

An Assessment of How Communication Technology Helps Online Education

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Abstract— Online education involves different modes of communication that support teaching and learning through various electronic tools. The communication technology is the medium through which the education is imparted and received. The technology has been evolving with time, creating better tools and modes of online education. This has also helped in increasing the range of online education. Different types of online education are Computer-Based Training, Internet-Based Training or Web-Based Training. The most common form of online learning involves the computer and data transmission through a network. In order to enhance the reach of online education, academic institutions need to hire and train teachers appropriately. The teachers must be well aware of the technological tool used for communication and should be well versed in the subject. They should be confident with using the computer and the internet. In this study the role of communication technology in imparting online education in India will be assessed. The main aim is to highlight how communication technology helps online education.

Index Terms— Online Education, Communication, Technology in education

INTRODUCTION

Online education involves different modes of communication that support teaching and learning through various electronic tools (Fourgous, 2010). The communication technology is the medium through which the education is imparted and received. Though online learning is closely associated with distance learning, it is a form of education that is implemented in classroom as well as out of classroom education options. The technology has been evolving with time, creating better tools and modes of online education. This has also helped in increasing the range of online education. Different types of online education are Computer-Based Training, Internet-Based Training or Web-Based Training (EEC, 1995). The most common form of online learning involves the computer and data transmission through a network. This network can be the internet, or, can be a LAN setting within a campus or area. Online learning options include online coaching of different subjects, learning that can be done by just using a computer and virtual schools and colleges. There are also options where classroom based education is collaborated with online education. Lessons or information is imparted through different tools like the internet, intranet, audio or video tape, TV, and CD or DVD. This form of learning can be self-planned according to the learner's convenience, or, it can follow a routine or time

plan fixed by a teacher. The lessons are taught through texts, images, animated videos, streamed video and sound clips. Adaptation of new technologies can have very positive influences on education. Today, technological tools have made education interaction and enjoyable for young children. Schools use streaming videos, animations, etc. in order to teach alphabets, grammar, numbers, etc. Also, for use at home, different kinds of online videos, educational games, etc. are available. These kinds of teaching materials are also available in CDs and DVDs (OECD, 1984). However, the proponents of online education have identified that learners need to have at least some basic training about using a certain communication technology in order to use it for online learning. For example, unless a learner knows how to use a computer or the internet, he or she will not be able to learn anything from an online tutorial or course (Duchateau, 1994).

II. AIM AND OBJECTIVES:

The study aims to understand the role of communication technology in imparting online education in India. The main goal is to highlight how communication technology helps online education. The main objectives of the papers are

- To understand the role of communication technology in imparting online education.
- To highlight the different modes of online education.
- To identify the different kinds of technology used for online education.
- To assess the development and effectiveness of new communication technology in light of online education.
- To analyze the online education scenario in India.

III. THE ONLINE EDUCATION SCENARIO AND FUTURE PROJECTIONS

The global online education industry is valued at over \$48 billion. Development in communication technologies are behind the spread of online learning. The five key aspects of online learning are consultation, content, technology, service and supporting. All these involve communication tools. Online learning has become an integral part of higher education (OECD, 1984). In 2006, 3.5 million students were found to have used online education options in the higher education institutions in USA. The Sloan Foundation reported that the number of students enrolling for online education courses has been steadily increasing by 12 to 14% every year since 2004 (Derouet, 1988). On the other hand, the increase in general education enrollments have been increasing by just 2 %. Allen and Seaman's 2009 research claimed that over 25% of all higher secondary students in USA were learning fully through online education in 2008. Also a study done by Ambient Insight Research revealed that 44 % of higher secondary students were involved in at least some form of online education. It provided a projection that the number of students taking part in online education would increase to 81 percent within 2014. Hence, it is evident that online learning is getting more and more popular with time. As the technologies are increasing, online options are becoming more accessible to people. A lot of post secondary profit oriented schools offer online learning options. Also, about 50% of private, non-profit schools have online courses (Duchateau, 1992). Today, some universities even allow students to take part in Doctorate programs through online options.

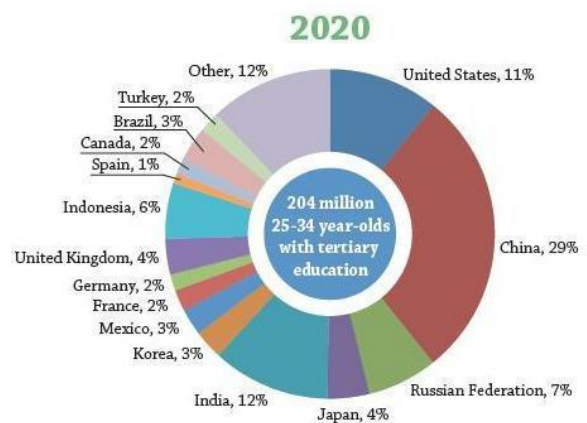


Figure 1: Future of online education in various countries

Source: ICEF, 2012

The Sloan report involved the perspectives of leaders in the field of education. It revealed that students who took part in online education had as much satisfaction about online courses as with classroom based courses, if not more. This study recommended that in order to enhance the reach of online education, academic institutions need to hire and train teachers appropriately. The teachers must be well aware of the technological tool used for communication and should be well versed in the subject. They should be confident with using the computer and the internet (Duchateau, 1992).

IV. COMMUNICATION TECHNOLOGY AND ONLINE LEARNING:

Etymologically, learning by electronic means can be characterized according to several points of view: economic, organizational, pedagogical, and technological (Guitert, 2001). The definition of e-learning given by the European Union is: "e-learning is the use of new multimedia technologies of the Internet to improve the quality of learning by facilitating one hand access to resources and services, other exchanges and remote collaboration. The term E-learning is used by the business world, as the result of a desire to unify terms such as "Open and Distance Learning" (ODL) to describe its size and has opened the world of remote training through "Computer-Mediated Communication" (CMC). Online learning also involves options to translate communication technologies (Mail, Forum, Groupware) applied to training via "Web-Based Training" (WBT) to translate the dominant technology on the Internet for training. Another technology used is "Distributed Learning" which translates more of a pedagogical approach based on constructivist and Distributed Cognition (Hodgson, 2005). Online learning is a modality involving pedagogical and technological

training. It is used in the higher education as well as training in business, that is to say, it is used for an adult learner with a degree of autonomy in the organization of the process of learning, as in business, for example. This modality takes place among companies because of its flexibility and the richness of its resources online. However, it should be noted that in United States, in recent official documents, e-learning is often declined as "Enhanced-Learning through Information Technology" for any type of audience, even from kindergarten, and it includes all Educational Technologies: tutorials, CD / ROM, Hypermedia, Intelligent Tutor (Hodgson, 2005).

V. ONLINE LEARNING THROUGH TUTORIALS:

A tutorial is a contraction of "teaching" and "software". It refers to a computer program within the computer-assisted instruction (CAI); more precisely, it is interactive software for learning knowledge (and more rarely know-how) on a theme or a particular area and often including self-control knowledge (Duchateau, 1994). In the strict sense of the use of the term, it is educational software. It also uses the term exerciser when the software is based on training exercises, interactive environment or multimedia (activity can be free).

VI. ONLINE EDUCATION THROUGH DIGITAL WORKING SPACES OR DIGITAL LEARNING SPACES:

Space digital work is a secure online portal that allows all members of the school community (students, teaching staff, non-teaching staff, parents) to access services in connection with activities of education and support for students (Duchateau, 1995). The Digital Working Spaces are usually offered by local institutions that offer it with the help of technology that unlock human resources for training and provide necessary support for the dissemination of uses. The Digital Working Space addresses many issues of learning. It aims to modernize the state of education by allowing each agent to better manage its information system (for manager, manage, teach, etc.). It modernizes the public service by offering all users and their families to learn digital services or support the education of their children; it helps to familiarize students with the use of technologies that allow them to not only learn better but also to better understand the knowledge society in which they will have to live (Mominó, 2001). This has been made possible for all the forms of teaching and learning alternatives. Many testimonies show that these impacts are profound. To meet the challenges of the digital divide, territorial decision makers rely on these to supplement public digital spaces not only to give people remote access to the Internet, but also to support them to learn how to use it. This kind of digital working

spaces have been set up by all the leading universities in different parts of the world. In India, the Indira Gandhi National Open University, the Jawaharlal Nehru University, etc. have such options (Duchateau, 1995).

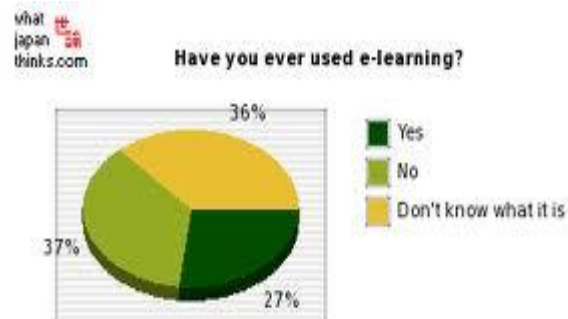


Figure 2: Statistics of online learning enrollments

Source: onlinecolleges.org

VII. ONLINE EDUCATION THROUGH THE INTERACTIVE WHITEBOARD:

The interactive whiteboard (IWB) is a device that combines the advantages of a touch screen and video projection (Moeglin, 2010). White touch screen is connected to a computer via a cable (usually USB). The computer is capable of transmitting various information to the whiteboard, as per the new position of the mouse cursor. A projector is responsible for displaying the computer screen on the whiteboard. It is therefore possible to carry by hand or to use a stylus (depending on model). All that can be achieved using a mouse, and on a screen size up to more than 2 meters in size, can be achieved through this. In general, the tablet is provided with dedicated software, which allows teachers to take advantage of new opportunities of this technology. In schools, IWB has many applications in the physical sciences, in geometry or as a tool for differentiated instruction (video testimonials). However, its use must meet a real educational need to find its effectiveness. IWB applications are found in the area of business (conferences and meetings) as well as in the field of education. The full price of the device is about 3000 euros (including table and projector) (Salvat, 2000). So, it is not for the individual. Note that there are now solutions for mobile priced from 700 euros (without the projector). There is also the opportunity to develop digital picture using the handle of a famous game console Wii and tinkering infrared pen. This is for a modest cost (less than 45 €) (Orban, 2007). In India, some private schools and international school like the Zoom international school, use this technology.

VIII. ONLINE EDUCATION THROUGH INTERACTIVE TABLETS:

A touch pad is a laptop with no keyboard or mouse. The tablets are mobile computers which are very light and handy, which are equipped with a touch screen. In these, the fingers serve as mouse for movement in the interfaces. The tablet can be used for word processing, but its primary function is to browse the Internet and use apps. A mouse and keyboard can be installed using USB cable (ERTI, 2005). The use of interactive tablets in the classroom has several advantages. The tablet allows a significant reduction of photocopies in class, textbooks and books. Students can save all documents necessary to advance their learning in their tablets. Moreover, the tablet is thin and light, which allows easy handling and it is very easy to move the object. In addition, if the school has a wireless Internet connection, Internet access is very fast (Oilo, 2008).

IX. ONLINE EDUCATION THROUGH SOCIAL NETWORKS:

The social networks became popular in the 2000s. Also, they were used in different ways in the field of information technology (Meirieu, 2009). Several newspapers or chains use social networks in order to disseminate information quickly and efficiently. Several other organizations use social networks in order to transmit information. In education, the social networks are increasingly used because they are attractive to today's youth who belongs to the generation of direct information. The main social networks and existing best known of the population are Facebook and Twitter. Facebook has been active from February 4, 2004 (Lasfargue, 2008). Basically, this site was a social network that was "non-public" and exclusively for the University Harvard in the United States. However, it became popular in other universities in the United States and then expanded around the world. Today, the site has about 500 million members and is translated into more than 78 languages (Conde, 2008). This site is Internet's most visited site in the world right now. This social network is used today as a working tool. Among others, in some schools, it is an approach that is used in order to disseminate information to both students and parents. The teacher performs a custom page where access is limited to parents only and where important messages and questions are made public at a very fast pace. Many teachers use this tool to submit their planning of the week in order to always keep parents informed of activities performed by their children during the year.

X. CONCLUSION

Online education involves different modes of

communication that support teaching and learning through various electronic tools. The communication technology is the medium through which the education is imparted and received. The global online education industry is valued at over \$48 billion. It is evident that online learning is getting more and more popular with time. As the technologies are increasing, online options are becoming more accessible to people. Online learning is a modality involving pedagogical and technological training. It is used in the higher education as well as training in business. There are different kinds of communication technologies used for online education. A tutorial is an important tool. It is a contraction of "teaching" and "software". It refers to a computer program within the computer-assisted instruction. The Digital Working Spaces are another form of technology and are usually offered by local institutions that offer it with the help of technology that unlock human resources for training and provide necessary support for the dissemination of uses. It modernizes the public service by offering all users and their families to learn digital services or support the education of their children; it helps to familiarize students with the use of technologies. The interactive whiteboard (IWB) is a device that combines the advantages of a touch screen and video projection. In general, the tablet is provided with dedicated software, which allows teachers to take advantage of new opportunities of this technology. In schools, IWB has many applications in the physical sciences, in geometry or as a tool for differentiated instruction (video testimonials). Another latest technology is the touch pad. A touch pad is a laptop with no keyboard or mouse. The tablets are mobile computers which are very light and handy, which are equipped with a touch screen. The tablet allows a significant reduction of photocopies in class, textbooks and books. Students can save all documents necessary to advance their learning in their tablets. Lastly, social media is a highly effective communication technology that has influenced online education in a positive way. This social network is used today as a working tool. Among others, in some schools, it is an approach that is used in order to disseminate information to both students and parents. Hence, after assessing the different communication technologies used in different aspects of online education, it can be concluded that communication technology is integral to online education. Different technologies have different advantages and positive impacts on education and the development of new technology has opened up new opportunities and methods of imparting education. Thus, communication technology plays a very important role in online education.

REFERENCES

- 1) Fourgous, J. (2010). The modernization of the school by the digital. Successful Mission Report.

- 2) EEC. (1995). Teaching and Learning. Towards the learning society. Luxembourg: Office for Official Publications of the European Communities.
- 3) Duchateau, C. (1994). Should we teach the computer to its users?. Proceedings of the fourth meeting of francophone educational computing. Quebec. Montreal: AQUOPS.
- 4) OECD. (1984). New role of teachers and implications for qualification. In International Conference on Education and the new information technologies. Paris: CERI, OECD.
- 5) OECD. (1984). The information technology and education. Choosing the right software. Paris: CERI, OECD.
- 6) Derouet, J. (1988). The teaching profession as a composite assembly: Teachers face a complex system of justification. Continuing Education, 96.
- 7) Duchateau, C. (1992). The computer and the school! A difficult marriage?. Namur: Cefis, Faculties Lady of Peace.
- 8) Duchateau, C. (1994). Socrates in the land of computers. Quarterly Bulletin of the EPI, 74, 159-177. Paris: Editions de l'Epi.
- 9) Duchateau, C. (1995). The computer: ally or alien. Integrating Information Technology into Education (p. 13-26). London: Chapman & Hall.
- 10) Duchateau, C. (1995). Teach computer science at the University for future users. In 50 years of computing. 25 years of computing in education (pp. 1-12). Fribourg: University of Fribourg.
- 11) ERTI. (2005). A European education. Towards a learning society. Brussels: The European Round Table of Industrialists.
- 12) Hodgson, B. (2005). The role and needs of mathematics teachers using IT. Integrating Information Technology into Education (p. 23-37). London: Chapman & Hall.
- 13) Lasfargue, Y. (2008). Technologies, Technofolies?. Paris: Éditions organization.
- 14) Lafontaine, D., Grisay, A. and Orban, M. (2007). Teaching and teachers: changes and perspectives in the era of new technologies. Liège: Laboratory of Experimental Pedagogy, University of Liège.
- 15) Meirieu, P. (2009). Teach script for a new profession. Paris: Éditions ESF.
- 16) Moeglin, P. (2010). Educational Industries. Paris: PUF.
- 17) Barbera, E.; Badia, A & Mominó, J. (2001). The question of education distance. Journal of Education 35. Barcelona: ICE. University of Barcelona.
- 18) Conde, A. (2008). Educational potential of telematic communication in an e-learning system. Spain: University of Huelva.
- 19) Salvat, B. (2000). The computer invisible. Barcelona. Spain: Publishing UOC.
- 20) Guitert, M. (2001). Environments for teaching and learning in virtual XXI century. UK: Trenchs Spain.
- 21) Oilo, D. (2008). From Traditional to Virtual: New Technologies of Information. World Conference on Higher Education. UNESCO. ED.98 / CONF.202/7.6.