
E-LEARNING IN NIGERIAN HIGHER INSTITUTIONS: THE PRECURSOR TO SUSTAINABLE NATIONAL DEVELOPMENT

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Abstract

Education is a fundamental human right and the bedrock of any society. Education liberates, makes people make informed decision, and enhance general socio-economic development. However due to limited environment within educational institutions, population explosion and lack of commitment by government, literary level is low in most developing countries, Nigeria inclusive. Most students seeking admission into higher institutions in Nigeria, are turned down due to limited space with these institutions. Hence, Nigeria is left with high level of low literacy rate. E-learning is the intentional use of networked information and communication technology in teaching and learning, and is seen as the delivery of training and education through networked interactivity and distribution technologies. E-learning involves online learning, virtual learning, distributed learning and web-based learning. The aim of e-learning in higher education is to create a center and conducive environment where lecturers and students can interact through teaching

and learning online by the web, internet etc. This learning strategy can be employed for open and distance learning between lecturers and students, thereby increase enrolment in higher educational institutions. With e-learning, more student within and outside these institutions can become more educated and thus increase literacy level in the society. A highly educated society translates to highly productive society. When all productive sectors of an economy witness a qualitative and quantitative increase in output, the nation can be said to have experienced socio-economic development. It was therefore recommended that government at all levels should reemphasise e-learning in schools, provide e-libraries in various campuses, towns/cities and also train and retrain teachers on computer and e-learning among others.

Keywords: Education, low literacy rate, e-learning, socio-economic development, population explosion, highly productive society.

Education in a general sense is a form learning in which the knowledge, skills, values, belief and habit of a group of people are transferred from one generation to the next through storytelling, discussion, teaching and research. Education may also be seen as formal or informal transmission of information from one person to another. Onyebuanyi, Mbah and Odeluga (2017) posited that it takes place through instructional designs and the guidance of the teachers, but learners may also educate themselves. Any experience therefore that has affirmative effect on the way one think, feel or acts and the experiences may be considered to be education. Onyebuchi (2015), averred that formal education is the type of education that takes place in the school setting, where people from different ethnic background come together and have common interest, values and ideas which enhance effective socialization, while informal education can be seen as the learning that goes on in daily basis without formal programme of instructional system. Formal educations exist at different levels which include; Basic Education, secondary and tertiary education. Education helps people to realize their full human potential and take their place in societies as productive, responsible and democratic citizens.

Developments in information and communication technologies (ICTs) have impacted all sectors. Education through which human resources are developed in recent times depends on technology for its effectiveness (Twinsle, 2015). Hence different information and communication technologies (ICT) have been integrated into the education system in order to achieve the desired output in the learners, one of which is e-learning. ICT in Education is an instrument per excellence which a nation can rely upon to bring about

self-reliance. In higher education, application of ICTs in the form of e-learning is already changing teaching and learning processes. There are many pedagogical and socio-economic factors that have driven higher learning institutions to adopt e-learning. These include greater information access, greater communication, synchronous learning, increased co-operation and collaboration, cost effectiveness, pedagogical improvement through stimulation, virtual experiences and graphical representations. Thus both trainers and learners can choose more appropriate application which are flexible in time, in phase, personalized, reusable, adapted to specific domains and more cost-effective (Aboderin, 2015).

Different Information and Communication Technologies (ICT) have been integrated into education in order to achieve the desired output in the learners. Makhanu (2010) describes Information and Communication Technologies (ICTs) as technologies that are used to create, manage, communicate and distribute information. To Adeyemo (2010), ICT refers to a broad range of activities and equipments including tools and applications, which are available and accessible through computers, the internet, telecommunication and micro-electronic tools.

E-learning as an aspect of ICT is relatively new in Nigeria educational system. It is a departure from the conventional approach in curriculum implementation. The main purpose of e-learning is to transform the old methods and approaches to curriculum implementation and not to silence the curriculum or to extinguish or erase the contents of the curriculum. According to Offorma (2002), curriculum implementation is the planning and execution of the contents of curriculum in order to bring about certain changes take place. The primary purposes of implementation are to achieve the objectives of instruction and achieve and transfer of knowledge. Smeer as cited in Akpan (2008) observed that there is a great link between the curriculum and ICT, and that there are three major areas that technology can influence learning as follows:

1. Presentation, demonstration and the implementation of data using productivity tools.
2. Use of curriculum-specific application as educational games, drills and practice, stimulations, tutorials, virtual laboratory visualizations and graphics, representations of abstract concepts, musical composition and expert systems.
3. Use of information and resources on CD-ROM, online encyclopedia, interactive maps and atlases, electronic journals and other references.

E-learning therefore is an instructional medium that permits alternative approaches to curriculum implementation in an ICT age.

E-learning which is learning through the use of electronic means is also regarded as the acquisition of skills and knowledge using electronic technologies like computer and

internet based courseware, local and wide area networks. Aboderin (2015), sees e-learning as the use of information communication technology to enhance and/or support learning in tertiary education. The aim of e-learning in higher education is to create a center and conducive environment where lecturers and students can interact through teaching and learning on line through the web and internet etc, thus it facilitates learning between lecturers and students, in so doing bridges the gap between lecturers and students and thus offer possibilities of open and distance learning.

According to Hessabring and William (2011), e-learning is one of the fastest growing technologies in the world and has contributed to the growth sustenance of education. E-learning in education therefore is an instrument for excellence that a nation can rely upon to bring self-reliance. Open/Distance online learning is becoming increasingly popular as it opens up learning by allowing the learner to interact first hand with learning regardless of distance. It allows a use/reuse material methodology whereby many learners could have access to the same material either at the same free or different times without change. E-learning in education is the wholesome integration of modern telecommunication technology and ICT resources, particularly the internet, into the education system.

Education is not only a social service, but a transformative act which is fundamental to social and personal development. This is because when there is access to education, there is an increase in social, economical and political awareness. The main role of education is to widen people's horizon, thereby helping to shape their destinies. Thus every citizen of Nigeria, deserve to have a measure of literacy that will make them functional to themselves, with the result that economic benefits will accrue to them and hence improved living and sustain the economy of the nation. Benefits of human derived from literacy apart from ability to read and write or numerate include improved health, increased political participation, improved self-esteem, economic empowerment, creativity, critical thinking and reflection. Hence, education helps people to realize their full human potential and take their place in society as productive responsible and democratic citizens. Hence Murray and Donegan (2003) posited that human competencies that are established from learning culture could contribute to the competitiveness of the enterprise.

Concept of E-learning

Information and Communication Technology (ICT) refers to a whole range of facilities or technologies involved in information processing and electronic telecommunication and if handled with skills and expertise can be utilized for effective achievement and realisation of its potentials in both education and socio-economic development of Nigerian society. ICT centered education covers the use of computers and

other electronic devices to process information, online self learning packages, interactive CDs, satellite, optical fibres technologies (IT), hardware and software (Akudolu, 2002). ICT holds out the opportunity to revolutionize pedagogical methods, expand access to quality of educational system (World Bank, 2002). E-learning is electronically supported teaching and learning. It is electronic devices or in internet that is used to support learning process. It is the use of electronic technology to access educational curriculum outside the traditional classroom. E-learning involves the use of internet, computer, video-among others.

Horton (2005) as cited in Torruaim (2012), defined e-learning as the use of internet and digital technologies to create experience that educate our fellow human beings. To Olaniyi (2006), e-learning is all about learning that occurs at the computer using internet. It makes knowledge accessible to those who need it, when they need it, anytime, and anywhere the need it. E-learning system involves a systematic process of planning, design, development, evaluation and implementation to create an online environment where learning is actively supported (Fasola et al. as cited in Akude, 2015). It involves the use of electronic media, including even the traditional distance learning system that employ television (TV) and radio broadcasting.

The introduction of computer and other ICTs) into education is very important in this information age, as it assists in shifting the traditional classroom practices into a computerized classroom of information through e-learning. Olarunsola (2007) averred that the need for utilization of ICT as a basic tool for teaching and learning concept can never be overemphasized. In contemporary teaching and learning environment, electronic computer aided materials are used to ensure that learners are properly trained on this information age - this is usually referred to as electronic learning (e-learning). Electronic learning has been advanced as a mode of electronic machines and media to facilitate learning. E-learning therefore refers to a concept that covers a variety of applications, processes and learning methods. Pence (2007) posited that e-learning is the use of information and communication technologies to facilitate access to online and electronic based teaching resources and to provide students with collaborative environments and tools.

Electronic learning process is possible even with a substantial amount of the instruction is offered by somebody far from the students (Ezeil, 2017). To Muhammad, Asmo, and Munnaza (2015), e-learning is described as open learning characterized by independent learning that is elastic in nature, thus it refers to using electronic facilities application and process to learn. Muhammad et al posited that e-learning application and processes include web-based learning, virtual classrooms and digital collaboration. Instructional content is delivered to the learners via internet, intranet, extranet, satellite, television and CD-ROM with multimedia capabilities.

In contemporary setting, e-learning is a generic term for all technologically supported learning using array of teaching and learning tools as phone bridging, audio and video tapes, teleconferencing, satellite transmissions, and the more recognized web-based training or computer aided instruction also commonly used in school system. As the world is entering into third millennium, education via internet, intranet or network represent great and exciting opportunities for both educators and learners in schools to migrate to digital age. Alarifi (2003) noted that the internet and World Wide Web and search engines have made the computer a dynamic source in education, providing a new and interactive means of overcoming time and distances in reaching learners. The benefit of e-learning is not limited to distance learning and instructional delivery perspective only. Onyebuchi (2015) posited that the importance of e-learning in education is to enhance the quality of education by increasing the learners' motivating and engagement, facilitating the acquisition of basic electronic skill and knowledge and by enhancing teachers' pedagogical competency in the occupation. One of the key advantages of employing e-learning in teaching and learning is that it uses internet and digital technologies to create experience that could lead to the development of electronic digital process skills. In teaching students, e-learning is an instructional media that permits alternative approaches to curriculum implementation, learning difficulties and teachers challenges, aids the understanding of difficult concepts in school curriculum, creates opportunity for the testing of facts and theories even outside the school environment through its digital learning platforms.

E-learning is an innovative education process where, Information and Communication Technology (ICT) infrastructure is used as an interface between the learner and the instructional content. It mostly involves the use of computer technology in creating a virtual learning environment. E-learning in higher education facilitates learning between lecturers and students, it therefore bridges the gap between lecturers and students. The goal of e-learning strategy in higher education is to create an environment where learning activities are taken online. Whereby lecturers provide web-based contents and design online learning activities. E-learning employs the use of technology to communicate information over long distance between lecturers and students. According to Muhammad et al. (2014), electronic mail (e-mail), news groups, chat rooms and video conferences can be intensively used for educational purposes and thus offers possibilities for open and distant education (ODE).

Web-Based Learning Environment (WBLEs) offers inspiring possibilities in teaching. WBLEs are often used to refer to a combination of face to face and online learning. Online discussions, information distribution via WBLEs are opportunities for students to learn from one another through exercises, jointly treat the topics to be learnt, evaluate

information and learn new things. E-learning programs are saved on the internet/intranet and can be accessed anytime, anywhere, regardless of the computer platform, as long as the user has subscribed to an internet service provider (ISP). A virtual learning environment (VLE) is a web-based platform for digital courses of study, usually within educational institutions. E-learning technology is a partnership or collaborative approach in education where the use of the first and second order learning innovations in the virtual learning environment such as the blogs, and social networking sites have proved the theoretical views that learning best takes place within technology-supported environments where learners individually and collaboratively consume and create content (Bork, 2003). According to Archer, Garnson and Anderson (1999) as cited in Popescu (2011), as a result of the increased integration of internet and web-based communication technology (e-learning), higher education has moved into a third decade of change on how courses and programmes are designed and delivered.

Electronic learning has as well provided opportunities where student groups are no longer confined to those within proximity, as schools can easily connect to ensure learners join online affinity group and easily get mentorship from the world's top experts in any area of learning. The technology of e-learning has thus offered endless possibilities in enhancing educational experiences, expanding academic opportunities and developing critical employment skills (Weller, 2007). The technology of e-learning has freed the learner from being constrained for traditional learning environments as also evidenced by augmented reality, where digital information arrives on mobile phones to student, who are in a real-world environment outside of school.

These students have greater access to learning especially at the higher institutions of learning. Ribiero (2002), posited that in e-learning programme, computer which is one of the elements of information and communication technology (ICT) becomes one of the indispensable element of instructional delivery in schools, hence students who have access to networked computers have the opportunity to experience a more flexible learning processes than students who do not have access to networked computer.

E-learning and of recent e-teaching has become a new paradigm and a new philosophy in the education sector and is gaining ground as a complimentary means of instruction in schools especially in institution of higher learning students in higher institution now gain access to course materials outside the school and then reduced the problem of time and money associated with transportation in search of lecture resources or material. E-learning has also helped to tackle the problems of shortage of skilled manpower in schools. Expansion of the internet and related technological advancement have improved access to higher education and has produced sustainable incentive for universities (Volery, 2002).

Govindasamy (2003) averred that many fulltime and part time students now have access to degree courses from any location and can study at the location that suits their need.

According to Bassey and Ibuot (2013), e-learning involved the used of information technology for the purpose of students learning and it ranges from word processing to on the screen testing. The author further posited that, e-learning is the use of information technology for any learning related activity and serves as the most valuable mechanism in the business of measurement and evaluation of students work. Similarly to Hessabring and Williams (2011) averred that e-learning is one of the fastest growing technology in the world and his come out with ideas of solving day to day problems through the means of available technologies and provides benefits to both learners and teachers in teaching and learning. The authors stated that these technologies have brought to our school and society certain advantages which includes improvement of good teaching/learning method, the quality of life style and way of improving student's achievement. In collaboration with this Shahabadi and Uglan (2014), stated that e-learning is made of synchronous and asynchronous learning. Synchronous mode of e-learning is a learner-centred process that allows live, real-time (and usually scheduled), facilitated instruction and earning-oriented interaction, while asynchronous mode of e-learning can be defined as a learner-centred process which uses online learning resources to facilitate information sharing, regardless of the constraints of time and among network of people. However, synchronous and asynchronous e-learning activities are simultaneously needful for effective integration of e-learning into curriculum implementation and specifically into instructionally delivery (Davidson, 2014).

Iguisi (2002) note that technological advancement and breakthrough remain the hope of motivating students to learning in this information age, but the extent of utilization of e-learning in teaching have become a thing of worry. Some schools lack the facilities and some teachers according to research findings prefer traditional pedagogical approaches to instruction. The use of outdated instructional aids and negative perception on the use of e-learning by teachers has effected it utilization in the implementation of curriculum content. Also, Nigeria still experience a lag in implementation and this continues to be the major challenges facing access to ICT facilities in most Nigeria institutions. Schools in Nigeria have yet to extensively adopt ICT facilities for teaching and learning. Effort geared towards integration of ICTs into school system have not had much impact. Hence Aragba-Akpore cited in Ezeugbo (2008) maintained that Nigeria were steadily adopting the technology on ground, but much progress has not been made in their understanding of the tool. Problems such as poor policy, project implementation strategies and poor information infrastructure militate against these efforts.

Advantages and Disadvantages of E-learning; According to Guragain (2016), there are advantages and disadvantages of e-learning viz:

Advantages of E-learning

1. It reduces the need to travel longer distances or away from home to get desired education.
2. It is a convenient way of learning things as it can be accessed anytime, anywhere and on self-demand.
3. It is a self-placed private learning system and is mostly flexible for learners.
4. It uses the media resources, thus making it easy for learners to understand.
5. It is reputable as the content is stored in storing devices and each time the learners accessed, the same content can be repeated.
6. It is easier to track the progress of learners in the e-learning system.
7. The content of learning materials is consistent for all users regardless of the location or time of accessing.

Disadvantages of E-learning System

1. It lacks face to face interaction that students in the normal classroom would get.
2. Lack of strict guidelines may demotivate students and lead to dropouts from the learning process prematurely.
3. It is sometimes difficult to measure reliability of the placed learning systems.
4. Slow internet connections or server problems may make the learning process frustrating.
5. It may take some learning time just to understand the learning system.
6. Students may feel isolated due to lack of social interaction.
7. Real-time interaction may not be available at the time of need for students, which can be frustrating.

E-learning and Sustainable National development

Fry (2010) sees e-learning as the delivery of training and education through networked interactivity and distribution technologies. In the opinion of Ojwany (2012), e-learning is the intentional use of networked information and communications technology in teaching and learning. Ojwany posited that e-learning comprises a lot more than online learning, virtual learning, distributed learning, networked or web-based learning. The aim of e-learning on higher education therefore is to create a center and conducive environment where lecturers and students can interact through teaching and learning online through the

web, internet among others. Hence this learning strategy can be employed for big distance learning between lecturers and students, thereby increase enrolment of students, and increase literacy rate of the citizens and indirectly increase national development.

The sole aim of SDG₄ is to ensure inclusive and equitable education and promote lifelong learning opportunities for all (UNSC, 2016). Major progress has been made in access to education, however, access does not always mean quality of education, or completion of school. UNSC duether stated that currently, 103 million youths worldwide still lack literacy skills, and more than 60 percent of those are women. Hence the aim of SDG₄ is to ensure that, by 2030, all girls and boys complete free, equitable and quality primary school and secondary education and beyond.

Education is a fundamental human right and the most important instrument of change in any given society. Education is also the transmission of a society the way of life to the younger generation. It involves the tradition and culture as well as the development in the society. Hence education brings forth literacy. With the population explosion being presently in developing countries, Nigeria inclusive, the traditional method of education cannot be able to accommodate students seeking knowledge, thus e-learning is the precursor as in accommodating many more students into the higher education system, and thereby bring forth more educated citizens.

To Oladapo (2005) as cited in George, Atare and Ekpu (2019), the role of literacy cannot be over-emphasized. Oladapo averred that the role of literacy in the development of any society is necessary and indispensable for economic, social, political technological growth and advancement of any nation. The author posited that without literacy, development only limps on one leg.

According to the Federal Government of Nigeria (FGN), the Nigeria philosophy of education is based on the development of the individual into a sound and effective citizen; the provision of equal access to educational opportunities for all citizens of the country of the primary, secondary and tertiary levels both inside and outside formed school system (FGN, 2013). The United Nation Educational Scientific and Cultural Organisation (UNESCO) (1992) as cited in George, Atare and Ekpu (2019), regarded literacy as a human right, and an essential ingredient for achieving equity, and development. In collaboration of this view, Aderinto et al. as cited in Moore and Greg (2005) stated that literacy creates condition for the acquisition of critical consciousness of the contradictions of society in man lives.

National development could be referred to as the overall development of a collective socio-economic, political and religious advancement of a country or nation (Lawal & Oluwatunyin, 2001). Lawal and Oluwatoyin further stressed that national development can

be achieved through developing planning which is based on collective strategies mapped out by the government of that country. Sustainable national development therefore means development that meets the needs of the present without compromising the ability of future generations to meet their own needs (United Nations General Assembly 1987, p. 43 as cited in Robert, Thomas & Anthony, 2005). Robert et al averred that sustained development is often referred to as the marriage of economy and ecology, that is, the ecological balance. Hence, sustainable national development simply means using all tools at our disposal to promote the well-being of the people.

Conclusion

With the overcrowded classroom environment in most Nigerian higher educational institutions and failure of many of those seeking admission into these institutions due to the overcrowded natures of those places, e-learning provides a pathway to gaining admission into these institution and thereby increase the level of literacy in the country and bring forth more educated citizens. Since education is the bedrock of any society, this will translate to increase awareness in the economic productivity and sustainable national development. Hence, reinforcing e-learning by the government and related agency is obviously the precursor for sustainable national development.

Recommendations

1. Facilitators of e-learning should identify the instructional goals of learners.
2. Facilitators of e-learning should identify relevance necessary technical support and appropriate e-learning technologies.
3. Appropriate e-learning software should be selected and installed in computers for learners.
4. Relevant training on the use of selected software for e-learning should be organized for teacher and learners.
5. Facilitators of e-learning should ensure regular review of adapted e-learning technologies.
6. Educational institution should make e-learning available in their various campuses.
7. Government at all level should e-learning compliance by establishing e-library in their towns and cities for easily accessibility to internet.
8. Regular power should be made available at all times.
9. Instructors should be trained and retrained on computers and e-learning

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