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## Research Article

# LEARNING WITH ICT: USE & BARRIERS FROM TEACHERS' PERCEPTIONS

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### ABSTRACT

In this digital era, ICT use in the classroom has become important for giving students opportunities to learn with a greater pace and with technology to be with the world outside. Despite lots of budgeting and accommodation of funds; there are several barriers regarding appropriate use of Information and Communication Technologies. Therefore, it becomes important to study the issues related to the use of ICT so that these barriers can be removed and learning can become more effective. Therefore, the main purpose of this study is to analyse teachers' perceptions and barriers faced in using ICT tools in classrooms for learning. A qualitative research design was used to collect the data randomly from government school teachers of 10 schools of Delhi. Overall the key issues and barriers found to be significant in using ICT tools by teachers were: limited accessibility and network connection, limited technical support lack of effective training, limited time and lack of teaching competency. This study provides clear picture of possible barriers encountered by the teachers in using ICT in learning process. This study also helps in making appropriate changes in the school and classroom organisation so that ICT can be better incorporated in the learning process

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## INTRODUCTION

Education plays a very important role for societies. For every nation proving its population, the quality education is a foremost goal. In this era of technology and science; Process of learning changed a lot over time. From blackboard to smart boards, from notebooks to tablets. From computers to laptops etc. technology and science is everywhere. Information and communication technology is an inevitable part of most of the institution these days (Zhang & Aikman, 2007). Due to increasing importance of ICT in society it becomes important to identify the possible barriers and barriers for improving the quality of learning. Although teachers acknowledge the value of ICT in schools, they continue encountering barriers in integrating technology into learning process (Balanskat, Blamire & kefala, 2006).

## LITERATURE REVIEW

Barriers in using ICT in teaching and learning Integrating ICT into teaching and learning is a complex process and one that may encounter a number of difficulties are known as "barriers" (Schoepp, 2005). The following are some of key barriers that have been identified in the literature regarding teachers use of ICT tools in classroom.

### *Limited accessibility and network connection*

There are number of studies that talk about the barriers faced by the teachers in incorporating ICT tools in the classroom's learning process research indicates several reasons for lack of access to technology. The inaccessibility of ICT resources is not always merely due to non-availability of the hardware and software or other ICT materials within the schools. It may be the result of one number of factors such as poor resource organisation, inappropriate software, poor quality hardware or lack of personal access for teachers. The barriers related to the accessibility of new technologies for teachers are widespread. Inappropriate access is one of the key barrier for ICT equipped learning, lack of access includes many things such as lack of access and lack of adequate material (Empirica's, 2006). Pelgrum (2001) explored practitioners' views from 26 countries on the main obstacles to ICT implementation in schools. There are barriers like insufficient number of softwares, insufficient units, slow speed of systems, old systems and insufficient access to internet (Toprakci, 2006). Moreover, insufficient computer resources impede to technology use in the classrooms and it is one of the greatest barriers in integrating ICT into learning process (Albirini, 2006).

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### ***School with limited technical support***

Unless and until good technical resources and school and classroom organisation would not be according to the ICT requirements these obstacles cannot be removed. (Lewis, 2003). Pelgrum (2001) found that in the view of primary and secondary teachers, one of the top barriers to ICT use in education was lack of technical assistance. In Sicilia's study (2006), technical problems were found to be a major barrier for teachers. These technical barriers included waiting for websites to open, failing to connect to the Internet, printers not printing, malfunctioning computers, and teachers having to work on old computers. "Technical barriers impeded the smooth delivery of the lesson or the natural flow of the classroom activity" (Sicilia, 2006, p. 43). ICT integration in teaching needs a technician and if one is unavailable the lack of technical support can be an obstacle. Due to this lack of technical support or inappropriate lack of technical support ICT integration in learning process in schools is suffering.

### ***Lack of effective training***

The barriers most frequently referred to in the literature is lack of effective training (Albirini, 2006). Due to lack of effective training teachers are unable to use ICT in the learning process. Also, there were not enough training opportunities for teachers in using ICTs in a classroom environment (Pelgrum, 2001). In this regard there is a need to review teacher training curriculum. One of the top three barriers to teachers' use of ICT in teaching was the lack of training (Beggs, 2000). These were time for training, pedagogical training, skills training, and an ICT use in initial teacher training. Correspondingly, recent research by relating to various subjects concluded that lack of training in digital literacy, lack of pedagogic and didactic training in how to use ICT in the classroom and lack of training concerning technology use in specific subject areas were Obstacles to using new technologies in classroom practice. Some of the studies reported similar reasons for failures in using educational technology: the weakness of teacher training in the use of computers, the use of a "delivery" teaching style instead of investment in modern technology, as well as the shortage of teachers qualified to use the technology confidently. Providing pedagogical training for teachers, rather than simply training them to use ICT tools, is an important issue argue that if teachers are to be convinced of the value of using ICT in their teaching, their training should focus on the pedagogical issues.

### ***Limited time***

Many recent studies indicate that the teachers want to use ICT tools in their classroom but the school time table does not allow the teachers time. Fixed time tables and short periods work as barriers for using ICT into learning process. A significant number of researchers identified time limitations and the difficulty in scheduling enough computer time for classes as a barrier to teachers' use of ICT in their teaching. The most common barriers reported by all the teachers was the lack of time they had to explore the different internet sites, plan technology lessons, or look at various aspects of educational software (Sicilia, 2006). Sicilia (2006) found that the problem of lack of time exists for teachers in many aspects of their work as it affects their ability to complete tasks, with some of the respondents specifically stating which aspects of ICT require more time.

These include the time needed to locate Internet advice, prepare lessons, explore and practise using the technology, deal with technical problems, and receive adequate training.

### ***Lack of teachers' competency***

Lack of teachers' competency is directly related to the teachers' confidence. Many teachers lacked the skills and knowledge to use computers and were unenthusiastic about the changes and integration of supplementary learning associated with bringing computers into their teaching practices. Current researches have shown that the level of this barrier differs from country to country. In the developing countries, research reported that teachers' lack of technological competence is a main barrier to their acceptance and adoption of ICT (Pelgrum, 2001). Another worldwide survey conducted by Pelgrum (2001), of nationally representative samples of schools from 26 countries, found that teachers' lack of knowledge and skills is a serious obstacle to using ICT in primary and secondary schools.

### ***Objectives of the study***

- To explore the barriers faced by the school teachers in using ICT tools for classroom learning.
- To identify school teacher perception in implementing ICT tools for learning in classroom.

### ***Rationale of the study***

According to Legatum Prosperity index 2017 India ranked 92 among 142 countries. Education is one of the vital resource in the development of a nation. Developing countries like India is still facing the barriers of providing the quality education at different level. Although the government has started various programmes for improving quality of education, quality of education is still missing on grass root levels of education. If looking at school education, technology is still missing in the process of learning. National Policy on ICT in School Education 2012 talks about improving quality of school education and tremendous potential of ICT for improving quality of education. This study focuses on identifying barriers and perceptions of teachers in using ICT tools in the classroom for learning. The study gives clear view to the policy makers and curriculum designers for devising ways to overcome these barriers.

## **METHODOLOGY**

### ***Research Design***

In this research, quantitative methodology was used to collect and analyse the data obtained from all the respondents. A questionnaire was developed and finalized before being distributed to the targeted group of respondents. The questionnaire was designed specifically to address research objectives with regard to teachers' perception on use of ICT tools in schools and the barriers they face in integrating ICT into classroom learning.

### ***Sample and sampling techniques***

Sample include school teachers the sample was selected through random sampling from government schools. 10 schools were selected through convenient sampling and school teachers were selected through purposive sampling.

## Tools

The study used the questionnaire for data collection from the sample. The questionnaire had open-ended questions with respect to barriers for integrating ICT tools into learning process.

## Procedure for data collection

Data collection defines the procedure for collecting data by the researcher. The questionnaire has been distributed to the teachers. They were given one week to fill in the questionnaire and return it to the researcher. All of the participants volunteered themselves in the research. Some questionnaires were with missing information that the details could not be used as a contribution in this research. Finally, 100 questionnaires were returned to the researchers for data analysis.

## RESULTS

Perceptions related to the use of ICT tools in the classroom for teaching and learning were found as follows:

- Students concentrate more on their learning
- Students work harder
- Classroom climate become more productive
- Classroom climate become less disturbing as students engage more in their work
- Students feel more autonomous in their learning
- ICT facilitates collaborative work among the students
- Students understood more easily what they learn

Barriers in implementing ICT tools in teaching and learning were found as follows

- Insufficient number of computers
- Insufficient number of internet connected computers
- School computers out of order and needing repair
- Lack of adequate skills of teachers
- Insufficient technical support for teachers
- Insufficient pedagogical support for teachers
- Lack of adequate content and material for teachers
- Lack of content in national language
- School time organisation
- School space organisation
- Most parents not in favour of ICT
- Pressure to prepare students for exams and tests
- Too difficult to integrate ICT use into curriculum
- Unaware of benefit to use ICT in the classroom

## DISCUSSION & ANALYSIS

This study is related to identifying perceptions of schoolteachers in implementing ICT tools in the learning process in the classroom. Furthermore, it also examines the barriers in using ICT tools for learning. Based on the study the findings indicate that teachers' perceptions were based on ICT's advantages on the learning process. Nature of teacher belief impacts teacher's classroom practices (Ertmer, 2005). Here also findings reveal that using ICT enables classroom environment more interactive as students participated more when teachers use ICT tools for the teaching. Students actively engage in the discussion. Teachers also said that integrating

ICT provides students greater space for learning at their own pace. As students can adjust the slides according to their level of competence. ICT also provides enough space for the students who are differently. A student with hearing impairment can use audio based material for his or her learning.

## CONCLUSION

Integrating ICT tools into the classroom will give effective products. As the findings suggest that students concentrate more on their learning, students are keener to work hard and ICT helps students understand more easily. Moreover, it gives students more autonomy for their learning. But for this to be accomplished administrators should demonstrate the importance for technology integration by providing incentives to teachers (Bitner & Bitner, 2002). Further, school organisation has to make complex sets of changes for ICT to be meaningfully support student's learning (Light, 2009).

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