Response of Teachers towards the use of Educational Technology in Schools in India

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Abstract

The role of teacher to use various technologies in classroom is obviously very important, and every educational reform effort should take into consideration teachers' knowledge, skills, beliefs, and attitudes. Study was conducted to assess the availability and use of various technologies in schools and efficiency of teacher's to interaction with these technologies. The model of this study was general survey by online and offline mode. The results show variation among the teachers within a school regarding use of various educational technologies. The study provides us a fair idea about the common technologies available in schools and capabilities of teacher to use them.

Introduction

In improving the educational scenario all over the world, the role of Information and Communication Technology (ICT) have been identified the most momentous (Pelgrum, 2001; Kozma and Anderson, 2002; Goodison, 2003; Kangro and Kangro, 2004; Hennessy, et al., 2005), and investment being made heavily in increasing the number of computers and in the networking of classrooms (Pelgrum, 2001). Moreover, many researchers have predicted that the importance of educational technology in the classroom will continue to increase and open educational resources provide wings to them (Becker and Ravitz, 2001, Sharma, 2013). However, the process of integrating the technology in the school curriculum continues to be a complex and challenging (Cooper, 1998), and the seamless integration of computers in teaching and learning has yet to be achieved (Kozma and Anderson, 2002).

To support lifelong learning for all groups of students, ICT offers a great potential including the children with special educational needs. The application of ICT must enhance independence, integration, and equal opportunities for such people and in this way will facilitate their inclusion in society as valued, respected, and contributing members (Edwards, et. al., 2006).

The role of teacher in the integration of computer technologies in school is evidently very imperative, and every educational reform effort should take into consideration teachers' knowledge, skills, beliefs, and attitudes (Cuban, 2000). The beliefs and attitudes play a fundamental role in the way that teachers deal with ICT in the classroom (Watt, 1980). In other words, dealing effectively with ICT relates not only to knowledge of the capability, limitations, applications, and implications of ICT, but also to individuals' attitudes and perceptions regarding ICT tools.

Teachers have a significant impact on their students. The instructional strategies selected by the teacher influences student learning outcomes. Therefore teachers need to be selective in the choices they make. Research on teaching suggests that teachers serve as guide to enhance student learning (Marzano, et al., 2001). As a guide, the teacher is responsible for ensuring that the approach used to help student is effective in helping them and achieve the intended learning outcomes (Smaldino, et al., 2007).

Unfortunately, research evidence (Darling-Hammond, 1990; Bosch and Cardinale, 1993; Ely, 1995; Hunt and Bohlin, 1995; Brush, 1998; Becker and Ravitz, 1999; Cuban, 2000) indicates that technology reform efforts have failed because teachers' beliefs, skills, and attitudes were never taken into consideration. Teacher behaviour, though, is not only a function of their abilities, skills, and attitudes, but also a function of their surrounding work environment.

Methodology

The main purpose of the study was to have an idea about the attitudes of the teacher candidates towards the Educational Technologies. The study was conducted with a survey research model. This study was designed to examine teachers' responses about educational technology and to compare their responses based on data generated. Participants were selected randomly from different schools across Delhi. The questionnaire was distributed to them. Some of the responses were filled through online mode. A total of 45 samples were analysed for the study. The data was analysed to generate the inferences.

Results and Discussion

The survey was conducted to generate baseline data and ground reality about the presence and absence of ICT infrastructures in schools and the capability of teachers to use it. The resulting data were analysed and the responses were interpreted as per the objectives of the study.

Computers are considered to be as one of the technologies used in education yet the powerful one. The survey was started with simple query regarding the presence/absence of computers in their schools. 72% of the schools have computers while 28% schools were without computers (Graph-1). But only 36% of the teachers having computers at their homes and 64% were devoid of it (Graph-2). Although 72% of the schools having computers, still 56% of the teachers were using them daily either at school or at home for educational purposes, 12% teachers using only once in a week, 20% in once or twice in a month, 8% never used the computer and 4% of the teachers not responded to the question. Some of the teachers, who did not have computers at their schools, but have access to computers at their homes (Graph - 3).

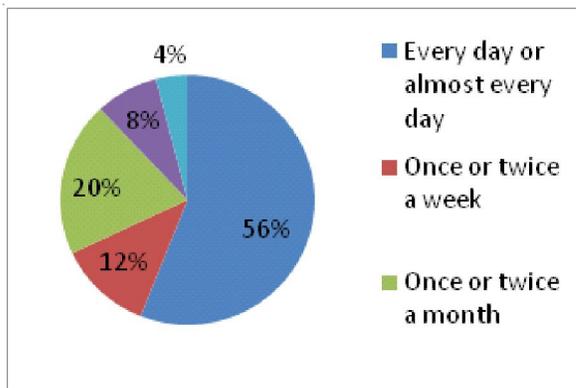As for as personnel use of computer was concern, like

making reports and other uses, only 24% of the teachers were taking benefit weather at home or at offices, while 36% were using only once or twice in a week, 32% only once in a month and 8% of the teachers never used computers (Graph - 4).
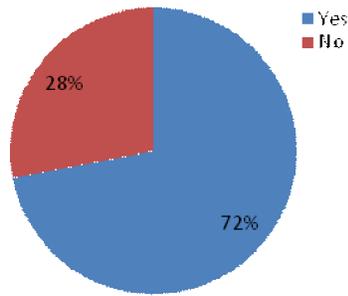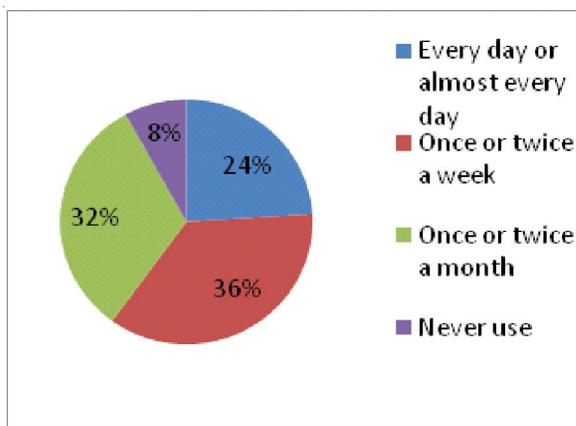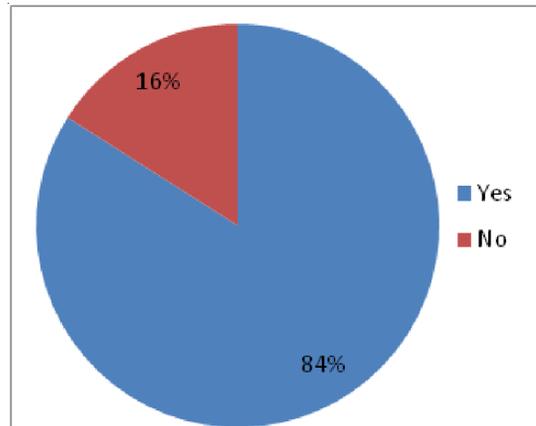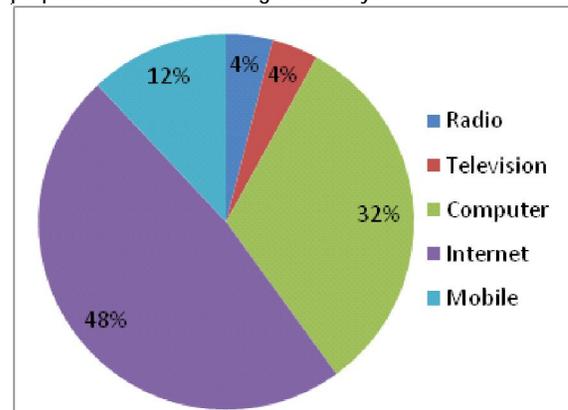

Graph-1
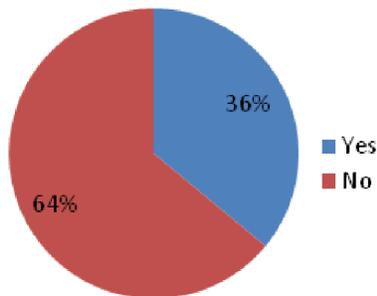
Graph-2

Graph-3

Graph-4

Internet is one of the most important tools of Educational Technology and ICT. It helps in interacting with other teachers and sharing of resources besides other important works. 84% of teachers having access to internet at their schools through various devices like Computers, mobile phones, Tabs etc and 16% shows their inability to access the internet at their work-places (Graph - 5).
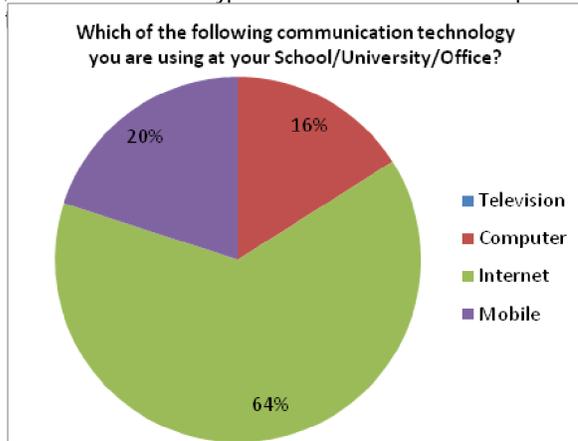

Graph-5

There are many educational technologies are available for classroom teaching like computers, radio, mobile phones, laptops, television etc. Teacher shows their responses towards the use of these ICT tools for educational use. Most of the teachers gave credit to internet (48%) as most powerful tool for teaching, weather to access, download or share the educational resources. 32% voices for computers/laptops, 12% for mobile phones and tabs while 4% each to television and radio respectively (Graph - 6). While responding to which of these technologies they are using in their schools for educational purposes, they responded 64% to internet, 20% to mobile phones and only 16% to computers (Graph - 7). None of the teacher pitches for radio and television for educational purposes at schools during these days.
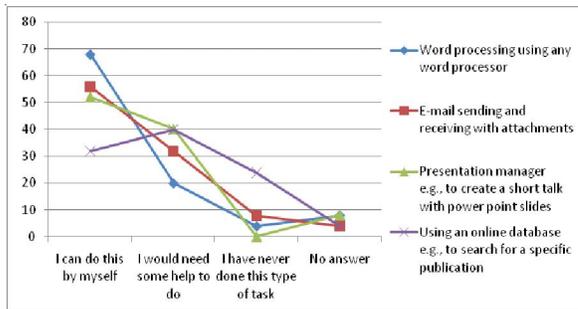

Graph-6

During the study effort was also made to know about the capability of teachers to deals with basic software applications like word processor, PowerPoint presenters, use of internet for sending emails and searching online databases for various educational resources. 68% of the teachers who were using computers either at home or at schools, responded towards their capability of working on word processors, 20% agrees to takes help from someone, 4% never works with it and 8% do not respond to the question. 56% of the teachers know how to send emails with attachments while 32% seeks help of others while performing the task, 8% never sends emails and 4% do not say anything. 52% of the teachers make their

own PowerPoint presentations, 40% with the help of others, while 8% not responded to the question. It was quite interesting that 32% of the teachers using various online databases for educational contents while 40% with the help of others, 24% never done this type of tasks and 4% do not responded
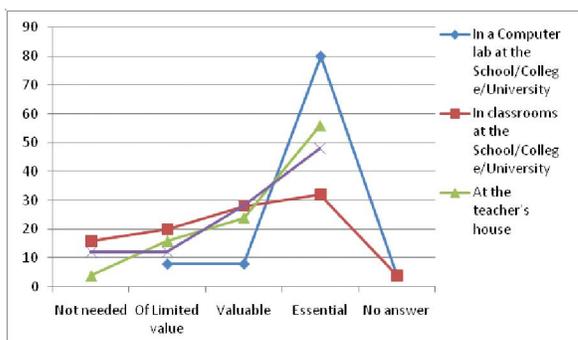

Graph-7

Graph-8

At the end of the survey, teachers give their views on the usefulness of computer and internet access in the laboratories, classroom, at their homes and at student's home. 80% of the teachers agree that computer and internet access is essential in laboratories. But only 32% suggests the use of computers and internet in classroom. 56% teachers give their advice regarding computers and internet at their homes while 48% pitches at student's home also (Graph - 9).

Graph-9

The survey provides us fair idea that most of the schools are devoid of computers but still more of the teachers are accessing the internet through other devices like mobile phones

and tablets. Some of the teachers who do not have access to computers at their school are using computers at their homes but few of the teachers who have computers at their schools, still not using them. The study provides the baseline data which will helpful for implementing agencies, which areas need to be prioritise. Merely providing the ICT infrastructure will not change the scenario of education in school system in India. There is need to train the teachers for their effective use. This will helpful for implementation of various ICT policies to enhance school education as envisaged by National Curriculum Framework (NCF) 2005.

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