THINK INDIA (Quarterly Journal)

ISSN: 0971-1260
Vol-22-Issue-3-July-September-2019

E-Learning among Nigeria Polytechnic Students

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Abstract:
Many Polytechnics have adopted a variety of Learning Management Systems (LMS) as platforms for e-learning. The key to effective e-learning implementation courses is not multimedia, rollovers, or drag-and-drop interactions. It is how the students get engaged by the content. A desktop review was carried out to explore and establish conceptions of how e-learning tools can enable and sustain student's engagement in the learning processes. The review shows that e-learning tools can enable and sustain students content engagement through content presentation tools, critical engagement through collaboration tools, self-regulated learning through assessment tools, self-engagement through the variety provided by e-learning tools, on-task engagement through access to information through hyperlinks/email, and substantive engagement through the ability for students to skip material they already know and understand, and concentrate on new knowledge. The review was gathered based on primary data (Questionnaire). It was concluded that regardless of the available tools, e-learning can be implemented at various levels.

Keywords; *e-Learning, Tools, Polytechnic Education, System*

1. Introduction

E-learning which is also known as web-based learning, is defined as the delivery of education in a flexible and easy way through the use of internet to support individual learning or organizational performance goals [1], [2]. Furthermore, there are different kinds of e-learning system such as blackboard and second life. Both of blackboard and the second life systems are used for attended lecturers, do homework and so many services.

Many universities in sub- Saharan Africa provide access to knowledge to a diversity of students from mainly rural, poor and disadvantaged communities. Some of the challenges facing these institutions are:

Low throughput rates, A large number of first year students lack computer skills and general academic skills and Use of traditional teaching methods [3]. In line with international benchmarks, e-learning has been identified, in many of these institutions as an appropriate tool to support and improve the quality of teaching and learning. For example, at Walter Sisulu University, it was felt that there was a need to invest in Information and Communication Technologies (ICT) to enable students to learn to work with ICT in their daily activities, to provide easier access to educational materials and information and to bridge the gap between secondary and tertiary education. Many institutions have adopted a variety of Learning Management Systems (LMS) as platforms for e-learning implementation. Ideally, the implementation of e-learning in teaching and learning support the transition:

a. From passive reception (as in lectures) to active engagement in the construction of knowledge, through the use of e-learning tools that facilitate the learning process.
b. From text (as in blackboard notes and printed hand-outs) to multimedia multiple representations.
c. From coverage (learning purely for examination purposes) to mastery (learning for competence in the subject).
d. From consideration of ideas and concepts in isolation to examination of their meaning and applications in real world contexts [4].

Moreover, entrance test results in many of these institutions and performance of students in the first year indicated gaps between the high school and university [5]. There is a need for on-going support for first year students, to bridge this gap. A possible solution is the use of e-learning support materials and tools. Used appropriately, e-learning provides helpful and suitable environment for enabling the desired transition in teaching and learning as envisioned above by supporting students and lecturers to actively engage in the teaching-learning process. Therefore, there is a need to define "engaging e-learning" in order to implement it in higher education. To address this problem, the overarching question is: How can e-learning tools enable and sustain student's engagement in the learning processes? The answer to this question will be derived from the following enabling questions:

a. What tools are available?
b. What tools are used?
c. What informs the selection?
d. Are they useful in the attainment of the goals?

This paper arises from the researcher's work
as an e-learning specialist tasked with developing e-learning systems at a university. The researcher's role is to advise and capacitate teachers on the use of technology to support teaching and to ensure that student participation in e-learning is in line with the institutions e-learning

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ISSN: 0971-1260
Vol-22-Issue-3-July-September-2019

strategy. The implementation of e-learning aims to stimulate and maintain students'engagement which, in an e-learning environment, is very important as the learner is significantly in control of the learning process [6].

2. Supportive Information on E-Learning in Nigeria Polytechnics

E-learning and ICT have recently gained groundswell of interest. It is a significant research area for many scholars around the globe. Their nature has highly changed the face of education over the last few decades. E-learning and ICT literacy is the capability (knowledge, skills and aptitude) of a person to learn, identify, search effectively and present specific information in order to build knowledge and develop critical and creative thinking pertinent to a field of study. This phenomenon has given birth to the contemporary and advances in our ways of life. E-learning with ICTs is having a revolutionary impact on educational methodology at conventional levels globally. However, this revolution is not widespread and needs to be strengthened to reach a large percentage of the ICT-based educational delivery (e.g. educational programming broadcast over radio or television) population. In a complex society like Nigeria, many factors affect education most especially in the polytechnics. Therefore, an interdisciplinary and integrated approach is very necessary to ensure the successful development of Nigeria's tertiary institutions, Universities and Polytechnics inclusive [7]. The academic landscape in Nigeria Polytechnics includes the teaching and learning process, along with the educational programs and courses and the pedagogy or methodology of teaching; the research process, including dissemination and publication. According to the national policy on education [8], Federal Republic of Nigeria (1989), higher education refers to post-secondary section of the national education system which is given in Universities, Polytechnics and Colleges of Technologies including such courses given by Colleges of Education.

3. Study Objective

The objective of this research is to review e-learning tools that can enable and sustain students content engagement through content presentation tools, critical engagement through collaboration tools, self-regulated learning through assessment tools, self-engagement through the variety provided by e-learning tools, on-task engagement through access to information through emails and hyperlinks, and substantive engagement through the ability for students to skip material they already know and understand, and concentrate on new knowledge.

4. Literature Review

E-Learning is the use of Information and Communication Technology (ICT) to deliver information for education where instructors and learners are separated by distance, time, or both in order to enhance the learner's learning experience and performance [9]; [10], [11] defines e-learning as a set of instructions delivered via all electronic media such as the internet, intranets, and extranets. Thus, by eliminating the barriers of time and distance, individuals can now take charge of their own lifelong learning [12]; [13]; [14]; [15]. E-learning environments reduce the cost of provision and therefore increase revenues for academic institutions [16]; [17].

The universities must decide during or before the implementation phase on the best approach to deliver education, such as online learning, face to face, or apply blended approach. For the purpose of this study, e-learning with a particular focus on higher education institutions applies to the use of web-based learning systems to support face-to-face education. According to [18], this approach is the most successful learning approach compared to solely online and only face to face contact.

Learning Management Systems (LMSs) refer to the web-based delivery applications or technologies that are adopted by universities and other higher education institutions to deliver courses' contents, provide distance learning and to manage the education process [19]. LMS creates a variety of ways to deliver instruction and provide electronic resources for student learning. Some methods, such as using Web pages to deliver text in much the same way as hard bound texts, are very familiar to academic staff. However, a big advantage is that the Internet also supports the delivery and use of multimedia elements, such as sound, video, and interactive hypermedia [16]; [10]. Different Web-based learning systems have been developed for higher education to facilitate learning in a web-based learning setting; these include Moodle, Web Course Tools (WebCT), LAMS and SAKAI, Blackboard Learn (BBL).

It was noticeable that the high hopes and enormous enthusiasm by the Federal and State governments in the establishment of open and education programs as mentioned above in the review are hampered by the realization that Nigeria is faced with serious challenges. These challenges faced by Nigerian education agendas are in the areas of ICT and E-learning usage, integration and diffusion. African countries have had to deal with the notion that education that amounts to quality education is cheap. That is a misconception. The principle of economies of scale operates from a base of adequate and quality infrastructure, capital provision and machinery; from adequately trained staff, excellent learner support systems and support functions like postal services and

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ISSN: 0971-1260
Vol-22-Issue-3-July-September-2019

telecommunications provision that are reliable, efficient and affordable. In many African countries none of this can be guaranteed [20]. Inclusive in the challenges faced by education providers is the needed ICT competencies in order for the programs to be effective. E-learning and ICTs Competencies involves but not restricted to the use of an online catalogue to identify and locate resources for a specific information need, keyword search strategies to refine operational situations, browser and search engine to locate and retrieve appropriate information and the effective use of other E-learning and ICTs instructional materials that aid teaching and learning situations. Obviously, electricity, internet, computers, telecommunications and postal services must be developed to levels that could support the declared state of education [21]. Possibly, another most grave challenge facing education at this level is the need for the integration of new ICT knowledge E-learning into academic courses and programs. This state of affairs grew mainly from the political isolation that Nigeria experienced during the military eras. Nigeria's professionals were not able to benefit from international assistance or from courses, conferences and seminars abroad.

Therefore, it is clear that in recent times, formal education is entering and playing an increasing role in the competitive market in the global economy [22]. As such education should Endeavour to ensure standardization and Uniformity in meeting the global trends in the highly competitive demand for excellence in education programs aimed at producing highly qualified manpower need. Governments in Africa should embark on a comprehensive program of recapitalization of higher education. Therefore, the governments should move from the traditional position of paying lip service or little attention to empowering higher education and education programs to a pro-active stand by funding, monitoring and controlling their implementation as a way of ensuring standard. Accordingly, making sure that adequate and functioning ICT and E-learning infrastructures are available, like electricity, telecom equipment and effective postal system and making these infrastructures accessible to organizers of education programs and its citizens at large. Consequently,there is the need to better design education curricular and infrastructure as well as organization of programs so thatmanagement and students can better plan for unanticipated and unintended results that confront them as they operate. E-learning and ICT play a key role as enabler to help us better manage the complex information flow and to integrate such information towards effective policy formulation and planning towards the utmost maximization of human capital and potential in society. Thus, it involves the development of effective and integrated tools as well as training modules to enable their application through effective education agendas [23]. Finally, the findings and nature of this study contain implications for education administrators, teachers, and researchers. At a broad management level, this study supports decisions by national educational systems to make a balanced investment in education programs and providing resources needed to effectively implement the use, integration and diffusion of ICT in learning (E-learning) rather than paying lip services. As such, it has relevance for federal and states governments in developing economies. From the research methodology perspective, this study was characterized by a number of limitations. By design, it was an investigation based on a small size of literature. Therefore, we recommend that bigger studies based on a larger size of literature will be in the right direction, which might also involve quantitative studies. These limitations need to be considered when evaluating the findings.

5. Methodology

A. Data Collection

The source of data for the study is based on primary data. A questionnaire has been designed and distributed on the usage of e-learning among final year students at the Federal Polytechnic Ede in Osun State. This kind of samples has been used to enable the researcher's judgment to know how and what final year students who have been selected by researcher use e-learning for because they are expected to be the senior student in the institution. The questionnaire was made up of eleven basic questions about the usage of e-learning and its related concepts. This research was conducted among 60 students of all Departments in the school.

TIME FRAME: This study has been conducted in the first semester of 2018/2019 academic year.

B. Data analysis

Section one of the questions was designed to reflect the student degree of interest about ICT. The result as shown in Figure 1 shows that majority of students have heard about e-learning, the ratio of who cannot operate computer is just 4.7%, while the ratio of those that can operate computer system is 95.3%, this simply means we have numerous number of computer operators than those that cannot operate it this is very impressive enough to know that people are highly interested in e-learning and ICT education.

Section two of the questions designed is to know the number of student who owns a computer set, and it was

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ISSN: 0971-1260
Vol-22-Issue-3-July-September-2019

discovered that 96% of the student own a computer set and 4% do not, this also show that the degree of system owner is more compare to the degree of those that does not own a system? The third part of the designed questions was designed to know the number of student who has e-mail address because email address is another e-learning tools and means of ICT usage which enables you to send and receive messages to one and many at a time, and it was discovered that 100% of the student has an email address, but only 78.2% are regular users while 21.8% does not use the email regularly.

Section three of the designed questions was to know the number of students who uses a mobile phone because a mobile phone is another type of ICT E-learning tools, and it was measured that 100% of the student has and use a mobile phone, this is another part of ICT and e-learning usage among students.

Furthermore from the research work it was also discovered that 100% of the students uses the internet, while 100% uses the internet for research work, 42.3% of students uses internet for socials such as face booking, twitter and many more while 57.7% of the student do not, also 13.6% uses the internet for services such as advertising product or services while 86.4% does not.

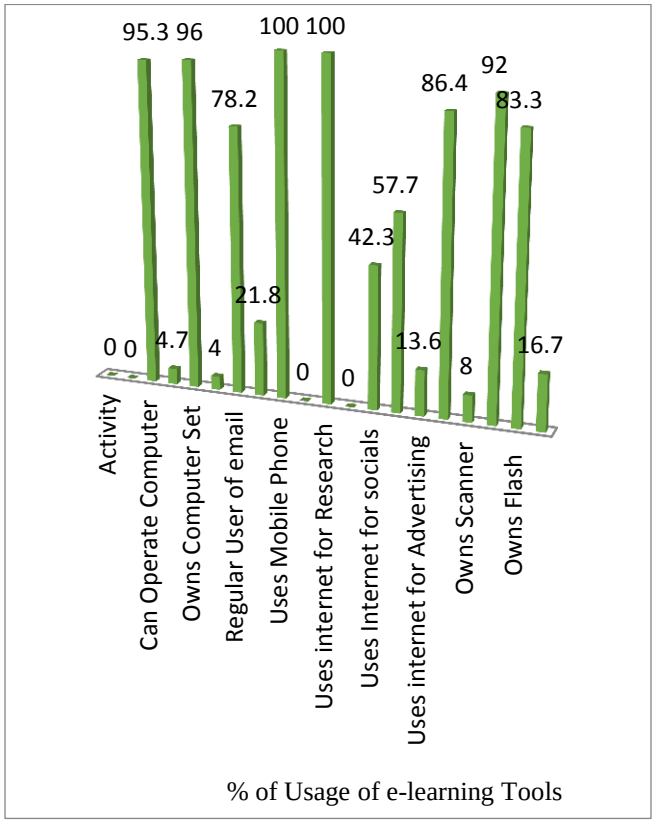


Fig. 1 Percentage of usage of e-learning Tools by the Polytechnic students

A question was also designed to know the number of student who owns a scanner and also a flash drive, and it was discovered that 8% of the of the student has a scanner while 92% does not, also 83.3% of the student has flash drive while 16.7% does not have a flash drive.

6. Discussion

The study is reflection of the level of knowledge of e-learning a polytechnic student has. A revelation that the usage of e-learning among the final year student is still something is above average and e-learning has a very wide coverage among students. The usage of e-learning among polytechnic's student could be summarized as the follows:

a. The students use e-learning tools for research or project work.
b. Investment of the students on necessary e-learning tools is commendable
c. The mailing virtues by students is an indication that they are operating reasonably on the Information superhighway
d. They are versatile on the use of computer set and mobile phones

7. Recommendation and Conclusion

Attention should be paid to the quality and contents of education that they get in their institutions, because polytechnics students are crucial component of higher education and the society, they will form the cream of the decision makers in the industry. Sequel to the importance of E-learning with ICT in our contemporary times, the following recommendations come to fore about the usage of ICT and E-learning in Nigeria Polytechnic systems and most especially Federal Polytechnic Ede.

a. The National Board for Technical Education (NBTE) should review the Polytechnic curriculums to allow more implementation of e-learning tools
b. Polytechnics in Nigeria should keep track and monitor usage of e-learning in good and reputable institutions globally to update their majors and syllabi according to them.
c. All Lecturers should be encouraged to concentrate on researches which will be reflected on students course contents and the need of the society.

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Vol-22-Issue-3-July-September-2019

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