

# Chapter 1

## ICT Integration in Education: Indian Scenario

**Madhuri Tikam**

*H. R. College of Commerce and Economics, Mumbai, India*

### **ABSTRACT**

*Information and communication technologies (ICT) are influencing every discipline under the sun including education. It is affecting every aspect of education from teaching-learning to assessment and evaluation. It improves the effectiveness of education. It aids literacy movements. It enhances scope of education by facilitating mobile learning and inclusive education. It facilitates research and scholarly communication. Impact of ICT and its potential for the education field is manifold. It positively affects all the stakeholders of the education field. The chapter discusses the same along with the various projects and schemes adopted by the country to spread ICT literacy and competency.*

### **INTRODUCTION**

“Education for All” is a global movement led by UNESCO (United Nation educational, Scientific and Cultural Organization), aiming to meet the learning needs of all children, youth and adults by 2015. It faces three major challenges:

1. Providing access to all
2. Improving learning environment
3. Measuring learning outcomes.

To succeed in “Education for All” movement, access to education should be provided to all irrespective of gender, physical, geographical, language, economical, social or any other barrier. The poorest people, residents of remote areas, and the most disadvantaged populations - for example, girls and members of ethnic and religious minorities, physically challenged people are the main category of people to whom education should reach. To deal with varied needs of learners from different stratum is a complex issue to handle in a traditional mode of teaching learning. It demands for an open and flexible approach of

DOI: 10.4018/978-1-7998-5849-2.ch001

education and distance or virtual modes of learning. These advanced demands of education delivery cannot be met in the developed and developing world without the help of Information and Communication Technologies (ICT) (UNESCO, 2009). The impact of ICT on trainers, learners, researchers and the entire learned society is tremendous. It is changing the contours of the education delivery system in the world by enhancing access to information for all. It also ensures effective and inclusive education. ICT supports the concept of open learning where the thrust is upon enhanced student access and the development of student autonomy.

## **Roles of ICT in Education**

ICT can play varied roles in developing an effective learning environment. It helps in offering access as well as enhances the learning environment. It acts as a teacher and explains core content concepts and addresses misconceptions. It acts as a stimulant and fosters analytical thinking and interdisciplinary studies. It networks a learner with the peers and experts and develops collaborative atmosphere. It plays the role of a guide and mentor by providing tailor made instructions to meet individual needs. Online learning facilitates learning through digital mode. With the help of multimedia, it enhances effectiveness of teaching-learning and hence proves crucial for early learners, slow learners and differently abled learners. Modern ICT tools not only deliver the content but also replicate formal learning experience via virtual learning. The intention of virtual classrooms is to extend the structure and services that accompany formal education programs from the campus to learners.

ICT also addresses the need of mobile learning. It offers independent space and flexibility that comes from working away from the learning institute or tutor. It makes education accessible to all, irrespective of geographical barriers or resource constraints. Learners from remote areas, working people who want to learn further and update their knowledge and differently-abled students who find travelling an issue of concern - benefit from the mobile learning mode. As per Scott Motlik's technical evaluation report on "Mobile Learning in Developing Nations"; by comparison, mobile phone technology is widespread, easy to use, and familiar to learners and instructors (Motlik, 2008). An exploratory study of unsupervised mobile learning in rural India conducted by Anuj Kumar and his colleagues showed a reasonable level of academic learning and motivation among rural children who were voluntarily engaged in mobile learning. (Kumar, 2010). Similarly a study by Douglas Mcconatha, Matt Praul, and Michael J. Lynch, revealed that the use of mobile learning can make a positive and significant difference in the outcome performance than traditional methods of class lectures, notes and reviews (Mcconatha, 2008). Dr. Fahad N. Al-Fahad's study about students' attitudes and perceptions towards the effectiveness of mobile learning in King Saud University, Saudi Arabia, also supported that m learning makes the learners truly engaged learners who are behaviorally, intellectually and emotionally involved in their learning task. (Al-Fahad, 2009).

A lot of educational resources are available in m-learning formats. Google books have worked with major publishers to bring pages, chapters and books in mobile readable format. It also offer mobile version of book search since February 2009. Other publishers like Amazon, EBL, BBC, etc. also provide mobile collection of e-books and/or audio books to their users. Databases like JSTOR, LexisNexis, EBSCO, etc. are available on mobile devices. Many libraries all over the world like California State University, Fullerton Pollak Library, National University of Singapore Libraries; Public Library Münster, Germany; University of Virginia Library; Washington State University Libraries; London School of Economics, United Kingdom; etc. offer mobile based library services. Many mobile service provider companies are providing educational programs via mobiles. E.g. Tata Docoma launched mobile sex

9 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/ict-integration-in-education/269647](http://www.igi-global.com/chapter/ict-integration-in-education/269647)

## Related Content

---

### Effectiveness of Using Mobile Technologies in Teaching and Learning

Olalere Mudasiru Yusuf, Bolanle Idayat Lawaland Mary Bose Oyewusi (2016). *Human-Computer Interaction: Concepts, Methodologies, Tools, and Applications* (pp. 1782-1793).

[www.irma-international.org/chapter/effectiveness-of-using-mobile-technologies-in-teaching-and-learning/139119](http://www.irma-international.org/chapter/effectiveness-of-using-mobile-technologies-in-teaching-and-learning/139119)

### Teacher Development, Support, and Training with Mobile Technologies

Nance S. Wilson, Vassiliki (Vicky) I. Zygouris-Coe and Victoria M. Cardullo (2016). *Human-Computer Interaction: Concepts, Methodologies, Tools, and Applications* (pp. 1756-1781).

[www.irma-international.org/chapter/teacher-development-support-and-training-with-mobile-technologies/139118](http://www.irma-international.org/chapter/teacher-development-support-and-training-with-mobile-technologies/139118)

### Doppler Studies-Based Assessment of High-Risk Pregnancies Based on Cerebroplacental Ratios

S. S. Vhawal and Bahulekar Ashitosh (2023). *Recent Developments in Machine and Human Intelligence* (pp. 184-195).

[www.irma-international.org/chapter/doppler-studies-based-assessment-of-high-risk-pregnancies-based-on-cerebroplacental-ratios/330328](http://www.irma-international.org/chapter/doppler-studies-based-assessment-of-high-risk-pregnancies-based-on-cerebroplacental-ratios/330328)

### The Effect of Information Technology Competency on Information Management in Business

Funda Hatice Sezgin (2024). *Social Reflections of Human-Computer Interaction in Education, Management, and Economics* (pp. 217-234).

[www.irma-international.org/chapter/the-effect-of-information-technology-competency-on-information-management-in-business/351087](http://www.irma-international.org/chapter/the-effect-of-information-technology-competency-on-information-management-in-business/351087)

### Developing Faculty to Effectively Use Mobile Learning Technologies in Collegiate Classes: A Guide for Department Chairs

Richard E. Newman, Michael T. Miller and Kenda S. Grover (2016). *Human-Computer Interaction: Concepts, Methodologies, Tools, and Applications* (pp. 1794-1806).

[www.irma-international.org/chapter/developing-faculty-to-effectively-use-mobile-learning-technologies-in-collegiate-classes/139120](http://www.irma-international.org/chapter/developing-faculty-to-effectively-use-mobile-learning-technologies-in-collegiate-classes/139120)