E-LEARNING: THE EMERGING TECHNOLOGIES IN INSTRUCTION

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ABSTRACT

The digital revolution has triggered huge changes in how learners access, consume, discuss and share knowledge. E-learning encompasses a wide variety of online initiatives including utilizing electronic technologies to access educational curriculum. E-learning is being adopted as an additional method in the educational process for it extends and enrich the learning opportunities hence it is necessary for instructional designers to discover innovative ways to make e-learning more effective for learners. The e-learning is a more modern, efficient and flexible alternative thus there is need to shift to it. The researcher used mixed-method analysis of research articles to find out available and valid information on e-learning. Thus researcher conducted an extensive literature review to collect the communicable knowledge on e-learning from various sources where e-learning is analysed and discussed such as books and book chapters related to e-learning, academic and scientific journals and open virtual spaces by recognized authors. The paper reveals vital information on definitions of e-learning from the field of education and information and communication technology, myths and facts about e-learning, goals of e-learning, potential benefits and demerits of e-learning. The paper is designed to provide practitioners, instructional designers, researchers and policy makers with some insights about e- learning. The recommendations are drawn highlighting areas that academic scholars and researchers can do further research to increase the effectiveness and scalability of e-learning. It should be acknowledged that the information is by no means exhaustive but rather a starting point for critical and informative discussion on e-learning.

Keywords: e-learning, Online Education, Electronic Technologies.

INTRODUCTION

In recent decades, the use of Information and Communication Technologies (ICT) for educational purposes has increased and the spread of network technologies has caused e- learning practices to evolve significantly (Kahiigi, Ekenberg, Hansson, Tusubira, & Danielson, 2008). The concept of e-learning and society are in state of constant flux so e-learning can be expected to continuously evolve. It is also subject to constant change since it is understood from many angles and used with different meanings in the scientific community (Stein, Shephard & Harris, 2011).

E-learning provides an ideal learning environment through the effective adoption of modern Information Technology (IT) and the curriculum to achieve a new learning style which can fully reflect the main role of the students to thoroughly reform the traditional teaching structure and the essence of education, to train large numbers of high quality personnel (Ma, Wang, & Liang, 2008). In order to keep pace with the changing trends, educational systems all around the world are in the process of integrating ICTs to enhance the learning experience of students (Qureshi, Ilyas, Yasmin and Whitty, 2012). New and latest technologies are providing new ways for knowledge generation and to develop, enhance and expand learning activities (Michau, Gentil and Barrault, 2001). Hence adopting and adapting to the new technology is necessary for everyone in society and in particular in the educational context (Collis & Moonen, 2005).

E-learning has been developed to cost-effectively provide auxiliary and improved learning experiences beyond those available in the classroom (Anderson & McCormick, 2005). E-learning expands the learning opportunities of students who are time limited, live in remote communities, and/or have work or family commitments or other barriers that prevent them from attending a traditional classroom learning environment. Thus students facing economic, family, physical or geographic constraints can take advantage of e-learning opportunities. Also e-learning enables tutors to invest in more innovative teaching, whereas students are active in their own learning thus bridging the gap between the learner and facilitator, which help to improve the teaching methods and reduce pressure on resources (Makokha & Mutisya, 2016).

E-learning represents an innovative shift in the field of learning, providing rapid access to specific knowledge and information. It provides opportunities for students to complete the course content at their own pace by being flexible and time-friendly because it can adapt to varying schedules, timings and even physiological challenges and disabilities that a learner might face in life. Online educational courses can be taken up by office goers and housewives too, at the time that suits them (Gupta, 2017). E-learning also offers online instruction that can be delivered anytime and anywhere through a wide range of electronic learning solutions such as Web-based courseware, online discussion groups, live virtual classes, video and audio streaming, Webchat, online simulations, and virtual mentoring (Nagararajan & Jiji, 2010).

DEFINITIONS OF E- LEARNING

Due to the existence of different perspectives on the concept of e-learning it has been difficult to devise an all inclusive definition of e-learning. In this paper the definition of e-learning adopted are communication oriented and education driven. Guri-Rosenblit (2005) defined e-learning as the use of electronic media for a variety of learning purposes that range from add-on functions in conventional classrooms to full substitution from the face-to-face meetings by online encounters. This implies using any electronic educational applications and processes to deliver learning and training programs to aid acquisition and development of knowledge, skills and attitudes among learners. The set of electronic educational applications and processes include computer based

learning, web-based learning, computer-aided instruction, virtual classrooms and digital collaboration.

Gonzalez-Videgaray (2007) defined e-learning as learning that is based on information and technologies with pedagogical interaction between students and the instructors or among students through the web. Also Lee and Lee (2006) described e-learning as an online education defined as the self-paced or real-time delivery of training and education over the internet to an end-user device. While Meredith and Newton (2003) defined e-learning as learning facilitated by internet and world wide web technologies, delivered via end-user computing that creates connectivity between people and information and creates opportunities for social learning approaches. E-learning includes the delivery of content inform of text, audio, images, animation and streaming video via internet, intranet/extranet (LAN/WAN), audio and videotape, satellite broadcast, interactive TV, CD-ROM and more.

According to Jereb and Smitex (2006), e-learning refers to educational processes that utilise ICT to mediate synchronous as well as asynchronous learning and teaching activities. The e-learning environment can be divided into two categories synchronous and asynchronous depending on the tools and technologies involved. Synchronous e-learning require students and instructors to be online and involves studies through any learning tool that is real-time such as chat, webcasts, videoconferencing, teleconferences, instant messaging and podcasts. This allows students to easily interact and share with fellow students and their instructors during the course. Asynchronous mode allows all participants to post communications to any other participant over the internet (Algahtani, 2011). Asynchronous e-learning involves use of e-mails, web, discussion boards, social networking (blogs, YouTube, wikis and others) and messages. It is a key component of flexible e-learning since the learners can access information at any time and so it has no scheduling conflicts.

MYTHS AND FACTS ABOUT E-LEARNING
E-learning has been surrounded by several myths. The myths and misconceptions have led to several people criticizing the quality, viability and authenticity of e-learning. The common myths should then be busted and the real facts about e-learning exposed.
Myth 1: Getting an online degree or academic certificate is taking the easy way.
Fact: The e-learning format is more flexible but that does not make the coursework any less rigorous. Most online courses feature the same content and requirements as traditional courses and so to earn an academic certificate online is as challenging as doing it through traditional courses (Vos, 2016). It takes a serious student with a lot of self-discipline and time management skills to succeed in an online program. Students in e-learning courses must be more engaged because the responsibility is on students to attend and interact. E-learners are set up to be more active because they have made the choice to show up to their gadgets for the class even when no one is formally taking attendance. E-learning is not the lazy way out for it involves rigorous reading, writing and research assignments that require substantial time commitment and dedication. E-learning can also be quite labor intensive, requiring at least as much time as an on-campus course (Williams, 2015).

It may offer a more flexible time commitment but the student must be fully engaged in the learning process in order to succeed. Students opt for e-learning because of flexibility, reduced cost, the ability to work while learning and not because it is the easy way out.

Myth 2: E-learning is isolating, lonely and unsocial giving solitary experience.
Fact: E-learners have the opportunity to interact with people from all over the world. E-learning can include social elements that let learners interact with others, collaborate, brainstorm and feel connected (Gutierrez, 2016). Teachers and students continue to interact through the additional channels of communication provided by e-learning technologies. E-learning presents an opportunity to create an interactive learning experience where the learner actively participates in his or her educational experience. The e-learning mode of interactivity provides learners with opportunity to explore and discover the learning themselves. Also use of interactive designs makes e-learning not only engaging for the users but valuable as a lesson delivery medium. In fact they have access to a highly personalized learning as they are able to have one-on-one interactions with teachers and fellow students through the internet. They can join clubs, groups and take part in online activities (Felton, 2013).

Myth 3: E-learners do not learn much through e-learning.
Fact: There is no significant difference in learning between traditional and e-learning since both hold to the same academic standards. E-learning classes are exact replicas of the traditional face-to-face syllabus. The tasks to be done in e-learning (essays to write, exams to pass and other assignments to accomplish) are of the same amount as in traditional courses (Vos, 2016). Students who embark on an e-learning class can receive the same instructions as traditional students. The quality of the curriculum is directly related to the instructor who put it together. The method of delivery does not affect its quality in any way. E-learning courses have the same tools for measuring success as a traditional classroom.

Myth 4: E-learning is just for the millennial implying it is designed for certain type of learners.
Fact: E-learning is for anyone, anywhere, anytime. E-learning has inimitable design and so all demographics can utilize e-learning resources. Not only tech savvy or technologically advanced students can take up e-learning but all students who have a basic knowledge of the computer may be able to enroll for e-learning (Felton, 2013). E-learning courses can be personalized and designed with a content specific material for the learner (tailored to learners needs). No one is left behind. E-learning is designed intuitively to make it user-friendly as possible in that all learners should be able to execute it with little or no trouble.

Myth 5: E-learning is just about technology.
Fact: The ultimate objective for e-learning is to impart learning. Technology is not the focus but exists only to aid the learning process as an enabler. The content determines how effective and appealing an e-learning course is. It is the content that addresses "why" and "what" to learn.

Technology is about "how" to deliver the learning (Gutierrez, 2016). The students focus on what they want to accomplish in the course.

Myth 6: With e-learning there is no need for an instructor anymore for it replaces the teachers.
Fact: The instructors roles are extremely demanding since their roles changes, expand and diversifies**.** The instructors need to balance organizational, didactic (traditional teaching) and facilitation roles. The instructor is expected to facilitate e-learning sessions, provide coaching, take part in online discussions manage courses by organizing and formatting instructional material to suit independent study and digital delivery and provide feedback on work submitted by learners over video, chats and emails (Gutierrez, 2016). E-learning allows instructors to spend less time on basic knowledge and skill development and also make them communicate differently, thinking about engagement and effectiveness of their work.

Myth 7: E-learning moves too quickly to understand and process the information.
Fact: A lot of e-learning is about slowing down the learning process, giving participants time and space to reflect on interactions. E-learning gives learners the chance to absorb and retain information at their own pace since it will provide the opportunity to stop, pause, or replay (Foutz, 2015).

GOALS OF E-LEARNING
The major goals of e-learning are improving access for both traditional-age and nontraditional students who are not otherwise able to attend a traditional, campus-based program and improving student choice over when, where, and how to engage in the learning process; and improving efficiency and effectiveness by using e-learning media and methods to control cost or provide other efficiencies or to make large-enrollment courses more effective for students (Mayadas, Miller, & Sener, 2015). The Other goals include the following: to reduce the need for classroom training, to track employee progress, to track training effectiveness (or absorption)**,** to link training with knowledge management, to reduce time away from the job, to improve job performance, to improve flexibility of course delivery and to reduce learning costs (Nagararajan & Jiji, 2010).

BENEFITS OF E-LEARNING
E-learning is more convenient and flexible with respect to time and place for it can be delivered virtually anywhere and anytime (real-time access). Smedley (2010), notes that the adoption of e-learning provides the institutions as well as their students or learners the much flexibility of time and place of delivery or receipt of learning information. The learners have freedom to learn conveniently, advance at their own pace and the learning sessions are available all time. A remarkable feature that only e-learning can provide for is that it is self-paced in that it gives the learners a chance to speed up or slow down as necessary. E-learning therefore increases satisfaction and decreases stress (Algahtani, 2011) for it is accessible and can be done in short chunks of time that can fit into learners' schedule. The learners also may review course material as

often as needed in that they can access the content an unlimited number of times (Gupta, 2017). Thus learners have control over their learning process and can better understand the material. Students can customize the course material as per their own needs (Fioriello, 2018) in that they can read materials online or download them for studying later. The learners have options to choose instructor-led or self-study courses and even the materials they like or enjoy to study. Thus e-learning allows learners to access material when needed and study at their own preferred pace without the stress of missing important information (Roy & Raymond, 2005).

E-learning can be tailor-made to suit the learners' level of proficiency and needs. Students have multiple learning styles for they have differences in cognitive, physiological, cultural and learning preferences. E-learning as a mode of study takes into consideration the individual learners differences (Arkorful & Abaidoo, 2014) in that it accommodates learners' preferences hence it is student-centred. The learners may use tools best suited to their learning styles. The variety of delivery methods used to reach different types of learners facilitates high retention in students as compared to traditional classroom. The instructors can also build different learning paths into their courses to provide learners with a more personalized experience.

E-learning has no boundaries and is unrestricted. This is because e-learning is not constrained by geographical considerations and time zones thus open up broader education options. Learners can learn in remote locations without physical attendance and distance is no longer a barrier to learning. E-learning simplifies the learning process greatly, allowing students from all over the world to complete courses created by world's best universities (Nolan, 2017). Delivery through E-learning allows for portability of the training like use of tablet, i-pad, laptop and mobile phones which makes the learning convenient and on-the-go (Wong & Sixl-Danieli, 2017). E-learning facilitates learning without having to organize when and where everyone who is interested in a course can be present. The learners are unbound by place so they can study at home, work or anywhere (they can access their courses no matter where they are) implying that with e-learning there is increased reach to education. With e-learning culture and nationality is no longer a barrier because the instructors can customize the courses to address different cultures in various languages making the content travel all round the world and reach the widest possible audience. This also benefits native students too, allowing them to communicate and study along with people coming from different cultures (Nolan, 2017).

E-learning is cost effective thus the costs of learning and development are drastically reduced. E-learning reduces the need for a campus site and the accompanying costs of maintaining the facilities and equipments. The travel and accommodation expenses associated with undertaking a course are cut down hence e-learning is a cheaper option. E-learning also eliminates the cost and inconveniences of getting instructor and learners in the same place (Fioriello,2018) Teachers do not have to pay for classroom rentals, travel fees, or printing costs since e-learning activities take place online (Stoeva, 2018). A lot of training time is reduced with respect to trainers, travel, course materials, and accommodation (Gupta, 2017). There is low delivery cost since once the material

is developed and uploaded online it has no expiry date and could be utilized anywhere by numerous learners worldwide (Allen, 2011) and this leads to scalability of E-learning. Also with a good Learning Management System (LMS) or Massive Open Online Course (MOOC), expert knowledge can be communicated to and captured effectively by an unlimited number of learners supported by interactive user forums and communities, while updated content and information can be disseminated quickly and cost effectively (Wong & Sixl-Danieli, 2017)..

E-learning is delivered with speed and ease thus there is faster delivery of content and learners get courses when they need them. According to Kearsley (2005), e-learning reduces learning time by at least 25 to 60 percent when compared to traditional learning. There is reduced time for training in e-learning because it does not take as long to roll out a learning session. Through e-learning objectives can be accomplished in the shortest time with least amount of effort (Rabah, 2005). Also learners can focus and concentrate on components of a courses they need to learn and can skip what they already know (Andrew, 2010). In other words students can customize the course material as per their own needs and have an option to choose what they like and retrieve information when required. Learning online enables the learner to access updated content whenever they want it (Gupta, 2017). The students get fresh, consistent content and immediate access to the most current data since the instructors can update lessons and materials in the entire network instantly. In e-learning there is deep learning since the learners are required to critically engage with the bundles of information available online which induces active and deep learning rather than surface learning (Johns, 2003).

The practical benefits of e-learning to teachers can be measured in terms of time-based efforts, workload reduction, ability to track the submission of digital assignments, and reuse or reconstruct a course (Yupangco, 2018). E-learning is a channel and tool through which teachers can improve their teaching styles and focus their energies on pedagogical functionality. E-learning platforms allow teachers to stay connected to their students outside of school hours in order to exchange resources, videos, ideas, methodologies, and pedagogical practices (Stoeva, 2018). Also e-learning is flexible for it offers a variety of schedules and times for asynchronous and synchronous learning and combines a huge variety of different resources such as videos, texts, presentations, and quizzes in that it gives teachers the opportunity to adapt their teaching methods to the learning styles of their students. The teachers also have ability to automate marking, digitally issue tests and quizzes, and track student progress with reporting tools and analytics makes the education landscape a more accommodating and innovative industry that puts students first (Yupangco, 2018).

Teachers can be innovative and creative since the use of new technologies gives them the freedom to experiment in their teaching practice and have the ability to make changes if something doesn't work. The online platforms are accessible all the time so they allow teachers to develop and create their materials whenever they want to and according to their schedules. E-learning enables educators to get a higher degree of coverage to communicate the message in a consistent way for their target audience (Gupta, 2017) which ensures that all learners receive the same type of training

with this learning mode. The teaching materials can be reviewed by instructors as many times as needed to suit the learners' needs. Online platforms allow teachers to support their students outside the classroom where they do not have much time together in that teachers have the opportunity to lead students to success both during and after school hours. E-learning mode allows teachers to receive constant and real-time feedback from their students and colleagues so the mode can be said to be efficient.

An e-learning platform is one of the channels that educators can use to deepen their knowledge and increase their skills so it can provide for lifelong learning for teachers. Thus through e-learning instructors can improve their professional development. Also using a variety of online resources for an online training it provokes and develops the creative thinking processes of educators (Stoeva, 2018). E-learning helps to build a community since online platforms allow educators to stay connected with colleagues from all over the world, as well as to share ideas and gain inspiration. Aspiring teachers can use e-learning platform to assess their subject knowledge, create a roadmap and enhance their interactivity (Anderson, 2018).

SHORTCOMINGS OF E-LEARNING

One of the disadvantages of e-learning is that practical skills that require hands-on experience are somewhat harder to acquire from online resources. Therefore e-learning may be less appropriate in fields or discipline that need to develop practical skills (Arkorful & Abaidoo, 2014). With e-learning there is less face-to-face interaction and some learners may feel a sense of isolation. According to Arkorful and Abaidoo, (2014) e-learning as a method of education makes some learners undergo contemplation, remoteness, as well as lack of interaction or relation. E-learning is a solo act for the most part, which may give the learner the feeling that they are acting completely alone and do not have the support and reassurance that the physical presence of an instructor provides. Even though, according to Wong and Sixl-Danieli (2017), this can be overcome with the increased use of synchronous tools in the e-learning environment.

E-learning requires learners to be self disciplined since their progress may not be closely monitored in order for them to perform. Being able to learn at a comfortable pace and organize their learning on their own is a disaster for some students (Nolan, 2017). It can be challenging for some students to stay engaged and motivated in an online class. The learners may also lack control over their e-learning experience and just go through the material without paying any sufficient attention. Learners with low motivation tend to fall behind when using e-learning as there are no fixed schedule or routine to carry out various activities and so there may be danger of procrastination leading to difficulties to complete the studies successfully. E-learning also leads to devaluation of oral discourse/discussion practices due to lack of face-time between students and teachers.

CONCLUSION

Although there are several myths and misconceptions, e-learning is an emerging technology that we cannot wish away because it has wide set of benefits such as making learning flexible, more accessible, provide just in time learning, cost effective, faster and not restricted geographically as it removes time, place and situation barriers. E-learning also provides for increased interaction amongst learners, offers greater accountability as some platforms can monitor students' activities and participation and is also very effective in supporting life-long learning. E-learning represents an innovative way in the field of learning that provides rapid access of specific knowledge and information as needed by learners who could be working or restricted by other factors to attend traditional type of instruction. The manpower requires to keep abreast with required knowledge, abilities and technology trends which improve effectiveness in service delivery. Therefore e-learning is a potential alternative and innovative mode of learning and a technology whose time has come.

RECOMMENDATIONS

E-learning is becoming increasingly viable and accessible for educational purposes and it is not a technology that is passing away thus more studies need to be carried out to explore the future of e-learning in order to improve the chances of successful e-learning adoption. There is also need to explore the digital and knowledge environment in which e-learning can be designed and delivered optimally. Research could be conducted to provide feedback to facilitate necessary revisions and keep improving the e-learning. Effective usage of e-learning tools and technologies used in e-learning should be investigated to provide tips to produce great results by decreasing costs and improving performance. The functionality of e-learning platforms could also be explored to find out how they impact on learning in order to increase the effectiveness of e-learning. Studies could also be carried out to find out the concerns of students, the issues of absenteeism, completion rate and dropout rate in relation to e-learning, in order to improve the educational perspectives of e-learning.

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