Prominence of Information and Communication Technology in Distance Education System

Dr. Anil M Shende[1], Dr. G. Vidyavathi[2], Dr. R. Sivarami Reddy[3], Dr. Annusha Bonila[4]

[1]Assistant Professor, Department of English, S.B.City College, Nagpur, Maharashtra.
[2]Asst. Professor, I.A.S.E, Andhra University, Visakhapatnam. Andhra Pradesh.
[3]Faculty Member, Dept. of Education, Acharya Nagarjuna University, Nagarjuna Nagar, Guntur, Andhra Pradesh.
[4]Visakhapatnam, Andhra pradesh.

ABSTRACT

Distance Education is an educational system which is parallel to formal education and is capable of overcoming limitations of formal education. By keeping in mind the changing scenario and considering the needs and requirements of the individual, this education system came into existence. Earlier distance education had not included the upcoming technologies but later several modern services became more relevant in this system. Use of Radio, Television, Tape Recorder, Video and Teleconferencing, Electronic Mail, Data Base Networks, Communication word, high definition TV's and Satellite Communication are now the essential parts of education and more in distance education. Information and communication technology plays a vital role especially for the learners from remote areas where educational Institutions are unavailable and resources are not proper and even for those who, anyhow, failed to get formal education due to some other reasons. About from this, Teacher has a crucial role in the entire education system. A teacher plays a role of friend, philosopher and guide to his learners, guides and inspires them by playing a role model among themselves. But distance education and ICT both emphasized on self learning. Present paper focuses on the place of teacher which is quite crucial and essential for imparting knowledge to the learners.

Keywords: Communication, Distance Education, Information, Knowledge, Stechnology

INTRODUCTION

In 21st century, Information and Communication Technology (ICT) is playing a very important role in the field of distance education. ICT scan be defined, as a "diverse set of technological tools and resources used to communicate, and to create, spread, store, and manage information" .ICTs include Internet, computers and some other tools like overhead projector, television, tape recorder, radio and telephone etc.

These tools are for educational effectiveness and development. Information and communication technology is a group of technologies by which various support services shall be provided for students at different phases. Information and Communication Technology (ICT) is profoundly important in distance education, enabling a shift from traditional methods to flexible, accessible, and interactive learning experiences. It facilitates the design, delivery, and assessment of educational materials, fostering collaboration between learners and instructors across geographical barriers. ICT enhances learning through multimedia, online communication tools, and personalized learning paths.

Here's a more detailed look at the prominence of ICT in distance education:

1. Flexibility and Accessibility:

Anytime, Anywhere Learning:
ICT allows students to access learning materials and engage in online learning activities at their own pace and convenience.

Overcoming Geographical Barriers:
Distance education, heavily reliant on ICT, makes learning available to students regardless of their location, particularly those in remote or underserved areas.

2. Enhanced Learning Experience:

Multimedia and Interactive Content:
ICT enables the creation and delivery of engaging and interactive learning materials, including videos, animations, simulations, and interactive quizzes.

Personalized Learning Paths:
ICT tools can be used to tailor learning experiences to individual student needs and preferences, offering personalized feedback and support.

3. Effective Communication and Collaboration:

Online Communication Tools:
ICT facilitates real-time communication between students and instructors through platforms like video conferencing, online forums, and instant messaging.

Collaborative Learning:
ICT enables students to collaborate on projects, share ideas, and learn from each other in a virtual environment.

4. Efficient Course Management and Administration:

Learning Management Systems (LMS):
LMS platforms, a core component of ICT in distance education, provide a centralized hub for course materials, assignments, assessments, and communication.

Automated Processes:
ICT automates many administrative tasks, such as registration, grading, and result declaration, freeing up instructors and administrators to focus on teaching and learning.

5. Cost-Effectiveness and Sustainability:
Reduced Costs: ICT can reduce costs associated with traditional education, such as travel expenses, physical materials, and physical spaces.

Environmental Benefits: ICT promotes paperless learning, reducing environmental impact.

Distance Education
Distance Education, it is neither formal nor informal education but it is a kind of education which is running parallel to these education systems. Distance education is a generic term used to define the field of distance learning. Distance learning is a mode of delivering education and instruction. It provides individual instruction to students who are not physically present in a traditional class room. Distance learning provides "access to learning when the source of information and the learners are separated by time and distance, or both." .Now we are using some other terms like distributed learning, e-learning and online learning for distance education.

Need and importance of Distance Education
We are trying to enroll students for formal education and want their presence in class rooms for good character building, moral value and good education. Government is worried about dropout students so it is promoting distance education.

Here are some causes which show why distance education is important.

a. One major factor is explosion of population, that's why number of students have also increased and the formal education system is unable to satisfy the needs of all the students. When there seems to be no subject option students move towards distance education.
b. Distance learning needs to satisfy various students who have diverse needs.
c. Distance education is very helpful for those students who want to learn while learning.
d. In this era of technology there is exposion of knowledge, the formal education system seems to be helpless in incorporating new changes as speedily as desired.
e. People may be geographical isolated so they choose distance mode because proper communication system has not been developed.
f. Distance learning provides opportunities to people who are in job in improving their qualifications.
g. One more importance of distance learning is that it can be used to teach people of different ages with various courses on a wide scale.
h. Distance learning is beneficial for people or students who are deprived.
i. Distance learning promotes individual learning and self improvement.

Information and Communications Technology

Information and communications technology is a global term that includes any communication device or application, radio, television, cellular phones, computer and network hardware and software, satellite systems and soon. According to the European Commission, the importance of ICTs lies less in the technology itself than in its ability to create greater access to information and communication in underserved populations. When we talk about distance education ICT is automatically associated with this. It is based on internet, world-wide wave and some other technologies. It has been described "A process to create and provide access to learning when the source of information and learners are separated by time distance and both."

Place And Role Of Teacher In Distance Education:

Any education system depends on their teacher and expertise. Teacher is not only a person who teaches the subject and evaluates the achievement but he is the backbone of the teaching process. In any educational process, the role of the teacher is very important as the teacher is the one who not only solves the problem of the students but also shows them a direction so they may achieve success. The relationship between the teacher and the students is such that student may ask for his guidance at any point of time.

In distance education, the place of teacher is negligible as compared to the traditional teacher or formal education system because this education is learner centric for them who are self motivated. Therefore, the role of teacher in this education system is different i.e.

1. They are managers of collaborative learning as they manage the students and provide them with each and every information.
2. In distance learning students are self motivated. The role of teacher is only to nurture quality learning experiences. They only give the directions how to explore contents and how to study well.
3. Distance learning is technology based learning so teacher is also a technological friendly person. He suggests his students how a technology promotes or supports in creativity.
4. Lack of support, de-motivation, family problems are the causes to give-up the study in regular mode. Teacher is the motivator to his students for active learning and study.
5. The role of teacher in distance learning is to advise their students how to study through technology and how to do self study and provide the right way.
6. Management means managing men tactfully. Here the teacher serves the role of a manager by managing the students, their study-material, their contact classes and all those things which can affect the study of the students.
7. Earlier teacher was regarded as a 'guru' who taught and gave the students best knowledge but today teacher is only a facilitator who facilitates their students in providing ways to study.
8. Distance learning is technology based so some time students are not aware as how to use technology then the teacher provides them with every scales about tools and technology.

Suggestions:

The role of ICT is important in distance education, without ICT this form of education is ineffective and cannot achieve its goal. Likewise, more emphasis should be given to the place of teacher in distance education, because the teacher is regarded as a guide, philosopher, instructor, torchbearer, facilitator and guardian to the students. The involvement and accountabilityof the teacher in this form of education should be increased. Moreover, the teacher will have to make efforts to build healthy and meaningful relations with the students or else his role will be reduced to that of an information provider.

Although the need of teacher is very less in this learning but technology cannot take place of a teacher because only he/she can develop and check the qualities of his students. Sometimes student gets more information and result for one topic therefore they become confused and at that instance only a teacher can give right suggestion and direction to the students. Teacher helps develop language skills and ways to express oneself which any technology cannot do.

Although the session of distance education is fixed but sometimes it does not get completed due to inactiveness or idleness of the students so it's our duty to maintain counseling as a necessity for students. We will have to justify our place for the betterment of students by their good counselling. Counsellor will have to be updated with ICT to organize individual counselling. He will have to give proper guidance as a mentor along with extra-curricular activities.

Although in distance education the students are very mature but still at some part of life if they want to take any decision for development of values or critical analyzation of things then it is not that easy. A teacher is required in every such point of life and that's why he does not only act as a facilitator but has many more roles to play in a student's life.

ICT and Learner Support

The role of ICT to speed up the delivery of the support services has now become inevitable for the distant learners. It also considers the shift from mass produced generic resources to tailored, personalised support and communications and sets this in the context of globalisation of the economy and the changing expectations of students as 'consumers.' Distance and open education schemes that have until recently relied mainly on the mailing of written materials, videos, cassette recordings, and radio or TV broadcasting techniques can be augmented, enhanced or replaced by new on-line tools and technologies which have the power to transform the learning environment.

Learners Support Services are an important part of Distance Educational system. Since the learners in ODL system are not directly involved in the regular classroom teaching-learning process having direct interaction with the teachers regularly, they are provided with adequate Learners Support Services. Such support services include the pre-admission counselling, admission process, provision of study materials both in print media and audio visual forms, subject specific academic counselling, audio visual viewing facilities, participation in teleconferencing, ICT facilities for e learning, library services, laboratory support facilities, academic career guidance, information services related to rules, regulations, procedures, schedules etc.

Challenging Issues of ICT Infrastructure

Information and communication technologies playing a prime role in supporting various services in open distance learning in large scale and at same time there are many issues and challenges in setup and usage of ICT infrastructure. The following are various issues and challenges: Application/service compatibility with respect to the computer hardware and software Technology is changing very frequently, but it is difficult every time to develop application software for various services using such technology. New technology has always flexible features that are needed in ODL system to meet the demands of the learners in large scale, but it is a challenging task to choose ideal hardware and software that have compatibility with existing application software. Application compatibility with respect to hardware and software can be achieved by placing platform independent infrastructure (the hardware, software and application). Scalability issues Open distance learning is a more flexible education system than any other conventional education system.

Due to this, the student enrollment is very high and at same time expectations from learners also high. As learners are more in scale and remote to the institution, most of the activities being performed remotely through the online services that are provided by the institution. Since, the learners and their usage is increasing progressively, time to time ,it is a challenging issue to maintain always scalable resources in terms of memory space, handle number of users and their transactions. This issue can be addressed by anticipating the scalable load at network level, system level, application/service level and data storage level at least for a period of 5 to 7 years and place an adequate computing, storage and network infrastructure. Ensure data compatibility: As database technology is changing time to time, ensuring data compatibility with changing database technology is a challenging task. If the old data is not compatible with new database technology, it is very difficult to use and access data through various services/applications. Data compatibility problem can be achieved by encouraging data migration process in various stages time to time so that the data is always compatible to new database technology to use and access it all the times.

CONCLUSION

With the advancement in technology in the field education has introduces variety of new techniques for educators and learners to enhance knowledge. Educational technologies (information and communication technology) are replacing direct teacher-student interaction. Anything that helps distance learners to communicate: learner with instructor, learner with learner and learner with the learning materials may be term as information technology. The different ICTs being used in ODL and their specific applications to the various facets of this mode of delivery are also described. Also included is an examination on how quality of education is ensured in a technology-driven system of teaching and learning, which includes, among others, the employment of the 'quality circle approach' in the development of courses and learning packages, and the provision of appropriate technologies to perform academic processes and achieve institutional goals. Technological advancements especially in the area of ICT allow teachers to employ various strategies that could actively engage student's interest. This paper focuses the role of information and communication technologies (ICT) in open and distance education. This study also explores technology-based media which is very important for distance learners.

REFERENCES

[1]. Murali M Rao, 2009, ' Web-enabled User Support Services System in Distance Learning', Proceedings of International Conference on Interaction Sciences: Information Technology, Culture and Human(ICIS 2009), The ACM International Conference Proceeding, Vol I, ISBN 978-1-60558-710-3,Seoul, Korea, pp 86-90.
[2]. Murali M Rao, 2010, 'Digital Library Security: A Layered Approach', Proceedings of International Conference

on Digital Libraries(ICDL 2010), Volume 2, New Delhi, pp 1167-1171.

[3]. Bernadette Robinson, 2008, 'Using distance education and ICT to improve access, equity and the quality in rural teachers' professional development in western China', International Review of Research in Open and Distance Learning, Volume 9, Number 1, China.

[4]. Sangay Jamtsho, 2005, 'Challenges of ICT use for distance learning support in Bhutan, ICDE International conference', New Delhi.

[5]. Collis, B (1996). Tele-learning in a Digital World. Thompson Computer Press.

[6]. Farren, M. (1998).Using the Internet for Professional Development, Conference Proceedings, Third

[7]. European Conference on Integrating Information And Communication Technology in the Curriculum, August 17th -21st, 1998, page 99-104.

[8]. Kaye, A. and Mason, R. (1989). Mindweave: communication, computers and distance education. Oxford, Pergamon Press.

[9]. Taylor, J. C. (1995). Distance Education Technologies: The fourth generation, Australian Journal Educational technology, 11(2), 1-7

[10]. Taylor, J. C. (1992). Distance education and technology in Australia: A conceptual framework' International Council of Distance Education Bulletin, 28: 22-30

[11]. Victoria, L. Tino. (2002). ICT in Education, UNDP-ADIP, Kuala- Lumpur