The Reality and Challenges of E-Learning Education in Africa: The Nigeria Experience

*Smart Odunayo, Olugbeko and Gloria Otito, Izu

Abstract--- Worldwide, many countries are making the creation and diffusion of information and communication technology (ICT) an important priority. In Africa e-learning education emerges as a result of several reasons among which are the needs to reach many people at a time, explosion in population that makes formal education difficult in all situations and areas and the need to provide education for all. The emergence of e-learning in Nigeria is a response to the global challenge of making education available and affordable for all people who desire education and to meet with global trend in education. This paper examines the emergence of e-learning in Nigeria, the factors associated with its operations, emerging challenges and solutions. The study recommends among other things repositioning of the education sector to be able to cope with the challenges of e-learning education.

Keywords-- communication, e-learning, education, information

I. INTRODUCTION

EDUCATION is a principal measure of bringing about changes in the lives of individuals and also helps to direct the society in which they live. Education, according to Fafunwa (1980) is regarded as a tool for development. It has been said that the quality of the education of the people determine the rate of their development. No wonder both government and parents strive to promote education in order to get people of high quality to work towards societal development. Nigeria is a country of about 160 million people with 117 universities (Guardian, 2012), there are more than 1 million young school leavers competing for the limited spaces in the universities on the yearly basis and only a few of these could be admitted into universities.

There are always a large number of admission seekers who get disappointed as a result of their inability to secure admission. This gap prompted the Nigeria government to establish the National Open University in 2003 which is a distance learning education making use of e-learning method. Other universities, with distance learning programmes also adopt e-learning method to reach their students.

Many universities have gone online, offering diverse services to their students through the internet and other electronic communication methods. These great efforts are being hampered by various factors thereby slowing the e-learning pace in Nigeria. Inspite of these challenges, Nigerian students' attitudes to e-learning has been encouraging as many of the students strive hard to acquire ICT materials that could be used to enhance their learning.

II. WHAT IS E-LEARNING EDUCATION?

E-Learning is a very broad term for electronic method of learning which is closely associated with internet-based learning in general. E-learning education is the wholesome integration of modern telecommunication equipment and ICT resources, particularly the internet, into the education system. Tracy (1995) defines the internet as the international network of communication in which computers in the Wide Area Network (WAN) talk to each other. Shavinina (200 defined ICT as all the digital technologies, including: computer, scanner, printer, telephone, internet, digital satellite system, pocket-switching, fiber optic cables, laserdisc, microwaves and multi-media system for collection, processing, storage and dissemination of information all over the world. Distance education has made e-learning more pouplar as it has become a veritable way to bridge the distance between the teacher and the learner, between the writer and the speaker (Obuh, 2010). E-Learning has become synonymous with the latest approach to providing high quality educational offerings. E-Learning according to Seufert et al (2001) is defined as technology-supported learning and the delivery of content via all electronic media. E-Learning places greater emphasis on interaction and communication. Interaction with the instructor and with other students which may occur through internet-channels, videoconferencing or teleconferencing, in asynchronous (email or bulletin board) sessions or synchronous (e. g., chat room, whiteboard, application sharing) sessions. E-learning is a term applied to systems for distance learning, software to support students taking a campus-based course, or simply online documentation for teaching (O'Hagan, 1998).

E-learning is facilitated and supported through the use of information and communications technology and is expanding rapidly within higher education globally. Becker

*Adeyemi College of Education, Ondo, Nigeria. Email: smartruvic@yahoo.com

and Jockivirta (2007) report that a large majority of British higher education institutions have virtual learning environments; Browne et al. (2008) report that the proportion may be as high as 96% and that most of these are being used to help deliver blended learning. E-learning education in Nigeria was popularised by the establishment of the National Open University in Nigeria in 2003. The University has as its mandate to make education available and affordable to all that desire and qualify for university education in Nigeria. The University is tailored towards the popular amd highly successful University of South Africa.

III. REALITIES OF E-LEARNING EDUCATION IN NIGERIA

The development of telecommunication in Nigeria began in 1886 when a cable connection was established between Lagos and the colonial office in London. In 1959, there were less than 30,000 telephone lines in Nigeria, by late 1960s it had increased to 90,000, in the late 90s there were 400,000 active lines. The emergence of Global System for Mobile (GSM) in Nigeria in 2001 fuelled national awareness about the usefulnesss of the electronic means of communication. The electronic communication explosion being witnessed in Nigeria today is as a result of the introduction of GSM in Nigeria in 2001. Actually, before 2001, Nigerians had been exposed to internet facilities, using desktop computers and laptop computers, only very few and influential Nigerians got access to these facilities. The emergence of cyber café where people go in to access internet facilities was introduced in the early 90s and in major cities of Lagos, Abuja and Port Harcourt. This period saw many Nigerians struggling to become computer literate so that they could access the internet. By late 90s the awareness and utilization of computer had increased and 2012 more than 50million Nigerians had subscribed to the mobile network.

The e-learning techniques mostly adopted by most of the Nigerian institution are in form of prepared lectures on a CD-ROM that can be played as at when the need arises. This is limited by the fact that the number of computer system is inadequate to go round the students, this therefore would make lectures not to be interactive enough as compare with when the lecture is been received in real time over the internet. Most schools cannot maintain their intranet facilities because of its high cost of running especially in the absence of adequate power supply. These therefore forced students to go to the public internet cafes where there exist diverse distractions because of people with diverse interest on the net at the same time. There is also the problem of low bandwidth in most of the cafes thus, the systems operate at a very slow pace thereby obstructing free and smooth flow of e-learning.

Despite all the hindrances/threat faced by e-learning in Nigeria institution, there are currently at least nine ICT for education initiatives at various stages of development being carried out by the education coordinating agencies of government and ministry of education in Nigeria. They are:
- The Nigerian Universities Network (NUNet) project
- The Polytechnics Network (PloyNet) project
- The School Net project
- The Nigerian Education, Academic, and Resaerch Network (NEARNet)
- The Teachers Network (TeachNet) project
- National Open University
- National Virtual (Digital) Library (Ministry of Education/NUC)
- National Virtual Library (Ministry of Science and Technology/NITDA)
- National Information, Communication and Education Programme of the Presidency.

Though, most of the institutions of higher learning in Nigeria have started building their ICT centres but the focus is mainly to put up an internet facility alone without considering other components that made up e-learning centre.

IV. FACTORS THAT AFFECT E-LEARNING EDUCATION IN NIGERIA

Parental Background of the Learner: Parents' socio-economic background has been identified in Nigeria as a great factor that promotes academic performance of students vi a vis their performance in e-learning education. Some of these parental factors are:

A. Family Structure

Klohn (1986) sees family structure as a considerable significance on the students' academic performance. One cannot expect a child who comes from a polygamous family and illiterates parents to perform as well in his academic as a child who comes from the educated family that practices monogamy. According to Eisenstat (1976) the socio-economic status is associated with a very complex number of variables. Environment is not a simple or one dimensional thing and socio-economic status is related to the family characteristics, a family size increases in Nigeria among the lowly educated. The above writers reiterated the general opinion that the home background of a student goes a long way to predict the quality and regularity of the satisfaction and provision of a child's functional survival and academic needs. Poor parental care with gross deprivation of social and economic needs of a child, usually yield poor academic performance of the child. On the other hand, where a child suffers parental and material deprivation and care due to divorce or death, or absconding of one of the parents, the child's schooling may be affected as the mother alone may not be financially buoyant to pay school fee, purchase books and uniforms, such child may play truant, thus his performances in school may be adversely affected (Shittu, 2004).

B. Occupational Factor

According to Arogundade (2002), occupation is a useful index of social class position because it determines so many aspects of a person's social life such as family background, educational qualifications, speech and manners etc. It was Morrish (1972) who opined that parent with professional and high managerial post has high income level. Hence, such

parents make their children to attend the best school within the community. They also cater seriously for financial support of their children; they guide and direct their children in their educational pursuit. It is hypothesised that the parents of socio-economic upper class have more positive attitude towards their children schooling and have expectation and standard for the children.

C. Educational Factor

Oyekan 1994 and 1997 sees education as a continuous development whose broad understanding and application enable individual to contribute meaningfully toward the growth and development of the society. A child whose parents are well educated tends to have access to books, journal and other learning resources. His parents are capable of teaching him, this would automatically affect his academic performance.

D. Social Relationship

The social relationship of a child can affect his academic performance. If a child has very poor social relationship as a result of his poor self concept, he may have poor personality adjustment and so becomes isolated. The child may neglect the physical grooming which may affect the ability to tackle the next stage of learning. According to Alao (1997) learning is a gradual process that takes the child through many important stages. The affective domain of the child is a product of how he was loved and nurtured at home.

Location: It has been observed that location of learners determines their accessibility and utilisation of ICT for learning. In most cities, learners freely make use of ICT to assist in their learning; also, schools in villages do not make use of ICT because of their locations. Universities in urban cities, like University of Benin and University of Ibadan that were rated as the best ICT University in Nigeria got it as a result of their location, while there was no university in the rural town was among the first ten universities that make effective use of ICT (Punch, 2011).

Economic Factor: The cost of purchasing ICT gadgets like computer, mobile phones and for subscribing to the net is beyond an average Nigerian, thus making the possession of these an exclusive reserve of the rich. This factor has been a limiting factor against the use of ICT for learning in Nigeria.

Government Policy: Nigeria government policies support the use of ICT for educating the learners. The National Policy of Education in Nigeria encourages learners and teachers to be computer literate so that the use of ICT could be used for learning. The policy introduces computer education and e-learning into the curriculum. Government through various educational interventions like Education Tax (TETFUND) and STEP – B Projects have been funding tertiary institutions and make provide them with necessary facilities that could make them explore the option of electronic learning.

V. CHALLENGES POSED BY E-LEARNING EDUCATION

Educators are being confronted on daily basis with the dynamics of e-learning technology and how ICT has redefined and changed roles of individuals in the education sector. While technology-based learning is cannot replace formal training and learning, it is rather complementary to it. The advent of e-learning has changed the roles of educators and offer more opportunities for corporate training and continuing education. However, educators have changed their, they are more engaged in providing additional educational services (e. g. dynamic update of knowledge databases, transparent and clear syllabi, reading recommendations, micro articles, etc.) in order to support information and communication processes in learning settings.

Human interaction is a critical component for learning which brings the teacher and the learners together physically. Face-to-face contact is still not comparable with meeting each other on the web. There are situations in which classroom training cannot be replaced. Certain content because of its nature, relative value, or importance, is not suitable for technology-based delivery. Certain groups of employees do not want to miss the "edutainment value" of live experience and desire the total interactivity with a human trainer. Others are simply uncomfortable with computers. For a number of individuals, technology-based training is not the most efficient learning method due to their learning style.

The classroom has the unique features of providing guidance and motivation for students. These are important for individuals who lack the motivation and confidence to succeed in a self-study-only program. E-Learning may require more dedication and discipline which most students' lack. Often, teachers need to guide students on what to do and how to do it, the school environment also provide some supports for students' learning. Since students are likely not trained enough in self-organizing their studies, the roles of the teacher as a mentor and the school environment cannot be ignored.

Students from lower socio-economic backgrounds should be those that e-learning education should favour mostly, however reverse is the case as they remain one of the most negatively affected by e-learning education. It is necessary to know that living in an area or community without basic infrastructures will make e-learning difficult if not impossible. Thus, Obiora (2011) observed that the geographical area from which students come is often used as a comprehensive measure of socio-economic disadvantage.

Clarke (2002) found that lack of required skills, lack of access to ICT, and the location of the learner are critical factors that pose as barriers to learning for students from lower socio-economic background. Johnson et al (2008) argue that the advent of blended learning and e-learning innovations has ostracised, marginalised or ignored those who cannot afford, or who are unable to access, the latest hardware and software for the purpose of learning. Those without the ability to access these necessities are having problem in accomplishing their educational tasks thus being indirectly marginalised by the universities, which is harmful to principles of universal access to education. There is also the problem of generalisation which makes the designer of e-learning to assume that all students have access to computers equipped with the latest soundcards, media players and broadband connections.

Odunlami(2000) noted that Nigerians are desirous of having personal computers, particularly with respect to laptops but evidence about the disadvantaged minority on the wrong side of the digital divide who cannot afford their own personal computer or laptop is high

In Nigeria, the cost of purchasing computers of all kinds modems and subscribing to them has risen above the reach of the common man. It has been confirmed by National Communication Commission (2011) that more than 50million Nigeria has access to mobile phone but only less than 5% of these people are able to access internet that they could use as education resource.

There are evidences that students from Lower socio-economic who have low exposure and experience in ICT would not be enthusiastic in e-learning, this will ultimately affect his/her performance in school. The proportion of students from lower socio-economic backgrounds, who cannot currently afford a computer for use at home or internet access while they are studying is unknown. One might also speculate that lower socio-economic background students may, for financial reasons, have slower take-up of each new device or technology that comes onto the market which offers internet access. Access to e-learning in a variety of ways and from a variety of devices may therefore continue to be unequally distributed on the basis of one's economic or social status.

Sims et al (2005), drawing on Lewin et al. (2003), assert that the advantages from the use of educational technology is restricted to those whose homes have high cultural capital. Or to put it in another way, it is not simply a matter of having physical access to technology, or even of participating in e-learning, but knowing how to use ICT and/or e-learning in a way which maximises one's opportunities and using it to consolidate advantages that one may enjoy offline.

Despite these shortcomings, e-Learning is a practical and convenient way that overcomes time and place barriers for the delivery of content and value added education services. Therefore E-Learning will find its place in the education and training industry. The existing shortcomings of E-Learning will force educators to develop improved pedagogic models and techniques for online learning environments in order to bring measurable participation and results.

VI. STRATEGIES TO MANAGE THE CHALLENGES THAT FACE E-LEARNING EDUCATION IN NIGERIA

Lim (2006) reviews three strategies that can be used to manage the barrier to e-learning education. They are:

A. Professional Development

It is pertinent that government must be committed to the professional development of teachers. Professional development programmes have to be carefully designed on supporting teachers to transform their knowledge of ICT into classroom practices (Zhao et al, 2002). It has been proved that regular scheduled professional opportunities keep teachers aware of the need to enhance their ICT integration practices, as well as keep them current with the ever-changing faces of ICT (Adams, 2005).

B. Time

It has been observed that the school as an institution gives little time to teachers to manage and familiarise themselves with ICT. Teachers need sufficient time for both professional and curricular development activities, this involves teachers adequate preparation for the lesson and developing various soft wares he may want to use for teaching. The typical work day of teachers does not afford them the time for such activities thus they stick to the old method of teaching. In order to solve this problem, government must buy time for teachers by using block scheduling, re-organising teaching load, adhering to student-teacher ratio in the classroom and encouraging team teaching.

C. Support

Government policies must support parents and students in such a way that they will all become benefit from e-learning education. Government policies should encourage provision of ICT facilities and infrastructures in the rural areas, schools in the rural areas should be equally equipped with ICT facilities in order to promote e-learning. There should be deliberate efforts on the part of the government to make computer and other ICT facilities cheaper and affordable to the people. Teachers and learners should be supported to develop their capacity in information technology through scholarship and other sponsorship projects.

VII. CONCLUSION

E-learning education is an emerging trend in Nigeria, despite its global popularity, Nigeria is just exploring this new and very effective way of learning and it is expected that more attention to factors that promote this type of learning be considered.

VIII. RECOMMENDATIONS

It is hereby recommended that parents should consider themselves a critical factor in determining the performance of students in their academic. The roles of parents can not be ignored as they provide stimulating environment for their children without whom their achievement in school may be very poor. Government should provide basic infrastructures that will make e-learning easy for the people. In this age of information technology, government should evolve a plan that will make citizens not just computer literate but capable of using electronic media to carry out daily functions including learning, with this, government's efforts to provide education for those who desire and qualify for higher education would be accomplished. Government should evolve a policy that will make e-learning education available for students of all levels, this can be done by making computer education a compulsory subject for all students, through the acquired skills, students would be fully prepared for e-learning education.

REFERENCES

[1] Becker & Jockivirta, L (2001) *Online Learning in Universities: Selected Data From the 2006 Observatory Study*. The Observatory on Borderless Higher Education, London.

[2] Browne, T; Hewitt, R; Jenkins, M & Walker, R (2008): *Survey of Technology enhanced Learning for Higher Education in the UK*. Universities and Colleges Information System Association, London.

[3] Clarke, A (2002) *Online Learning and Social Exclusion*. NIACE, Leicester

[4] Fafunwa, A.B (1980) *New Perspective in African Education*. Macmillan Education Limited, London.

[5] Guardian Newspaper (2012) *Federal Government Approves More Universities*. Guardian Newspaper, 23rd February. Pp 2.

[6] Kenny, A (2000) *Untangling the Web: Barriers and Benefits for Nurse Education: An Australia Perspective*. Nurse Education Today. Vol 20, No 5, pp 381-388.

[7] Lewin, C; Mavers, D; & Sowekh, B (2003) *Broadening Access to the Curriculum through using Teaching to link Home and School: A critical Analysis of Reforms intended to improve Students Education attainment*. The Curriculum Journal. Vol14, No 1. pp 23-25..

[8] Morrish, B (1972) *An Introduction to the Sociology of Education*. Croom Helm Ltd, London.

[9] Obuh, R.O (2010) *Computer Literacy: The Age Factor*. Arim Publishers, Lagos.

[10] Oyekan, S.O (2000) *Foundations of Teacher Education*. Ebun Ola Printers Ltd. Okitipupa.

[11] Seufart, S; Back, A; Hauster, M (2001) *E-Learning, Cochbook for Internet-based Learning*. Smartbook, Zeurich.

[12] Shittu,M.R (2004) *Socio-Economic Determinants of Academic Performance of Secondary School Students in Nigeria*. University of Ilorin, Ilorin an Unpublished B.Ed Project.

[13] Sim, J; Vidgen, R & Powell, P (2005) *E-Learning and the Digital Divide; Perpetuating Cultural and Social Economic Elitism in Higher Education*. Community of the Association for Information System. Vol 22, No 2.

[14] Sprinthall, E (1987) *Educational Psychology: A Developmental Approach. 2nd Ed.* Addeson Wesley, New York.

[15] Washer, P (2001): *Barrier to the Use of Web-Based Learning in Nurse Education*. Nurse Education Today. Vol 21, No 6, P55-460.