National Open University of Nigeria and Promotion of Digital Education

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Abstract
This paper discusses the historical background as well as the operations of the National Open University of Nigeria (NOUN) as the first federal University in Nigeria dedicated to the provision of education through distance mode. Furthermore, the paper highlights the ways in which NOUN has promoted digital education to distance learning students. The challenges of e-learning in the operations of the University were examined, while recommendations were made on how it could enhance its delivery system for effective digital education

Keywords: NOUN, e-learning, digital education, Information and Communications Technology (ICT)

Introduction

The term e-learning is not a new phenomenon in promoting education in some parts of world. Presently, some institutions in Nigeria are using it to promote Distance Education (DE) and lifelong learning. The National Open University of Nigeria (NOUN) was established and backed up with the National Open University Act of 1983. The Act was reactivated in 2001 and twenty-seven study centres were planted in different parts of the country. The centres were to run distance education programmes for learners scattered in various geographical distances. It is important to note that open and distance education is an innovation in the Nigerian Educational System. It was introduced to make education accessible to all at undergraduate and postgraduate degree levels. It is a learning programme in which the learners are removed in time and space from the leaders. Makinde (2008) defined it as the type of correspondence education in which the teachers are at a distance from the learners who include: those who live in geographically isolated areas, shift workers, physically and socially handicapped:for example prisoners, refugees/victims of natural disasters; and those who are too old to return to the formal school system.

The Federal Republic of Nigeria (FRN, 2014) in the National Policy on Education caps it all that open/distance education is the mode of teaching in which learners are removed in time and space from the teachers; it uses a variety of media and technologies to provide and/or improve access to good quality education for large number of learners wherever they may be. In contemporary times, the age of Information and Communications Technology (ICT), e-learning is involved in distance education. E-learning means electronically–assisted learning or learning with and through the use of electronic technologies. These authors, Nwana (2009) and Robinson (2009) pointed out that e-learning can take the form of courses as well as modules and can be delivered through the internet, intranet and extranet. In distance education, various e-learning materials are used namely: computer, internet and e-mail, Direct Broadcast Satellite (DBS), Digital Satellite System (DSS), videophone systems, teleconferencing devices, pocket switching, electronic boards, educational robots and multimedia systems for example the mm projector (Nwana, 2009; Nwana, Ugwoegbu and Oraegbunam, 2011).

E-learning incorporates pedagogy and it has become a new model of education in distance programmes for students in various geographical locations. Kaplan - Leiserson (2002) stated that e - learning covers a wide set of applications and processes, such as web - based learning, computer - based learning, virtual classrooms, and digital collaboration. It includes the delivery of content via Internet, intranet/extranet (LAN/WAN), audio and videotape, satellite broadcast, interactive television(TV), and CD - ROM (compact disc read only memory). It is important to bear this in mind because at the National Open University of Nigeria, e -learning activities started with the most basic, the use of audio tapes and progressed to the use of CD - ROM , interactive video and now, the university has a most standard e -learning laboratory using one of the best Learning Management Systems (LMS) available.The students are to use e-learning technologies in their study since they are separated from the teacher in time and space but many of the times, they rush down to the campus seeking help in the use of emergent technologies in learning. This shows that the students are being challenged in the use of modem multimedia technologies in education. The use of multimedia and the interactivity that computers connected to the internet afford has led to the creation of much richer learning environment (Bauer, and Kurtemeyer, 2005). These new technologies enhance communication between learners, and between new learners and teachers. The e-learning strategies of NOUN have made a great impact in e- learning in Nigeria.It is against this background that the present study seeks to find out the role of the National Open University of Nigeria (NOUN) in promoting digital education.

Historical Background of National Open University of Nigeria

The National Open University of Nigeria (NOUN), was established in July, 1983, by an Act of the National Assembly as the first distance learning tertiary institution in Nigeria when it became crystal clear to the then Federal Government that the ever growing demand for education by her people cannot be met by the traditional face-to-face classroom instructional delivery. The Institution was closed down few weeks after its establishment; the Act that established it was suspended in 1984 by the then Federal Military Government that overthrew the civilian government. Many years after the closure of the University, three major factors led to its reactivation in 2002: the compelling reasons that informed the earlier establishment of the university; the need to fill the gap created by Federal Government's clamp down on mushroom outreach study centres of many conventional universities all over the country, and the need to take advantage of emerging developments in the field of ICTs which have revolutionalized the techniques and methods of instructional deliveries in the distance learning mode.

NOUN, a federal government – owned university, has emerged as the first dedicated university in Nigeria to

introduce education through distance learning mode. The Vision Statement of the University is to be regarded as the foremost open university providing highly accessible and enhanced quality education anchored by social justice, equity, equality and nationalcohesion through a comprehensive reach that transcends all barriers(NOUN, Annual Report 2013). On the other hand, the NOUN Mission Statement is to provide functional cost-effective, flexible learning, which adds life-long value to quality education for all who seek knowledge. In addition to the broad vision and mission statements, Ajadi, Salawu and Adeoye (2008) submitted that the university has eight major objectives which are listed below:

- provide a wider access to education generally but specifically in university education in Nigeria
- ensure equity and equality of opportunities in education
- enhance education for all and life-long learning
- provide the entrenchment of global learning culture
- provide instructional resources via an intensive use of ICTs
- provide flexible, but qualitative education
- reduce the cost, inconveniences, hassles of and access to education and its delivery
- enhance more access to education.

In NOUN, study centres are the main contact place for students learning activities. These centres are thus the backbone of the distance learning methodology of the University. As at 2014, NOUN has 61 Study centres comprising 38 conventional Study centres ,14 Special and 9 Community study centres spread across the Federation (NOUN 2014). Presently, NOUN has over 75 study centres spread across the length and breadth of the country as against the initial 18 temporary study centres approved by the Federal Government for takeoff of the University in the year 2002. The University has special study centres which cater for specialized groups, such as the prison inmates and Armed Forces personnel. Amadi (2011) submitted that NOUN has different ICTs-based technologies to support different pedagogic approaches,thereby promoting digital education in the following ways:

- The University provides LRC (Learning Resource Centers) with a school-based training system for all the study centres in the six geopolitical regions of the country. Sets of equipment compliment the learning resource centers, for example printers, CD (compact disc)-players and writer, data storage items (hard disks and CD-ROM, compact disc read only memory), television, satellite dish and receiving software, digital camera, video use in micro-teaching, set of audio and video CDS, prints and guides).
- NOUN has a radio station where students listen and receive their lectures;
- NOUN engages in the configuration of equipment, by getting and storing current information on the new curriculum and teaching methods. It is also by observing and discussing lessons taught by other teachers via technology, either on CD-ROM or in real-time via satellite television and learning to use computers;
- NOUN finds and creates educational resources to use in teaching, preparing lesson plan with colleagues, interacting with other teachers and trainers either on line or in meetings and workshops. The teaching learning resources are adequately managed by efficient and effective planning, coordination and monitoring;
- The Institution has technical and trained support staff who maintain equipment, solvetechnical problems, assist in the use of equipment and manage the educational resources, in addition to learning support teachers who provide pedagogical leadership and assistance;
- NOUN concentrates much on human resource development. Emphasis is on the soft technology of people's skill, knowledge and understanding rather than on the hard technology of equipment. As a practical response to the growing demand for training and research , RETRIDAL (Regional Training and Research Institute for Open and Distance Learning) was established in collaboration with the COL (Commonwealth of Learning) to ensure the success of ODL system and to fully maximize the benefits of distance education in the West Africa sub-region.
- The mandate is to spend some percent of its budget on equipment and training of different kinds (for example new curriculum, teaching methods, training of trainers, material development, preparation of computer-mediated, online (Web-based) and CD-ROM based distance learning materials, management of learning resource centers and the use of e-learning and its integration into teaching and learning);
- In dedicated distance education institutions in Nigeria, there has been a drive to get students online to support teaching, learning and administration. The internet provides various means to remedy the lack of interpersonal communications that has been “the Achilles heel of distance education"
- E-learning is pedagogically integrated into the course design and adapted for the current environment, which enables and supports enhanced forms of learning. NOUN students are made to work in small groups on collaborative tasks, where they use the internet to find information resource. Conferencing or e-mail is used to communicate and construct a joint project which is assessed, then using e-learning as a clear pedagogic role;
- With the computer networks, learners are encouraged to take an active part in the learning process and construct their knowledge by interacting with

their peers, together with learning materials. There is an online learning discussion forum which serves as social interactive learning environments, for constructivist learning theories. The constructive principles provide a set of guidelines for creating learner-centered, collaborative environments that support reflective and experiential processes.

- The National Open University of Nigeria in 2014 inaugurated a technology that offers indigenous courses online to its students. This comes as the university says it has migrated to a new e-learning platform, iLEARN. NOUN is giving its students the opportunity to gain access to multiple education delivery channels, which include virtual facilitation, video lectures, audio lectures, smart books, interactive courseware and various other resources in real time through the iLearn platform. It presents, firsthand, the challenges students face while studying and how innovative technologies will solve these challenges, improve learning and further reposition NOUN to provide world-class open and distance learning in Africa.

  Following this capacity building event, in-school trainings have been conducted across all the faculties, during which all NOUN lecturers/facilitators were introduced to the platform and educated on its usage. iLEARN is expected to provide an avenue for real time facilitator-to-student interaction, in a manner that leverages economies of scale through technology. This is achieved using customised features such as virtual classrooms with class discussion, course forums and the 'Ask a Question' functionality. Facilitators are able to moderate a class session, directly, answer students' questions, and provide additional insight to subject areas. The effect of this is seamless interaction between facilitators and students. Furthermore, by allowing access through various avenues, including the internet, mobile phones and even via SMS, iLearn now makes learning flexible and convenient.
- National Open University of Nigeria (NOUN) online library, that is the Information Gateway, is a library established to support teaching, learning and research activities of the university. The main library is located at the headquarters of the University in Lagos. The library provides online catalogue, circulation, reference, information literacy, current awareness services, training, workshops, and user orientation. The major aim of the e-library is to facilitate access to scholarly information resources. There are polices that guide the nature of services in the e-library. Facilities are provided to enable library achieve its objectives. The library has a building, which has been renovated to provide services to users who prefer print copies of books and periodicals. The e-library laboratory is equipped with forty-five(45) computers, and internet access. The library's collection has more than 40,000 volumes of books and 200,000 volumes of electronic resources. It has a growing periodical and audiovisual collection. The National Virtual Library provides an online service center for accessing databases in other e-libraries all over the world. Databases include: AGORA (Access to Global Online Research Agriculture) which provides a collection of 918 journals in agriculture and life sciences to institutions in 107 countries; Bibliomania which is a collection of resources in various subjects; Bioline International features 30 peer-reviewed journals from some countries of South America, Asia and Africa in Health sciences, Biodiversity, Environment, Conservation and International Development; BLDS (British Library for Development Studies at IDS-Institute of Development Studies). Europe's largest research collections on economic and social change in developing countries and Chemistry Central a collection of peer-reviewed open access research and journals in chemical sciences (NOUN 2009) cited in Otubelu (2011) The author further submitted that NOUN designs programmes that provide a quality framework for lifelong learning in Nigeria. which promote new learning methodologies and help standardize training methods. The Virtual Library of the National Open University of Nigeria, having formed a consortium with other Open University libraries in Africa, and provides access to varied resources to its many users. The Information Gateway has more than 30 databases and offers access to more than 1,000 journals and many other types of information.Thus ,thelibraries and information centres have a pivotal role to play in supporting and promoting e-learning in the country
- Open Educational Resources (OER) in NOUN:The NOUN Open Courseware published on NOUN Website has not only generated much benefits for NOUN students, but has become a resource material for students in other institutions in Nigeria, who readily find access to the courseware provided they have an internet access (NOUN, 2014). OER remains a veritable tool in providing access to quality and affordable education. As an Open Distance Learning (ODL) institution, NOUN strives to provide education for all and promote lifelong learning. NOUN's OER activities started in August 2014 with the establishment of an OER unit under the Vice-Chancellor's office. NOUN in collaboration with United Nations Educational, Scientific and Cultural Organization (UNESCO) and **Commonwealth of Learning (**COL) had engaged in capacity building in this area. NOUN, being an ODL institution, currently

has e-courseware comprising approximately 2,000 course material items, of which 33 have been converted to OER so far. NOUN has an OER policy approved by the university's senate in June 2016. The OER courses are based on an open-source master (XML) template with embedded metadata, machine-readable code, and open-source fonts. The OER were then released on the NOUN website in three formats: ePUB, Open Document Text (ODT), and PDF with A Creative Commons-Attribution-Share Alike licence(CC BY-SA) (NOUN, 2014). The NOUN-OER unit currently houses three professional staff members, the head of unit, an instructional designer and an IT specialist, and is supported by a few external experts. The main task of the unit is to encourage integration of OER in all levels of teaching and learning of NOUN, addressing the academics in the schools as well as the staff of the departments responsible for instructional design, course publishing, library support, and IT. The OER unit has operated from August 2014 through three stages: sensitization, instrumentation and dissemination (Agbu, Mulder, de Vries,Tenebe and Caine 2016). The course modules of the National Open University of Nigeria are another in addition to widely used e-books, webinars, quizzes, computer-based tests, among others.

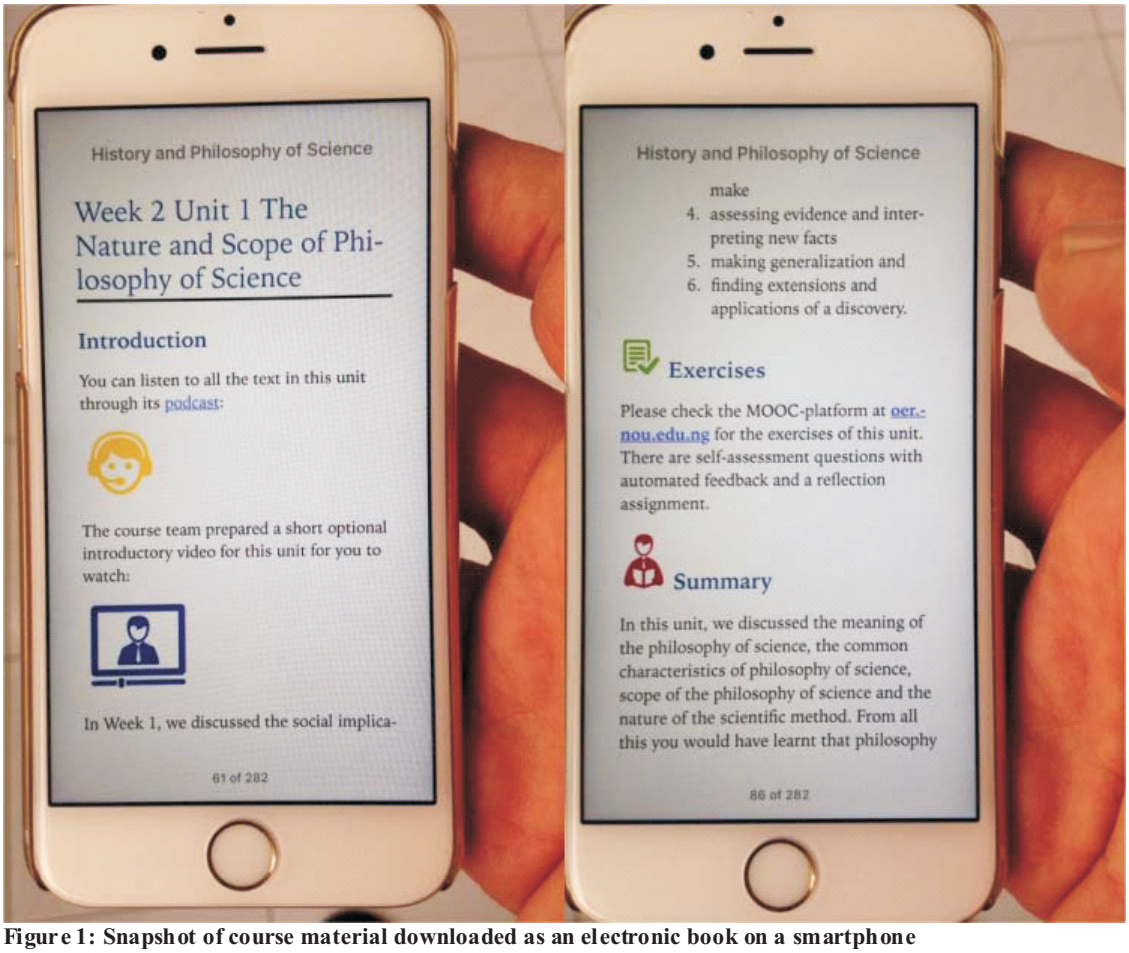


Figure 1: Snapshot of course material downloaded as an electronic book on a smartphone

Source: Agbu ,Mulder , de Vries,Tenebe and Caine (2016) Open Education Global Conference Selected Papers The Best of Two Open Worlds at the National Open University of Nigeria Open Praxis, vol. 8 issue 2, April–June 2016, pp. 111–121 (ISSN 2304-070X) 2016

The e-learning has several advantages in promotingthe activities of NOUN as an open an distance learning institution. For instance, Ajadi, Salawu, and Adeoye (2008) noted that NOUN students learn what they need to learn and go at their own pace; the internet provides students with the opportunity to make choices about the type and direction of their learning and gain feedback quickly and efficiently. This mode of learning has the potential to cater for individual learning style and requirement, providing information about a topic of personal interest. Courses are based on IT and non-IT topics, which is an additional benefit to attract large number of learners from different backgrounds. E-learning provides students courses round the clock, that is seven (7) days a week and 24 hours a day, which further attracts working class, students and individuals as internet activities enablethem to discover how the information they gain fits into real life and provide them a

culturally, racially, physically and gender anonymous medium for communication.

Challenges Confronting NOUN in the Promotion of Digital Education

E-learning in Nigeria universities and educational institutions is still a dream because of poor ICT infrastructure and other socio-economic reasons. Due to very high primary cost of infrastructural development and to increase public access to internet and other ICTs, the developing countries are still far behind in benefiting from e-learning. The major problems facing the proper implementation of e-learning in Nigerian institutions in general and NOUN in particular are recorded by Ajadi, Salawu, and Adeoye (2008) as follows:

- **Digital Divide among NOUN Students:** The cost of a Personal Computer (PC) and laptops are still very high in Nigeria considering the income level of an average worker in the country. Few of NOUN students that are privileged to have a PC/laptop may not be connected to the internet as this attracts extra cost, which they may not afford.
- **Technophobia:** Most of the students admitted by NOUN have no computer education background, hence they are afraid of operating one. Some go to the extent of hiring expert at a cost to fill their admission, registration and other documents meant for them to fill online. However, the very few who have access to computer do not know how to use it and maximize it usage.
- **Internet Connectivity:** The cost of accessing internet is still very high in West Africa. It is as high as $8/Kbps, while it costs a ridiculous amount of $0.52/Kbps in North Africa. Most of NOUN Students make use of Cyber Café where they are charged between #100.00 and #150.00 per hour despite poor service and slow rate of server.
- **School Curriculum:** Most of the students admitted by NOUN have no information technology/computer education knowledge because it was not entrenched in the curriculum at their elementary and secondary education level. Not until recently that computer education was introduced at elementary level and it is not yet a compulsory subject at the secondary level of our education.
- **Attitude of NOUN Students:** ICT refutes independent learning and most of NOUN students are reluctant to take responsibility for their own learning. They rather prefer to be spoon-fed at all times.
- **Software and License Cost:** It is very expensive to get some of the soft wares because they are not developed locally; they are developed inAmerica, Europe and other advancedeconomies to suit their own system.The cost and even the interpretation of the software put off some NOUN students who are interested.
- **Maintenance and Technical Support:** There are few technical staff to maintain ICT facilities; this makes it very expensive for few NOUN students that have PCs to maintain when a technical problem is noticed.
- **Electricity:** One of the perennial problems in Nigeria is electricity instability which has beena major setback for our technological development. Some NOUN students that reside in cities and towns are faced with the problem of epileptic supply of electricity, while a majority of them live in rural areas that are not connected to the national grid.

Conclusion

National Open University of Nigeria (NOUN) is the foremost institution, promoting digital education to a mass of uneducated or less educated people in Nigeria. NOUN recognizes that learning can be supported through Information andCommunication Technologies(ICT). The institutional goal is to ensure that its e-support is simple, accessible and coherent, thus committing to ensure that it is pro-active in addressing learners differing abilities to access technologies, either because of location, special needs or the cost of the technology needed to access the materials. There is also a potential strategic opportunity to enhance support for research-lead learning agenda. In line with this, the University should continue to develop simple and effective means to direct learners to support systems (both online and face-to -face) and ensure that learners with specific learning needs can have someof those addressed through assistive technologies. Technologists, library staffand academic staff should work collaboratively in support of this goal.

Recommendations

For NOUN to be able to provide as well as promote digital education to its learners, there is need for procurement of adequate e-learning resources such as internet computers, videophone systems and teleconferencing devices, Direct Broadcast Satellite (DBS), and Digital Satellite Systems, among others. NOUN should provide capacity training programmes for all students and facilitators to encourage the usage of these materials, to facilitate the deployment of e-learning materials in various ICT parks and e-learning centres. The training should be free so as to ensure students' participation. The government of Nigeria should ensure that electricity is supplied on regular basis for purposes of electronic learning. This should be done through the use of UPS devices and standby generators.

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