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# Information Communication Technology Support for an E- Learning Environment at the University of Lagos, Nigeria

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## Introduction

The world is moving at an unimaginable speed in the area of information use and dissemination. According to Olaniyi (2006), the use of Information technology, knowledge and information can be transferred and cross-fertilized in real time. Hence, the need to pay attention to the way information technology has changed the educational sector through the internet. E-learning has been described as one of the educational challenges of the modern age about which progressive academic institutions must make bold efforts to excel and compete favourably in the global market where education is a commodity.

The arrival of educational technology vis-à-vis instructional technology whether as a field of education or new terminology to what has been there before like teaching aids or apparatus, as it was earlier called (Abimbade, 2002). Current achievements in the field of computer and communication technologies have offered tremendous opportunities for learning by electronic means (Rozina, 2002). The use of new multimedia technologies and the Internet in learning is seen as a means to improve accessibility, efficiency and quality of learning by facilitating access to information resources and services as well as remote exchanges and collaboration. Nonetheless, by the middle of the 20th century the growth in technology and applications even in the field of education became unavoidable to be ignored. According to Abimbade (2005), the world of technology continued to grow and today the whole world has become a global village. By the beginning of the 21st millennium educational technology has stretched educational boundaries and created new ones on a daily basis. One of these new and rapidly expanding boundaries is e-learning which is offering tremendous advantage to education sector.

The use of new multimedia technologies and the Internet in learning is seen as a means to improve accessibility, efficiency and quality of learning by facilitating access to resources and services as well as remote exchanges and collaboration. E-learning has become a new paradigm and philosophy in education with a mission to serve as a development platform for present-day

society based on knowledge. It is evident that the concept of e-learning is considered to be very attractive as a new learning model whose effect will be a positive one to the development of education in developing countries especially Nigeria, with all its potentialities. Although, not much effort is taken for its implementation, present-day research of e-learning in Nigeria shows that having e-learning on the educational agenda in Nigeria still face a lot of challenges

## What is E-Learning?

E-learning has become a new paradigm and a new philosophy in library services as well as educational sector with a mission to serve as a development platform for present-day society based on knowledge. What then is e-learning? According to Olaniyi (2006), e-learning is all about learning that occurs at the computer. In our contemporary world, the learning through the aid of a computer simply means online knowledge acquisition through the internet or offline through CD-ROM etc. In other words, it is the use of network technologies to create, foster, deliver, and facilitate learning, anytime and anywhere. Horton (2005) defined e-learning as the use of internet and digital technologies to create experiences that educate our fellow human beings. E-learning has the potential to revolutionise the way we teach and how we learn (DfES, 2003).

## Nigeria's ICT Readiness

Economist Intelligence Unit in (2008) ranked Nigeria 62 among the nations in terms of the ability of a nation's institutions to use ICT to achieve their mission and vision. Nigeria ranks below South Africa and Egypt – which rank 39 and 57 respectively. Nigeria's e-readiness ranking highlights the need to seek innovative solutions to improve in teaching and learning. Currently, in Nigeria there is increasing awareness on the use of Information and Communication Technologies (ICTs) in teaching and learning. The country has a number of initiatives such as:

- National Policy on Computer Education;
- National Policy on Information Technology;
- Establishment of National Information Technology Development Agency (NITDA).

The key players in the development of ICT in Nigeria are:

- Nigeria Communication Commission (NCC)
- National Space Research and Development Agency (NASRDA)
- The private telecommunication companies/firm like MTN, Globacom, Zain , Etisalat etc.

Olaniyi (2006) states the challenges posed to the Nigeria Communication Commission in 2001 of which he acknowledged that some had been met while some had not seen the light of the day. These challenges are as follows:

- Liberalize the telecommunication market through proactive policies which shall make telephone (fixed and mobile) available and affordable thereby boosting Tele-density from the present 0.006% to at least 1% by 2003 and 5% by 2007 and 10% by 2010.
- License more Internet Services Providers (ISPs) to use diverse facilities to connect to the Internet thereby boosting bandwidth, which is crucial to down stream information.
- License fees should not be prohibitive.
- Register registrars for the .ng domain name across the six geopolitical zones of Nigeria. Again, the cost of registration for the .ng name should

be affordable, say N3, 000.00 for 2 years.

- Promote Internet cafés across cities, towns and villages by reducing drastically the cost of the permit which is presently on the high side.
- Evolve a website through which licensing/permit issue can, by and large, be managed thereby removing unnecessary bureaucracy, delays and wastages.
- Internet connectivity will become more popular through wireless access protocol (WAP) in the country, especially with the granting of license to Zain, MTN, Globacom and some other mobile telecommunication operators in the country.

According to him, if these facilities and proposals are put in place and the various institutions in the country acquire the relevant technology of e-learning, the prospect of e-learning will be bright in Nigeria. Hence, this study intends to address the state of ICT infrastructure supports toward e-learning in university of Lagos, Nigeria.

## Literature Review

Various authors have researched into the concept of e-learning. Attempts to address this concept have resulted in a large volume of anecdotal studies assessing theory of e-learning initiatives on various measures such as learning benchmarks (Pittinsky & Chase, 2000), learning styles (Byrne, 2002), learning environment (Jung et al., 2002), learning outcomes (McClelland, 2001; Motiwallo & Tello, 2000; Teh, 1999), teaching practices (Savenye, et al., 2001; Owston & Wideman, 1998) and cost-benefits (Smith, 2001; Lawhead et al., 1997). E-learning goes beyond training and instruction to the delivery of information and tools to improve performance. Rosenberg (2001) defines learning as “the process by which people acquire new skills or knowledge for the purpose of enhancing their performance”. He explains that the perceptions of learning in organizations are undergoing a distinct transformation.

Kanba (2009), e-learning is self-paced, provides consistent content, faster and works anywhere and at anytime for learners. The instructional materials are easily updated and permit the use of multimedia which leads to reinforced learning through the use of video, audio, quizzes and other forms of interaction. As the world is changing, the learning scenario is changing with it i.e the world with the introduction of information and communication technology, which gives room to the new concept called e-learning. E-learning can improve retention, provide immediate feedback and allows learners to customize learning materials to meet their individual needs (Turk and Robertson, 2000; Kirsh, 2002).

Gunawardana (2005) highlights that studies in e-learning have shown that most programmes are likely to succeed with the constant involvement of the facilitator through e-mail discussion lists and individualized messages. Manir (2007) carried out research on the availability and utilization of the Internet in Nigerian universities, while, Kamba (2009), identifies the enabling factors the traffic-jam and, forecasts the future growth of E-learning in Nigeria. Sharma et al., (2009) suggested that a nation route to becoming a successful knowledge economy is its ability to also become a learning society. The rest of the studies attempted to explore a variety of factors and intervening variables that might have an impact on the success of e-learning in any learning environment.

## Methodology

The method used was to interview some staff and students in the University of Lagos, Nigeria, to obtain qualitative data on their own e-learning experience as well as their understanding of e-learning so as to justify the

report. Also, the university website provides the details information on the university learning management system (LMS) needed for this write up.

#### University of Lagos ICT Infrastructure support towards an E-learning Environment

The University of Lagos is a first generation university in Nigeria with over 30, 000 students, 3, 000 academic and administrative staff. The university is making giant strides in e-learning with a virile website, broadband internet facility, intranet, ICT building, VLE rooms, installation of blackboard management learning software on SUN Solaris server, Distance Learning Centre, training of all staff on computer literacy etc. In achieving a robust e-learning environment university of Lagos came up with a well laid out university strategic plan (2005-2009). The vision of the university towards ICT driven society is to put in place a Centre for Information Technology and Systems (CITS) through which the university would be transformed to an IT-driven system and thereby facilitate the development of IT-based relationship between staff, students, administrators, faculties and other stakeholders.

The university's broad objectives on ICT development are:

- To ensure that every student has access to a computer system and internet connectivity when required to enhance the learning process.
- To provide computer facilities and internet connectivity to every academic staff and facilitate and support teaching, learning and research.
- To ensure that information technology infrastructure is very reliable, accessible and responsive.
- To ensure that management information systems are fully integrated, user friendly, timely and accurate to support informed decision-making. etc.

The university general objective on IT infrastructure is to acquire, install and maintain reliable and up-to-date and globally accessible information technology infrastructure while the specific objectives are:

- Set up computer laboratories at CITS and each faculty.
- Acquire and install computers at CITS and each faculty.
- Develop a comprehensive network design to cover academic and administrative units, student hostels and staff quarters with consideration for wired connectivity and distance learning options.
- Train all staff of academic departments and programmes to possess the ability to use multimedia teaching workstations.
- Equip lecture halls for multimedia instruction.
- Develop and select virtual learning software.
- Increase the current internet bandwidth.

All the above vision and set out objectives were achieved within the stipulated years and more efforts are being intensified to see to it that the university keeps a sound e-learning environment.

### E-Learning Support Application and Facilities

The university subscribed to three learning management systems (LMS) and these are:

- Moodle
- Blackboard
- MAKAU

The above provide total solution with what the University of Lagos needs in implementing e-learning in their environment. Access to these LMS

packages is through the university portal. In addition to the LMS, the university provides three main well equipped virtual learning rooms with latest computers and other computer peripherals at the virtual learning environment (VLE) room located at the university library basement, faculty of education and college of medicine, Idi Araba. Aside this, the university library provides a strong support to the e-learning program with a well equipped library and a robust website. The university of Lagos library has a 120-seater complete computer laboratory fully furnished. The laboratory is an electronic reference library. Also, bibliographic information of the library holdings can be accessed through the university website. The university library is in the process of implementing electronic reserve collections for both staff and students.

## Staff Support

The university has embarked on massive development of its staff and students in order to be abreast with current development in ICT. Eighty five percent (85%) of university staff have been trained and retrained by the university computer centre (CITS) on computer literacy programme. Also, students are made to undergo a basic computer appreciation program so as to cope with latest learning process. Currently, all student fill and submit their course form online irrespective of the student's location.

## Challenges of E-Learning in University of Lagos Environment

Nafukho (2007) argued that current developments in technology have an extraordinary potential for transforming education to meet the growing need for customized, on-demand learning. However, In spite of the bright prospect of e-learning in University of Lagos, there are some generic obstacles militating against the effective implementation and some of these obstacles are;

- High cost of hardware in Africa.
- High import tariffs and less price competition.
- Transmission cost is equally high in Africa.
- Internet access in Africa is through a foreign gateway.
- Shortage of skilled manpower.
- Existing telecommunication infrastructure is in very poor condition.
- Computer technology illiteracy among the students.
- Cost of acquiring and installing the gadget required for e-learning.
- Incessant Power Supply.
- Maintenance culture.
- Bandwidth limitations. Limited band-width means slower performance for sound, video and intensive graphics, causing long waits for download that can affect the ease of the learning process.

## Conclusion and Recommendations

From the report on the state of ICTs in University of Lagos, Nigeria, it is an obvious fact that the ICT strategic objectives of university of Lagos towards e-learning are being pursued in order to provide an effective e-learning environment. The power of ICT to connect teachers and learners to the knowledge they need wherever that knowledge exists is being harnessed. For e-learning to succeed in any Nigeria university, it must be built on solid infrastructural background with highly effective internet connectivity. More so, to guarantee effective learning system it is, therefore, fundamental to implement self-sustaining Internet and computer training, which will eventually allow staff and students to keep pace with latest development. The university should provide them access to technological and academic information, as well as

Internet training at various levels. It also draws upon relevant literature to review the current status, barriers and enablers of the e-learning space in Nigerian universities.

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