E-LEARNING AND ITS IMPLICATION ON TEACHING AND LEARNING PROCESS FOR EDUCATIONAL SUSTAINABILITY

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Abstract: *The issue of utilizing modern information and communication technologies for teaching and learning is very important in the contemporary society. This necessitated the used to investigate the role e-learning in the teaching and learning processes. This study 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 our education system. It looks at the meaning of e-learning as given by different researchers and the role that it plays in our education institutions in relation to teaching and learning processes, types of e-learning, benefits of e-learning, its adoption and implementation were also discussed. The paper further x-rayed challenges of e-learning and suggestions for sustainable e-learning culture in our education system in Nigeria.*
Keywords: e-learning; information and communication technologies; sustainable, education system.

INTRODUCTION

E-learning as a concept covers a range of applications learning methods and processes (Russi, 2009). In some definitions e-learning encompasses more than just the offering of wholly on-line courses for example Oblinger and Hawkins (2005) noted that e-learning has transformed from a fully-on line 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 interest to increase learning quality by easing access to facilitate and services as well as distant exchanges and collaboration.

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 (2001) define 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 in further narrowed by some researchers as any learning that is interest enable or web-based (Lo Rose et al 1998, Keller & Cernerud, 2002).

According to Maltz et al (2005), the form e-learning is applied in different perspectives including distributed learning, online-distance learning, as well as hybrid 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 include 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 a cellular phones (Wentling et al 2000). In this literature review on definitions for e-learning processes, are chiefly centered on the

interest 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), however claims that the progression of communication technologies, particularly the interest, did transform distance learning into e-learning.

Other researchers also defined e-learning as a revolutionary approach (Jennex, 2005, Twiggi, 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, repetition, 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.

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 instructor or teacher 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, interacting and enjoyable (Liaw et al 2007) The main constructs that have made e-learning the most promising educational technology according to Hammer and Champ (2001) and Liaw et al. (2007) include service, cost, quality and speed. It is apparent that e-learning can empower students at higher education levels to acquire their education in while at the same time perusing their personal objectives as well as maintain their own careers with no need to attend be subjected to rigid schedule (Borstrff and Lowe 2007).

TYPES OF E-LEARNING

According to Algahtani (2011), there have been some classifications based on the extent of their engagement in education. Some classification 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.

The computer-based learning according to Algahtani (2011) comprises the use of 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 (2000) is a further improvement of the computer-based learning and it make the content available on the internet, with the readiness of links to related knowledges 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) classifies this by the extent of such features use in education, mixed or blended mode, assistant mode and completely online mode. The assistant mode supplements the traditional method as needed. Mixed or blended mode offer a short-term degree for a partly traditional method. The completely online mode which is the most complete improvement involved the exclusive use of the network for learning (Zeitoun 2008).

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 radial changes in the traditional process of teaching (Wang et al 2007). Development in information technology, according to Yang and Aryomand (1999) has generated more choices for today's education. Agenda of school 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 Sandi Arabia, discovered three distinct models 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 blend e-learning, Algahtari (2011) and Zeintoun (2008) explained that, in the day of using e-learning, the delivery of course materials and explanations are 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 (Algattani, 2011, Zeitoun 2008). Zeitoun (2008) has gone further to explain that the online model is divided into the individual collaborative learning also consist of the synchronous and asynchronous learning (Zeitoun 2008).

BENEFITS OF E-LEARNING

The adoption of E-learning in education, especially for higher education institutions has several benefits e-learning is considered among the best methods of education several studies and authors have provided benefit derived from the adoption of e-learning techniques into schools (Klein & Ware, 2003: Algahtani, 2011: Hammed 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 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 institution's needs. Some of the advantages that the adoption of e-learning in education obtained from review of literate includes the following:

1. E-learning enhances the efficacy of knowledge and qualification via ease of access to a huge amount of information.
2. It is able to provide opportunities for relations between learners by the use of discussion forums. Through this e-learning helps eliminate barriers that 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 prospect for interactivity between students and teacher during content delivery.
3. 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.
4. 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.
5. E-learning helps compensate for scarcities of academic staff, including instructors or teachers as well as facilitator, lab technicians etc.

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 an

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).

CHALLENGES OF E-LEARNING IN NIGERIA

In an e-learning environment, the phenomenon presents fiscal and technical challenges teaching and learning according to Hyley (2014) in an e-learning environment happens differently than in the traditional classroom. Rubin (2019) lists three challenges bordering on technical and psychological issues which include:

Fear of technology: Doubt on the reliance of technology by the older generation for an entire course, likewise, the fear of change due to a fixed mindset from the traditional way of doing thing that is the fear of the unknown from the known which is usually the case when you are introducing a new technology.

Lack of Flexibility: Distance learning programmes lack personal contact which affects the holistic impact of the education.

Fear of cheating: students tend to chat with online learning procedures. This often happen during exams where someone can substitute for them making a charade of the whole process of learning. This demands an inbuilt security system to mitigate this fear in the part of online administrators. Other challenges to teaching and learning in an e-learning environment are as follows:

1. Energy supply: There is no steady substantial sustainable energy/electricity supply to enhance or support ICT usage. This is nowhere to be found in rural areas. Energy is linked up with provision of wi-fi facilities or energy points to change electronic gadgets.

2. Covid-19 pandemic induce stress, poverty and ill health. The pandemic has deluded our mindset with gloomy and characterizations of various forms of depressive moods. Negative phenomena-such as ill-health, lack of food and other basic amenities like clean water, drugs/hospitals, lack of information to alleviate these issues compound the lack of interest in digital knowledge and usage. Generally, the communication network is poor and inaccessible especially in rural areas.

3. Governments non democratization policy of digital learning. Although the curriculum stipulates computer education but this has not been matched with accompanying digital installations and supplies in schools. There is even death of technical support staff to establish and encourage online learning in schools. Almost 98% of teachers are not proficient in the use of ICT apparatus much more the students thus there is a lack of appropriate teaching staff.

4. Poor teaching method: Teachers are rooted to the traditional classroom methods of physical constructivist organization of teaching and learning through oral lectures. The use of virtual classrooms and blended lectures are yet to be ingrained in the methodology of teaching and learning.

5. School management cadre's lack of zeal in implementing e-learning policy guidelines. There is a general lack of interest across the management cadre of the education system. This is because of lack of knowledge and a motivating factor to learning.

SUGGESTIONS FOR SUSTAINABLE E-LEARNING CULTURE IN OUR EDUCATION SYSTEM

To build a sustainable e-learning culture in our education system, there is need to consider these suggestions. According to Higley (2014) there are two roles in e-learning that must be considered when discussing ways to improve those challenges. First, the instructors role and second the students' role. There are based on adaptability, technical issues, computer training, time management, motivation.

1. Educators and education administrators must be aware that the nature of learning is changing. They might be in sync with such changes as on-line comes and flopped classroom. They must know where to draw the line between the traditional and the digital divides in matters of accessibility and ability. According to Warschaver (2003) the digital divide is marked not only by physical access

to computers and connectivity but also by access to the additional resources that allow people to use technology well. Bernard (2011) reiterates that the change has shifted from having access to knowing how to use the technologies to obtain quality education outcomes.

The theory and pedagogy of constructivism emphasing learners centred education. Most young people are attracted to and depend on social networks. They live and believe the social network and quality lectures could be downloaded. In different course outlines. The national policy act on education according to FGN (2014) emphasizes lifelong education to afford the individual a far more diversified and flexible choice, education activities to be centred on the learner, since educational revolution precedes any fundamental change in the intellectual and social outlook of any society. The ability to construct and upload courses has not been developed. Therefore, these are lacking in education programs in schools.

3. Technical provision and competence are important in developing a sustainable culture in e-learning usage in education E-learning requires sufficient knowledge and skills to enable activities in a wide variety of situations. The need to fund is imperative for pedagogical tools that directly and significantly impact on on-line teaching/learning culture. Majority of the population is bereft of funds to provide tools. Moreover, they are not trained in the use of such modern pedagogical tools. The culture of e-learning needs to be appraised and motivated.

4. E-learning should be user-friendly: According to Nwachukwu (2020), teachers who are used to traditional pedagoagy will resist the e-learning option. She suggests a variety of ways to make e-learning user-friendly such as creating shorter duration courses. Creating learner-centred designs that are easy to navigate and not overwhelm the learners she also points out that it should be easy to use and provide opportunity for knowledge sharing and interaction between learners.

It is also important to provide technical support and guidance on how to use e-learning. In meeting this challenge for example, the traditional classroom has to step aside for a progressively blended classroom where visual as well as physical opportunities are created in the pedagogical domain of teaching and learning. According to Rubin (2019) administrators developing and delivering courses, should think through the audience, online environment, user experience, and especially to design of course delivery. They should take advantage and provide students with the opportunity to be interactive through a discussion forum, blogs, journals and both video and audio feedback.

CONCLUSION

E-learning has come to stay and be part of educational growth in Nigeria. The challenges embodies in appropriate knowledge, skills and gadgets for its usage notwithstanding, it provides an environment of collaboration choice and plenty of technological resources that support successful online learning experience, since it support a well designed and developed course outline, it provides focus for both teachers and learners for meaningful learning and opportunities for national development.

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140