Barriers to Successful ICT Integration into Teaching-Learning Environment

Swati V. Desai[1], Dr. Ajit D. More[2]

Assistant Professor, MCA, Bharati Vidyapeeth Institute of Management & Entrepreneuship Development Pune[1].
Programme Director, MCA, Bharati Vidyapeeth Institute of Management
& Entrepreneuship Development Pune[2]

Affiliated organization: AICTE recognized and Approved, Bharati Vidyapeeth University, Institute of
Management & Entrepreneurship Development, Pune-31
swati.desai99@gmail.com[1], ajit.more@bharatividyapeeth.edu[2]

Abstract- The education is a socially oriented activity. It plays vital role in building the society. The quality education traditionally was associated with strong teachers having high degrees. Using ICTs in education, it moved to more student –centered learning. ICT is an ever-changing subject. There will always be developments within the ICT that we need to be aware of and keep up to date with. As world is moving rapidly towards digital information, the role of ICTs in education becoming more and more important and this importance will continue to grow and develop in 21st century. In this age of rapid change and uncertainty, teaching learning environment needs to adapt new technologies to change if they want to survive and keep pace with new methods and technologies. Though the role of ICT in the teaching – learning is unavoidable, it will not improve quality of an education. To identify the possible obstacles to the integration of these technologies into schools is an important step in improving the quality of teaching and learning. This paper highlights various barriers in ICT implementation in education and also discusses potential future developments.

Index Terms- ICT; barriers.

1. INTRODUCTION

1.1 What is ICT?

ICT is an acronym that stands for "Information Communication Technologies". Information and communication technologies are an umbrella term that includes all technologies for the manipulation and communication of information. ICT considers all the uses of digital technology that already exists to help individuals, business and organization. It is difficult to define ICT because it is difficult to keep up the changes they happen so fast.

ICT is concern with the storage, retrieval, manipulation, transmission or receipt of digital data. The definition taken from the guidance in the QCA schemes of work for ICT is

"ICTs are the computing and communication facilities and features that variously support teaching, learning and a range of activities in education."

Definition given by Blurton, (C.,"New Directions of ICT-Use in Education") is- "It is diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information."

2. BARRIERS IN ICT IMPLEMENTATION IN AN EDUCATION:

Use of ICT in an education causes its move to more student –centered learning. ICT has a presence in an education but unfortunately we are lacking to achieve desired impact.

2.1. *Classification of Barriers:*

2.1.1 *Intrinsic and extrinsic:*

Extrinsic barriers (first order barriers): T Wenli Chen, Ashley Tan, Cheryl Lim (2012)These barriers result from inadequate and/or inappropriate configuration of ICT infrastructures, including access, time, support, resources and training. Intrinsic barriers (second order barriers) that related to teachers personal experience and awareness, including attitudes, beliefs, practices and resistance.

2.1.2 *Teacher level school level and School Level Barriers:*

These barriers prevent teachers from using ICT in classroom teaching. School Level Barriers: These includes barriers causes due to organizational management.

Becta (2003) suggested few factors to ensure good ICT learning opportunities. The following are the factors,

(1) Adequacy of ICT resources
(2) Leadership and management of ICT
(3) Leadership of the head teacher and key staff
(4) Quality of ICT teaching
(5) General quality of classroom teaching
(6) Social grade of the school/educational body

According to this report, the presence or absence of this factor produces a change in the incidence of good ICT learning opportunities. On the basis of literature reviewed, barriers of ICT integration into the education can have two levels.

3. BARRIERS RELATED TO TEACHING

3.1 Lack of teacher confidence:

Becta (2004) reported many teachers who do not consider themselves to be well skilled in using ICT, feel anxious about using it in front of a class of children who perhaps know more than they do. Teachers are having fear about using technology into the teaching. Many of them don't feel comfort with use of ICT in the classroom teaching.

3.2 Lack of teacher competency:

Becta (2004) also emphasized that many teachers are not well conversant with the effective use of computers for the teaching. They are having fear to expose in front of the students that they don't know how to use equipments. On the other hand increasing use of technology into an education expects that the teacher should be knowledgeable to use ICT tools effectively in the classroom teaching.

3.3 Lack of motivation to change:

According to the key research evidence about barriers to the use of ICT, many senior teachers are reluctant to accept technology integration into the education. They feel more comfort with the traditional chalk-board method as they are habitual to that. In this age of rapid change and uncertainty, teachers are needed to adapt change if they want to survive and keep pace with new methods and technologies.

3.4 Lack of perception:
Many teachers don't understand what exactly they have to do with the ICT. Teachers need to understand their changing role in teaching-learning process. ICT will also require a modification of the role of the teacher, who in addition to classroom teaching will have other skills and responsibilities. In this concern teacher has to play different roles like a catalyst, facilitator, and mentor and as a manager.

4. BARRIERS RELATED TO INFRASTRUCTURE
4.1 Lack of infrastructure support:
Many times teachers face the problem of insufficient hardware and software. The quality of equipments is also not as per expectations. Teachers also face the problem of lack of resources. Though resources are available their good organization is required. Many times teachers observe poor organization of the resources available. Good accessibility of resources is also a basic need for quality ICT implementation. Lack in access is also a big hurdle in technology integration.

To improve quality of ICT utilization an organization should get a strong infrastructure support.

4.2 Lack of effective training:

Lack of effective training is frequently referred barrier in literature. There are not enough training opportunities for teachers to effective utilization of an ICT. Teachers are having fear in their mind that there will be something wrong in ICT utilization. The training should be effective to increase teacher's confidence and competency.
Goktas, Y., Yildirim, S., & Yildirim, Z. (2009) revealed the qualitative findings as main barriers
(1) crowded classrooms
(2) inadequate number of ICT-related courses
(3) lack of computers and other presentation equipment in classrooms
(4) lack of computer laboratories for use in free time
(5) lack of technology plans
(6) lack of motivation of the teacher educators concerning the use of ICTs in their classes
(7) lack of motivation of the prospective teachers concerning the use of ICTs in their courses and their future classes
(8) lack of good role models for prospective teachers
(9) lack of successful institutional models for STE.

5. CONCLUSION
To survive in the today's competitive world an education system need to anticipate new developments. An ICT has begun to have a presence but unfortunately we are lacking to have its desired impact. On this background we should focus various obstacles which are causing down the benefits of technology integration. It will help to enhance technology integration into the education. Removal of these hurdles is a big challenge in front of education system. We can increase student's engagement and involvement by removing these obstacles. It will help teacher to access the machines and contents smoothly. At last it will help to improve quality of an education.

6. REFERENCES
[1] "A review of the research literature on barriers to the uptake of ICT by teachers", British Educational Communications and Technology Agency (Becta) June 2004
[2] Khalid Abddulah Bingimlas (2009) "Barriers to the successful integration of ICT into the teaching learning environments: A review of the literature.", Eurasia Journal of Mathematics, Science & Technology 2009, 5(3), 235-345.

[3] Goktas, Y., Yildirim, S., & Yildirim, Z. (2009), "Main Barriers and Possible Enablers of ICTs Integration into Pre-service Teacher Education Programs", Educational Technology & Society, 12 (1), 193–204.

[4] Mee Chin Wee and Zaitun Abu Bakar (2006) "Obstacles towards Use of ICT Tools I teaching and learning of Information Systems in Malecian Universities", The International Arab Journal of Information Technology, Vol. 3, No. 3, July 2006

[5] *Michael Searson (USA), Therese Laferriere (Canada), Roumen Nikolow (Bulgaria) (2011),"* Barriers to successful implementation of technology integration in educational settings", EduSummit 2011, International Summit on ICT in Education.