

The role of e-learning, the advantages and disadvantages of its adoption in Higher Education.

Corresponding Author

Name: Valentina Arkorful

Institution: College of Distance Education, University of Cape Coast, Ghana

E-mail Address: valentinaabaarkorful@yahoo.com

Contact no: +233207986099

Name: Nelly Abaidoo

Institution: College of Distance Education, University of Cape Coast, Ghana

E-mail Address: nellymenz@yahoo.com

Contact no: +233209746926

ABSTRACT

This study investigates the effectiveness of using e-learning in teaching in tertiary institutions. In institutions of higher education, the issue of utilizing modern information and communication technologies for teaching and learning is very important. This study reviews literature and gives a scholarly background to the study by reviewing some contributions made by various researchers and institutions on the concept of e-learning, particularly its usage in teaching and learning in higher educational institutions. It unveils some views that people and institutions have shared globally on the adoption and integration of e-learning technologies in education through surveys and other observations.

It looks at the meaning or definitions of e-learning as given by different researchers and the role that e-learning plays in higher educational institutions in relation to teaching and learning processes, and the advantages and disadvantages of its adoption and implementation.

Key words: Elearning, Information and Communication Technologies, Higher Education.

1.1 THE CONCEPT AND DEFINITION OF E-LEARNING

The Internet has become one of the vital ways to make available resources for research and learning for both teachers and students to share and acquire information (Richard and Haya 2009). Technology-based e-learning encompasses the use of the internet and other important technologies to produce materials for learning, teach learners, and also regulate courses in an organization (Fry, 2001). There has been extensive debate about a common definition of the term e-learning. Existing definitions according to Dublin (2003) tend to reveal the specialization and interest of the researchers. E-learning as a concept covers a range of applications, learning methods and processes (Rossi, 2009). It is therefore difficult to find a commonly accepted definition for the term e-learning, and according to Oblinger and Hawkins (2005) and Dublin (2003), there is even no common definition for the term. Holmes and Gardner (2006) also made a comment on these inconsistencies by saying that there may be as many definitions of the term e-learning as there are

academic papers on the subject Dublin (2003) in trying to find a common meaning of the term e-learning went on to ask the following questions: Is e-learning an on-line coursework for students at a distance? Does it mean using a virtual learning environment to support the provision of campus-based education? Does it refer to an on-line tool to enrich, extend and enhance collaboration? OR is it a totally on-line learning or part of blended learning? (Dublin, 2005). Some of the definitions of the term e-learning as given by different researchers and institutions are reviewed below.

In some definitions e-Learning encompasses more than just the offering of wholly on-line courses. For instance Oblinger and Hawkins (2005) noted that e-Learning has transformed from a fully-online course to using technology to deliver part or all of a course independent of permanent time and place. Also the European Commission (2001) describes, e-Learning as the use of new multimedia technologies and the Internet to increase learning quality by easing access to facilities and services as well as distant exchanges and collaboration. The following are also different definitions of e-learning.

E-learning refers to the use of information and communication technologies to enable the access to online learning/teaching resources. In its broadest sense, Abbad et al (2009), defined E-learning to mean any learning that is enabled electronically. They however narrowed this definition down to mean learning that is empowered by the use of digital technologies. This definition is further narrowed by some researchers as any learning that is internet-enabled or web-based (LaRose et al, 1998; Keller and Cernerud, 2002).

According to Maltz et al (2005), the term 'e-learning' is applied in different perspectives, including distributed learning, online-distance learning, as well as hybrid learning. E-learning, according to OECD (2005) is defined as the use of information and communication technologies in diverse processes of education to support and enhance learning in institutions of higher education, and includes the usage of information and communication technology as a complement to traditional classrooms, online learning or mixing the two modes. Also according to Wentling et al (2000) the term e-learning refers to the attainment and use of knowledge that are predominantly facilitated and distributed by electronic means. To them, the e-learning depends on computers and networks, but it is likely it will progress into systems comprising of a variety of channels such as wireless and satellite, and technologies such as cellular phones (Wentling et al., 2000). In their literature review on definitions for e-learning, Liu and Wang (2009) found that the features of e-learning process are chiefly centered on the internet; global sharing and learning resources; information broadcasts and knowledge flow by way of network courses, and lastly flexibility of learning as computer-generated environment for learning is created to overcome issues of distance and time (Liu and Wang, 2009). Gotschall (2000) argues that the concept of e-learning is proposed based on distance learning, thus a transmission of lectures to distant locations by way of video presentations. Liu and Wang (2009) however claims that the progression of communications technologies, particularly the internet, did transform distance learning into e-learning.

Other researchers also defined e-learning as a revolutionary approach (Jennex, 2005; Twigg, 2002) to enable a workforce with the knowledge and skills needed to turn change into benefit (Jennex, 2005). For instance Twigg (2002) described the e-learning approach as centered on the learner as well as its design as involving a system that is interactive, repetitious, self-paced, and customizable. Welsh et al. (2003) also referred to the term as the use of computer network technology, principally through the internet, to provide information and instruction to individuals.

Liaw and Huang (2003) defined e-learning based on the summaries of its characteristics. In the first place, they propose a multimedia environment. Secondly, they incorporate several kinds of

information. Thirdly e-learning systems support collaborative communication, whereby users have total control over their own situations of learning. In the fourth place, e-learning support networks for accessing information. And fifth, e-learning allows for the systems to be implemented freely on various kinds of computer operating systems.

According to Tao et al (2006), this new environment for learning that is centered on electronic networks has allowed learners in universities to receive individualized support and also to have learning schedules that is more suitable to them as well as separate from other learners. This facilitates a high interaction and collaboration level between instructors or teachers and peers than traditional environment for learning. E-learning in academics which is characterized by the use of multimedia constructs made the process of learning more active, interesting and enjoyable (Liaw et al, 2007). The main constructs that have made e-learning the most promising educational technology according to Hammer and Champy (2001) and Liaw et al (2007) include service, cost, quality, and speed. It is apparent that e-learning can empower students at higher educational levels to acquire their education in while at the same time perusing their personal objectives as well as maintaining their own careers, with no need to attend be subjected to rigid schedule (Borstorff and Lowe. 2007). Kartha (2006) in support of this thought reported that the number of courses online has vividly increased as a result of the attained benefits for both learners and universities.

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).

It can therefore be concluded from the above that it is difficult to identify a common definition for e-learning. Some of the authors refer to e-learning as providing complete on-line courses only whereas comprise web-supplemented and web-dependent services for the provision of educational and support processes

1.2 TYPES OF E-LEARNING

There are diverse ways of classifying the types of e-learning. According to Algahtani (2011), there have been some classifications based on the extent of their engagement in education. Some classifications are also based on the timing of interaction. Algahtani (2011) divided e-learning into two basic types, consisting of computer-based and the internet based e-learning.

According to Algahtani (2011), the computer-based learning comprises the use of a full range of hardware and software generally that are available for the use of Information and Communication Technology and also each component can be used in either of two ways: computer-managed instruction and computer-assisted-learning. In computer assisted- learning, to him, computers are used instead of the traditional methods by providing interactive software as a support tool within the class or as a tool for self-learning outside the class. In the computer-managed-instruction, however, computers are employed for the purpose of storing and retrieving information to aid in the management of education.

The internet-based learning according to Almosa (2001) is a further improvement of the computer-based learning, and it makes the content available on the internet, with the readiness of links to related knowledge sources, for examples e-mail services and references which could be used by learners at any time and place as well as the availability or absence of teachers or

instructors (Almosa, 2001). Zeitoun (2008) classified this by the extent of such features use in education, mixed or blended more, assistant mode, and completely online mode. The assistant mode supplements the traditional method as needed. Mixed or blended mode offers a short-term degree for a partly traditional method. The completely online mode, which is the most complete improvement, involves the exclusive use of the network for learning (Zeitoun, 2008).

Algahtani (2011) described the completely online mode as “synchronous” or “asynchronous” by the application of applying optional timing of interaction. The synchronous timing comprises alternate on-line access between teachers or instructors and learners, or between learners, and the asynchronous, to him allows all participants to post communications to any other participant over the internet (Algahtani, 2011; Almosa and Almubarak, 2005). The synchronous type allows learners to discuss with the instructors and also among themselves via the internet at the same time with the use of tools such as the videoconference and chat rooms. This type according to Almosa and Almubarak (2005) offers the advantage of instantaneous feedback. The asynchronous mode also allows learners to discuss with the instructors or teachers as well as among themselves over the internet at different times. It is therefore not interaction at the same moment but later, with the use of tools such as thread discussion and emails (Almosa and Almubarak, 2005; Algahtani, 2011), with an advantage that learners are able to learn at a time that suits them whilst a disadvantage is that the learners will not be able to receive instant feedback from instructors as well as their colleague learners (Almosa and Almubarak, 2005).

1.3 THE USE OF E-LEARNING IN EDUCATION

The development of multimedia and information technologies, as well as the use internet as a new technique of teaching, has made radical changes in the traditional process of teaching (Wang et al. 2007). Development in information technology, According to Yang and Arjomand (1999), has generated more choices for today's education. Agendas of schools and educational institutions have recognized e-Learning as having the prospect to transform people, knowledge, skills and performance (Henry, 2001). Also according to Love and Fry (2006), colleges, universities, and other institutions of higher learning race to advance online course capability in a speedily developing cyber education market. E-learning, has come to be more and more important in institutions of higher education. The introduction and expansion of a range of e-Learning tools has been initiating several changes in higher education institutions, particularly when it comes to their educational delivery and support processes (Dublin, 2003).

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, blended e-Learning and online”. The three ways of using e-Learning technologies as discovered by Algahtani (2011) are described below.

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 consist of the synchronous and asynchronous learning (Zeitoun, 2008).

1.4 ADVANTAGES AND DISADVANTAGES OF ADOPTING E-LEARNING IN HIGHER EDUCATION

1.4.1 Advantages or Benefits of E-learning

The adoption of E-learning in education, especially for higher educational institutions has several benefits, and given its several advantages and benefits, e-learning is considered among the best methods of education. Several studies and authors have provided benefits and advantages derived from the adoption of e-learning technologies into schools (Klein and Ware, 2003; Algahtani, 2011; Hameed et al, 2008; Marc, 2002; Wentling et al. 2000; Nichols, 2003).

Some studies give advantage of e-learning as its ability to focus on the needs of individual learners. For example Marc (2000) in his book review on e-learning strategies for delivering knowledge in digital age noted that one of the advantages of e-learning in education is its focus on the needs of individual learners as an important factor in the process of education rather than on the instructors', or educational institutions' needs. Some of the advantages that the adoption of e-learning in education, obtained from review of literature includes the following:

1. It is flexible when issues of time and place are taken into consideration. Every student has the luxury of choosing the place and time that suits him/her. According to Smedley (2010), 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 according to learning information.
2. E-learning enhances the efficacy of knowledge and qualifications via ease of access to a huge amount of information.
3. It is able to provide opportunities for relations between learners by the use of discussion forums. Through this, e-learning helps eliminate barriers that have the potential of hindering participation including the fear of talking to other learners. E-learning motivates students to interact with other, as well as exchange and respect different point of views. E-learning eases communication and also improves the relationships that sustain learning. Wagner et al (2008) note that e-Learning makes available extra prospects for interactivity between students and teachers during content delivery.
4. E-learning is cost effective in the sense that there is no need for the students or learners to travel. It is also cost effective in the sense that it offers opportunities for learning for maximum number of learners with no need for many buildings.
5. E-learning always takes into consideration the individual learners differences. Some learners, for instance prefer to concentrate on certain parts of the course, while others are prepared to review the entire course.
6. E-learning helps compensate for scarcities of academic staff, including instructors or teachers as well as facilitators, lab technicians etc.
7. The use of e-Learning allows self-pacing. For instance the asynchronous way permits each student to study at his or her own pace and speed whether slow or quick. It therefore increases satisfaction and decreases stress (Codone, 2001; Amer, 2007; Urdan and Weggen, 2000; Algahtani, 2011; Marc, 2002; Klein and Ware, 2003)

The above-mentioned advantages of e-learning has been summed up by Holmes and Gardner (2006) by noting that the ability of e-learning to assess the students or learners as they learn, and at the same time increasing their experiences in education, by way of interactivity suitable to

community education, cultural diversity and globalization, and eradicating boundaries of place and time. To them the most vital characteristics as well as advantage of e-learning in education is that it centres on the students or learners (Holmes and Gardner, 2006).

Through e-learning, according to Raba (2005), objectives can be accomplished in the shortest time with least amount of effort. Both learners and instructors can be able to accomplish and keep up with development as they obtain experience that is provided by numerous specialists in the various fields of knowledge. The impacts of e-learning on educational ethics according to Khan (2005) are ensured. This is because the environments for e-learning are tolerant, so they are a good ways of offering equal access to the information world irrespective of the locations of the users, their ages as well as ethnic origins, and races (Khan, 2005). The environment for e-learning also aids learners or students to depend on themselves for the reason that instructors are no longer the solitary knowledge source. They instead become advisors and guides (Alsalem, 2004). E-learning also aids in the preparation of the society to globally communicate and to dialogue with others (Zeitoun, 2008). However according to Algahtani (2011), the likely benefits of e-learning are greater than the benefits of traditional learning if e-learning is used and applied in proper ways.

Authors such as Zhang et al (2006) and Judahil et al (2007) gave the positive impacts of e-learning from the perspectives of the students or learners. Zhang et al (2006) stresses that e-learning permits the exploration of much flexible learning ways with much reduced need for travel to go to classes. E-learning, according to Zhang et al (2006), via interactive video facility permits learners to watch all activities that are conducted in the classroom and also listen to instructors as many times as needed. This according to Brown et al (2008) and Judahil et al (2007) offers teachers with several ways of interacting with learners and to give them instantaneous feedback. However, according to Judahil et al (2007), it is essential for those who embrace the advanced technology during the process of teaching and learning has a variety of skills in Information and Communication Technology (ICT).

Other studies (Singh, 2001; Hemsley, 2002; and Sadler-Smith 2000) also give the advantages or benefits of e-learning to students. For instance, according to Singh (2001), e-Learning systems enable improved communication between and among students and between students and faculty or instructors. Hemsley (2002) have stated the opinion that full time and part time students can participate in their degree courses chosen from any place or location, offering people who are relocated or travel, an easily accessible resource for learning and experience (Hemsley, 2002). Sadler-Smith (2000) and Brown et al (2001) note that, the adoption and implementation of e-Learning provides disabled people the chance to further their education from any location.

1.4.2 Disadvantages of E-learning

E-learning, in spite of the advantages that it has when adopted in education, also has some disadvantages. Studies support that e-learning possesses some disadvantages (Collins et al. 1997; Klein and Ware, 2003; Hameed et al, 2008; Almosa, 2002; Akkoyuklu and Soyly, 2006; Lewis, 2000; Scott et al. 1999; Marc, 2002; Dowling et al, 2003; Mayes, 2002). For example despite the claims that e-Learning can improve the education quality, Dowling et al. (2003) argue that making learning materials available online results in improved learning results only for specific forms of collective assessment. Also Mayes (2002) asked a question of whether e Learning is simply a support device for existing methods of learning. The most noticeable condemnation of e-Learning is the complete absence of vital personal interactions, not only between learners and instructors, but also among colleague learners (Young, 1997; Burdman, 1998). According to Almosa (2002), regardless of all the disadvantages of e-learning, there are a lot of benefits which inspire its use and

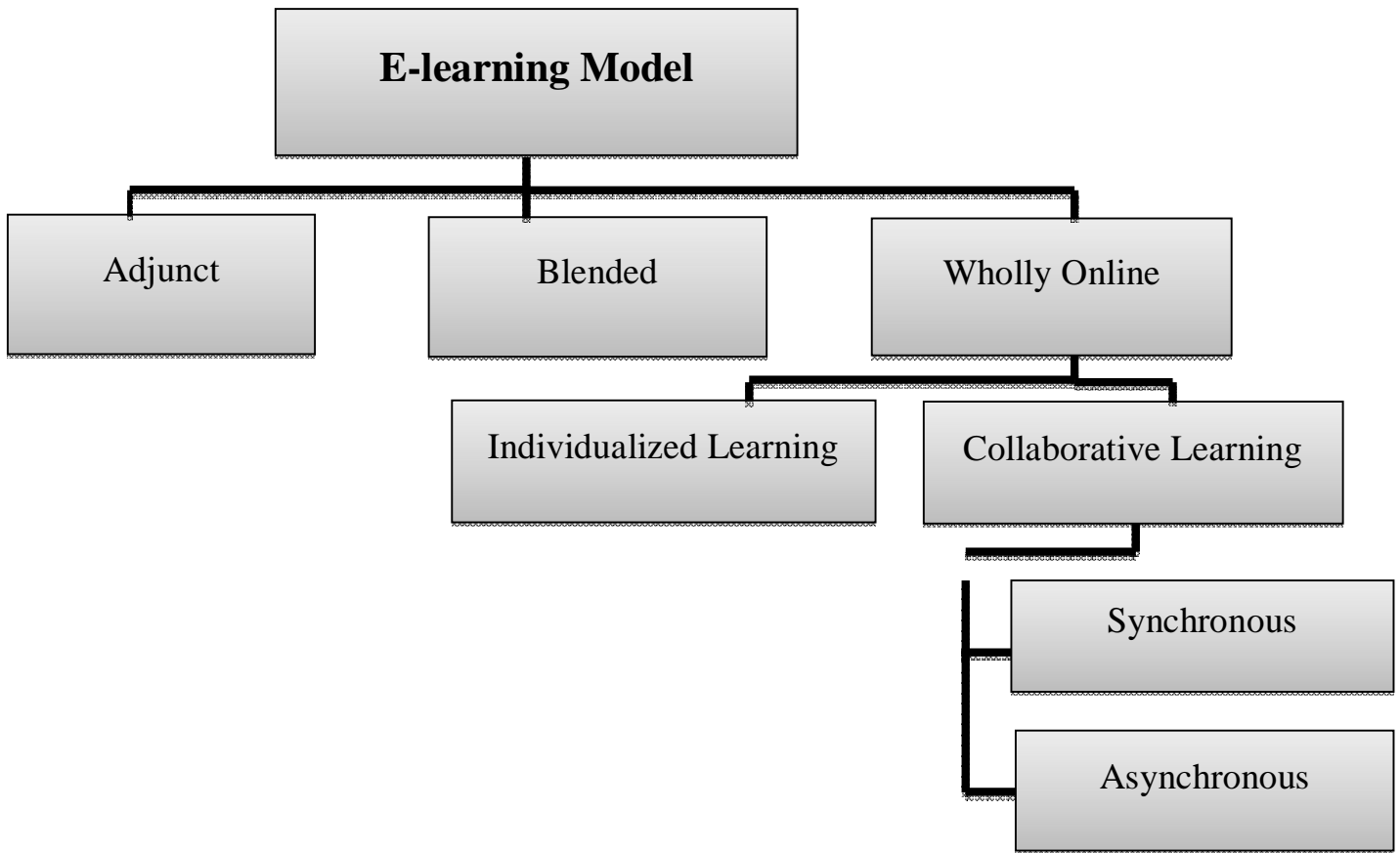
also encourage the search for ways to reduce disadvantages. The disadvantages of e-learning that have been given by studies include the following:

1. E-learning as a method of education makes the learners undergo contemplation, remoteness, as well as lack of interaction or relation. It therefore requires a very strong inspiration as well as skills with to the management of time in order to reduce such effects.
2. With respect to clarifications, offer of explanations, as well as interpretations, the e-learning method might be less effective that the traditional method of learning. The learning process is much easier with the use of the face to face encounter with the instructors or teachers.
3. When it comes to improvement in communication skills of learners, e-learning as a method might have a negative effect. The learners. Though might have an excellent knowledge in academics, they may not possess the needed skills to deliver their acquired knowledge to others.
4. Since tests for assessments in e-learning are possibly done with the use of proxy, it will be difficult, if not impossible to control or regulate bad activities like cheating.
5. E-learning may also probably be misled to piracy and plagiarism, predisposed by inadequate selection skills, as well as the ease of copy and paste.
6. E-learning may also deteriorate institutions' role socialization role and also the role of instructors as the directors of the process of education.
7. Also not all fields or discipline can employ the e-learning technique in education. For instance the purely scientific fields that include practical cannot be properly studies through e-learning. Researches have argued that e-learning is more appropriate in social science and humanities than the fields such as medical science and pharmacy, where there is the need to develop practical skills.
8. E-learning may also lead to congestion or heavy use of some websites. This may bring about unanticipated costs both in time and money disadvantages (Collins et al. 1997; Klein and Ware, 2003; Hameed et al, 2008; Almosa, 2002; Akkoyuklu & Soyly, 2006; Lewis, 2000; Scott et al. 1999; Marc, 2002)

1.5 GENERAL CONCLUSIONS OF THE REVIEW

Elearning involves the use of digital tools for teaching and learning. It makes use of technological tools to enable learners study anytime and anywhere. It involves the training, delivery of knowledge and motivates students to interact with each other, as well as exchange and respect different point of views. It eases communication and improves the relationships that sustain learning. Despite some challenges discussed, the literature has sought to explain the role of elearning in particular and how eLearning has made a strong impact in teaching and learning. Its adoption in some institutions has increased faculty and learner's access to information and has provided a rich environment for collaboration among students which have improved academic standards. The overall literature which explains the advantages and disadvantages of elearning suggests the need for its implementation in higher education for faculty, administrators and students to enjoy the full benefits that come with its adoption and implementation.

A Model for Using E-learning in Education



Source: Adapted from Algahtani (2011)

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