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## Digitalization in distance education

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### Abstract

Discenza *et al.*, (2002), “Anytime, Anyplace, Any subject”, is an emerging theme for distance learning in higher education throughout the world. Distance education has emerged as an important form of education in the last few decades. In recent years, the offering of open and Distance Education courses and programs have become increasingly popular not only in open universities, but in traditional universities as well (Wheeler, 2002) <sup>[11]</sup>. Moore (1991) <sup>[6]</sup> defined Distance Education as a learning system where the teaching behaviours are separate from learning behaviours. In this, the learner works alone or in the group, guided by study materials. These students do have an opportunity to communicate with a tutor with the aid of one or two more media – such as correspondence, telephone, TV, Radio etc. Teaching role is shared and different study situations are possible for the learner. Distance education is defined by the Association for Educational Communications and Technology as: Institution based formal education where the learning group is separated, and where interactive telecommunications systems are used to connect learners, resources and instructor. Moore's definition of Distance Education highlights 3 elements:

(i) Separation of teaching behaviours from learning behaviours

(ii) The use of technical media and

(iii) The possibility of 2-way communication. While in normal face to face teaching, the teacher's preparation is done apart from the students whom he teaches; in Distance Education both preparation and teaching are done apart from students. Distance Education is basically imparted by technical media, for example, printed material, Teaching and Learning Aids, Audio-Visual aids, Radio, TV and computer.

**Keywords:** Digitalization, Distance education

### Introduction

Digitalization is the use of digital technologies and digitalization gives an idea of development and technology dependent world. The process of converting information into digital format is called digitalization. Digitalization has empowered users to access data anytime, anywhere. Digitalization of education sector in the 21st century proves to be a boon to our society. The Sloan-Consortium proposed a five-pillar quality framework for online education in colleges: 1.) learning effectiveness; 2.) cost effectiveness; 3.) access; 4.) faculty satisfaction; and 5.) student satisfaction (Moore, 2002) <sup>[7]</sup>. Within this quality framework, distance education universities have been striving to enhance learning effectiveness and student satisfaction.

Ainslee (2018) <sup>[1]</sup>, “We are running into the 21st century where technology knows no bounds. This is the phase of radical development where technology is taking over every niche and corner. Smartphones, laptops, and tablets are no more unknown words. During this phase the education system is evolving for the sake of betterment, as this generation's students are not born to be confined by the limits of simple learning; their curiosity is vast and cannot be catered with educational systems that were designed earlier. If we kept on teaching our children the way we taught them yesterday, we would deprive them of their tomorrow. Our

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old educational system lacks the capability to stand a chance in the 21st century. So, we are compelled to use digitization in our educational system.” Mathews (2002) <sup>[5]</sup> pointed out that technology based distance education is emerging as an important feature of post-secondary education in the US. The increasing growth of ITC could bring about some of the very profound changes to the ways in which people learn and this is highly applicable to distance education. Distance education is a growth field with the development and spread of the internet or Digitalization. (Bailey, 2007) <sup>[3]</sup>.

Digitalization plays an important role in distance education system. By adapting new educational technologies in distance educational programmes their quality could be improved and ensured. Distance Education Technologies are expanding at an extremely rapid rate. Parchure (2016) <sup>[8]</sup>, “The use of e-learning is seen at all levels of educational system. E-learning is visualised as the India’s license for boosting up distance education system. The increasing fusion of the online education companies and organisations, it is strongly believed that India shall finally cope with the lag in its higher education system. The only way to bridge the growing division in public and private education in India can be tackled by utilizing E-Learning and online learning. A website named Coursera, provides such online courses through collaborations with various well recognised and National level Universities and Institutes all across. E-Learning/teaching covers a wide set of applications of Computer Assisted Instruction, Computer Based Learning, Web-based learning, Virtual Classroom and On-line Learning. E-Learning/teaching is an interactive learning experience with the access to online tutors which can be made available from any computer, once the user has the access through web browsers ” He further explained although the expansion of the Internet blurs the boundaries, distance education technologies are divided into two modes of delivery namely synchronous learning and asynchronous learning. In synchronous learning, all participants are present at the same time. In this regard, it resembles traditional classroom teaching methods despite the participants being located remotely. It needs a scheduled timetable to be organized and displayed. Few examples of synchronous technology as Web conferencing, video-conferencing, educational television, instructional television, internet radio, live streaming, telephone and web based. In asynchronous learning, participants access course materials flexibly on their own schedule. Students are not required to be together at the same time. Mail correspondence, which is the oldest form of distance education, is an asynchronous delivery technology as are message board forums, e-mail, video and audio recordings, print materials, voicemail and fax.”

Luth, Leah R, (2010) <sup>[4]</sup> in his article, “The Different Kinds of Technologies Used in Distance Education” enlisted following few of the technologies here:

#### **Audio conference**

An audio conference connects instructors and students using standard telephone lines for real-time discussion.

#### **Multimedia**

Course material is available on CD, DVD, videocassette, audiocassette, or other types of stored media. Multimedia courses may combine text, graphics, audio, video and other elements. Material is designed to be flexible, self-paced, and

modular. In some cases, access to the Internet is required. The students learning choices influence how material is presented and reviewed.

#### **Online**

Online courses are delivered over the Internet and are usually web-based. Some courses may have specific computer hardware and/or software requirements.

#### **Print**

Course packets, textbooks and other materials are sent to students through the mail. Students submit lessons by mail, fax, or in some cases, e-mail. Assignments, exams and completions are self-paced within an agreed timeframe.

#### **Telecourse/Datacast**

Telecourses are highly produced videotaped course segments broadcast at scheduled times by television stations (public TV and others) or local cable access channels. Datacasting is the transmission of text, graphics, video, audio and other media over the airwaves along with the digital television signal.

#### **Videoconference**

A videoconference connects instructors and students in simultaneous two-way communication. Everyone may see and speak with each other for real-time discussions.

#### **Webcast**

A webcast captures and records audio, video, slides and other types of digital data, then synchronizes it as a single streamed media presentation. The course is either viewed live over the Internet or linked to later. Instructors can interact with students by various means: email, chat, scheduled audio conferences, or other methods.

#### **Web conference**

A web conference combines the use of a Web browser for visuals and an audio conference for discussion. Students can show and receive graphics, draw, add text, demonstrate Web sites, share documents and use Web chat. (Luth, Leah R, 2010) <sup>[4]</sup>.

According to Rahman (2014) <sup>[9]</sup>, “The technology which can be integrated into the distance education system, based on our experiences, the following factors should be considered:

#### **Accessibility**

- Cost effectiveness
- Human acceptance
- Pedagogical suitability
- Accessibility
- Cost effectiveness
- Human acceptance
- Pedagogical suitability.”

He further explained that the information and communication technology-based media is very important for distance learners. In open and distance education different types of technologies and media are used to transfer education to the learners. Rumble (1986, 1994) <sup>[10]</sup> said that four media namely print, audio, television computer are available for teaching purposes, in one technological form or another. According to Bates (1993, 1995) <sup>[2]</sup> there are five important media in education: direct human contact (face to face), text (including still graphics),

audio, television and computing media (e. g. Internet, online technologies). The use of each media gives both variety and the chance of accommodating different learning styles. He goes on to argue that it is better to use a limited range of technologies in order to reduce redundancy and wasteful expenditure; provided all the main media are covered. One medium may serve a teaching function better than another in a particular area. The potential of each technology varies according to how it is used.

Distance Education is fast growing mode of education in India. It gives more opportunities to people who are doing jobs. The institutions that are providing Distance Education should equip with technological tools such as Radio, Audio Tapes, and Video Tapes, Computers with Internet facility and online Video or Tele Conferences.

### References

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