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# E-Learning Design, Learner Support and Development Project in the Nigeria Educational System

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**Abstract**— Electronic learning (e-learning) system for Nigeria universities has assumed important place in most countries. The quality assurance agency for university education in Nigeria (National Universities Commission – NUC) is unwavering in the quest to facilitate capacity building activities so as to ensure that academic staff involved in the Open and Distance Learning (ODL) education programs are fully equipped with the requisite Information and Communication Technology (ICT) literacy skills and competences for quality service delivery via the ODL mode. The Nigerian University System has one single-mode open and distance learning University as well as six “dual-mode” Universities (conventional universities with distance learning Centers/Institutes). Before now, the Nigerian distance learning education has been more or less part-time studies as it lacks the qualities of an Open and Distance Learning system. There was no learning management system in place, instructional materials were not structured and the teachers were more or less digital immigrants. A lot of challenges were encountered. This ranges from resistance to change, poor ICT infrastructure and concern about intellectual property rights and shared rights between faculties and institutions. As the national consultants, we have increased digital literacy sporadically by following a few ideas with the best chance of success. We have developed processes that leverage best practices from both the instructional design and software development areas. Through a mixture of instructional media, learners and educators can experience synchronous and asynchronous interactions. The e-learning projects embarked on were a software project combined with a performance enhancement (‘training’) project as well as instructional design for course development. In the bid to effectively service the ODL Institutions in Nigeria, we determined the actual training need of each distance learning institutions. We have developed e-teaching capacity building workshop as well as collaborative development of distance learning courses, designing of online courses to meet the needs of a diverse student population and the use of synchronous and asynchronous mode of distance learning tools. To begin the implementation of the research effort, a series of courses were developed and reviewed among the teaching staff (course experts) of the ODL Institutions. The Learning Management System provided an accessible, innovative, online learning, information resources and facilitation environment for both students and teaching staff. It provided new routes of access to better skills and qualifications.

**Index Terms**— Electronic Learning System, Learning Support, Open Distance Learning and Nigeria

## I. INTRODUCTION

IN the past, the term e-learning refers to any material offered electronically or instructions delivered by the use of electronic media. But today, it denotes web-based products and services that are designed to support individual and organizational learning (Adams, 2006). E-learning is now a learning method that uses Information and Communication Technology (ICT) to transform and support the teaching and learning process. According to Merriam et al (2007), e-Learning is defined as all forms of electronic supported learning and teaching, which are procedural in character and aim to effect the construction of knowledge with reference to individual experience, practice and knowledge of the learner.

There has been a rising commitment to strengthen the delivery of education in Nigeria for some time now. The National Universities Commission (NUC) as the quality assurance agency for university education in Nigeria is unwavering in her cause to facilitate capacity building activities. This is to ensure that academic staff involved in the Open and Distance Learning (ODL) education programs are equipped with the requisite Information and Communication Technology (ICT) skills and competences for quality delivery via the ODL mode. In pursuit of the objective to increasing access to quality university education, the NUC in collaboration with the British Council and the Open University of UK organized five intervention workshops for the e-teaching train-the-trainer workshops from 2009 to 2011. It is aimed at building individual and institutional capacities of staff and distance learning centers in the Nigerian University system. It is also targeted at training academic staff of the ODL institutions the art of ICT-mediated tutoring, facilitation of distance learners and the use of electronic media and internet tools to deliver online lecturing.

A pilot scheme comprising seven universities (1 Unimode University and 6 Dual- mode institutions) were involved. The series of capacity workshops entailed different categories of Staff of Distance Learning Centers namely: University of

Ibadan, University of Lagos, University of Abuja, Obafemi Awolowo University, Ile-Ife, University of Maiduguri, Federal University of Technology, Yola (now Madibbo Adama University of Technology) and The National Open University of Nigeria (NOUN). Further workshop dealt with sharpening the skills of selected academic staff of the Distance Learning Centers, who have been previously designated as “National Trainers”, in ICT-enabled tutoring, course material development (e-modules) and other aspects of ICT-enabled learner support for students pursuing degree programs by the ODL mode.

Before now, the Nigerian distance learning education has been more or less part-time studies. It lacks the qualities of an Open and Distance Learning Institute. In some universities, students travel long distances to attend lectures. In most cases, the classrooms were overcrowded as a result of the over-enrolment of students. There are inadequate qualified academics and a predominance of “Analog” lecturers. Satellite campuses and illegal affiliations were the order of the day. In other universities, the uses of study centers are widespread. These study centers were responsible for delivery of course materials to the learners, facilitation, and organizing of continuous assessment, counseling and examinations.

As these institutions of distance learning education adopt e-learning in their teaching and learning process, we discovered both institutional and professional capacity gaps. The coursewares were inadequate for e-learning and the delivery mechanisms were inappropriate. There was the problem of integration of emergent technologies into the established system of learning. Equally, technical skills and learner support systems were lacking. Others include lack of policies and strategies, inadequate ICT equipment and infrastructure, inadequate bandwidth and unstable power supply. In like manner, the challenges experienced in the professional capacity ground however, were non-availability of sufficiently skilled and ICT-competent personnel (tutors, facilitators, and course material developers), concern about intellectual property rights and shared rights between faculties and institutions, lack of commitment and motivation in the teaching staff and the paradigm shift from teacher centeredness to student centeredness.

In supporting ODL services information resources especially digital resources are indispensable. Effective library support to distance learners is mandatory for qualitative delivery of instruction and learning. Information and Communications Technology (ICT) has transformed all aspects of society particularly information dissemination. The infusion of electronic information resources has definite benefits to distance learners be it in developed and developing countries. Trevor, (2008) averred that librarians have to reappraise the support that can be given to students who rarely appear on campus and when they do, it is often for concentrated sessions at week-ends.

The Distance Education Libraries need to provide adequate library services and resources equivalent to regular traditional

campus setting for attainment of educational skills for distance learners, faculty and programs locations. The University of Lagos, Nigeria is one of the first universities to begin distance education as its main focus.. It would be recalled that part of the primary objective of the University at inception and as enunciated in the Ashby Commission, was: the provision of facilities for part-time studies in such fields as Business Studies, Accounting, Law and Education through Correspondence and Distance Learning techniques This then was the genesis of the Distance learning Institute (DLI), the fact that it had previously gone through different cognomens notwithstanding. It was in actualization of this objective that a Unit, the Correspondence and Open Studies Unit (COSU), was established in 1973. COSU in turn was to transform, a decade later in 1983 into the Correspondence and Open Studies Institute (COSIT), with the granting of the latter with some measure of autonomy and enhanced scope of operations. Consistent with global advances in Open Studies and in particular Distance learning mode of study, the Senate of the University in 1997, while re-affirming the enhanced status and autonomy of COSIT, effected some re-structuring and streamlining in the general modus operandi of the Institute. In keeping therefore with these various re-structuring measures, and to reflect the Distance learning philosophy, the name COSIT had to be changed to DLI (The Distance learning Institute).

## II. METHODOLOGY

### A. Review Stage

University of Lagos ODL have increased digital literacy sporadically by following a few ideas with the best chance of success. We have developed processes that leverage best practices from both the instructional design and software development areas. Through a mixture of instructional media, learners and educators can experience synchronous and asynchronous interactions. We embarked on a software project combined with a performance enhancement (‘training’) project as well as instructional design for course development. In the bid to effectively service the ODL Institutions in Nigeria, we determined the actual training need of each distance learning institutions. We developed e-teaching capacity building workshop as well as collaborative development of distance learning courses. We designed online courses to meet the needs of a diverse student population along with the use of synchronous and asynchronous mode of distance learning tools. To begin the implementation of the research effort, a series of courses were developed and reviewed among the teaching staff (course experts) of the ODL Institutions. The Learning Management System provided an accessible, innovative, online learning and facilitation environment for both students and teaching staff. It provided new routes of access to better skills and qualifications.

### A) E-Learning Team

Designing, developing, and delivering the e-learning project was a team effort. Our team consists of Subject Matter Experts (SME), Course Team (CT) and E-Tutors. The SME are subject matter experts in the various academic fields of learning. The CT are the Instructional designers, videoconference producers and Internet/multimedia specialists. The E-Tutors engage the learners in the learning process provide direction and support to learners and manage online discussions. The key questions the e-Learning team raised were how to organize and manage the e-Learning and what type, approach, content, delivery and assessment methods should be used.

### B) Needs Assessment

According to Stout (1995), the needs assessment describes the systematic exploration of the way things are and the way they should be (Stout, 1995). It defines the process of identifying and evaluating needs. The identification of needs is a process of describing problems and giving possible solutions to these problems. In our context, we reviewed the current situation and found out there were no study/course materials for some advertised programs and in a particular institution, the results of examinations conducted over 3 to 4 years were yet to be released. We also determined it was necessary to define the target audience in order to get the complete picture from the sources and viewpoints. We used a combination of basic needs assessment techniques such as direct observation, consultation with persons in key positions and interviews with lecturers and students alike.

### C) Capacity Building Workshops

The NUC series of workshops in collaboration with the Open University of UK and the British Council was geared towards mentoring and creating a community of National Trainers for Open and Distance Learning Programs. This intervention and collaborative development comprise a total of five workshops in all. The workshops were action learning oriented, hence success depended on engagement with projects given to all delegates of the participating universities. One of the aims of the workshop series was to leverage on ICT and Internet tools to deliver contents to diverse students in the distance learning mode. The workshops also equipped trainers and lecturers of ODL institutions with cutting edge solutions. Course developers were equally produced from the Train-the-Trainers' series of workshops.

As a furtherance to human capacity building, we cascaded workshops on Train-the-Trainer on e-learning for academic staff of distance learning centers at the University of Lagos (Lagos), Obafemi Awolowo University (Ile-Ife), University of Ibadan (Ibadan), Madibbo Adama University of Technology (Yola), Ladoke Akintola University of Technology (Ogbomosho), Enugu State University of Technology (Enugu),

University of Maiduguri (Borno), University of PortHarcourt (PortHarcourt) and University of Abuja (Abuja).

We facilitated online lecturing modules in the following areas:

- a. Designing of online courses to meet the needs of a diverse student population
- b. Synchronous and asynchronous mode of distance learning tools
- c. Instructional design for online courses
- d. Use of library resources
- e. Use of social network media for academic interaction.
- f. Study guide design
- g. Developing and adapting of multichoice questions (MCQs) for interactive learning and assessment
- h. Preparing desktop audio and video learning and support materials
- i. Collaborative development of distance learning courses
- j. Setting up and maintenance of blog sites for academic staff of distance learning institutions.

### D) Design Options

The distance education delivery system is based on an integrated mix of tools, technologies, methods and learning strategies. While there are many possible approaches, we started with deciding which delivery options to use. One of the key questions we took into consideration was whether we will use self-paced e-learning or facilitated e-learning or a mixture of both. We sampled many exciting new communication and collaboration tools that can be used for online facilitation. We later clarified the mix of a learning management system, communication tools, virtual classroom; computer based self-directed courseware, chats and online group collaboration tools.

## III. RESULTS

In the course of the capacity building trainings, each lecturer was able to create a blog site in the SptLMS that will be used to post additional lecture materials for the students to access. The workshop afforded lecturers to put together Study Guides for the courses they handle. The Study Guides prepared by each lecturer serves to help students navigate their way through the course. It provides answers to the large majority of queries the student may have. Each lecturer was able to create and redesign their course material to Instructional Design format, inserting both audio and video clips.

A survey of students was carried out in order to investigate how the Learning Management System is put to use by the distance learning tutors. The Table 1 summarizes the outcome of the findings.

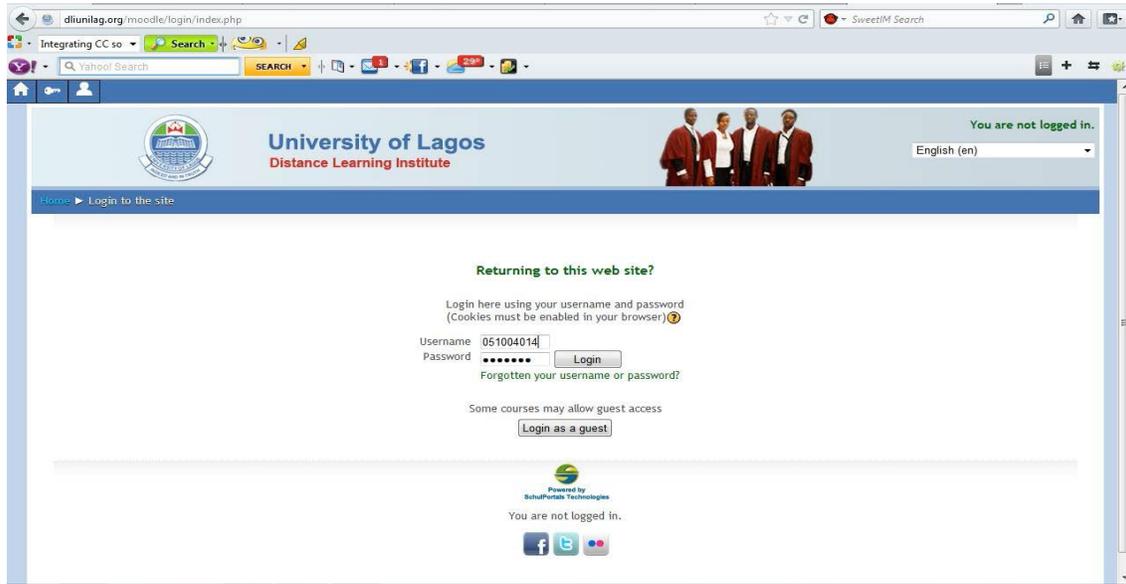


Fig. 1. SptLMS Landing Page for University of Lagos

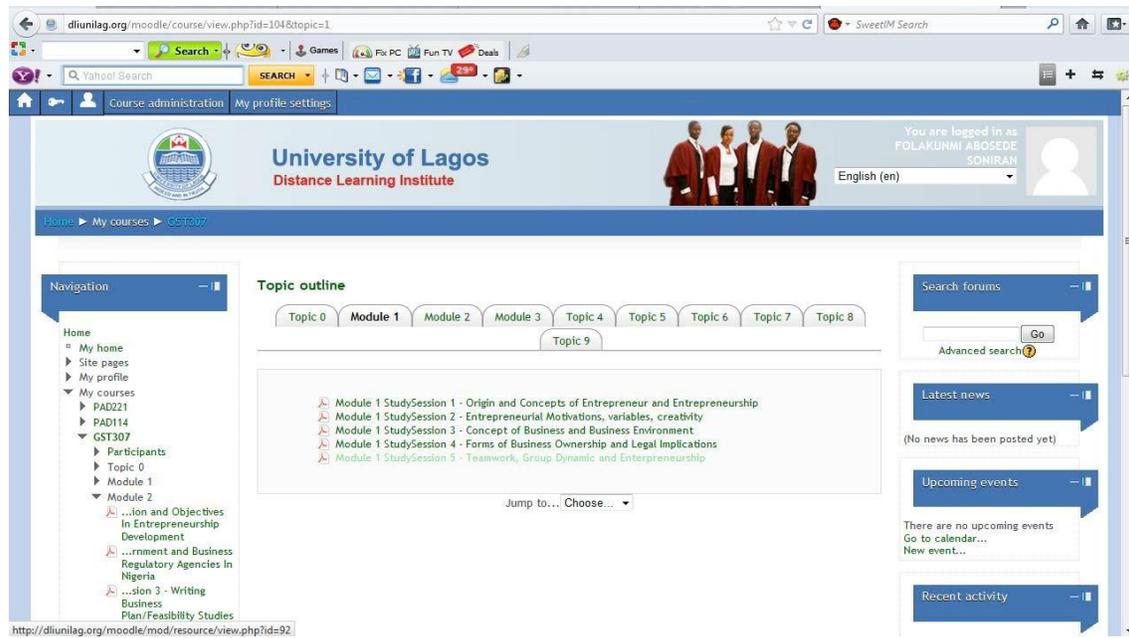


Fig. 2. GST 307 Course Contents

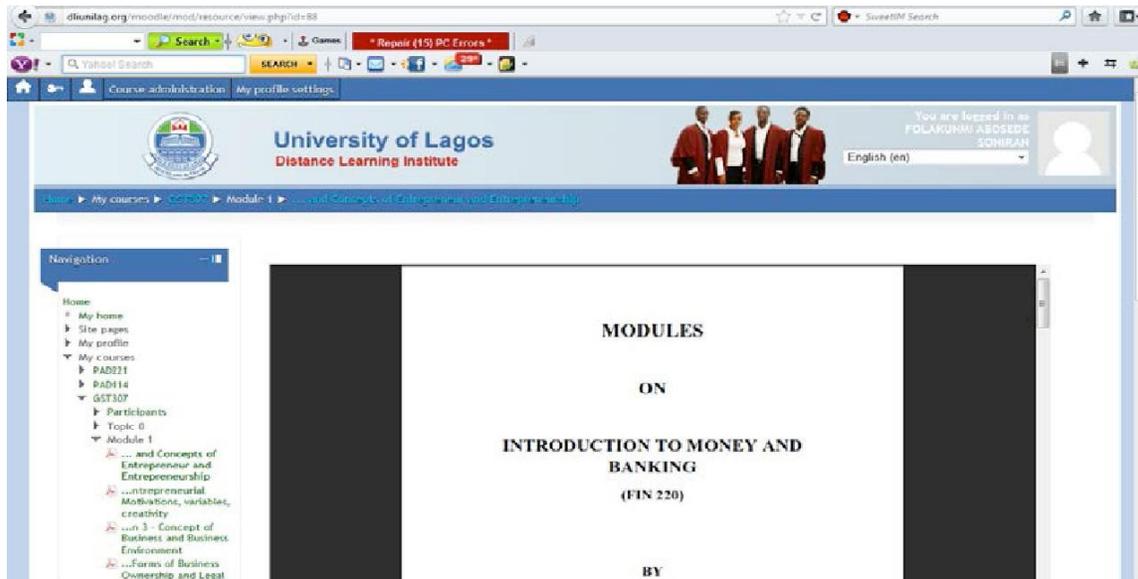


Fig. 3. Course Material on Introduction to Money and Banking

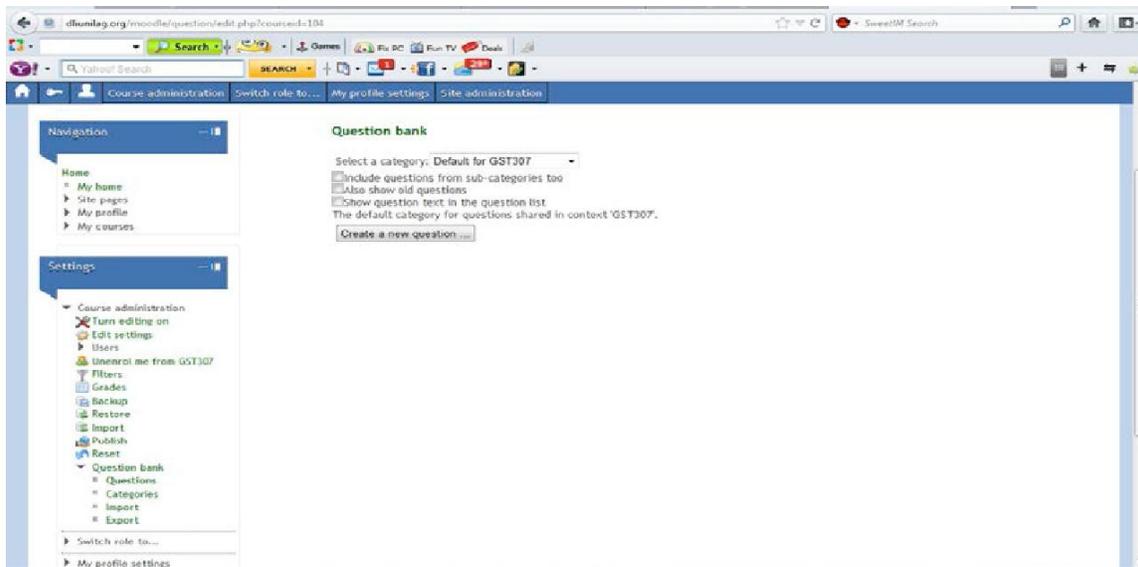


Fig. 4. Question Bank Interface

Table 1: Survey Results

Usage of LMS by DL Tutors	Student's Response
Use of SptLMS	It is of the opinion by many students that the Learning Management System should be more widely used by all and sundry at the institutions. Many are of the view that tutors are not using the LMS as effectively as they should.
Student to Student Interaction	This received a positive commendation as a lot of activities are going on collaboratively on the internet. The use of facebook, twitter and other communication tools are effectively employed.
Tutor to Student Interaction	The students are of the opinion that the tutors are still digital immigrants and this has impacted negatively on course delivery. They felt that the tutors are complicating what the systems have made easier.
Access to Study Materials	This received a low mark as tutors are still striving to be less dependent on their hard copy materials.
Access to Information resources	Both tutors and students are still striving to cope with the use of electronic information resources
Flexibility of SptLMS	The students were happy to have the flexibility of e-Learning powered by the Learning Management System.
Capacity Building	It is of a general opinion by the students that the tutors need more training as a matter of urgency.

Students have however responded well to having an online learning space, tools and resources and access to the Learning Management System. Various e-learning seminars were conducted for the distance learning students. In one of such meetings, an overview of the e-learning concept was presented, explaining how it fitted with the new paradigm shift. The use of Learning Objects was demonstrated and the presentation was concluded with an explanation of the various Open Educational Resources (OER) initiatives ongoing at the Distance Learning Institutes. The presentation generated a lot of discussions, particularly around the area of quality control of OERs. Explicit links were drawn between the challenges faced by Open and Distance Learning Institutions in accessing dedicated and cost-effective connectivity and the minimal use by those same institutions of electronic educational resources.

#### IV. CONCLUSIONS

Aderinoye and Siaciwena (2008) observes rightly that in spite of ODL's success in Africa, a number of issues remain to be addressed range from lack of political support and legitimacy, policy issues, Inadequate capacity and lastly issue of sustainability. With the inadequate individual and institutional capacity, inadequate ICT equipment and infrastructure, inadequate bandwidth and unstable power supply, the prospect of integrating e-learning into the delivery of Open and Distance learning programs in Nigerian is quite promising.

As alleged by tutors, facilitators and course material developers, the workshops have been worthwhile, quite educative and rewarding. It has helped to transform the participants from analog to digital academics and has made possible their aspirations to develop globally competitive academic materials. In order for Nigeria to be able to derive the full benefits of open and distance learning, institutions must discard the "analog" system of learning and embrace e-Learning.

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