

E-LEARNING AND E - TECHNOLOGY: ITS ROLE IN NIGERIA EDUCATION

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ABSTRACT

Education is one sector that has accompanied civilization throughout the centuries, adapting its tools to fulfill the expectations of students and the needs of teachers. One of the basic requirements for education in the 21st century is to prepare populations for participation in a knowledge-based economy, including the social, economic, and cultural perspectives. E-learning is a cornerstone for building inclusive knowledge societies. The use of contemporary information and communication technologies for teaching and learning in the education sector is a crucial issue. In the modern world, technology permeates every aspect of our everyday lives and connects us all. The sole tool that contributes to many ways of improving the educational system is technology. This paper reviews what e-learning is as well as its technology application, and the concept of e-learning, particularly its use in teaching and learning in the education sector.

KEYWORDS: ICT; E-learning; Telecommunication; Development; Technology

INTRODUCTION

Communication is the lifeblood of modern business and means of subsistence which has turned the world into a small global village through the use of Technology. How people live, play, and enjoy themselves have dramatically altered, and this has also had an impact on how people learn. Given the shifting demographics, shifting industrial demands, and a brave new world of young people who desire the power of information to impact their lives while disdaining distances, the education sector has seen a sea change (Alsalem, 2002). The use of electronic information technology in learning and teaching activities is known as e-learning, which converges the learning process. Electronic learning, often known as e-learning, is education that is based on contemporary communication tools including the computer and its networks, diverse audio-visual resources, search engines, electronic libraries, and websites. It can be done in a physical classroom

setting or remotely. Typically, this type of education is provided through the use of the World Wide Web, where the educational institution makes its programs and materials accessible on a specific website in a way that allows students to use them and interact with them easily through shared or closed networks, the Internet, and through the use of e-mail and online discussion groups (Cappel,2004). E-learning is primarily defined as a method of instruction and a strategy for delivering academic curriculum over the Internet or any other electronic medium, including multimedia, compact discs, satellites, or other cutting-edge educational technology. Through the use of various media, the two parties involved in the educational process communicate and collaborate to meet certain educational goals. The introduction of the compact disc (CD) in the 1980s marked the start of its usage in education, but many educators felt that it had significant flaws since it lacked the quality of interaction

between the student, the subject matter, and the teacher. This issue was only answered with the advent of the Internet, which allowed for the acceptance of e-learning because it met the requirement of simultaneity or immediacy. Through the use of e-learning, the educational process can be changed from one that emphasizes rote learning to one that fosters creativity, interaction, and the development of skills (Murphy et al., 2001) The student can access instructional resources through e-learning at any time and from any location, changing how the educational process is thought of and allowing learning to go beyond the restrictions placed on it.

LITERATURE REVIEW

Education

The act or process of accumulating general information, improving one's reasoning and decision-making skills, and overall putting oneself or others intellectually in a mature life stage (Ally, 2008). The act or process of accumulating general information, improving one's reasoning and decision-making skills, and overall putting oneself or others intellectually in a mature life stage. Education-focused institutions include elementary schools, high schools, and universities, where students are taught critical knowledge and practical skills, as well as more specialized education offered by medical schools, law schools, and driving schools (Noesgaard et al., 2015). Education isn't about how well you can read and write; it's about how well you can interact with and comprehend the outside world. A quality education not only imparts knowledge but also broadens your horizons, improves your viewpoint, and empowers you to make your own decisions. People are extremely aware of social inequalities today and feel comfortable discussing them (Ally, 2008). This can be due to the expanded educational opportunities available

globally, which has led to a more accepting and tolerant culture. Education is thus a component of human evolution. Creativity and innovation are other areas where education is crucial.

E-Learning

Classroom learning is effective, but not the only option anymore. With the Internet playing the great equalizer of our times, options like distance learning and self-based learning programs are much more effective, than they were before. Today, universities and knowledge leaders can deliver training to students in countless innovative ways. It is all about innovative use of technology, in ways that suit their situations best. Educational technology provides teachers with plenty of e-learning tools like Gamification, AR / VR, smart boards, etc. Through advanced modern technology in education, teachers can use various digital tools to magnify learning opportunities for students (Algahtan, 2011). E-learning solution technologies enable teachers to improve their teaching skills. From technology, teachers can instruct well through video lessons, micro-learning, attractive infographics, etc. Moreover, teachers can engage the students by delivering online tests and different courses.

Roles of E-Technology

Promotion of an effective educational system

Undoubtedly, since technology is introduced in the classroom, it encourages the overall growth of students. Technology is a robust process to promote a healthy educational system worldwide. The most important role of technology in education make learning more accessible, exciting, and enjoyable. The development of technological advancements in education leads to enhanced knowledge and skills of students (Abbad et al., 2009).

Improvement of students learning

Are any of us still wondering how important is technology in Education? Thus, let me inform you that a survey has proved that digital learning technology helps most students improve their grades. Furthermore, through technology-based E-learning, students can learn more and better from different resources without depending on an institution or an instructor (Hammed et al., 2008).

Improvement of better communication and collaboration

The existence of technology has improved communication and collaboration to a better level. Likewise, Educational technology also boosted communication and collaboration between teachers and students and students/ parents, teachers/parents, and peers (Alias, 2005). Teachers can interact with students to clear their doubts and make e-learning more effective. Technology enables one-on-one interaction in the classroom online.

Provision of more resources to teachers

The important role of technology in education is to students as they can learn at any time and from anywhere. With the technology-based E-learning process, one can study in their comfort zone. Students can play, pause, and re-watch complex topics using online educational applications until the concept is clear according to Neuman (2006).

Provision of more opportunities for online project-based learning

Most schools are opting now for online Project-Based Learning instead of wasting time on pen-paper-based projects. Edtech solutions have also made Project-Based learning much more accessible and convenient for students. Now, one can create presentations using Google Classroom, Google Docs, PPT Slides, etc. Through online Project-Based Learning, students use their skills and knowledge up to the next level to complete an

assignment according to Al-Musawi and Abdelraheem (2011).

Efficiency in problem-solving

Well, studying without having any doubts can be possible only through modern intelligence classes. Video modules of every concept help each of you to cut out your doubts. So, if any problem arises in any topic, just go through problem-solving material and clear all doubts (Alarifi, 2003).

Engendering better understanding through graphics

Technology has evaluated the learning process through video graphics, which helps the human mind understand the concept faster and remember it for a long time. This can be only possible because of the visual information system. Using VR technology in education, students can retain knowledge by 25% to 60%. Using VR educational technology like gamification, mobile learning, microlearning, visual graphics, etc. students can experience fun and learning at the same time and keep engaged with their studies.

Saving of time and money

With the availability of more study material via E-learning technology, the student can spend less money on other materials. Even nowadays, many schools are more focused on buying online study material, which is cheaper and convenient for storage. Teachers can save time and money by teaching students via advanced educational, and technological systems like augmented reality and virtual reality programs free of cost online, which helps one to learn and understand faster.

Challenges of educational technology

Besides the various importance of technology in education, India still lacks a place to explore the technological educational system. Somehow, we are facing challenges in establishing modern educational technology in schools.

More screen study time may also lead to some severe health issues. For example, continued use of computers, tablets, and phones for studies may cause back pain, neck pain, blurred vision, and more. In Online classes, teachers cannot monitor every student; this makes them lure them towards cheating. The latest Technology encourages the cheating process among students by sharing test sheets, copy-pasting each other answers, and Google answers during the online class test.

Impact of technology in education

In today's world, we all are interlinked with technology everywhere in our daily lives. So why not use Technology in Education? Technology is the only tool that helps to improve the education system in different ways. From teachers to students, technology has a vast impact on education. Modern EdTech makes education more flexible and perceptible (Amer, 2007). Various technology-driven education tools have introduced free online resources, personalized learning materials, more engaging content, and a better understanding of visuals and opportunities for advanced learning.

E-learning in Nigeria school

The e-learning techniques mostly adopted by most of the Nigerian institutions are in the form of prepared lectures on a CD-ROM that can be played when the need arises. This has limited advantages because of the number of students per computer system in which most of these facilities are not interactive enough as compared with when the lecture is being received in real time over the internet. The intranet facilities adopted in most schools are not well maintained because of its high cost of running especially in the absence of adequate power supply. Mostly, the students took the challenge upon themselves to go to the public internet cafes and personal Wi-Fi where there was diverse attention because of people with diverse

internet on the net at the same time. The bandwidth shared on various systems at the cafes is very low hence, a multimedia interactive lecture will not be obtainable because of low bandwidth. The population of students is enormous and the facilities are inadequate. Despite all the hindrances/threats faced by E-learning in Nigeria institution, institutions such as The Federal Polytechnic, Ado-Ekiti (FPA), University of Ibadan, and Obafemi Awolowo University (OAU) Ile - Ife among others have the E-learning facilities. This statistic is very low as a result of the remoteness in the location of some of these institutions in terms of ICT, most of the institutions of Higher learning in Nigeria have started their ICT centers but the focus is mainly to put up some internet facilities alone without considering other components that made up e-learning centre.

MATERIALS AND METHODS

Several journals, local and worldwide conference papers, and other relevant web resources were utilized to gather useful information regarding the use of eLearning, its impact, and technology's roles as regards education in Nigeria.

The usefulness of ICT in Nigeria

In 2003, Nigeria joined its counterpart in the development of space technology with the help of major players like the Nigeria Communication Commission (NCC), the National Space and Development Agency (NASRDA), and private telecommunications companies like MTN, Globacom, and Airtel. Following are some significant contributions made by ICT use: To strengthen Nigerian engineers' and scientists' ability in the design, production, use, and maintenance of communication satellites through technological alliances. To offer a framework for the operation of a public service telecommunication network in Africa,

establishing connections with educational institutions, regional organizations, and the African government to house facilities for developmental services. According to Al-Adwan and Smedley (2012), this will allow the creation of an environment that would allow African ICT companies to compete in the global telecommunications market. To serve as a platform for local and regional integration via the promotion of peace and stability in Nigeria and throughout Africa. Ku, C, Ka, and L bands are the suggested bandwidth target coverage for the communication satellite. The steerable beams will enable cross-connections between the West African region and Europe, the Middle East, and central, northern, and eastern Africa. The proposed communication satellite will handle both fixed satellite services (FSS) like VSAT communications, telephone data communication, and internet backbone as well as broadcast satellite services (BSS) like transmission of television and radio. Late 2006 or early 2007 saw NASRDA mobilizing all available resources in support of the country's first communication satellite launch. The development of more affordable, useful, and simple information for online learners was made possible by the communication satellite. When Nigeria granted operating licenses to commercial telecommunications firms like Airtel, MTN Globacom, etc. in 2001, the country's information and communication technology sector underwent its largest change. Before most of them started to use GPRS for data transmission services, the primary focus was on GSM phones.

Problem of E-learning in Nigeria

Despite the bright prospect of E-learning in the country, there are some obstacles militating against the effective use of the technology in Nigeria. Some of these obstacles are:

- i. The high cost of hardware is equally in Africa

- ii. Internet access in Africa is through a foreign gateway
- iii. Shortage of skilled manpower
- iv. Companies and institutions are reluctant to invest in training staff due to the likelihood that trained staff will be poached by other institutions and companies.
- v. Africa has the lowest number of telephone lines per capita in the world.
- vi. The existing telecommunication infrastructure is in very poor condition.
- vii. Computer technology illiteracy among the students from the primary school level.
- viii. Cost of acquiring and installing the gadget required for E-learning.
- ix. Incessant power supply.

CONCLUSIONS AND RECOMMENDATIONS

Digital tools are used for teaching and learning in E-Learning. It makes use of modern tools to let students study whenever and wherever they want. It entails instruction, knowledge dissemination, and encouragement of student interaction as well as the interchange and respect of opposing viewpoints. It facilitates communication and enhances the bonds that support learning. Despite some of the difficulties mentioned, the literature has attempted to describe the function of e-learning in particular and how it has significantly impacted teaching and learning. Its implementation in some institutions has enhanced information access for staff and students and has created a rich environment for student participation, both of which have raised academic standards. The future is sure for Nigeria in terms of information sharing as regards the launching of the NigComsat-1 communication satellite that will enhance the information sharing and dissemination ability of the country. The following were recommended:

- i. The accreditation team of the National University Commission (NUC), National Board for Technical Education (NBTE) as

well as the regulatory body for colleges of Education should revise the syllabus of the Nigerian University/Polytechnic to include courses that will be internet-based.

- ii. The Government should provide adequate info-tech facilities to the institutions of higher learning in the country as well as primary and secondary levels.
- iii. The schools should be properly financed to be able to compete with their institutions abroad.
- iv. Training of staff in the institution about the latest E-learning tools and facilities.
- v. The government should prioritize the removal/decrease in the tariff rate on info-tech hardware
- vi. Adequate power supply.

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