A STUDY OF NEEDS AND ATTITUDES OF PRE-SERVICE TEACHER TRAINEES TOWORDS ICT

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Abstract

Information and Communication Technologies (ICT) has become one of the most imperative aspects in today's world and subsequently it has also become an integral part of today's schools - particularly those run by the private management. Even CBSE has made it mandatory for all of its affiliated schools to have their websites and keep updating the content on it, which includes even assignments to be given to the students and their report cards, apart from the routine administrative information. With these things in consideration as well as with numerous global advancements in ICT, it becomes very crucial that teachers must have adequate knowledge and proficiency of ICT as well as an understanding of the same about the importance, influence and engagement of this technological means in their student's lives. By ICT here we assume that ICT includes personal computers, laptops, printers, LCD projectors, Internet, and Intranet. However, generally it is seen that in Indian context, a thorough knowledge or even a working knowledge of ICT is very limited as far as in service teachers and future teachers are concerned.

This paper is based on an investigatory study designed to look into pre-service teacher trainee's (B.Ed. student's) understanding of ICT (Information and Communication Technology) literacy, the extent of their ICT needs, as well as their attitude towards acquiring ICT related knowledge and skills and infusing ICT skills into their routine professional life and future classroom activities. This paper presents the outcome of an analysis of the data collected at a Teacher Education Institution affiliated to Guru Gobind Singh Indraprastha University, New Delhi. The paper contends that in order to have wholesome ICT awareness all across the boards and school systems, multiple factors need to be tackled and then only an ICT enabled teaching community may develop and exist.

Keywords: CBSE, Information and Communications Technology (ICT), educational courseware

Introduction

Information and Communication Technologies (ICT) has become an important aspect of human life today. It has also become an integral part of today's schools - particularly those run by the private management. Even CBSE has made it mandatory for all of its affiliated schools to have their websites and keep updating the content on it, which includes even assignments to be given to the students and their report cards, apart from the routine administrative information. With these things in consideration as well as with numerous global advancements in ICT, it becomes imperative that teachers must have adequate knowledge and proficiency of ICT as well as an understanding of the same about the importance, influence and engagement of this technological means in their students' lives. By ICT here we assume that ICT includes personal computers, laptops, printers, LCD projectors, Internet, and Intranet. However, generally it is seen that in Indian context, a thorough knowledge or even a working knowledge of ICT is very limited as far as in service teachers and future teachers are concerned. Information and communications technology (ICT) is often used as an extended synonym for information technology (IT), but is a more specific term that stresses the role of unified communication and the integration of telecommunication (telephone lines and wireless signals), computers as well as necessary enterprise software, middleware, storage, and audio visual systems, which enable users to access, store, transmit, and manipulate information. Though there is no one and only one precise definition and universal concept of ICT today; however in general, we can outline the conceptual paradigm of ICT as one including personal computer system, laptop, palmtop, LCD projectors, internet, LAN, and various associated hardware and software for smooth functionality and useful output for the betterment of all walks of human life. The advent of ICT in human history is relatively new and it is growing day by day. To have a better and enhanced use of ICT, we need to have human resources equipped with the knowledge and skills of ICT in order to let us become more dynamic stakeholders of the thriving knowledge society.

This paper is the outcome of an investigatory study which was designed to analyze and understand pre-service teacher trainees' (B.Ed. students') perception of ICT (Information and Communication Technology) literacy in the beginning of their B.Ed. programme, the extent of their ICT needs when they progress with their curriculum, and their attitude towards acquiring ICT related knowledge and skills and infusing the same into their routine professional life and future classroom activities. The findings of the study, as presented in this paper, are derived through the analysis of various data collected using different means and tools such as questionnaires, semi-structured interview schedules and review of course documents of GGSIP University, which is a compulsory course in the second semester of the B.Ed. programme of the University.

Description of the Program and the Course

The teacher education program (B.Ed.) described here is a one year programme split into two

semesters comprised of theory papers and practical works including school experience programme. The total credit assigned to the B.Ed. course is 52 credits. The recent change in the syllabus of GGSIP University has resulted into inclusion of a course "ICT Mediated Education" (Course Code 106) and a related practical course titled as "Integrating technology with education" (Course Code 146). The credits and time allocation for the above stated courses are as the following:

Table 1
Course Description of Theory and Practical Components of ICT Paper

Course Code	Name of the Paper	Credit	Time Allotted
E 106	ICT Mediated Education	03	48 Hours
E 146	Integrating Technology with Education	03	96 Hours

Objective of the ICT Mediated Education Course

The ICT mediated education course is designed for pre-service teacher trainees (B.Ed. students) with the aim of helping them appreciate the concept of integration of information and communication technology with education; assure a positive role in technology mediated communication in the classroom; benefit from the computers and internet for educational research and interaction; employ various technological equipment/amenities and the application software in, skillfully and intelligently producing; structured educational courseware for use in methodologies (teaching subjects); develop and evaluate plans based on NTeQ model as a learner; and devote efforts for working on the same as if, a school student, evaluate educational software and computer based educational courseware.

Content

This course comprises a mixture of theory and practice as it covers most influential theories related to implementation of ICT in education as well as the actual applications of ICT in classroom transactions. In the theoretical part of the course, students read and reflect on ICT in education, psychological bases of employing ICT in education, Dale's Cone of experience, National Policy on ICT in school education, technology mediated communication, interaction through computers and internet, computer fundamentals, computer based education and computer managed education, education through multimedia, multimedia courseware, concept, definition and characteristics, development of computer based instructional courseware, multimedia enhancing the teaching - learning process, evaluation of lessons transacted through computer based instructional courseware (MM Lessons). The integrating technology for inquiry (NTeQ, pronounced "in-tech") model, components in the NTeQ philosophy: the teacher, student, computer, lesson and multidimensional environment, integrating internet and application software (word processor, spreadsheets, presentation software, hot potatoes) with the NTeQ model, ICT and evaluation, educational software - concept, need and evaluation of

educational software, developing question bank using hot potatoes with different types of questions such as multiple choice, short answers, jumbled sentences, crossword, match, order, gap-fill exercises, etc.

Methodology

The present study adopted survey method to carry out the research. The purpose of the study was to determine, at first, the level of ICT awareness of the identified presently enrolled teacher trainees as well as understanding their needs and attitudes towards ICT course that might help them in integrating ICT into their classroom practices. The research questions for this study were:

a. What are the level of ICT literacy and awareness of the pre-service teacher trainee students (B.Ed. Students) at the onset of the Teacher Education program?

b. What are the ICT needs of the pre-service teacher trainees and their attitudes towards acquiring ICT skills and integrating the same during and after the program?

Objectives of the Study

In tune with the research questions of the study, the objectives of the study were as the following:

a. To study the level of ICT literacy and awareness of the pre-service teacher trainees in the beginning of the teacher education program.

b. To understand the ICT needs and attitudes of the teacher trainees towards learning ICT skills and integrating the same during and after the program.

Sample

Students of a teacher education institute affiliated to GGSIP University, Delhi were requested to voluntarily complete the online questionnaire and ten volunteers from the batch were invited for the group interviews (n = 10). Out of the 100 students who were requested to participate in the survey, 38 came forward to participate in the online survey (n=38).

Tools

Questionnaire: A questionnaire was developed to collect the data, through online mode, on the participant teacher trainee's basic information, their needs for ICT knowledge and skills, and their attitude towards learning ICT skills and using the same in their own classroom teaching.

Semi-Structured Interview Schedule: A semi-structured Interview schedule was used to conduct group interview of ten students after the filled in questionnaires were obtained from them. These interviews were designed to further explore the participant's needs of ICT knowledge and skills, as well as their attitudes towards integrating the so acquired ICT skills into their own classroom teaching.

Discussion

Out of total enrolled 100 students, 38 students willingly participated in the process and gave their response to the online questionnaire. The study having been conducted in just one teacher education institute, cannot claim to be theoretically appropriate to be generalized, still some insightful and valuable interpretations were derived based on the data procured that could be used further for future studies.

The following Table 2 presents the details of the participating teacher trainees in terms of their gender, age group, language proficiency, ICT knowledge and awareness, and their educational qualifications before joining the B.Ed. program.

Based on the information, as collated in the tabular form, it seems that learners with previous ICT experience seemed more at ease in participating in the survey. Also, the female participants were more keen and enthusiastic for participating in the research study. Most of these participant teacher trainees were from the science background and only a few (n = 8) had a background of social sciences and humanities.

Table 2
Online Survey Respondents' Demographic Information

	Gender		Age Group		Language Proficiency		Prior ICT Experience		Educational Qualifications	
	Male	Female	20s	30s	English	Others	Yes	No	Graduate	P.G.
No.	8	30	32	06	34	04	32	06	26	12
%	21%	79%	84%	16%	89%	11%	84%	16%	61%	39%

From the information presented in the table, it is evident that out of the total participants, females dominated the list. Out of thirty eight participants, only eight were boys. Also, out of the 38 participants, 34 were from english background. This may be interpreted as the educational background has more to do with the ICT awareness of the students; and probably those having studied with english medium instructional background were more comfortable with ICT. The data also suggests that the younger lot of the participants were more into ICT related activities, though there could be other reasons of this as well. participants with science background had better awareness and understanding as well as comfort level with the use of ICT than those from social sciences and humanities background. Also, it emerged that pre-service teachers who had gained more experience in ICT during their previous studies, were more comfortable in using it.

Interview Outcomes

After receiving the online response of the participants, they were interviewed in groups. It was sort of an informal but systematized discussion with the help of structured and semi-structured questionnaires. The interview or discussion process helped in articulating trainee teacher's perspectives of ICT, its need and their own strategies for their future practices. The heterogeneous responses were the obvious and expected outcome of the process. Still some useful things did emerge out of the discussion with the participants.

Concept of ICT

Most of the participant teacher trainees were of the view that anything related to use of computer and internet for educational processes-both software and hardware will fall under the category of ICT. The ICT is a means of exploring and acquiring the huge body of knowledge that is growing day by day and that could be accessed to from any corner of the globe today with the help of this medium (ICT). Most of them agreed that for teachers of present time, ICT is an unavoidable and an imperative knowledge and skills.

Challenges the Pre-Service Teacher Trainees in the ICT Mediated Education Course

The ICT mediated education course has been added in the B.Ed. curriculum of the GGSIP University very recently. And in most of the cases, teachers are not trained adequately to impart the course completely. As per the norms of the regulatory bodies (NCTE and University), faculty members for the B.Ed. programme should have a post graduate degree in any school subject and a post graduate degree in education. Knowledge of ICT is not mandatory. Earlier in the teacher education programme, ICT was not a compulsory paper. Even now, in many other universities, it is not a compulsory paper. And teacher education institutions employ only a bare minimum number of faculty members, just to suffice the regulatory need of the curriculum transaction. This poses a challenge on trainee teachers in order to cope with the demand of the subject. The participants felt that they did not have enough time to practice ICT skills on their own. Classroom transaction is somehow there but not adequate.

Attitudes toward Learning and Teaching of ICT

The participants were of the view that if there is enough facility in terms of resources and teacher educators, it should be integrated in all the courses of the teacher education program as this is ultimately going to help them in future. The participants were unanimous in saying that it is very important for present days' teachers to become ICT literate and that this is the key to success in all walks of life today.

Analysis

The study outlines clearly that the participants were inclined towards acquiring knowledge and skills of ICT for their present and future practices and they did realize the need for the same in order to

have a successful professional career. The conceptual variations about the ICT were not that significant, however they were just because of their varied exposure of the ICT in their previous studies. Participants seems positive and enthusiastic about the ICT mediated education course having been included in the B.Ed. curriculum but clearly felt the need of adequate support in terms of instructional resources and competent teacher educators. Science background students were more at ease in terms of ICT use than their humanities counterparts and English medium students were also more comfortable than their other peers. However, even those who were less exposed to ICT experiences at the outset of the B.Ed. programme, seemed more keen on getting as skilled as they could be. The study revealed the fact about authoritie's non sincere approach towards including a particular course in the curriculum without having done something substantial in order to transact the same effectively.

Conclusion

The findings of the study show that inclusion of the ICT course in pre-service teacher education programme is just not enough if proper support system in terms of adequate resources and academic support is not provided and proper planning to this effect is not done, the purpose will get defeated. The need and attitude of teacher trainees towards ICT would be obviously positive but that is just not sufficient. Adequate measures to be taken are a must for successful implementation of the ideological framework. More infrastructural support should be provided and monitoring of the same should be there in place to ensure the qualitative inputs.

Limitations

The limitations of the study were the small sample size and limited number of variables with respect to the formulated objectives of the study. So the findings of the study cannot be generalized and there may be many other factors that might have affected the outcome of the study. Also, considering the variations in circumstances prevalent in our school system, where there are those private schools which are equipped with huge computer infrastructure and power back-up; there are others including government schools that have absolutely no such support system in place; it would be difficult to state that the teacher trainees that undergo such ICT exposure are surely going to contribute meaningfully in educating the young generations with all such visualized ICT utilities. So the relevance of the ICT learning of trainee teachers depend on the kind of work atmosphere they get in future.

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