

Assessment of E-Learning Methods Used In Ekiti State Secondary Schools.

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Abstract: *This study assessed the methods of e-learning in Ekiti State Secondary schools. Specifically, the study assessed the knowledge of students on e-learning and identified the e-learning methods used in Ekiti State Secondary Schools. A total of 150 respondents (students and teachers) were selected using the multistage sampling technique from public secondary schools in Ekiti State. A self-designed questionnaire was used to collect the data in the study. It was revealed that the students have quite a high level of knowledge of e-learning with just few of them with moderate and low knowledge of e-learning which can be attributed to their level of exposure to e-learning resources. It was also revealed in the study that the major e-learning methods used in the secondary schools are multimedia and computer assisted instruction with only little percentage of them being exposed to internet based learning and computer based learning. It was recommended that the government should ensure they play their role by adequately funding and prompt supply of e-learning resources so as to aid improved productivity through the use of effective e-learning methods; the government and school management should make sure they regularly come up with seminars and training to girdle the teachers with working knowledge of ICT so as to improve their level of delivery in the area of e-learning amongst others.*

Keywords: *Assessment, e-learning, Secondary School, Students,*

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I. Introduction

Education has been seen by Olaniyonu, (2008) as the bedrock of developments all over the world. Nations and individuals now agree that the way out of series of bondages plaguing them is through education and this has spurred up the standards of schooling in recent years. Thus, the educational standards set up for the school must be challenging to meet the needs of the students and the society.

Education according to Olanrewaju (2019) enables individuals to fix themselves up in the society into which they have found themselves. It equips individuals with the ability that will enable them explore the world, manipulate it for their survival and establish themselves. It has been observed that potentials deposited in individuals are exposed through education so that individuals can acquire training and knowledge in a profession and earn a living (which is a continuous exercise) and education enables individuals to cultivate good habits and develop the right attitude to work and life as good citizens.

Rozina (2002) asserted that modern achievements in the field of computer and communication have offered tremendous opportunities for learning by electronic means. In other words, the application of technology to education gave birth to e-learning.

E-learning according to Sloman (2001) is the acquisition of knowledge and skill using electronic technologies such as computer and Internet-based courseware at local and wide area networks. Technology-based e-learning encompasses the use of the internet and other important technologies to produce materials for learning and teaching in organization. As a result, Internet and Information technology in tutoring and studying has created a different necessity to modify how university students learn by using more modern, effective, and alternative such as e-learning system (Valentina and Nelly, 2014).

Kassa and Balunywa (2013) noted that e-learning refers to the use of modern technologies such as computers, digital technology, networked digital devices (e.g. the internet) and associated software and course ware (Wikipedia, 2014). E-learning as opposed to distance learning is a term that is used to refer to all ICTs, networks, internet and other forms of electronic media that can be used to enhance teaching and learning so as to transfer knowledge and skills.

E-learning has now attracted many to training and education who previously would not have considered it as a relevant part of their lives (Richard and Haya, 2009). E-learning can also be referred to as an extended form of classroom teaching where learning, either online or offline is facilitated by the use of computer, telecommunication devices, networks, and storage capacity. On top of its easy delivery of information and interactive nature, the main benefit behind using the E-Learning instead of the traditional way is

that Learners develop communication as well as personal skills such as autonomy, analytical perception, abstraction and others (Dargham, 2013).

Over the years, Information and Communication Technology (ICT) has grown to become an important driver of e-learning and digitalization. The provision of an E-Learning system is an important factor in providing a comprehensive Information and Communications Technology solution within schools. Blackboards and other similar systems provide an easy to use, well-structured medium to assist learning and teaching because students and teachers are able to access information from anywhere around the world.

An E-Learning system used properly is an important support structure for the delivery of modern, productive pedagogy (VITTA & Keane, 2005). Pardemean and Suparyanto (2014), in their study, showed that the students' computer skills had a strong correlation with their achievements. Therefore, it is important to consider the influence of computer skills on achievement when implementing ICT into the learning process.

Over the past years, e-learning has become a vital source of expansion and studying in education. Due to the opportunities created by e-learning, teaching and learning can now happen at any time and in anywhere. The new media like the internet has become one of the vital ways to make available resources for research and learning for both teachers and students to share and acquire information. The explosive growth of the World Wide Web (WWW) has made information technology a popular platform for providing e-learning service (Fry, 2001)

The role technology plays in good education and national development cannot be over-emphasized. Several works have been carried out on the application of information and communication technology of learning. However, most of them have not adequately examined the e-learning systems in Ekiti State.

The present state of secondary education in the Nigeria and particularly in Ekiti State should be of major concern, recognizing its strategic position in the national educational system. Secondary education stands as a change-over bridge receiving primary school leavers at one end and turning out her products mostly as freshmen and women for postsecondary education at the other end.

This consumer and producer status implies that secondary education must provide the right type of education such that products of these schools are dually prepared to acquire the necessary skills to find employment and on the other hand are prepared to continue with academic careers in higher education.

Mobile phones according to Moura&Carvalho, (2008) are very important in youths' lives with the decreasing of prices of mobile phones, demand increased. International Communication Union (2010) indicated that 86% of world population using mobile phones in 2010. As a result of the demand to use mobile phones, important developments rise in recent years in the field of mobile technologies. These developments are laptops, notebooks, mobile phones, smart phones, wireless technologies, general packet radio service (GPRS) connections, Bluetooth etc.

Change is difficult but it is probable that the rapid development and implementation of new technologies and social changes make change in the educational provision inevitable (Cavus, 2011). These developments also led to the use of mobile technologies for educational purposes. Also researchers suggest that learning activities must support with extra activities out of classroom (Saran, 2009; Uzunboylu&Ozdamli, 2011).

With the mobile technologies learners and instructors should make different activities which are more motivational and more interesting from traditional activities. Lan and Sie (2010) described mobile learning (m-learning) as a kind of learning model allowing learners to obtain learning materials anywhere and anytime using mobile technologies and the Internet. According to Low and O'Connel (2006), mobile learning increase flexible and gives freedom feelings to students. Web based learning is often called online learning or e-learning because it includes online course content. Discussion forums via email, video conferencing, and live lectures (video streaming) are all possible through the web. Web based courses may also provide static pages such as printed course materials. One of the values of using the web to access course materials is that web pages may contain hyperlinks to other parts of the web, thus enabling access to a vast amount of web based information.

In the past ten years the web-based learning teaching learning approach (WBTLA) has increasingly become dominant in the educational landscape, be it at schools or at higher education institutions. It provides teachers and students with a new and wide range of teaching-learning experience such as accessing information at any time and place, online presentation of information, interactive task-based activities, and effective dissemination of information, and long distance education that is less possible in traditional classrooms (Nam & Smith-Jackson, 2007). As a powerful teaching learning approach it is expected to enhance learning outcomes. However, despite the increasing use and adaptation of WBTLA, it is undeniable that web-based learning environment (WBLE) remains in the domain of technical experts rather than educators and learners (Nam & Smith-Jackson, 2007). The potential of WBTLA as a learning strategy will only be realized when both technological application and pedagogical issues are resolved (Govindasamy, 2002; Hamid, 2002; Saade, 2003; Watson, 2001).

Webinar tool is one of the latest developments which is able to transmit video, audio, and images, webinar also enables users to share applications and to use whiteboard, the objective being to exchange information in a real-time and two-way format. Webinar creates opportunities for both educators and learners to experience different levels of interaction online, and these opportunities are essentially different from other communication approaches such as discussion-board postings and e-mails. There are five advantages of using the webinar tool to facilitate communication between two sites:

- (1) Webinar tool is affordable (de Gara& Boora, 2006). Users can participate in a webinar session with a computer, video/audio capture devices, and broadband network connections
- (2) Webinar tool enables synchronous communication. Instructors can communicate with the learners in a synchronous format to provide immediate feedback to learners (Hotcomm, 2003).
- (3) Webinar tool facilitates real-time multimedia demonstrations. Instructors can share the application on the presenter's site with all participants.
- (4) Webinar tool facilitates multi-level interaction. Instructors can lecture, interact with the audience, facilitate participant group collaboration in a real-time format (Marjanovic, 1999), and designate certain participants to be in charge of the sessions.
- (5) Webinar tool provides an environment in which participants can archive seminar content for personal review or for people who missed the real time session.

Statement of the Problem

Based on the present design of the curriculum, the Junior Secondary School should prepare students to take from the options of proceeding to senior secondary education, technical education, training at vocational training centres or apprenticeship schemes out of the formal school system; while the Senior Secondary takes charge of preparation for higher education. However, with the recent upgrade and competition in the world of technology, the educational standards set up for the school must be challenging to meet the needs of the students and the society. There is a noticeable slow move away from the traditional classroom teaching method and also disheartening to see that students from the public secondary schools are most likely to be illiterate in the use of ICT. In a research carried out in Ekiti State, it was noted that many schools in Ekiti State are deficient in the availability of Information Communication and Technology (ICT) equipments and facilities. Although most schools have computers and printers which are basically for administrative purposes, almost all the schools did not have projectors, projectors' screen, scanning machines and fax machines.

This is an indication that ICT materials are not adequately provided for the schools especially the public schools for the training and use of students. It is against this background that this study assesses the e-learning system in Ekiti State Secondary Schools.

Purpose of the Study

The purpose of the study was to assess the e-learning system in Ekiti State secondary Schools. Specifically, the study assessed the knowledge of students on e-learning in Ekiti State Secondary Schools. It also identified the e-learning method(s) used in Ekiti State Secondary Schools.

Research Questions

The following research questions were raised to guide the study

1. What is the level of students' knowledge on e-learning in Ekiti State Secondary Schools?
2. What are the e-learning methods used in Ekiti State Secondary Schools?

II. Methodology

This study employed descriptive research design of the survey type. The study was on the assessment of e-learning methods used in Ekiti State secondary schools. The population for the study comprises 18, 968 Secondary School Students in Ekiti State as obtained from the department of Planning, Research and Statistics, Ekiti State Ministry of Education, Science and Technology, Ado Ekiti. A total of 120 Secondary School Students were selected through multistage sampling procedure.

Stage one involved the selection of one local government from each senatorial districts by using simple random sampling technique. The second Stage involved the selection of two schools from each of the selected local governments by using stratified sampling technique to take care of school location. The last stage involved the selection of 25 students per secondary school by using simple random sampling technique.

The instrument used in collecting data for this study was a self-designed questionnaire titled "e-learning Assessment in Ekiti State Secondary Schools". The questionnaire was divided into three sections: section A contained the socio-demographic data of the respondents while section B comprises 20 items on knowledge of students on e-learning, e-learning method(s) , effectiveness of the e-learning methods(s), problems of e-learning and Section C contained 7items on e-learning methods used in Secondary Schools. The

face and content validity of the instrument was ensured by given copies of the instrument to Computer Science teachers and experts in Tests and Measurement. A test-retest method of reliability was used to estimate the reliability of the instrument; the instrument was administered on 20 students who were not among the sample for the study on two occasions with an interval of two weeks. The Pearson Product Moment Correlation yielded a coefficient (r) 0.67 which indicates that the instrument is reliable.

The instrument was administered by the researcher and two trained research assistants on the selected sample for the study. Data were analyzed using descriptive statistics such as mean, standard deviation, frequency counts and percentages.

III. Results

Question 1: What is the level of students' knowledge on e-learning in Ekiti State Secondary Schools?

Table 1: Percentage showing the level of Students' knowledge on e-Learning

S/N	Items	Yes		No	
		F	%	f	%
1	Do you know about E-learning?	91	91.0	9	9.0
2	E-Learning comprises of the use of internet, laptops, project/screen, audio/visuals and android phones for teaching and learning	91	91.0	9	9.0
3	Computer laboratory is necessary for smooth functioning of e-learning	82	82.0	18	18.0
4	Is there need to have well-grounded knowledge of computer usage for effective learning	92	92.0	8	8.0
5	Is computer necessary in e-learning?	83	83.0	17	17.0
6	Do you think e-learning can work in most public schools?	73	73.0	27	27.0
7	Does e-learning require adequate man-power?	76	76.0	24	24.0
8	Can e-learning lead to effective teaching and learning?	78	78.0	22	22.0
9	Does e-learning involve the use of android phones, projector and printers?	78	78.0	22	22.0
10	Do you think e-learning has more bad effects than its good ones?	48	48.0	52	52.0

Source: Survey, 2019

Table 1 revealed that 91% of the respondents have adequate knowledge about e-learning while 9% does not have adequate knowledge about the concept. 91% of the respondents also noted that e-learning comprises of the use of internet, laptops, project/screen, audio/visuals and android phones for teaching and learning while 9% of the respondents objected to the item. 82% of the respondents agreed that computer laboratory is necessary for smooth functioning of e-learning while 18% of them were of different opinion. 92% of the respondents also believed that there is need to have well-grounded knowledge of computer usage for effective learning while 8% of the respondents had counter opinion. 83% of the students agreed that computer is necessary for e-learning while 17% of the students think it is not necessary. 73% of the students also agreed that e-learning can work in most public schools while 27% of them believe that its use is unrealistic. 76% of the respondents also noted that e-learning requires adequate man-power while 24% of the respondents said it is not necessary. 78% of the respondents were of the opinion that e-learning can lead to effective teaching and learning and also involves the use of android phones, projectors and printers while 22% of the respondents claimed otherwise. Also, 48% of the students agreed that e-learning have more bad effects that its good ones while 52% of the respondents sees more of its importance.

Table 2: Mean and Standard Deviation Showing the knowledge of Students on E-learning

Items	Mean	SD	Frequency	Percentage
High	17.92	1.89	79	65.8
Moderate			35	29.2
Low			6	5.0
Total			120	100.0

Table 2 revealed that 65.8% of the students have high level of knowledge of e-learning. 29.2% of the respondents have moderate level of knowledge of e-learning while 5% of the respondents have low level of knowledge on e-learning. It can be deduced from the findings that majority of the students have high knowledge of e-learning. This result can be attributed to the fact that most of the respondents have in one way or the other been exposed to one or two e-learning technologies.

Question 2: What are the e-learning methods used in Ekiti State Secondary Schools?

Table 3: Percentage showing the e-learning methods used in Secondary Schools in Ekiti State

E-Learning Methods	Percentage (%)
Mobile Learning	5.0
Webinar	0.0
Web enhanced learning	2.0
Multimedia	46.0
Computer Assisted Instruction	21.0
Internet Based Training	9.0
Computer Based Instruction	17.0
Total	100.0

Source: Survey, 2019

Result presented in Table 3 on the e-learning methods used in secondary schools in Ekiti State, revealed that 5% of the students agreed that mobile learning technology which involves the use of smart phones and other portable computing devices were often used for teaching/learning. None of the students shows their knowledge of the use of webinar which is usually a seminar or a lesson conducted on the internet. 2% of the respondents noted that they have in one way or the other been exposed to web enhanced learning which involves the use of internet resources for teaching purposes. The table also revealed that 46% of the respondents have been exposed to the use of Multimedia in learning. The use of multimedia include the use of audio, images, animations, video and interactive contents in learning. 21% of the respondents also attested to the fact that they have used computer aided instruction method of e-learning in their schools, while a total of 9% and 17% of the respondents nodded for internet based and computer based instruction respectively.

IV. Discussion

The results obtained on the level of students' knowledge of e-learning in Ekiti State revealed that most of the students have a working knowledge of e-learning which implies that they might have been exposed to one or two methods of e-learning in their schools or at home. This finding is in line with the assertion of Eke(2011), who asserted that regardless of the educational level or stage e-learning can be adopted, used or applied in the education for effective teaching and learning, it is a learner-controlled, self-paced education environment where the learner has authority over the learning environment; thereby allowing learners to work at their pace and convenience.

Results on the methods of e-learning used in the secondary schools in Ekiti State showed that the major e-learning methods used include multimedia and computer assisted instruction with only few percentage of them being exposed to internet based learning and computer based learning. In essence, most of them were only exposed to multimedia facilities which include the use of audio, images, animations, video and interactive contents in learning. This is in corroboration with the assertion of Salawudeen (2010) and Ayodele (2010) who were of the opinion that the rapid improvement in technological advancement has aided the use of multimedia and other technologies in learning in most Nigeria schools. However, much of these technologies have not been exploited, for instance the use of mobile learning and internet based learning.

V. Conclusion

From the results of findings in this study, it can be concluded that majority of the secondary school students in Ekiti have high level of knowledge of e-learning and that the major e-learning methods used are multimedia and computer assisted instructions.

Recommendations

Based on the results of findings in this study, the following recommendations were made;

1. Students should be trained on how to make use of e-learning resources so as to increase their interest on the use of the available resources.
2. The government and school management should provide and train the students on the use of other e-learning resources like webinar so as to improve their level of mastery in the area of e-learning.

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