E-LEARNING AN ELECTRONIC SOLUTION TO DISTANCE EDUCATION: A WORLD WIDE EXPERIENCE

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Abstract

Today learners separated by time or space have a multitude of choices in how and what skills and knowledge are delivered. Online programs are rapidly becoming a popular form of learning in educational institutions today. The online environment offers extraordinary opportunities for people who would otherwise have limited access to education, as well as a new paradigm for educators in which dynamic courses of the highest quality can be developed. It provides an excellent method of course delivery unbound by time or location allowing for accessibility to information at anytime from anywhere. E-learning is a subset of education technology which offers an online learning and teaching platform to disperse knowledge with the help of internet technology. It offers conceptual and experimental learning through machines, media platforms and network solutions. It takes place both inside and outside of the classrooms. E-learning solution consists of both instructor-led synchronous learning tools as well self-paced asynchronous style e-learning platforms. It has gained tremendous importance because of the several competitive advantages in a number of areas like accessibility, inclusiveness, flexibility, technology and convenience.

Keywords: e-Learning, Electronic Solution, World Wide, Synchronous, Asynchronous.

Introduction

The technological developments force educators to rethink not only how learning might be approached but, as a result of these very developments, how new learning outcomes will be both possible and necessary. Global communications within learning communities will create opportunities for cross-cultural knowledge

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development. The challenge is to turn e-information into human knowledge. This is not a technological problem but a social challenge that requires an educational solution. The value of e- Learning is not in its faster access to information, but in its capacity to facilitate communication and thinking and thereby construct meaning and knowledge. Technology differently shapes our experiences and how we see the world. E-Learning is not just another tool. It will change how we experience and view learning. E-learning can be defined as the use of any of the new technologies or applications in the service of learning or learning support (Laurillard, 2006). E-learning means sharing knowledge using technology, computer and network-enabled transfer of skills and knowledge. E-learning applications and processes include Web-based learning, computer based learning, virtual classroom and digital collaboration. It may incorporate synchronous or asynchronous access and may be distributed geographically with varied limits of time (Wentling, Waight, Fleur, Wang, and Kanfer, 2000). The vast movement towards e-Learning is clearly motivated by the many benefits it offers. However, no matter how e-Learning is praised and innovated, computers will never completely eliminate human instructors and other forms of educational delivery. What is important is to know exactly what e-Learning advantages exist and when these outweigh the limitations of the medium.

E-learning is an approach to facilitate and enhance learning through and based on both computer and communication Technology. It is used to support distance learning through the use of WANS (Wide Area Net Workers), and may also be considered to be a form of flexible learning where learning is possible in no time. It is also called 'online learning'. It is developed to apply information technology skills to education getting connected to the internet or any network is essential for E-learning. E-learning or Electronic learning is a general term used to refer to computer-enhanced or technology enhanced learning. It is naturally suited to distance learning and flexible learning, but can also be used in conjunction with face to face teaching, in which case the term blended learning is commonly used. It is a means of education that incorporates self-motivation, communication, efficiency, and technology. It is a flexible term used to describing a means of teaching through technology. E-learning refers to the use of Internet technologies to deliver a broad array of solutions that enhance knowledge and performance (Rosenberg, 2001; Wentling et al., 2000). In general, e-learning is the expression broadly used to describe "instructional content or learning experience delivered or enabled by electronic technologies" (Ong and Wang, 2004). It can be viewed as computer assisted learning, and as pedagogy for student-centered and collaborative learning. More recently the pedagogical dimension of e-learning has become prominent and comprises all forms of electronically supported learning and teaching. The information and communication systems, whether networked learning or not, serve as specific media to implement the learning process.

E-learning enables new expressions of education that have the potential to combine the strengths of on-campus and distance forms of education in various ways

and using various technologies such as bulletin boards, which permit online discussion, and wikis, which promote collaborative writing. Dillon and Greene (2003) suggest that individualistic distance education can become collaborative distributed education, although students are physically separated. E-learning and flexible/mixed mode/blended/resource-based courses draw on the same theoretical principles that underpin face-to-face and distance courses. Newer forms of learning can be thought of as new species, not new domains; they are the result of evolution, not revolution (Nipper 1989; Garrison 2000; Peters 2000; Guri-Rosenblit 2005). E-learning as a means rather than a mode of education. It cannot be compared with on-campus delivery or distance education because it can be used within either of these modes. In other words, e-learning uses technological tools that can be applied in various contexts; it is not a distinct educational system in itself. It is also possible to apply different education philosophies of practice using e-learning. Students can construct their own knowledge using technology tools, and those same tools can also be used to present materials that lead students to pre-determined conclusions in highly structured ways. E-learning offers the opportunity for information to be presented in various forms – text, sound, pictures, etc. More than that, it affords the opportunity for the information to be stored in various mediums and formats over long periods of time and accessible over long distances. Compared to face-to-face learning, these mediums can provide means of revision several times over in a day and over a period in a manner more accurate and convenient to students who are at the centre of the teaching and learning activity. e-learning offers great flexibility in learning (Kocur & Kosc, 2009). This flexibility provided by the various forms in which the learning material can be presented, allows the students a variety of options to learn from at their own pace and time. With e-learning access to digital content becomes easy, always available and easily accessible. When students are properly trained to access and use them, learning then becomes driven by the student and guided by the teacher in a flexible way. This can actually enable institutions to absorb more students while enhancing the teaching and learning activities using e-learning. Karim & Hashim, (2004) e-learning has the potential to absorb the increasing number of students particularly at the tertiary level. According to a 2006 UNESCO report, the use of Information and Communication Technologies (ICTs) for dissemination of education is believed to have huge potential for governments struggling to meet the growing demand for education while facing an escalating shortage of teachers. As indicated by the UNESCO report, (2006) the gains from the adoption and implementation of e-learning are many and varied among which are the flexibility in learning (Kocur & Kosc, 2009), lower cost compared to on-campus presence, ability to absorb the increasing number of student, availability of re-usable content, more avenues for human development, increased educational opportunities, among others. These advantages are however faced with some challenges. Notable among these challenges are infrastructural, technological, funding, institutional support, etc.

In general, e-learning refers to the use of information and communications technology (ICT) to enhance and/or support learning in education. By this definition, e-learning encompasses a wide range of modalities, everything from courses offered on campus but with online access to coursework and e-mail communication, to programmes offered entirely online. OECD, (2005b) e-learning courses have two unifying features: they are offered by a physical, often campus-based institution, and they are tied to the Internet or another online network. From the least to the most intensive form. E-learning also offers lower cost to both students and implementers. There are different e-learning products and packages. From CBT materials on CDs to LMS on the internet, students have the option to select products and packages that suits their available funds. Some of these are often one-off purchase or payments which place little or no burden on the student who needs to learn. Again compared to having to enroll in an institution with its inherent accommodation and other expenses, e-learning offers the same opportunity to learn without incurring these implicit costs.

E-learning and Distance Education

The origins of e-learning can be traced back to the first form of education that went beyond the boundaries of the classroom: distance education. While distance education was already remarkably common in the late 19th century, it emerged as a more solid educational option in the second half of the 20th century, thanks mainly to the development of new technologies and the growing demand for education. The creation of the Open University in the United Kingdom in 1969 and of the University of Distance Education (UNED) in Spain in 1972 represent two milestones in this form of education, which gained prominence in subsequent years mainly as an option for students located in distant geographical areas who lacked access to educational institutions.

Distance education evolved along with innovations, and so its format has constantly adapted to the new opportunities represented by emerging technologies. The first forms of distance education essentially relied on printed and mailed material, with no use of ICTs. The first generation to adopt technological tools for distance education used the telephone and television. The second generation incorporated other media, such as facsimile transmission, audiocassettes and videocassettes. The third generation principally used computers, opening up the possibilities for education delivery. Finally, the emergence of the Internet and high band width computer technologies started a fourth generation of distance education, bringing about new possibilities and a faster pace of change (Keairns, 2003). Of course, there are numerous other ways through which ICT, the Internet and digital technologies can support and improve education and learning. One of the most visible ways is through the spread of e-learning, the availability and use of educational resources (open educational resources) and through new forms of courses (massive open online

courses or MOOCs) available for teachers, schools and individuals engaging in self-directed learning.

Algahtani (2011) in his evaluation of the effectiveness of the e-learning experience in Saudi Arabia categorized the definitions of e-learning from three different perspectives: the distance learning perspective (Perraton, 2002; Alarifi, 2003; Holmes and Gardner, 2006), the technological perspective (Wentling et al. 2000; Nichols, 2003) and also from the perspective of e-learning as pedagogy (Khan, 2005; Schank, 2000). Just as there are different types of e- Learning, there are also different ways of employing the technique in education. Algahtani, (2011), in his evaluation of E-learning effectiveness and experience in Saudi Arabia, discovered three distinct models of using e-learning in education including the "adjunct e-learning, blended e-Learning and online learning". The three ways of using e-Learning technologies as discovered by Algahtani (2011) are the "adjunct e-Learning is the situation which e-Learning is employed as an assistant in the traditional classroom providing relative independence to the learners or students (Algahtani, 2011). In the blended e-Learning, Algahtani (2011) and Zeitoun (2008) explained that, in this way of using e-Learning, the delivery of course materials and explanations is shared between traditional learning method and e-learning method in the classroom setting. The third one which is the online is devoid of the traditional learning participation or classroom participation. In this form of usage, the e- Learning is total so that there is maximum independence of the learners or students (Algahtani, 2011; Zeitoun, 2008). Zeitoun (2008) has gone further to explain that the online model is divided into the individual and collaborative learning, where the collaborative learning also consists of the synchronous and asynchronous learning (Zeitoun, 2008).

E-learning in Education (Model)
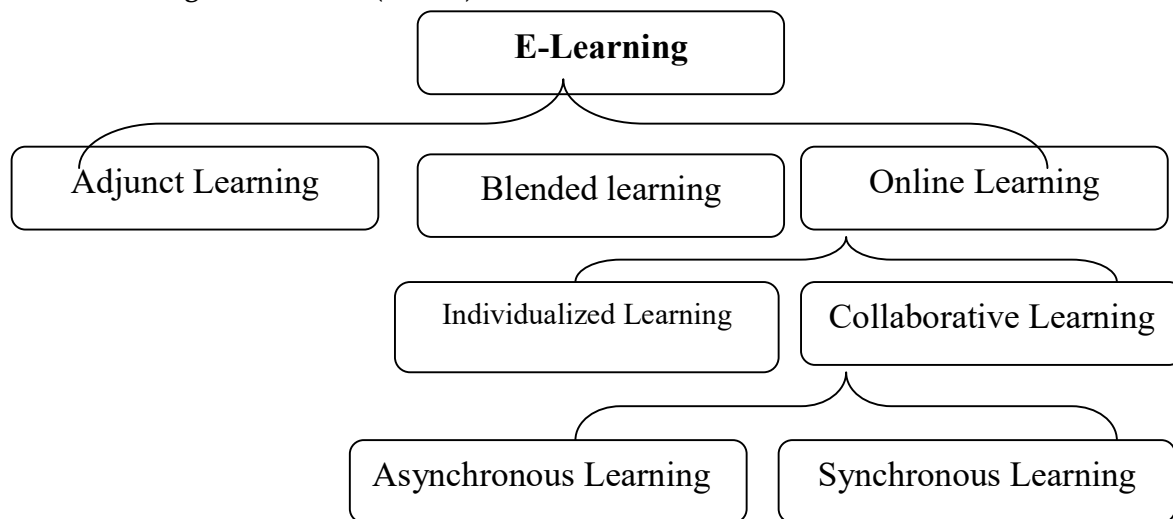
Digital Educational Resources (DER's) confront the Problems of Distance Education

A recent OECD study has focuses on the contribution of OERs to six key educational challenges that education systems face today (Orr, Rimini and Van Damme, 2015). These concern teaching and learning, cost containment, the distribution of high-quality educational resources, and reducing the barriers to learning opportunities, which together can improve the quality and accessibility of teaching and learning provision. The use of digital technologies in education has diversified away from an undifferentiated concept of e-learning. One very important development has been and still is the rise of open educational resources (OERs). OERs are defined as teaching, learning and research materials that make use of appropriate tools, such as open licensing, to permit their free reuse, continuous improvement and repurposing by others for educational purposes.

The fundamental applications of e-learning include storing and distributing digital materials (readings, websites, and multimedia) as presentation elements, and using interpersonal communication and activities as process elements. Presentation and process can both be applied in many ways. Transforming classroom practices, digital technologies open up opportunities for self-directed learning and continuous professional development. In particular, massive open online courses (MOOCs) appear to be well-suited to enabling people to update their competencies over their lifetimes by overcoming time and resource constraints. Online resources can thus offer a partial solution to the challenges of developing, activating and effectively using skills. The last five years, online education has found its peak moment with the emergence of MOOCs. MOOCs are fully fledged courses of lectures available on line to serve a wide variety of purposes. With MOOCs, the term "massive" clearly implies a significant scale. Coursera and EdX are the leading educational platforms, has now reached approximately 17 million people. Learners taking part in MOOCs provided by academic platforms such as Coursera and EdX are driven by diverse motivations and incentives. Some may enrol a course out of personal curiosity about a specific subject, some may want to deepen their knowledge or strengthen their skills in a specific domain, and others may enrol to prove their interest and knowledge to the eye of a current or potential employer (Zhenghao et al., 2015). The growing popularity of the MOOC model has engendered various other initiatives in the field of education in-company workforce training or skills training for the unemployed. International organisations are now also partnering with MOOC platforms to develop specific courseware.

An ever-growing number of leading universities (including MIT, Stanford, Princeton, Yale, Harvard and Duke) upload courses to the Internet in a variety of fields. These online courses are supervised by senior lecturers at the universities and by the actual creators of knowledge and are offered to the public at large, free of charge. The courses are taught at a very high level and enable anyone to study at their own pace.

There is no limit to the number of participants and they are available anywhere, anytime. Such MOOC courses could offer a revolution in the world of education. Tens of thousands of people register for courses which are open to everyone.

Failure and Success of E-Learning

The major failures of e-learning in education tend to be due to failure in implementation rather than a fundamental flaw in e-learning itself. While the initial assumptions leading to the explosive interest in e-learning at the turn of the millennium were undoubtedly flawed, subsequent experience has demonstrated the substantial contribution that e-learning can make and has made to tertiary education in terms of more flexible access to education, improved learning, and cost-effectiveness. At the time of writing it seems that e-learning's further development relies on institutional investment and effective change strategies that engage the early and late majority of potential users (Rogers 1995; Kotter 1996) – in this case, educators.

It is likely that much of the criticism levelled at e-learning comes from those instances when it is not used well, and these failures usually occur because practitioners don't use effective pedagogies. Hedberg (2006) notes that 53 per cent of students' experience e-learning solely as providing information, and sometimes only background or further information at that. About 32 per cent experienced online discussion with further information. The balance experienced e-learning as 'providing information with un-moderated discussions'. Mainstream e-learning is yet to depart from familiar on-campus and distance-style education, despite the emphasis on mixed-mode or blended techniques. Many institutions may have adopted e-learning for reactive reasons. Cox (2005) suggests that decision-makers in institutions tend to adopt e-learning based on unsubstantiated myths about student demand and competitive pressure. In the subsequent rush to 'get things online' and the impression that once courses are 'online' they are somehow completed, the true opportunities of e-learning may be missed.

Success in e-learning depends on effective implementation. E-learning has the potential to reduce the transactional distance between instructor and student (Moore & Kearsley 1996), particularly if more consideration is given to the actual development and delivery of a course as a result of introducing technology. The potential of e-learning allows course designers to revaluate their techniques and explore the potential of new ones. If course revisions are pedagogically sound and use reliable and easy-to-use technology, the net result will be a more effective learning experience. If so designed, e-learning assisted courses can also make learning more accessible to learners who want a flexible study experience. If changes are made in a flexible institutional context, it is also likely that e-learning will result in efficiencies.

Conclusion

E-learning plays an important role in the educational growth of any nation. It also offers opportunities for developing nations to enhance their educational

development. It can also play a critical role in preparing a new generation of teachers, as well as upgrading the skills of the existing teaching force to use 21st century tools and pedagogies for learning. So it is the changing trend in education. The modern technologies particularly the internet made education no longer limited to the four walls of the class room. E-learning comprises all forms of electronically supported learning and teaching. The information and communication systems, whether networked or not serve as specific media to implement the learning process. The term will still most likely be utilized to reference out-of classroom and in-classroom educational experiences via technology, even as advances continue in regard to devices and curriculum. E-learning technologies offer learners control over content, learning sequence, pace of learning, time, and often media, allowing them to tailor their experiences to meet their personal learning objectives. to manage access to e-learning materials, consensus on technical standardization and methods for peer review of these resources. It presents numerous research opportunities for faculty, along with continuing challenges for documenting scholarship. Innovations in e-learning technologies point toward a revolution in education, allowing learning to be individualized (adaptive learning), enhancing learners' interactions with others (collaborative learning), and transforming the role of the teacher. The integration of e-learning into education can catalyze the shift toward applying adult learning theory, where educators will no longer serve mainly as the distributors of content, but will become more involved as facilitators of learning and assessors of competency.

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