Uttar Pradesh, in the year 2016. A total of 150 samples which include students and their teachers of secondary level classes selected randomly by government and private schools. Data collected by self made questionnaire which is standardized by specific subject experts. For data analysis t- test was used in research. The result revealed that significance differences shown in use of ICT as an educational tool in secondary school education on the basis of teacher's age. The hypothesis was rejected.

Keywords: ICTs, ICTs learning, Teaching Process, Quality of Education, ICTs Tools

ICT in school management system will assist schools to plan for the effective use of digital technologies in their everyday practices to prepare students for the demands of an ever-changing world, to achieve powerful learning and teaching, and improve learning, teaching and administration. ICT as any object which allows students and teachers to get information through to electronic communication. **(Singh & Mishra, 2016)** ICT have demonstrated potential to increase the options, access, participation, and achievement for all students. The potentials of information and communication technology (ICT) to facilitate students' learning, improve teaching and enhance institutional administration had been established in literature. Teachers generate meaningful and engaging learning experiences for their students, strategically using ICT to enhance learning. ICT in secondary schools provide lots of opportunities to teachers to transform their practices by providing the learners with improved educational content and more effective teaching and learning methods. (**Patra,**

---

[1]M.Phil. Student, Department of Human Development & Family Studies, School for Home Sciences, Babasaheb Bhimrao Ambedkar University, Lucknow, India
[2]Professor, Dean & Head, Department of Human Development & Family Studies, School for Home Sciences, Babasaheb Bhimrao Ambedkar University, Lucknow, India
*Responding Author

2014) In ICTs tools multimedia has important characteristics that make it different from the other forms of media—it is ***digital and interactive***. Digital multimedia is a combination of media (text, pictures, audio and video) that is represented all study material digitally. In interactive, it combines multiple disciplines for the development of multimedia systems that are capable to sense the environment and dynamically process, edit, adjust or generate new content. **(Singh & Mishra, 2016)** ICT compress distance and allow teachers and educators to share best practices with each other. Through, ICT students have option to interact with not only peers in class but also counterparts across the world and motivate for co – operative learning. (**Bandyopadhyay, 2013**) Secondary education covers children aged 12 to 18, a group comprising 88.5 million children according to the 2001 Census of India. The final two years of secondary is often called Higher Secondary (HS), Senior Secondary, or simply the "+2" stage. Information communication technologies are influencing all aspects of life including education. They are promoting changes in working conditions, handling and exchanging of information, teaching-learning approaches and so on. ICT are making major differences in the teaching approaches and the ways students are learning. ICT-enhanced learning environment facilitates active, collaborative, creative, integrative, and evaluative learning as an advantage over the traditional method. (Mikre, 2011) Teaching and learning in ICT setting changed the role of teacher from transmitter to facilitator. (Rindharwan & Khamrang, 2011) ICT can promote significant changes in teaching practices and can have benefits for students, particularly those considered at-risk, in their attitudinal development. (Dix, 2007)

Objective
- To determine the knowledge of ICT among teachers of secondary school education.

Hypothesis
H_0 No significant differences exist in knowledge of ICT among teachers of secondary education.

RESEARCH METHODOLOGY

Research design followed in the study is cross sectional design. The study was conducted in urban areas of Lucknow city of Uttar Pradesh, in the year 2016. Determine the sample with the use of simple random sampling student is who aged between 14-18 years and studied in secondary education and teachers who are currently teaching ICTs in secondary education schools. The sample size was 150. Used self made questionnaire which is standardized by specific subject experts for data collection. After data collection, the data were tabulated in Microsoft excel and analysis was done by using frequency, percentage and f-test through SPSS (20th version).

RESULT

Table-1:Distribution of the Respondents based on gender

S.no.	Teachers	
1	Male	Female
2	25(50%)	25(50%)
Total (N)	50(100%)	

The above table showed the distribution of respondents based on their gender. There are equal participation of gender of teachers of male (50%) and female (50%).

Table-2: Mean, SD & f- value of knowledge of ICT among teachers of secondary education based on teacher's age

Variable	20-25		26-31		31- above		f-value	Sig
	Mean	SD	Mean	SD	Mean	SD		
Operating System	1.06	.236	1.00	.000	1.83	.389	53.720	.000***
Word Processor	1.17	.383	1.00	.000	1.08	.289	1.811	.175
Spreadsheet Processor	1.22	.428	2.00	.000	1.00	.000	70.769	.000***
Portable Music And Video Player	1.17	.383	1.00	.000	1.67	.492	15.525	.000***
PowerPoint In Classroom	1.00	.000	1.05	.224	1.00	.000	.742	.482
Input Source	1.00	.000	1.65	.489	1.25	.452	14.100	.000***
Output Sources	1.00	.000	1.00	.000	1.00	.000		
Designing Programs	1.39	.502	1.45	.510	1.00	.000	4.208	.021*
Animation	1.00	.000	1.00	.000	1.00	.000		
Telecommunication Tools	1.17	.383	1.50	.513	1.00	.000	6.643	.003*
Subject Specific Software	1.00	.000	1.60	.503	1.00	.000	21.150	.000***
Digital Recorder	1.80	.410	1.25	.452	1.40	.495	20.601	.000***

(p<0.05) & (P<0.001***)*

The table has shown high significance differences in operating system, spreadsheet processor, portable music and video player, input source, subject specific software and digital recorder. Significance differences shown in designing programs and telecommunication tools whereas no significance differences shown in word processor and PowerPoint in classroom.

CONCLUSION

Result shown that the teacher's have good command on ICT tools. Teachers have knowledge about operating system, word processor, and spreadsheet processor. They know appropriate use of MP3/MP4, input sources and output sources and designing programmes. They explained through PowerPoint presentation, animation, videos. Teachers used telecommunication tools for effective communication skills. Teachers provide relevant scientific information through to ICT to secondary education students. Teachers used widely ICT tools in providing knowledge of basic concept formation in depth, solution to numerical problems and theoretical explanation. They used electronic ICT tools appropriately and according the demand of subject content.

REFERENCES

1. Singh, S. & Mishra, S. (2016). "A study an interactive elementary education (3-6) with multimedia", International Journal of Home Science, 2(1), 214-215.www.homesciencejournal.com
2. Patra, N. J. (2014). "The role of ICT in improving the quality of school education in India", International educational E- journal {Quarterly}, III (II), 150-156.www.oiirj.org

3. Bandyopadhyay, A. (2013). "Technology integration before student outcomes: factors affecting teacher adoption of technology in India", Faculty of the Graduate School of the University of Maryland, College Park, Maryland.
4. Rindharwan & Khamrang, A. (2011). "The role of ICTs in enhancing the quality of preschool education: concerns and issues", Quality dimensions of early childhood care & education: concerns & issues, Department of education, Regional institute of education (National Council of Educational Research and Training, New Delhi) Bhubaneswar, Odisha – 751022.
5. Dix, L. K. (2007). "A longitudinal study examining the impact of ICT adoption on students and teachers", Flinders University of South Australia.
6. Mikre, F. (2011)."The roles of information communication technologies in education review article with emphasis to the computer and internet", Ethiop. J. educ. & sc., 6(2),
7. Singh, S. & Mishra, S. (2013). "A study about role of multimedia in early childhood education", International journal of humanities and social science invention, 2(6), 80-85.
8. Singh, S. & Mishra, S. (2016). "Positive Influence of the Multimedia in Primary Education". The international journal of Indian psychology, 3 (2), 179-183.
9. Volman, M. (2005). "Variety of roles for a new type of teacher: educational technology and the teacher profession", Teacher and teacher education, 2(1), 15-31.
10. Voogt, J. (2003). "Consequences of ICT for aims, contents, processes, and environments of learning:, In J.van den Akker, W. Kuiper & U. Hameyer (Eds.), Curriculum landscapes and trends, Dordrecht: Kluwer Academic, 217 – 236, Publishers.
11. Seema Sirpal, COMPUTER BASICS, Delhi University Computer Centrehttp://vfu.bg/en/e-Learning/Computer-Basics--computer_basics2.pdf 2/2/2016, 10.31pm
12. Schaumburg, H. (2001). Fostering girls' computer through laptop learning –Can mobile computers help to level out the gender difference. http://www.notesys.com/Copies/necc01.pdf 8/2/2016, 9.00pm
13. Tinio, V.L. (2002). ICT in Education: UN Development Programme. http:www.eprmers.org 8/2/2016, 1.00am

Conflict of Interest
The author declared no conflict of interests.