

CHAPTER ONE

1.0 BACKGROUND TO THE STUDY

Online learning are web-based classrooms. According to Musbah and Mohammed (2013), e-learning is rapidly evolving with the use of online learning. They enable educators and learners to have continuous access to course materials, broadcast announcement, submit and receive feedback on assignment and network. (Lonn & Teasley, 2009).

Advance in e-learning are opening new opportunities for distance learning. The use of e-learning in delivery of education has a major implication for learners in institutions. It is widely accepted that advances in e-learning and new development in learning science, provide opportunities to create well-designed, learners-centered, interactive, affordable, efficient, flexible online learning environment. Higher education institutions in developing countries such as Nigeria. The term e-learning embraces a variety of electronic delivery media, for example: web-based multimedia, interactive television, virtual classrooms, video conferencing etc.

However, the degree of sophistication in education through the use of computer has become more pronounced than ever before, all over the world. Since the world is now a global village, Nigeria cannot afford to ignore the role which e-learning plays in achieving the national goal in technology development.

In this project, e-learning is defined as teaching and learning that are delivered, supported and enhanced through other use of digital technologies and media. We consider it mostly off campus learning through synchronous or asynchronous method which may encompass a few face-to-face meeting, but the default mode occurred by distance.

e-learning in Nigeria is still on its infancy stages and there are only a few online programs. During the last two decades, the use of internet has been a major problem to the teaching and learning activities. Students have misuse the use of internet for learning to a fun and distraction media. These made researchers to disagree with the use of e-learning and desire to adopt the traditional method of teaching and learning.

Nowadays, E-learning has a competitive advantage over traditional method of teaching mathematical concepts. Often students choose to use this method because they can work at their own pace, they can take as many or as few classes as they wish, they can study when they have the time, and because e-learning provides 24 hours 7 days accessibility to course materials, enables student centered teaching approaches, instructors accessibility, and helps instructors save time. Support is usually provided from the teachers or professors that mark the student's course work, and they can be contacted in person, over the phone, or through e-mail. Online learning enable each student to view another student's answers and learn through the exposure to different perspectives through tools like blackboard's discussion Board and Chat (Sharing of ideas).

The internet can be used as a supplement to traditional instructional methods, to complement a lecture; instructors may ask students to find specified web sites to gain more in-depth knowledge about a particular topic. An instructor may also ask students to search the internet for information on services offered in a particular location. In preparation for a class topic, students may be asked to search the internet to learn about different organization groups or population of a particular aspect.

The internet facilities may also be used to replace the traditional classroom

lecture. A number of courses are being developed in which portions of the course or the entire courseware are offered via the internet. The instructor may place course notes on web pages, may create a video recording of a live lecture for viewing on the internet, or use combinations of these ideas. Foryth (2008) discussed several methods of preparing courses for the internet including facilitating the use of video clips on web pages as the use of forms and other graphics on web pages.

1.1 STATEMENT OF THE PROBLEM

A lot of research work have been carried out in the area of e-learning. Some Authors have been able to establish the fact that the use of e-learning approach contrary to the traditional approach brings a lot of improvement to our educational system, most especially at secondary school and post secondary school level. However, enough efforts have not been made in the area of studying the effects of e-learning on the teaching and learning of mathematical concepts in our various universities.

Therefore, This research work is to find out the effects of E-learning on teaching and learning of mathematical concepts at the university level. Though, University of Ibadan is to be used as a case study, The result obtained will still be applicable in some other tertiary institutions.

1.2 AIMS AND OBJECTIVES

1. To identify the adequacy and effectiveness of the e-learning facilities in the teaching and learning of mathematical concept in University of Ibadan.
2. To determine the effect of e-learning on teaching and learning of mathematical concept.
3. To analyse the factors affecting e-learning in the teaching and learning of mathematical concept.

1.3 RESEARCH QUESTIONS

1. How adequate and effective are the e-learning facilities in the teaching and learning of mathematical concept in University of Ibadan?
2. What are the effects of e-learning on the teaching and learning of mathematical concept in the university?
3. What are the factors affecting the effectiveness of e-learning in the teaching and learning of mathematical concept in the university?

1.4 PURPOSE OF THE STUDY

The main purpose of this study is to analyse the impact of E-learning on teaching and learning of mathematical concept using University of Ibadan as a case study.

1.5 RESEARCH HYPOTHESIS

H₀: There is no significant effect of e-learning on teaching and learning of mathematical concept.

1.6 SIGNIFICANCE OF THE STUDY

This research work serves as an eye opener to all stakeholders with specific regard to the usefulness of e-learning in the teaching and learning process most especially in the handling of mathematical concepts.

This research work would be of paramount importance in the following area:

1. It helps the curriculum developer to know how best to incorporate the concepts of e-learning in to the university curriculum.
2. The result of this study will also assist parents to decide whether there is a need to provide computer facilities for their children or not.
3. It may will serve as a yardstick to measure educational standards of our various universities especially when compared with their contemporary in diaspora.
4. It may serve as a source of motivation to government to provide the basic ICT facilities in our Universities and some other tertiary institutions.

5. It may also charge the University administrators to buckle up in the area of providing more ICT facilities for their various institutions.

6. The result of this research may also motivate the students to learn more about the use and applications of ICT especially about the E-learning tools.

7. On the part of the lecturers, the result obtained may motivate them to attend more conferences, workshop, seminars to update their knowledge in the area of using e-learning tools in teaching of mathematical concepts.

8. Finally, the result obtained may enable our student to compete favourably with their contemporary in the external world.

1.7 LIMITATION OF THE STUDY

This study is designed to be carried out in the university of Ibadan, in Ibadan, but due to short time allotted for the completion of the study, the researcher find it difficult to cover the entire population in the higher institution (university of Ibadan). There are many obstacles militating against a large scale research, the major one among them is poor state of the nation's economy. If not for the difficulty in getting enough funds, the research will have been spread to other Universities to carry out some findings.

Another problem encountered during the conduct of this study is the inadequate information supplied by the respondent. Some respondent feel reluctant to supply correct information.

1.8 DEFINITION OF TERMS

For the purpose of this study, the following conceptual terms are used.

1. COMPUTER: It is an electronic device (machine) that accepts data (Inputs) and processes data into a meaningful output called information.

A computer is a general purpose device that can be programmed to carry out a set of arithmetic or logical operations automatically, since a sequence of operations can be readily changed, the computer can solve more than one kind of problem.

2. INTERNET: The internet is a global network of computer that communicate using a common language. It is simpler to the international telephone system with the single exception that is one aims or control the whole thing.

Internet is a global network connecting millions of computers. Is a massive network of networks, a networking infrastructure.

3. ELECTRONIC LEARNING (E-LEARNING): is a type type for all types of Technology Enhancing Learning (TEL).

E-learning is an online education defined as the self-paced or real time delivery of training and education over the internet to an end-user device. (Lee & Lee, 2006)

E-learning is the delivery of a learning, a training or education program by electronic means (Li, Lau, & Dharmendran, 2009).

4. TECHNOLOGY ENHANCING LANGUAGE (TEL): This has the goal to provide social technical innovations.

5. TEACHING: This is the activities of educating or instructing; activities that impart knowledge or skills; the job or profession of teacher. It is something that is taught; the ideas and beliefs that are taught by a person, religion etc.

6. LEARNING: is a process through which there is a change in behaviour in order to solve a problem arising within the situation environment.

Learning is the act of acquiring new, or modifying and reinforcing, existing knowledge, behaviors, skills, values, or preferences and may involve synthesizing different types of information.

7. MATHEMATICAL CONCEPTS: This is a general idea behind an equation problem or formula in math. A math concept explains why math works in a certain way.

THE EFFECTS OF E-LEARNING ON TEACHING AND LEARNING OF MATHEMATICAL CONCEPTS

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