Role of ICT in Education

R. KALAICHELVAN
Research Scholar
Department of Education, Bharathidasan University, Tiruchirappalli - 620 024

INTRODUCTION

21st century is the age of Information and Communication Technology (ICT). All over the world ICT is used in teaching and learning process. The teacher and learner must gain access to technology for improving learning outcomes. Educational reform includes successful designing and implementation of ICT in teaching and learning process, which is the key to success. There is a rapid shift of educational technologies and political force to shape the structure and system of education across the world. Information and Communication Technology (ICT) is basically an umbrella term that encompasses all communication technologies including computer and network i.e. internet, wireless networks, cell phones, television and satellite communications etc. that provide access to information. Across the past twenty years, the use of ICT has fundamentally changed the practices and procedures of nearly all forms of endeavor within business and governance. There are unlimited applications of ICT in the real world.

INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

Information and Communication Technology (ICT) can broadly be defined as the tools, facilities, processes and equipments that provide the required environment with the physical infrastructure and the services for the generation, transmission, processing, storing and dissemination of information in all forms including voice, text, data, graphics and video. In view of ICT, education can be classified in three main categories namely E-learning, Blended Learning and Distance Learning.
E-LEARNING

Electronic learning or e-learning is education based on modern methods of communication including the computer and its networks, various audio-visual materials, search engines, electronic libraries and websites, whether accomplished in the classroom or at a distance. Generally speaking, this type of education is delivered through the medium of the World Wide Web where the educational institution makes its programs and materials available on a special website in such a manner that students are able to make use of them and interact with them with ease through closed or shared networks or the Internet and through the use of e-mails and online discussion groups. E-learning assists in the transformation of the educational process from the stage of learning by rote memory or one that is characterized by creativity, interaction and the development of skills. The students in e-learning are able to access educational materials at any time and from any place, thereby transforming the concepts of the educational process and learning to go beyond the limits imposed by traditional classrooms into a rich environment in which there are numerous sources of learning.

BLENDING LEARNING

The term blended learning is generally applied to the practice of using both online and in-person learning experiences when teaching students. In a blended-learning course, for example, the students might attend a class taught by a teacher in a traditional classroom setting, while also independently completing online components of the course outside the classroom. In this case, in-class time may be either replaced or supplemented by online
learning experiences and students would learn about the same topics online as they do in the class rooms i.e., the online and in-person learning experiences would be parallel and complement one another and may also called hybrid learning and mixed-mode learning.

Blended - learning experiences may vary widely in design and execution from school to school. For example, blended learning may be provided in an existing school by only a few teachers or it may be the dominant learning-delivery model around which a school’s academic program is designed. Online learning may be a minor component part of a classroom-based course or video-recorded lectures, live video and text chats and other digitally enabled learning activities may be a student’s primary instructional interactions with a teacher. In some cases, students may work independently on online lessons, projects and assignments at home or elsewhere and only periodically meeting with teachers to review their learning progress, discuss their work, ask questions or receive assistance with difficult concepts. In other cases, the students may spend their entire day in a traditional school building, but they will spend more time working online and independently than they do receiving instruction from a teacher. Again, the potential variations are numerous.

ICT FOR OPEN AND DISTANCE LEARNING

Open and Distance Learning with the use of ICT opens out alternate possibilities for students who have dropped out, cannot continue formal education or are students of the non-formal system of education. Existing formal systems of Education will be strengthened with ICT based instruction available in Open and Distance Learning Systems so as to cater to the needs of such learners. Present Open Schooling systems (e.g. National or State level Open Schools)
will be strengthened by harnessing ICTs innovatively. Access to e-books, digital learning resources, Digital Repositories (with relevant learning resources) etc. will be developed by these institutions as student support services. This will also be used for online capacity building for open and distance teacher training. All Open and Distance Learning Systems will be automated and provide online, all services including admissions, examinations, e-accreditation and grievance redresses on the lines of the National Institute of Open Schooling.

ICT ENABLED TEACHING - LEARNING PROCESSES

ICT enabled teaching-learning encompasses a variety of techniques, tools, content and resources aimed at improving the quality and efficiency of the teaching-learning process. Ranging from projecting media to support a lesson, to multimedia self-learning modules, to simulations to virtual learning environments, there are a variety of options available to the teacher to utilize various ICT tools for effective pedagogy. Each such device or strategy also involves changes in the classroom environment, and its bearing on effectiveness. Availability of a wide range of such teaching-learning materials will catalyze transformation of classrooms into ICT Enabled classrooms. Teachers will participate in selection and critical evaluation of digital content and resources. They will also be encouraged to develop their own digital resources, sharing them with colleagues through the digital repositories. In schools equipped with EDUSAT terminals, DTH or other media devices, relevant activities will be planned and incorporated into the time schedule of the school. Initially the teachers may use the Computer lab for teaching-learning but progressively more classrooms will be equipped with appropriate ICTs, making way for ICT Enabled classes.

ICT FOR CHILDREN WITH SPECIAL NEEDS

Use of ICT will catalyze the cause and achieve the goals of inclusive education in schools. ICT software and tools to facilitate access to persons with disabilities, like screen readers, Braille printers, etc. will be part of the ICT infrastructure in all
schools. Special care will be taken to ensure appropriate ICT access to students and teachers with special needs. All teachers will be sensitized to issues related to students with special needs and the potential of ICT to address them. All capacity building programmes will include components of ICT enabled inclusive education. All web based interfaces developed for the programme including digital repositories, management information systems, etc. will conform to international guidelines for accessibility.

CONCLUSION

This review article attempts to answer questions on the roles of ICTs in education, existing promises, limitations and the challenges of its integration in education systems. Information communication technologies (ICTs) are influencing all aspects of life including education. They are promoting changes in working conditions, handling and exchanging of information, teaching-learning approaches and so on. One area in which the impacts of ICT is significant, is education. ICTs are making major differences in the teaching approaches and the ways students are learning. ICT-enhanced learning environment facilitates active, collaborative, creative, integrative and evaluative learning as an advantage over the traditional method.

REFERENCE


Golden, S. A. R. (2016). RURAL STUDENTS' ATTITUDE TOWARDS ENGLISH AS MEDIUM OF INSTRUCTION IN HIGHER EDUCATION - AN ANALYSIS. International Journal of Research, 3(Special Issue - 16), 1-10. Ligi,
B., & Raja, B. W. D. FLIP TEACHING IN PROMOTING ACTIVE STUDENT LEARNING.


Snehalatha, C. S. V. CONSTRUCTING AND VALIDATING A SCALE FOR ASSESSING THE SOCIABILITY OF TEACHERS.

Thirupathy, A. DUAL FACTOR THEORY OF JOB SATISFACTION: A REPLICATION IN LEATHER INDUSTRY IN TAMIL NADU.