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ESSENTIALITIES FOR E-LEARNING: THE NIGERIAN TERTIARY INSTITUTIONS IN QUESTION

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ABSTRACT

The marriage between technology and education is as old as the invention of paper and pen. The issue of e-learning is an aspect of technology in the field of education. This conceptual paper discusses the relevance of e-learning in the position of distance education in Nigeria. The meaning of e-learning and some of its historical background in Nigeria has been highlighted. The first federal University in Nigeria, National Open University of Nigeria, which dedicated itself to the provision of e-education through distance mode, was also discussed. Furthermore, the paper highlights the prospects and challenges of e-learning in Nigeria especially in relation to the proposal of reconstruction of minimum standards for some higher institutions of learning.

Keywords: E-learning, ICT, Constructivism, NCE

INTRODUCTION

Every problem is not far from its solution unless not comprehended well. As we are carried away by the present pressing issue of redesigning or reconstructing the minimum standard for the Nigeria Certificate in Education (NCE) in colleges of education in Nigeria; we should not digress from the fact that today we live in the world of constant emerging of new technologies that pose challenges in the field of education. At this juncture, this conceptualized paper aims not at stating the general problem which was already established but proffering that education technology should be the platform that supports not only NCE programme but the whole of the education programmes across the country. Education technology sometimes is thought to be a new innovation in education; however it is as old as the invention of paper and pen. Strategic use of educational technologies whether at remote or close range can enhance learning and teaching (Kwan et al., 2008). The prospect of tertiary education (postgraduate, undergraduate and non graduate) in the near future relies on these educational technologies. E-learning as an aspect of education technology is the convergence of learning process and the internet facilities. Information technological improvement has turned the world into a small global village. Communication is the live wire of today's dealings and interaction and means of livelihood. Communication is one of the oldest technologies. However, less attention was paid to it even though the role it plays in the life of mankind has not been negated to be a vital means of learning. Learning is seen as the process by which people acquire new skills or knowledge for the purpose of enhancing their performance. Be it practical or virtual it remains a process of getting and assimilating new experience for future achievements.

E-learning is always a byproduct of instructional design. The learning designers particularly the online learning are expected to be familiar with the epistemological underpinnings of several theories and their consequences on the process of instruction (Karagiorgi & Symeou, 2005). Teaching is always expected to convey essential academic materials in ways they will understand and remember. It is also to reach the learners' brains according to their varied individualities of interest and abilities. E-learning considers these factors especially when it offers a constructivist features at its conception (Maloy et al, 2011). Constructivism is the dominant theory for the last decade and it supports construction of

knowledge by the individual learners. In some parts of the world e-learning is not a new phenomenon in promoting education. The emerging educational technologies include virtual worlds, wireless devices and networked mobile gadgets which warrant for fast and accurate distant interactions (UNESCO, 2002; Trindade, 2000). Presently, some institutions in Nigeria i.e. NOUN, University of Jos are using some indexes of e-learning to promote distance education. The e-learning involves the use of electronic technology to deliver education and training, to monitor learner's performance and to report the learner's progress. Hedge and Hayward (2004) view it as an innovative approach for delivering electronically mediated, well-designed, learner-centered and interactive learning environments to anyone, at any place, at anytime. This is by utilizing the internet facilities and other digital technologies in consonance with instructional design principles. Hence, e-learning is all about learning with the use of technologies presumably computers and other modern day tools. E-learning technology as one of the bi-products of Information and Communication Technology; the information and communication technology development in Nigeria as well as the future of ICT in Nigeria should not be undermine as a *sine qua non* for the development of e-learning technology in Nigeria and perhaps the whole of Nigerian educational system.

In Nigeria, such recent developments and awareness of the government on Information and communication technology (ICT) have opened an opportunity for the adoption of e-learning in delivering distance education (DE) for educating a vast mass of uneducated or less educated Nigerians (Ajadi et al, 2008). National Universities Commission (NUC) has provided ICT facilities to all federal universities known as National Universities Network (NUNet). Such was a remarkable effort towards achieving the ICT challenges of the 21st century. Considering the recent awesome expansion of the ICTs awareness in the country, national Open University of Nigeria (NOUN) introduces some modern ICT like e-mail, web-based learning (e.g. open course wares), CD-ROM for delivering its course materials through e-learning for its learners (Yusuf, 1999).

Rationales for E-Learning

As the e-learning keeps growing an increasing amount of learning activities can be expected through interactivity within the academia and the e-learning materials (Zheng & Ferris, 2008). Hence the essentials for e-leaning cannot be far from the following especially in consideration of the onset proposal for redesigning the minimum standard for colleges of education. The e-learning facilities when judiciously and fully implemented would:

a) Reduce and/or eliminate the costs for instructor fees and materials to a certain level.

b) Reduce time of learning and the time employee's absence from duty.

c) Increased retention and enhanced hands-on application unlike traditional methods.

d) Help managed instruction and progress via portal.

e) Make easy use of multimedia in practice and assessment according to learners' abilities.

f) Allow for automated monitor of user's progress with supervisor and teachers.

g) Be highly interactive as it engages users and pushes them than pulling them to progress.

h) Help past learners go with their speed in any course and avoid redundancy.

i) Make slow learners go on their own pace by eliminating frustration with themselves, their fellow learners, and the subject matter.

j) Make knowledge cumulative as lessons are build consecutively and more flexible.

k) Make learning takes place anytime-anywhere and greatly increases knowledge retention.

l) Assist e-learners create, have access, view, modify and print or send documents.

m) Enhance evaluation as it become self-paced because e-learning is a networked phenomenon.

n) Make easy delivery of content using standard Internet technology as it enhances surf ability.

o) E-learning supersedes training and instruction as it is a tool that improve behavior performance.

The benefits of e-learning are many. It may as well including cost-effectiveness, enhanced responsiveness to change, consistency, timely content, flexible accessibility, and providing customer value (Olomo, 2001).

E-Learning in Nigerian Institutions

The e-learning techniques mostly adopted by most of the Nigerian institutions those days are in form of prepared lectures on floppy diskettes, CD-ROMs that can be played as at when the need arises. This has limited advantage because of the number of students per computer system in which most of this facilities are not interactive enough as compare with when the lecture is been received in real time over the internet (Kamba, 2009) as the case are with most new generation well meaning institutions especially in the advance societies. Today, some basic tools (table 1) to echo in our minds when talk of e-learning would not be far from the following:

Table 1. List of some educational technology tools

Flexible	*Laboratory*	*Fixed/mobile*	*Mobile*
Television	Scientific Tools	Computers	Mobile Phones
Satellite Receivers	Technical Instruments	Storage Devices	Memory Reader
Radio	Medical Apparatus	Internet/email/social media	Ipod
Recorders	Agricultural Implements	Smart Boards /Touch Screens	Ipads
Cameras Video/Picture/CCTV	Engineering Facilities	Plain Screens	Androids
Projectors/Beams	Art Costumes	Robots	Iphone
Video Games	Language Tools	Avatars	Calculators
Mp3-4 Players	Books and Other Devices	Cables	PDAs

These are just fewer tools mentioned. Procumbent of such tools is one of the problems and that may seem to be a deadlock to the attainment of viable e-learning in Nigerian institutions.

Some of these and other challenges were posed to the Nigeria Communication Commission (NCC) of which some had been meet while some had not seen the light of the day (UNESCO, 2002). The NCC had been striving to do away with such bottlenecks in totality. Training workshops had been on since 2001 in technological proficiency. Infrastructural and material scarcities are to some degree taking care of by the Education Tax Fund (ETF) and other agencies. Although, some of staff in Institutions of learning got provided with laptop computers these problems are still there and therefore, brought unprecedented challenges on the institutions' managerial and academic teams. It is up to the stakeholders i.e. governments, managers and academicians now to weld the triangular solutions together to attain proficient success in their institutions and in the whole educational system nationally.

Some prospective challenges to be considered by stake holders:

i. Liberalize the telecommunication market through proactive policies which make telephone (fixed and mobile) available and affordable thereby boosting Tele-density,

ii. License more Internet Services Providers (ISPs) to use diverse facilities to connect to the Internet thereby boosting bandwidth,

iii. Difficulties in registration for the .ng domain name across the six geopolitical zones of Nigeria,

iv. The cost of registration for the .ng seems beyond affordability of many organizations,

v. Promotion of internet café by reducing the cost of permit to carry out the services,

vi. Simplifying the licensing/permit issue by adopting online method,

vii. Removing unnecessary bureaucracy, delays and wastages,

viii. Internet connectivity will become more popular through Wireless Access Protocol (WAP) in the country, by boosting the mobile telecommunication operators in the country,

ix. More personnel training in implementation and management of e-learning,

x. More workshops seminars and conferences on e-technologies,

xi. More departments and courses for educational technologies,

xii. More funds to institutions, and ethical considerations in the academia.

The E-Learning Adaptation in Nigerian Institutions

In Nigeria one of the universities adopting e-learning is National Open University of Nigeria (NOUN). One of the key advantages of employing e-learning for maintenance management training is related to the flexibility it offers and the ease of adaptation of how the training is delivered to individual learners (Yusuf, 1999). Much of the adaptation capacity of learning management solutions, draw inspiration from an understanding of the way human beings learn. Two are the key principles involved in such a process:

1. Active involvement of learners in learning motivates them to learn.
2. As individual differences learners learn at different rates and ways; hence, customized techniques and materials lead to efficient learning.

There are three main learning theories which have been influencing e-learning (Keegan, 1993). They are:

Behaviourism

This treats learning as a set of changes to the learner as he/she reacts to environmental events. Memorization and imitation are critical in this learning process. The focus here is always on the teacher, or the computer providing the carefully arranged material but not the learner.

Cognitive Science

It bases learning on attention, motivation, perception and other internal processes. It focuses on screen design and on human / computer interaction, where the teacher usually has the role of the facilitator or partner.

Constructivism

This is a paradigm that postulates learners can construct their knowledge as they react with and interpret their environment. The most important thing here is that focus is centered on the learner. Thus, the aim is to provide stimuli and support for the users to construct their knowledge.

Problems of E-Learning In Nigeria

In spite of the bright prospect of e-learning in the country, it is so worrisome that there are some hurdles militating against the effective use of the educational technology in Nigeria. Some of these obstacles are:

a. High cost of hardware such as bigger bandwidth and other internal gadgets like smart boards

b. Less price competition and high import tariffs

c. Transmission cost is also high

d. Internet access is mainly through foreign ISPs due to unreliable local ISPs

e. Dearth in skilled manpower for implementation and management
f. Inadequate training of staff in institutions especially related to educational technology
g. Poor condition of telecommunication infrastructure
h. Low literacy level in computer technology among personnel
i. Cost of acquiring and installation of the gadgets required for e-learning
j. Ceaseless interruption of power supply all over
k. Deficit in having well furnish/equipped e-learning centres
l. Faithlessness/ trustworthiness

Maintenance Training

Maintenance training has been acknowledged to be of critical importance for any industry or institution to be able to effectively implement adequate practices in maintenance and support through optimal use of their assets. Providing adequate maintenance training is a twofold issue:

Appropriate maintenance training curricula should be constructed by taking into consideration maintenance theories & practice, academic knowledge and industrial needs. Close collaboration between academics, professional trainers and industrialists is crucial in the development of this curriculum (Nikos & Christos, 2009).

An acknowledged competence assessment and knowledge accreditation system that should lead to recognized qualification for maintenance personnel needs to be in place. This in turn would facilitate personnel mobility as the personnel on one hand would carry acknowledged qualifications.

RECOMMENDATIONS

1. The accreditation teams of the National University Commission (NUC) as well as the National Commission for Colleges of Education (NCCE) and the National Board for Technical Education (NBTE) should revise the syllabus of the Nigerian Universities, Colleges and polytechnics respectively to include virtual courses that will be internet based through a well established Learning Management System (LMS) tools such as Moodle and Blackboard.
2. The Government should provide adequate info-tech facilities to the institutions of higher learning in the country as well as primary and secondary school level.
3. The Institutions should be properly financed so as to be able to compete with their other institutions abroad.
4. Machinery for constant training and empowerment of staff in the institution about the latest e-learning tools.
5. Government should consider as a matter of concern the removal of the all tariff rate on edu-tech hardware.
6. Adequate power supply is paramount.

CONCLUSION

E-learning has every sign of long survival as long as such digital devices become more available. That means when the devices become more afforded, the connectivity bandwidths become widely use and less constraint; the multimedia applications will prosper. The survival of tertiary educational institutions in the 21st century will increasingly rely on various forms of electronic delivery system and communication facilities available in markets that are required to make education to be more flexible. E-learning is now widely used in most of the developed countries to promote distance education (DE) and life-long learning in an effective way. In Nigeria, the recent developments and awareness of the government on ICT have opened an opportunity to adopt e-learning to deliver distance education for educating mass of its uneducated or less educated peoples (Ajadi et al, 2008). National university

commission has provided ICT facilities to all federal universities known as National University Network (NUNet). Such is a remarkable effort towards achieving the ICT challenges of the 21st century. Considering the recent expansion of ICTs in the country, national Open University of Nigeria (NOUN) introduces some modern ICT like e-mail, web-based learning (e.g. open course wares), CD-ROM for delivering its course materials through e-learning for its learners (Yusuf, 1999). However, before going to introduce an advanced ICT in Nigerian Universities, it takes enough to conduct research on learner's access, cost and other related parameters essential for it. For e-learning to succeed in Nigeria, there is the need to build on another important pillar i.e. the existence of befitting infrastructure and some degree of viable connectivity. A growing difference in market liberalization of the Internet-access supply is leading to another kind of "digital divide" on the global scale many countries have introduced or are introducing telecommunications regulations that discourage the development of Internet-access service. Nigeria should take heed of that.

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