

# THE NEED FOR MOODLE AS A LEARNING MANAGEMENT SYSTEM IN NIGERIAN UNIVERSITIES: DIGESTING UNIVERSITY UTARA MALAYSIA LEARNING ZONE AS A CASE STUDY

**Suleiman Alhaji Ahmad<sup>†††††</sup>**  
College of Education Azare  
NIGERIA

**Umar BawaChinade**  
College of Education Azare  
NIGERIA

**Abdu Muhammad Gambaki**  
College of Education Azare  
NIGERIA

**Shehu Ibrahim**  
College of Education Azare  
NIGERIA

**Nasiru Ahmed Ala**  
College of Education Azare  
NIGERIA

## ABSTRACT

*Learning Management System (LMS) become very popular among educators around the world as a tool for creating online dynamic websites for their students. It is a free software package that helps educators to create effective online learning communities. This paper examines such current development in the area of the use of ICT in education. It investigates the LSM in Universiti Utara Malaysia known as the (UUM- learning zone). UUM is one of the profound public universities in Malaysia. In other words it is known as Northern University Malaysia. The paper also digests useful and relevant features of Moodle (modular object oriented digital learning environment) and proffers its relevance for its adoption in Nigerian universities.*

**Keywords:**LSM, Moodle, Digital Natives, Digital Divide, Universiti Utara, Nigeria

## INTRODUCTION

Nigeria has numerous federal, state and privately funded universities numbered to about 106 (33 federal, 37 state and, 36 private) (FGN/NUC, 2012). Insignificant number of the Nigerian Universities are fully employing the LSM or implementing a viable e-learning system. The e-learning is not a new phenomenon in promoting education in some parts of the world. National Open University of Nigeria (NOUN) is using e-learning to promote distance education (DE) and lifelong learning (Ajadi, Salawu&Adeoye 2008; Suleiman 2011). Moodle (modular object oriented digital learning environment) is an open source course management system (CMS).it is also known as a learning management system (LMS) or a virtual learning environment (VLE). It has become very popular among educators around the world as a tool for creating online dynamic websites for their students. For Moodle to work, it needs to be installed either on an organization's web server or at a web hosting company. Moodle features can be understood from the following six classified main factors (Momani, 2010) they are: a) Pedagogical Factor, b) Learner Environment, c) Instructor Tools, d) Course and Curriculum Design, e) Administrator Tools, and f)Technical Specification.

The focus of the Moodle project is always on giving educators the best tools to manage and promote learning, but there are many other ways to use the Moodle. Some of the way include such that:

- a. Moodle has features which allow it to scale to very large deployments and hundreds of thousands of students, yet it can also be used in a primary school or by an education hobbyist.
- b. Many institutions use it as their platform to conduct fully online courses, while some use it simply to augment face-to-face courses (known as blended learning).
- c. Many of the Moodle users use the activity modules such as (forums, databases and wikis) to build richly collaborative communities of learning around their subject matter (in the social

<sup>†††††</sup>Education Technology Department Directorate for Undergraduate, College of Education Azare, PMB 44 Azare, Bauchi State, NIGERIA, Corresponding email: [suleimanahmad81@yahoo.com](mailto:suleimanahmad81@yahoo.com)

constructionist tradition), while others prefer to use Moodle as a way to deliver content to students such as standard SCORM (Sharable Content Object Reference Model) package and assess learning using assignments or quizzes.

Technology is changing at an unprecedented rate and, without the proper machinery in place; one stands the risk of being left behind. The e-learning involves uses of network technologies to create, foster, deliver, and facilitate learning, anytime and anywhere.

## OBJECTIVES

This paper intends to fill the gap in work around the impact of ICT on teaching / learning process especially the e-learning strategy in higher institutions of learning in Nigeria. This research strives to address three main objectives:

1. To study the trend and current development in the area of the use of ICT in education in Nigeria.
2. To digest the useful and relevant features of Moodle as a learning management system.
3. To proffer its relevance for its adoption in Nigerian universities.

## LITERATURE REVIEW

Universal instructional design (UID) principles have been developed in order to generate products and services appropriate to the widest range of diversity (Elias, 2010). Burgstahler (2007) describes UID as:

*“...the design of instructional materials and activities that make the learning goals achievable by individuals with wide differences in their abilities to see, hear, speak, move, read, write, understand English, attend, organise, engage, and remember. It is achieved by means of flexible curricular abilities.” (p. 1)*

Moodle package attests to the universal instructional design features and it is the central concern of this write-up. Moodle is a free software package that helps educators to create effective online learning communities. Batchuluun (2008) reports that the majority of his respondents cited Moodle as the best LMS for their purposes. It was not seen as the best product in all respects. However, the result indicates the higher ratings of Moodle experience (Momani, 2010).

### Moodle Principles

Social constructionist theory guided the design and development of Moodle and has been influenced highly by the practice of teaching and learning. Moodle is user-friendly and flexible and is mostly used to support the pedagogical and andragogical approaches. Moodle package continued to be built with some five key principles issues. The Moodle site identified the following as the principles for using the Moodle (Knight & Bush, 2009).

#### Be an expert to use Moodle

A user who can click a mouse, understand what is hyperlink and what it does, can attach a document to an email, assumes the potential in using Moodle. When it is installed properly and Internet connection is adequate Moodle can be use instantly by the user. However, it is important getting expertise skills before user begins to use it. It is as simple as a ‘digital cupboard’, a storage space for keeping files and folders where both administrators, teachers and students can view and download them at any time. The more the proficiency grows, the more the user would certainly get more out of the Moodle package.

#### Using Moodle requires frequenting computers

Moodle requires users to spend time in front of computer screen. However it depends entirely on what is the extent of motives the user has in using the Moodle for. Moodle supports the courses delivery which ranges from the full online to occasional use. The extent of time to be spent on screen entirely depends on the teachers plans of lesson delivery. Some teachers used the Moodle in a hybrid mixture method of both online and offline learning, teaching and assessment.

### **Moodle is student's online world**

Students would love the teaching and the content more enjoyable with the teacher's expertise to get better grades. Good use of Moodle involves asking good questions and good insightful and reflective teaching using the best selected tools at hand. The digital advancement of the students no matter how, would yield no impact without the teachers good human touch, knowledge and guidance. Regardless of the technicality in using the Moodle, good teaching and teacher-learner relationships remain the central key point for the success in using the Moodle package.

### **Moodle is a 'real work it's beyond fun**

Thinking that learning opposes fun and games should be kicked away bearing the fact that Moodle has no default games. However, it allows installation of academic games, puzzles and quizzes according to the school policies. Making learning more fun is not the driving force or main focus behind the Moodle, but making the learning more valuable. Moodle is all-in-one package with fantastic tools to encourage and engage students primarily in learning and evaluations. Moodle enhances collaborative learning through activities, observing and sharing of resource among the teachers, students and other collaborators (Moodle, 2010).

### **Moodle is Flexibility of allow switch to anything in any way at anytime**

Moodle as a teaching-learning package is just one of the many content/learning management systems with similar features. Moodle and other such packages like Blackboard is rapidly increasing in various levels of learning institutions and other organizations regardless of what brand it is and how it functions. Students in tertiary institutions especially in the advance societies are more likely to use Moodle or similar package before completing their studies. Moodle is flexibility as it allows for switching to other thing in any way and at any time (Moodle, 2010).

### **Moodle in Education and Training**

Moodle was designed initially to be use in higher institution of learning i.e. university. Moodle has now quickly turned to cut across a broader range of institutions and organizations at global scope in conducting academic activities such as courses, exams, assignment. It is use to carry out fully online as well as offline in support to the face-to-face teaching and learning. Moodle now continue to attract different categories of learning communities due to its availability, flexibility, security and modularity. As a free downloadable package with minimum subscription charges it covers from primary school classrooms to large universities and even government departments where people can learn (Ivica, Ivan & Nataša, 2008).

### **Moodle Versions**

Moodle is a student-centered CMS designed to help educators who want to create quality online courses. It has undergone many changes and updates versions since 2002. Moodle version 1.9 is currently the latest and most widely used. In November 2010 Moodle 2.0 was released. It is the improved version in its features. Moodle richness and versatile interactivity allows users to import and export content. Moodle is easier to use as it offers wide variety of course delivery systems and activities with improved evaluation techniques. It opens quiz and workshop activities. Its search bar and navigation tools are easier to use. It is integrated with latest network systems like mobile devices, as it offers users to customize their personal home page (Moodle 2010; Momani, 2010). Moodle is widely adopted by many institutions and is gradually being implemented worldwide. Moodle is mainly chosen because it is open source software that can be customised to meet the needs of the different institution (Knight & Bush, 2009).

Elias (2010) suggests that Moodle interface should be offering a link for learners directly about the current week of study, the new discussion posts, and the last log-off place. He further stresses that it should offer text-only, mobile, and offline options. He argues that the current Moodle interface resources are effective for online learners with fast Internet connections. Hence, places with low-bandwidth connections would experience loading speed of the Moodle as such creating barrier to access. The Moodle resources need to consider the learners' physical effort to which long periods of typing can create physical discomfort on the learners. In consideration of the Moodle design, there is

the need for considering the incorporation of multimedia and assistive technologies as well as embed links. Elias (2010) further views positively on the need to encourage instructors to make contact by engaging in the discussion forums and stay involved in; as well as making frequent posts and responding to learners' questions.

### Starting with Moodle

From countless anecdote and many responses of the Moodle users it suggested that the simplest and best modality to comprehend the way Moodle works is to try and use the Moodle in such ways it is found to be creative and useful.

- a. There is the need to download the Moodle package from the official Moodle site server to the PC or to the school server.
- b. For teachers to get started there is the need for the general helicopter view of the technicalities of the features and of the courses. This will expand the knowledge on how to make difference in working with the package.
- c. The online demo site need to be visited to explore its features and other ways to used it in such places of teaching and learning. The demo sample is called 'Mt Orange School Demo' (Moodle site, 2010).

### UUM Learning Zone

The e-learning at Universiti Utara Malaysia (UUM) started in 2000 developed jointly by local IT Company and UUM, it comprises of twelve modules that provides UUM's academic community with arrays of innovative strategies and activities to enhance the conventional face-to-face instruction. Currently, the system runs on the campus integrated LAN with 5920 data points and a database of 150 megabyte size. The network capacity which supports the system is 2 megabyte per second (Mbps) via internet network, 10 (Mbps) via satellite and 1 gigabyte via intranet. The total storage for each user is 30 megabytes (Ahmad et al, 2009).

In support of teaching and learning at the university, the UUM Learning Zone was created by the university's computer centre. It started as a new online environment for both the teachers and students for their interaction especially where the face-face is not obtainable. It is under the support of the Moodle design where the students can access their courses by selecting it from the course list in the 'My Courses' block on the right side front page. 'My Courses' shows the lists of all the courses officially required the students to register on.

### Login to UUM zone

In UUM institution computer mediated lessons with internet facilities using fiber optic channel which have 155 ambits capacity has been implemented since 1992. The computer centre uses JARING (MIMOS) by using ISLAN (Integrated Service Local Area Network) and was improved from 128 kilobyte to 2 megabyte wide network. It enables all active students and all the staff uses many resources like the email, digital library and other data bases (Yusuf, 2006).

The UUM learning zone has been integrated with the UUM 'Active Directory' for the staff and students. All active staff and students can login using their given or modified username and password. Students are given default active email account on windows live mail with extensions 'student@uum.edu.my' or else they can provide alternative active e-mail account in order to receive notifications from their lecturers.

### Steps to Log On

1. Open the internet browser (e.g. Internet Explorer, Firefox Mozilla)
2. In the address bar, type the web address i.e. <http://learningzone.uum.edu.my>
3. To login, fill in the username and password then click button 'Login'

## UUM Central Authentication Service (CAS)

Enter your User ID and Password

For security reasons, please Log Out and Exit your web browser when you are done accessing services that require authentication!

Please contact Computer Centre -ICT Service Desk- (ext.6666) for any enquiries..

UserID:  
11111

Password:  
••••••••


☐ Warn me before logging me into other sites.

Authentication

Figure 1. Logging and Authentication

#### 4. Click on course name in 'My Courses' block

You are not logged in. ([Login](#))

 **Learning Zone**  
UNIVERSITI UTARA MALAYSIA E-LEARNING PORTAL

HOME UUM COB UUM CAS UUM COLGIS UTLC LIBRARY COMPUTER CENTRE

Learningzone ▶ Course categories ▶ A102

Course categories: A102

Sub-categories

- College of Arts & Sciences
- College of Business
- College of Law, Government & International Studies

Search courses:

Search courses:

**College Choice**

**inoodle** You are not logged in. ([Login](#))

Figure 2. College choice column

Enter to the course title: The courses will display based on specialization according to faculties as shown in figure 3 and figure 4.

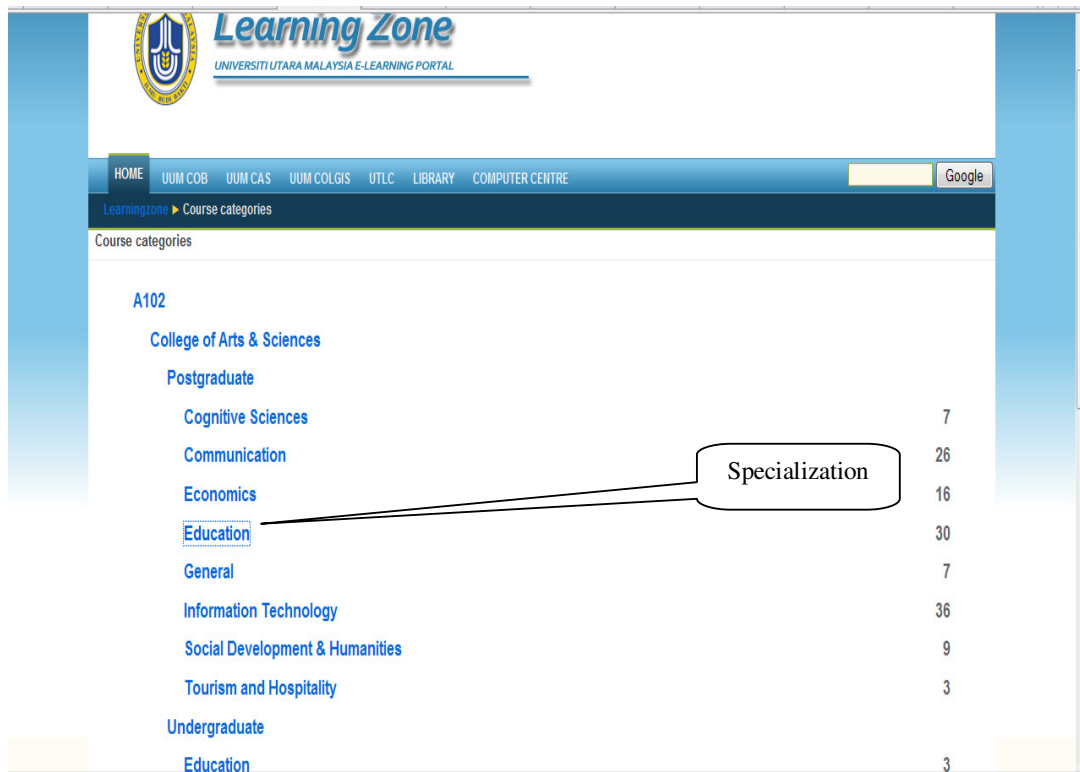


Figure 3.Specialization selection

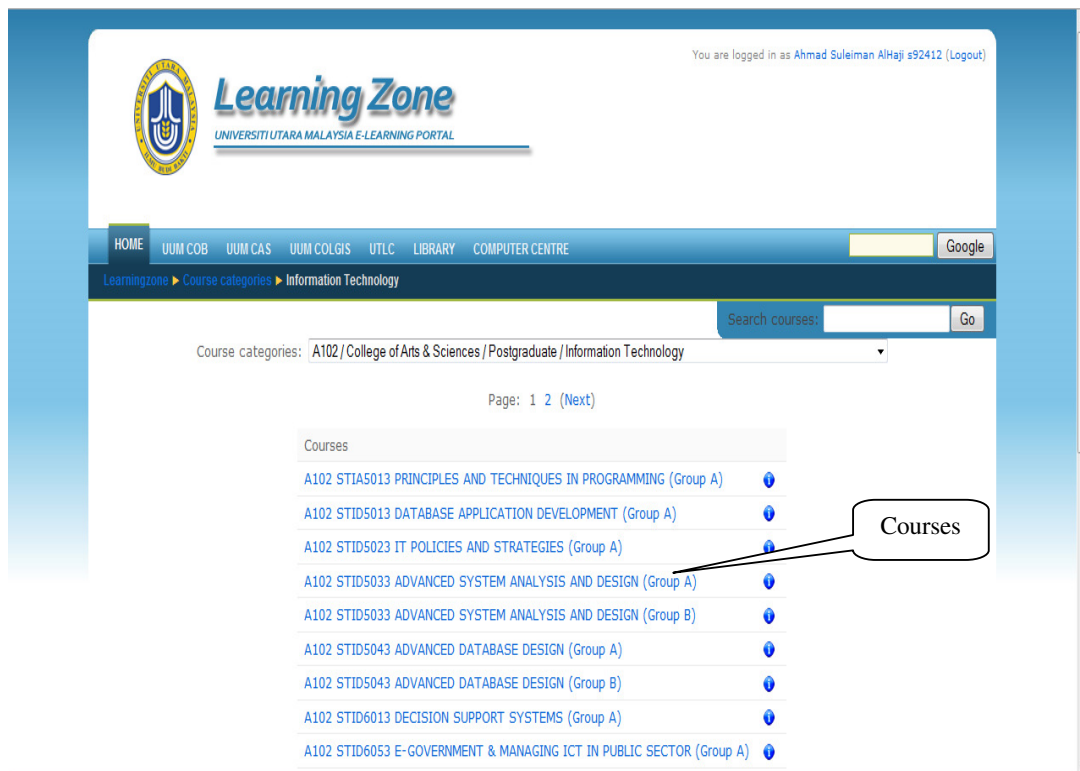


Figure 4.Course Registration



Other links (figure 5) available on the front page of the UUM learnig zone such as Colleges Faculties, Library, Computer Centre, University Teaching Learning Centre and google search engine.

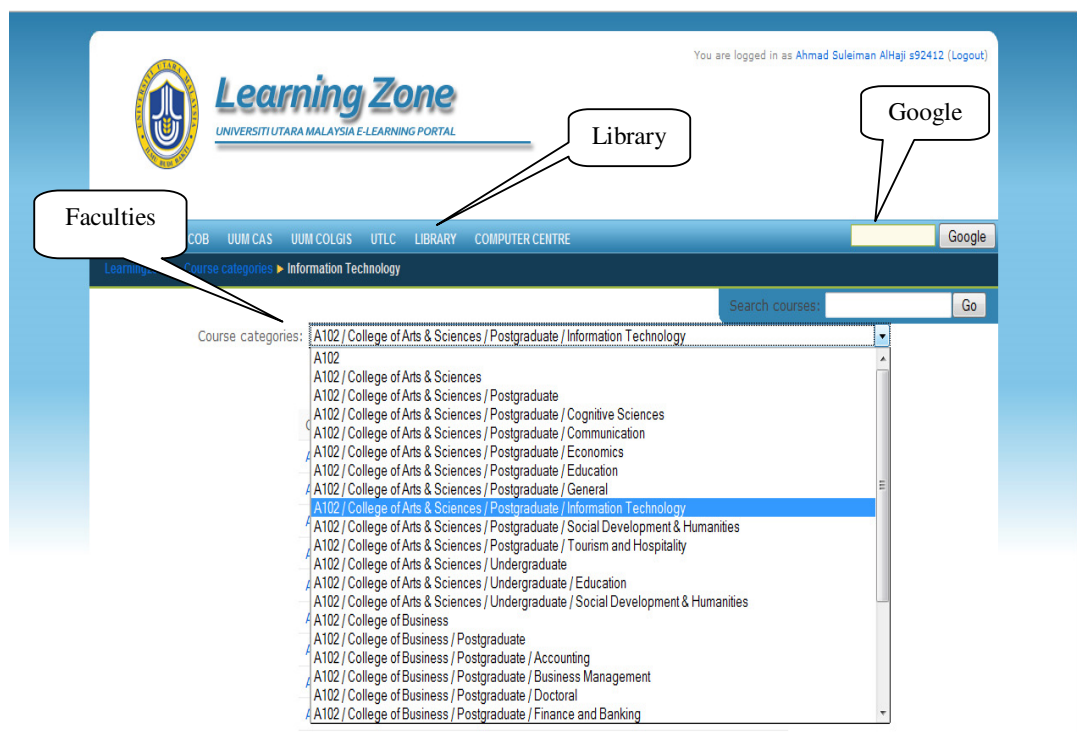


Figure 5. Other resources links

The button 'Participants' if click on this link, the screen will appear to show everyone enrolled in the class.

This block (figure 6) lists all activities that are available in your classroom (forums, quizzes, assignments). The first time you enter your classroom, the only category that is listed is Forums. This is because one forum (discussion board) exists by default – the news forum. The activities list will grow as you add activities to your classroom. The button adds new discussion topic is used to join the discussion group.

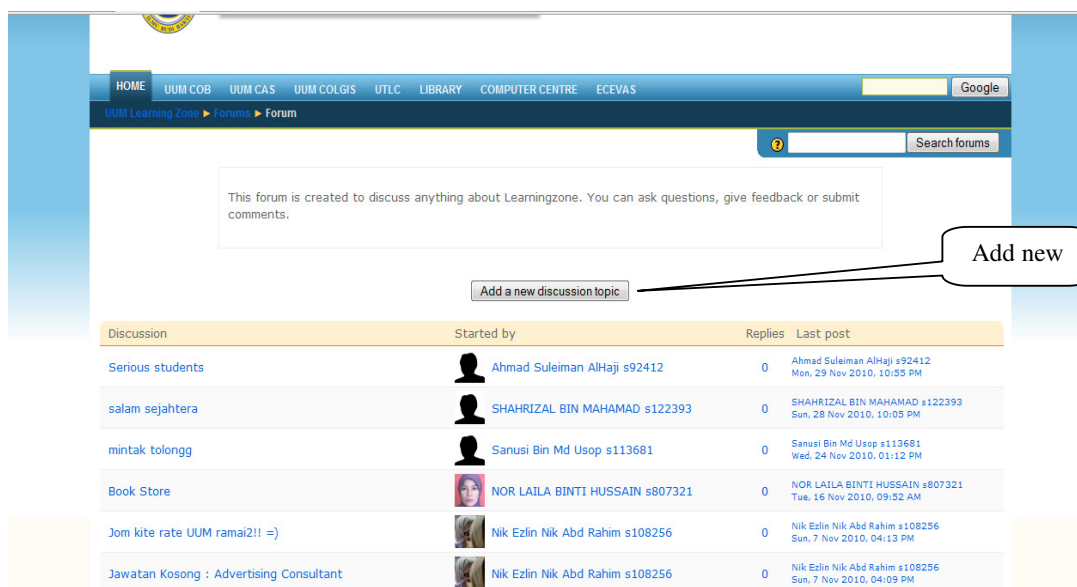


Figure 6. Discussion board

On the discussion topic (figure 7) the page requires to specify the discussion subject before typing the discussion message (figure 8) or copy and paste on the space provided for that. It allows editing and modification of the message content before posting to the forum.

The screenshot shows the 'Learning Zone' forum interface. At the top, there is a navigation bar with links like HOME, UUM COB, UUM CAS, UUM COLGIS, UTLC, LIBRARY, COMPUTER CENTRE, and ECEVAS. Below this is a search bar with a Google logo. The main content area is titled 'Your new discussion topic'. It features a 'Subject\*' field containing the text 'Serious students' and a 'Message\*' field with a rich text editor. A callout bubble points to the 'Subject\*' field with the label 'Discussion topic'.

Figure 7. Discussion topic

The screenshot shows the 'Message content' form. It features a large text area for the message content, a 'Path:' field, and a 'Post to forum' button. A callout bubble points to the large text area with the label 'Message content'.

Figure 8. Message content

When posted to the forum automatically the message will be view by all the forum members which will display the subject, the user's picture if (available) and name. Each individual user has a profile



which can be customize to the users discretion. It can add files (figure 9) and be edited at any time, post any discussion to the forum or update blog.

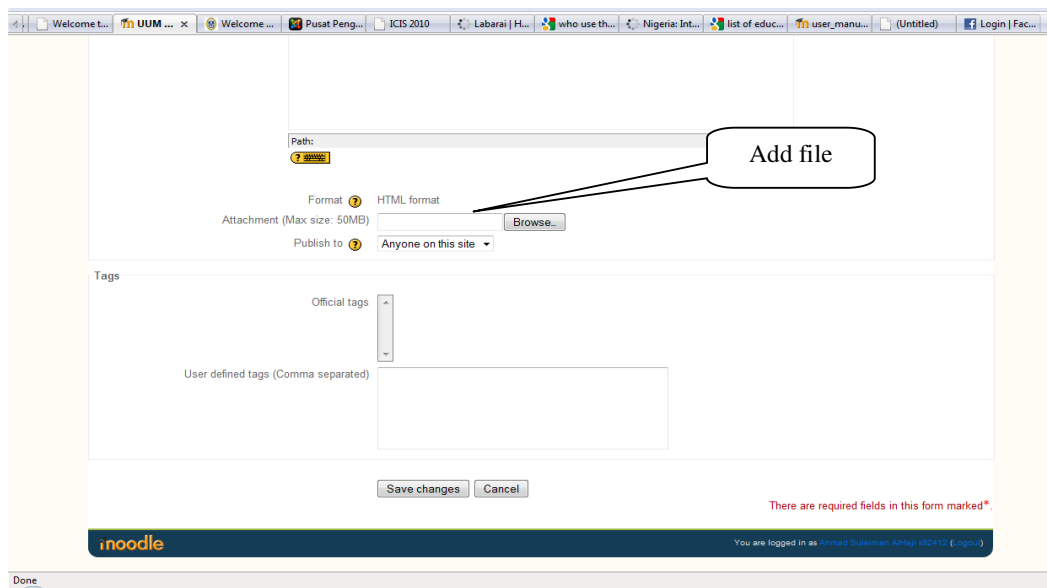


Figure 9. User profile

This block (figure 10) also shows all administrative tools for each particular class.

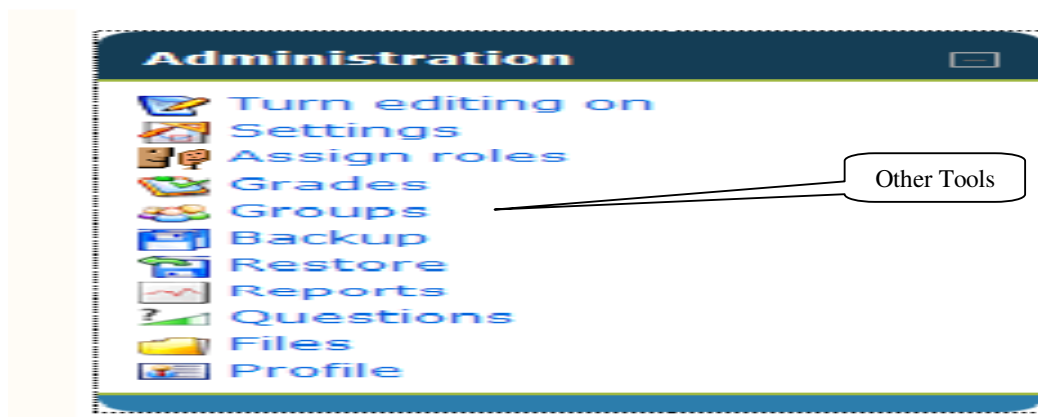


Fig. 10: Other administrative tools

- Turn editing on: – allows making changes to a class.
- Setting: – allows changes on the look of the classes.
- Assign roles: -- allows previewing the student page.
- Grades: – lists the grades of the tests and quizzes of each enrolled student.
- Groups: – lists the member of the groups and create grouping.
- Backup: – allows class data to be backed up.
- Restore: - allows restore old class data (that was previously backed up).
- Reports: - allows looking at course/site logs and user activity reports.
- Questions: - allows creating, previewing, and editing course
- Files: – allows uploading files to ‘classroom’
- Profile: – allows updating profile.

The UUM learning zone environment also provides the plagiarism checker (figure 11) tool i.e. Turn-it-in for both students and teachers. Each student is expected to login to submit assignments through the tools with the aim to reducing the menace of using plagiarize contents for assignments.

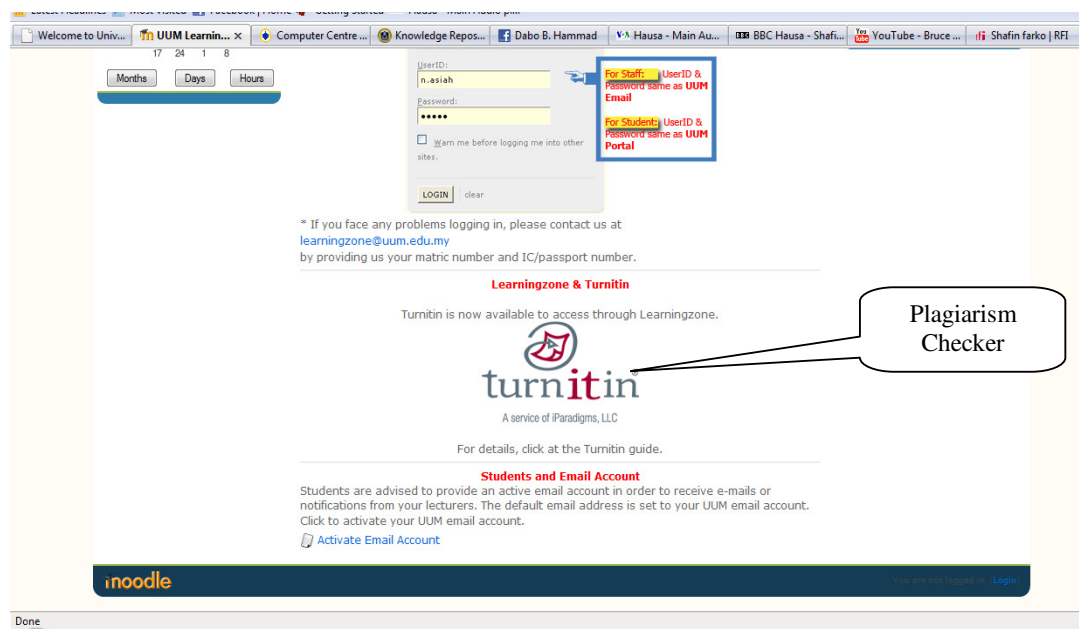


Figure 11. Plagiarism checker

## Learning Management System

Learning management system (LMS), also known as a course management system (CMS) has come a long way since the beginning. Learning Management System (LMS) is a general term that describes software designed to manage user learning interventions and provides access to online services for the learning of students, teachers and administrators. This is a software system that enables the development and delivery of training using the Internet as a delivery system. "LMS is a software application for documentation, monitoring, administration, reporting and e-learning programs, training programs, classes and events online and in training" (Alaa, 2010; Ellis, 2009; Sulaiman&Ghalib 2007).

## Functions of LSM

- Registration and charging
- Managing the process
- Testing
- Mentoring and monitoring
- User's function
- Administrator functions

## Technophobia and Students

Technophobia can be seen as fear or dislike of an advanced complex device like computers or the technology in general. It generally refers to the sense of an irrational fear, but others contend fears are justified. It is the opposite of technophilia or techonphile the love for technology.

In a survey on College students in various countries in which 3,392 students participated indicates out of the overall percentage about 29% having high-level technophobic fears. In comparison, Japan had 58% high-level technophobes, India had 82%, and Mexico had 53%.

The presence of computers in the classroom is seen as a means which students would thrive in a modern learning environment (Hawisher&Selfe, 1999; Snyder, 1999; Smerdon, Cronen, Lanahan,

Anderson, Iannotti, Angeles, & Greene, 2000). They become motivating factors as they allow students' access to several information and they promote a greater understanding by allowing the students to learn in various ways unimagined previously (Papert, 1984; Rubin, Fernandes, Avgerinou & Moore 2010).

### **Digital Divide and Digital Natives**

Kuhn (2001) and Rowand (2000) each posits that although instructional technology started in the classroom in a bumpy way, applying computer and Internet in classroom has steadily become part of that educational landscape. Growing use of computers in education has substantial benefits to their integration in the curriculum which is now increasingly becoming feasible. As computers are becoming increasingly sophisticated, they are also increasingly becoming user friendly (Travers, 1999). This warrants for effective, feasible and easier computer usage in the classrooms. As the technology is proliferating in the modern societies today, both students and teachers are growing comfortably with the computer use in academic remote arena or remote areas. It has been established that a "digital divide" correlates highly with socioeconomic status (SES), effective use of technology in schools is one way to narrow the wide gap between those with easy access to computers and those without (Wenglinsky, 1998). Digital natives are those born after the general implementation of digital technology, which resulted into their familiarity with digital technology such as mobile phones, computers, MP3/4s, and the Internet (Kuhn, 2001; Ajadi, Salawu, & Adeoye 2008). Digitudents (digital students) are those students who can proficiently interact with computers and other digital tools in the teaching learning process through educational courses using the Internet as a delivery system such as Moodle, ATutor Bazaar, Blackboard to mention a few.

### **Nigeria and Digital Divide**

From past studies (Olaniyi 2006; Okon, Chika & Emmanuel 2007) factors influencing digital divide in Nigeria can be enumerated as: a) Poor access to internet, b) Poor skills to browse, c) Inadequate financial capacity bill internet, d) Poor internet services, e) Interruption of power supply, f) Poor level of awareness, i) Poor maintenance culture of facilities, j) In appropriate ICT policies, k) Poor implementation of the policies, l) Population explosion, l) Government's negative attitude toward rural areas, m) Low government commitment to education, and n) People's negative attitude towards technology.

### **The needs for Learning Management System in Nigeria**

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 (Suleiman, 2011). The use of computer for assisting knowledge acquisition has developed more than what it was yesterday. It is not only the learning and teaching that matters. The ways of managing materials, assessing students' achievement and analyzing their learning styles and preferences are among others that have been considered tactfully (Suleiman & Ghalib, 2007). This is why the new term of Learning Management System (LMS) comes into the arena (Govindsamy, 2002).

The LMS provides a collaborative style of learning among users. The sections, such as chat and forum are those places where users do interact, communicate and share view, feelings with their peers. Students would then be able to develop their knowledge through experiencing rather than depending more on their textbook in class (Alaa, 2010). The LMS has been integrated to the online materials that can be accessed by the users at any time any place which is convenient to them. In fact, both smart and weak students alike can have their own pacing in accessing these materials which they feel is more beneficial to them. The later may avoid things that they have mastered and grab the one they are interested in while the former would follow all lessons by their own speed (Suleiman & Ghalib, 2007).

Students can have practices on drills and exercises which are provided on the LMS. Not only having the materials in conventional way, such online materials can reinforce the students learning abilities and skills at most times. The LMS prepare environment for conducive teaching and learning processes. It is an avenue for interacting, communicating and sharing ideas with peers. The Blackboard is one of the popular learning provider software and portal for education (Suleiman & Ghalib, 2007).

## DISCUSSION

Learning management system enables the e-learning easier which is performed through a web interface. One of the most important usage of e-learning systems in higher education is their ability to evaluate or assess the knowledge of a student. Therefore, Moodle can give the best option for that bearing the fact that it allowed Instructors to plan and designate activities for the students to do. It allows the instructors to create and conduct surveys to get students responses. It allows instructors create for the learners self-assessments activities and allowed the students to upload their assignments. It provides tracking tool of the duration and frequency of students' access each course components. This is by generating the number of times, frequency, date and the internet protocol (IP) address of each student who accesses the site. These allow instructors to review the navigation record of each student. It also has chat tool which supports group discussions. Students can create new rooms. The system creates archive logs for all chat rooms.

It also allows the student users to disable posts sent to their email. Students can also receive email as daily digests. They can upload files to their blog and share them with other users via the blog. That means they can create their personal home page for each course unit. Mainly it comes with built-in email functionality to email individuals or groups but it goes at the discretion of each institution subscribing the system. It allows students to post some events and announcements on their pages. It gives a tool for search all course content. Students can search across all the courses they registered with.

The system allows randomizing the questions and answers. Instructors can create self-assessments for students and set a time limit for the test or assignment. It also permits multiple attempts where students can review their attempts on any quiz. It also allows instructors and student to create, edit, duplicate, any one on course registered. The administrator also can do the same. In case of any disaster or unforeseen problem the Moodle has a backup and restore process for all the course and activities (Momani, 2010). The Moodle can work on all major web browsers. It also supports all Windows version available hence it is available for a variety of Windows web servers. The Moodle system has included online tutorials to new and old users learn how to use the system to the require maximum. It is customized to support multilingual activities. The Moodle offers over 70 languages.

Active teaching methods are a keystone to higher order thinking. Different theories such as constructivism emerge on this basis. Constructivism stresses great importance on improving open learning experience. To them constructivism is more liberal because it allows learning freely according to the user's experience (Suleiman 2011b). Practical laboratory work is necessary for science subjects an effective LMS must support active engagement, meaningful connections between the courses through other venues. Moodle as an LMS supported online structures and tools that affect behaviors related to both faculty teaching and student learning.

Hence teachers in tertiary educational institutions especially in Nigeria need to experiment with technology, trying to take advantage of it in their courses, it is important to recognize that their role, as teachers. This is to educate and inspire students, and to offer them the means to build stable foundations for a successful future (Georgouli, Skalkidis, &Guerreiro, 2008).

## CONCLUSION, CHALLENGES AND RECOMMENDATIONS

As new LMS methods evolved, they must be carefully evaluated to see if they improve on existing practices. It must be confirmed, however, that their advantages truly outweigh those of the current approaches, because unnecessary changes in LMS support can disrupt the course development process, and can cause confusion for teachers and students (Batchuluun, 2008).

Some of the challenges that might be face by implementing the Moodle system would not be far from the issues related to fund. Their funding attitude need to be address for the viable and smooth running of such systems. This will cater for all the expenses centre around the using the package this includes the subscription, hosting and upgrading of the system from time to time.

Resources both human (experts, managers, and users) and materials (computers, gadgets, hotspots, WIFI, café's mobiles etc) need to be adequately in place for proper implementation of the LSM Moodle system.

Acceptance of the adoption and implementation of innovation and new technology should be address properly this can be done through orientation to the general audience for the new technology to intensify their readiness. The users i.e. authorities, staff and students be prepared to achieve the implementation.

Proper adoption requires the proper placement of the system where there are available facilities that will enhance its successful implementation. A trial effort should be test run with the system which will suggest potential problems and how to deal with such problems. This can involve the stake holders to undergo proper training on how to go about it. Sampling, strategy, customization and other arrangements should be made in place at all stages.

Other issues with the implementation procedure may involve local politics within the institution between the administrators and other academicians. There should be designed policies that would guide the implementation from the concept to completion of the program. There should be a maximum level of trust among the administrators, staff and students users in such a way that all dubious act and mischief is avoided such as cheat, malpractice and other negative activities with the system. There should a high level of good will and commitment for the success of the LSM in the institutions.

Successful LMS require power which is reliable. Proper supply of power is requiring for the server sources. It should be constant with the server unit or laboratories to avoid unwanted loss of documents. It is expected that users can access the site contents at any time anywhere. When the power is fluctuating the access might be difficult which may affect the validity and viable functionality of the system there by challenging its success all over. Maintenance is paramount i.e. about (experts, subscription, ability, onward check, updates, dedication, solution, backups, and disaster recovery management). Future research is required to consider how assistive technologies and solid pedagogical approaches can remove barriers to educational diversity and disability especially in the Nigeria context.

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