

ADVANTAGES OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN DISTANCE EDUCATION SECTOR

Pradeep Kumar

Assistant Professor- Department of Education (College of Teacher Education Sambhal), Maulana Azad National Urdu University Hyderabad, Telangana, India

ABSTRACT

Education develops thinking, aptitude, and intelligence in an individual. Education has been recognised as a tool for national progress as well as progress of individual and society of a country. To ensure Education for everyone, open and distance learning Technology today is getting more importance with association to information and communication technology. Today information and communication technology is playing an important role in the education sector by empowering the technology for educational initiatives. With the advancement in technology, several new techniques have emerged for educators and learners. ICTs act as media platform for modern learning technologies like e-learning, online learning, and virtual class room which are useful for distant learners. ICTs have reshaped teaching-learning as an interesting activity in the field of distance learning, thus helped to develop practical skills among learners. Technological advancements especially in the area of ICT allow teachers to employ various strategies that could actively engage student's interest and thereby making the learning process successful.

Keywords- *Information and Communication Technology, Distance education, Learning, Teaching, Technology*

1. INTRODUCTION

Education has been identified as the most important investment for the future by countries which results in benefit of societies, families and individuals. Education develops thinking, aptitude, and intelligence and skills in an individual. In recent years providing education to all has been among top priorities of the governments all over the world. Several steps have been taken in the direction to provide education for everyone. Ensuring education for all is a challenge due to reasons like limited infrastructure, insufficient budgets and lack of enough teachers. Distance education fills the gap between people and formal education in an efficient way. Distance education provides opportunities for those who are unable to participate in formal higher education like dropouts, housewives, working professionals and peoples located in geographical hard locations. Distance education is helpful to make education available beyond boundaries and thus ensuring the availability of education within reach of a larger part of the society.

Commonwealth of learning has defined Open and distance learning as “a way of providing learning opportunities that is characterized by the separation of teacher and learner in time, or place or both time and place; learning that is certified in some way by an institution or agency; the use of variety of media including print and electronic; two way communications that allow learners and tutors to interact; the possibility of occasional face to face meetings; and a specialized division of labour in the production and delivery of course. [1]

2. OPEN AND DISTANCE EDUCATION

Open and Distance Learning (ODL) has been referred as a system of teaching and learning characterized by separation of teacher and learner in terms of time and place; uses multiple media for delivery of instruction; involves two-way communication and occasional face-to-face meeting for tutorials and learner-learner interaction. [2] Distance education has its origins in the form of correspondence education with beginnings in

around the 1800s. Correspondence education was based on the print medium, postal system, and an orientation to information transfer for the purpose of preparing students for public exams. [3]

In the process of systematic development of Distance learning, correspondence education was referred as the "first generation" model of distance learning and multimedia distance education as the "second generation" model. In these models there was a little or no student-teacher or student-student and interaction observed.

Third generation of distance education is called as interactive, multimedia model of distance education, in this model there was an emphasis on communication and learning through the use of interactive media such as computer mediated communications, audio graphics or video conferencing. This third generation of distance education is based on the use of information technologies. [1]

In this direction of development of distance education, the combination of interactive multimedia (IMM) access to WWW resources, and asynchronous computer conferencing are being named as the "fourth generation" or "Flexible Learning" model.

Flexible Learning Model, the emerging fourth generation of distance education, promises to combine the benefits of high quality interactive multimedia with access to an increasingly extensive range of teaching-learning resources and enhanced interactivity through computer mediated communication offered by connection to the Internet. The objective of distance education is to provide open opportunity for learners to study beyond their geographic, socio-economic or other limitations. Distance education involves helping learners to take responsibility for aspects such as what they learn, how they learn, where they learn, how quickly they learn, who to turn to for help and whether, when and where to have their learning assessed. Today it is well known that open and distance learning is an important element of future educational systems of countries. Open and distance learning is seen as a major strategy for increasing access, raising quality and ensuring cost-effectiveness worldwide. [4] The importance of Open and distance learning becomes much greater in developing countries for imparting education among masses. It is being realized today and there is a continuous progress in this line among developing countries, for example Indira Gandhi National Open University (IGNOU) in India alone has more than 3 million enrolments and has been declared as the largest institute of Higher education in the world by UNESCO in 2010.

With integration to information and communication technologies, open and distance learning technology today is getting more importance to ensure Education for everyone. ICT are providing medium for modern learning technologies like e-learning, online learning, and virtual class room which are useful for learners.

Today's education sector has entailed significant changes with introduction of ICTs, by entering the age of 'information revolution'. 21st century has seen the explosion of information technologies with the integration of ICTs like computers, audio-visual devices, and communications media which has started a digital revolution.

Today a Google search for information and communication technology in distance education provides about 2,50,00,000 results in 0.50 seconds which indicates the importance of the relation and importance of these two. [5]

ICTs have offered several new techniques for educators and learners to facilitate learning process. Information and communication technology in distance education has modified the teaching-learning process into an interesting activity, besides developing practical skills among the learners. ICT can improve the quality of the student learning experiences and make education and training opportunities available to a broader range. It can act as a tool to fulfil the dream of lifelong education by supporting the Open and Distance learning system. [2]

3. INFORMATION AND COMMUNICATION TECHNOLOGIES

Information and Communication Technologies are defined as a "diverse set of technological tools and resources used to communicate, to create, to disseminate, store and manage information." These technologies include computers, the internet, broadcasting technologies (radio, television) and telephony. [1]

UNESCO has defined the term ICT as plural, referring to many technologies and as encompassing term which includes the complete range of electronic tools by which we gather record and store information and exchange and distribute information to others.

ICT are composed of many different tools that enable capturing, interpreting, storing and transmitting information in a fast and easy way. [6] Information and Communication Technologies are advances in technologies that offer rich worldwide resources and collaborative environment for delivery of course materials, global exchange of ideas, interactive discussions and research information which are necessary for meaningful educational experience and training.

Higher education institutions are adopting Information and Communication Technologies in teaching and learning process as well as in delivery and learner support process offer a better environment for collaborative learning and informational access. The evolution of ICT has brought about rapid changes in technology, social, as well as education sectors. ICTs have put their impact on the quality and quantity of teaching, learning,

learner's access and research in distance education. ICT provides opportunities for learners, teachers and staff for effective communication in formal and informal teaching and learning processes. [2]

4. INFORMATION AND COMMUNICATION TECHNOLOGIES SUPPORT IN DISTANCE EDUCATION

Today ICTs are involved in each and every aspect of distance education from advertisement of admission to conduct of examination and declaration of result. Information and Communication Technologies include print, radio, TV, posts, telephony and computer facilities which have found their applications in distance education. In fact, the growth in open and distance learning during recent years has been attributed to the advancement in the field of ICTs. Integrated media approaches, multi-site learning system, e-learning technologies, virtual classroom system, massive open online courses (MOOCs) are recent approaches that have changed the scenario of distance education now a day.

It is said that ICT usage today in education system is reshaping and supporting the organizational structures of universities to grow them as knowledge hubs. [6] Need of ICT support has been proved very helpful in Distance education in several areas but broadly it is classified in the areas of Academic Management and Administrative Functions, In Research Work and in Delivery and Support Services for Learners which is represented by figure 1.

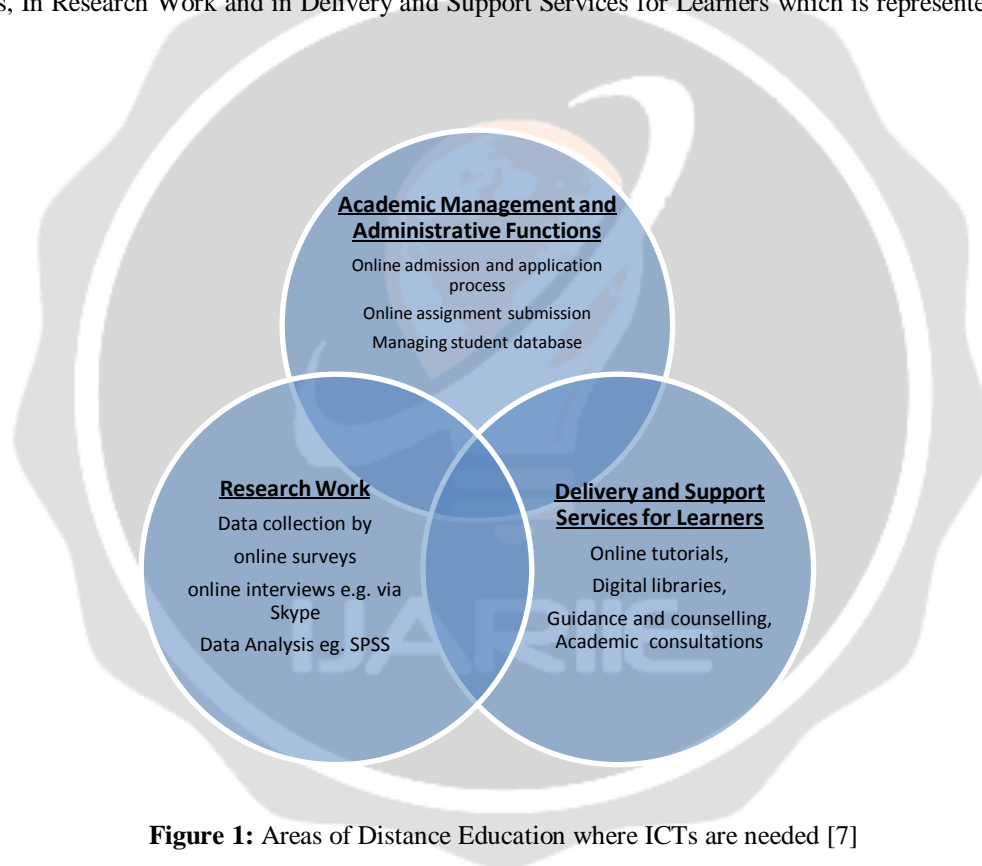


Figure 1: Areas of Distance Education where ICTs are needed [7]

Mainly two types of ICTs are employed in distance educational system, hardware and software Technology. A combination of hardware is used to support distance education applications and software are used in various forms like learning management systems to simulate classroom settings and to facilitate academic interactions. Recent advances like educational satellite (eg. EDUSAT in India), Educational TV and microwave transmission have made it convenient to adopt new technologies.

A variety of audio-visual media and innovative techniques are currently in use for effective transmission of knowledge among the learners at a distance like Print media, Broadcast media, Audio and video CD/ DVD, mobile phones, educational software and the computer.

The other related modern technologies in open and distance learning are telephone tutoring, computer conferencing, teletext and videotext, multimedia and hypermedia Computer Assisted Instructions, e-books, on-line database, digital libraries, online discussion fora, wikis, MOOCs (massive open online courseware), talk-back TV, open source software etc. which are applied independently combined with other technologies.

ICTs have multidirectional ability to perform tasks like teaching and training, educational administration, in library service and research conduct and analysis. The following figure describes the application areas of ICTs in Distance Education sector.

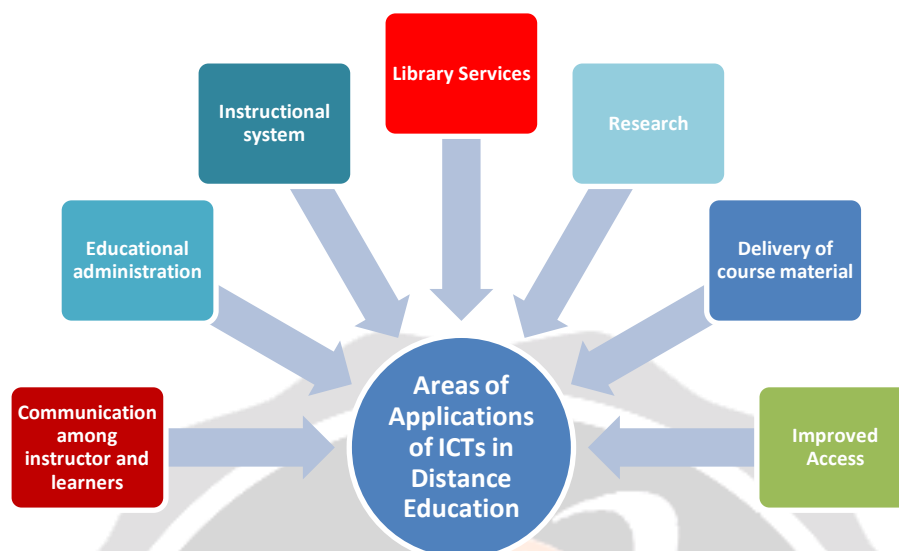


Figure 2: The Applications of ICTs in Education [8]

With the proper use of ICT technologies, we can organise learning in such a way that enhances the development of desired skills and competences among learners.

5. CONCLUSION

The emergence of technologies in the field of education has opened a new horizon for learners as well as teachers. To achieve the goals of providing education and training for everyone and to meet the new and changing demands of society, open and distance learning is seen today as a potential approach and as a suitable substitute for the face-to-face learning.

Information and communication technologies (ICTs) are a group of technologies and tools which, at one hand are useful for learners by facilitating them with global access, library services and communication with experts, resource persons, researcher, professionals, and peers; on the other hand important for teachers in course design, developing course materials and in research. ICTs are important in distance education due to their potential in teaching-learning, to increase flexibility of learning with tools like Virtual Learning Environments, and Course Management Systems like Moodle, aTutor, online discussion boards, wikis, chat rooms, MOOCs and blogs. The major advantages of using technologies in distance education are cost effectiveness, time saving, improved quality of education, access to a larger population, teaching a no. of students simultaneously, and finding a lot of educational resources.

ICTs incorporate 3 I's in distance education-

Interested Learning

Increased Access, and

Improved Outcomes

These 3 are important factors for Effective learning. An effective combination of media and technology is needed for achieving the best of ICTs usage in the open and distance learning system.

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BIOGRAPHY



Pradeep Kumar is Assistant Professor at CTE Sambhal, Maulana Azad National Urdu University Hyderabad. He has completed post graduation in Chemistry as well as in Education. He did his M. Phil. in Chemistry from Annamalai University. He started his career as P.G.T. in Navodaya Vidyalaya. He also served as Lecturer and Principal in Govt. Intermediate College, Govt. of Uttar Pradesh. He has published 3 books from Germany, 6 research papers in journals, 4 chapters in books and 13 papers in national and international seminars/ conferences. He also worked in District core committee of Rashtriya madhyamik Shiksha Abhiyan of Moradabad district, U.P.. He is also active member of various academic societies.