



Original Article

International Journal of Educational Research and Technology

ISSN 0976-4089

IJERT: Volume 4 [1] March 2013: 90 - 96

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ISO 9001: 2008 Certified Organization

Website: www.soeagra.com/ijert/ijert.htm

## The Problems and Prospects of E-Learning in Curriculum Implementation in Secondary Schools in Ondo State, Nigeria

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### ABSTRACT

*This study investigated the problems and prospect of e-learning in secondary schools in Owo LGA, Ondo State, Nigeria. Three hundred (300) teachers in public secondary schools were used as the sample for the study. A self-structured questionnaire on the availability and use of e-learning tools was used for data collection. The instrument contained 30 items. The reliability co-efficient of the instrument stood at 0.78. The data collected were analyzed using frequency distribution, mean and chart. The findings revealed: there is shortage of e-learning tools such as internet, computers, e-mail facilities, multimedia, scanner, printer, VCD player, digital camera etc. It was also revealed that the few available ones such as computers, scanner and printer- are not utilized because the teachers lack the knowledge and skills of computer application.*

*The following were identified as the prospects of e-learning in secondary schools: Using e-learning makes it easy to control large class; e-learning enables the learner to learn at his own pace/encourages individual learning, e-learning makes teaching and learning effective and efficient etc. It was recommended among other things that, the government should embark on a massive computer training program for teachers. Teachers should be trained and retrained through in-service training, seminars, workshops and conferences for acquisition of the knowledge and skills needed for e-learning application in secondary schools in Nigeria.*

**Keywords:** Problems, Prospect, E-learning and Secondary Schools.

Received 18.02.2013 Accepted 09.03.2013

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### INTRODUCTION

E-Learning has been variously defined. It is defined as learning using electronic means. It is also regarded as the acquisition of knowledge and skill using electronic technologies such as computer and internet-based courseware and local and wide area networks. It is a new form of teaching device by which students, most especially the distant learners are provided access to the learning materials. E-learning is usually associated with the use of computers but generally, it is a form of instructional delivery which can be provided through any appropriate electronic media such as the mobile phone, television, radio, etc. E-learning is of two major forms. One is called synchronous and the other is called asynchronous. The synchronous form is so-called because of its comprehensive features that allow for interactivity between the learning content and the learners. It has in-built features like the forum chatting, audio-effect. In distance learning, students are separated from the teacher, therefore, synchronous form of e-learning aims at providing multi-outlet opportunities to meaningfully engage the learner and therefore aid comprehension.

Asynchronous form of e-learning on the other hand is the direct opposite of synchronous form. Whereas, the latter by design has multifarious features, the former does not. It only presents the learning content for the students to read, internalise and download if need be. Also, whereas synchronous e-learning allows for immediate feedback as much as possible, asynchronous may not necessarily allow for immediate feedback.

E-learning in education is the wholesome integration of modern telecommunications equipment and ICT resources, particularly the internet, into the education system. Shavinina (2001) defines ICT as

all the digital technologies, including: computer, scanner, printer, telephone, internet, digital satellite system (DSS), direct broadcast satellite (DBS), pocket-switching, fiber optic cables, laserdisc, microwaves, and multi-media systems for collection, processing, storage and dissemination of information all-over the world. E-learning as an aspect of ICT is relatively new in Nigeria's educational system. It is a departure from the conventional approach in curriculum implementation. The main purpose of e-learning is to transform the old methods and approaches to curriculum implementation and not to silence the curriculum or to extinguish or erase the contents of curriculum. E-learning is driven by the curriculum. It should follow the curriculum and should not rob the curriculum of its essence.

Distance education has become the popular term to describe learning via telecommunications. The term telecommunications is used here to embrace a wide variety of media configurations, including radio, telephone and television (broadcast, cable and satellite) {Heinich, Molenva Russell, Smuldina (2002)}. Distance education therefore is used as a general term to describe whatever form of education that is received without the direct presence of the teacher, but usually with the aid of one or a combination of instructional media. According to the University / College library URL: [://wcl.broward.edu/pathropics.htm](http://wcl.broward.edu/pathropics.htm), distance education / distance learning refers to the teaching-learning arrangement in which the learner and the teacher are separated by geography and time. According to Greenberg (1998), distance education is a planned teaching / learning experience that uses a wide spectrum of technologies to reach learners interactions and certification of learning. Teaster and Blieszer (1999) were of the view that distance education has been applied to many institutional methods; however, its primary distinction is that the teacher and the learner are separated in space and possible time. The acceptance of distance education as an effective means through which high quality education can be provided has generated a wide range of some terminologies which you may need to know at least a little about. Such terminologies include: open learning, flexible learning, e-learning among others.

E-learning should ensure effective pedagogy and curriculum implementation in the computer age. According to Offorma (2002), curriculum implementation is the planning and execution of the contents of curriculum in order to bring about certain changes in the behavior of the learners and the assessment of the extent to which the changes take place. The primary purpose of implementation is to achieve the objectives of instruction, and achieve retention and transfer of knowledge. E-learning is an instructional medium that permits alternative approaches to curriculum implementation in an ICT age.

The call for application of e-learning in secondary education is to infuse and inject efficiency and effectiveness in curriculum implementation. However, in developing countries like Nigeria, e-learning is challenged with the problem of material devices such as computer, computer laboratories, internet and e-mail facilities, videophone systems and teleconferencing devices, fax and wireless applications, digital library, digital classrooms, multimedia systems and the problem of multimedia courseware development among others (Global Information Technology Report, 2005). Other studies indicated that there is dearth of trained teachers for e-learning, lack of facilities, infrastructures and equipment (Ikemenjima, 2005; and Jegede& Owolabi, 2008).

#### **PURPOSE**

This study examines:

1. The availability of e-learning tools for curriculum implementation in secondary schools.
2. The extent of application and/or use of the available e-learning materials by teachers.
3. The strategies for improving e-learning application in secondary schools.
4. The prospects of e-learning in secondary schools.

#### **Research Questions**

1. What are the e-learning tools available to secondary school teachers for curriculum implementation?
2. To what extent are the available e-learning tools currently used by the teachers?
3. What are the strategies for improving the use of e-learning tools in secondary schools?
4. What are the prospects of e-learning secondary school?

#### **METHODOLOGY**

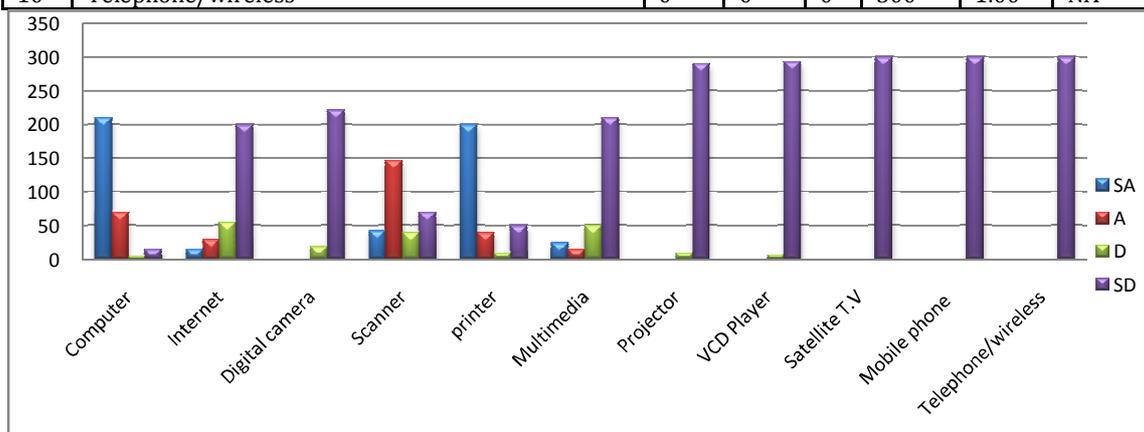
The study employed a survey research design. The population was all the teachers in the (15) fifteen public secondary schools in Owo Local Government Area of Ondo State, Nigeria. The sample for the study was comprised of 300 teachers who were randomly selected. The instrument for data collection was a self-developed 30-item questionnaire titled, "Problems and Prospect of Using E-Learning Tools" (PPUFLT). It was structured on a four-point scale which sought information on the three research questions. The face and content validation of the instrument were established by two experts each in the Curriculum and Measurement and Evaluation Units of the Department of Educational Foundations at Ekiti State University, Ado-Ekiti, Nigeria. The reliability of the instrument was determined using the Pearson Product Moment Correlation. A reliability coefficient of 0.78 was obtained, an indication that the instrument was reliable for data collection. The data collected were analyzed using frequency distribution and mean. Since the items were structured on a four-point rating scale, the decision rule was based on the mid-point of the scale, 2.50. Therefore, items with mean scores of 2.50 and above were regarded as agreed while items with below 2.50 were regarded as disagreed.

## RESULTS

**Research question 1:** What are the e-learning tools available to secondary school teachers for curriculum implementation?

**Table 1:** Mean responses on the availability of e-learning tools for curriculum implementation (N = 300)

S/N	E-learning tools	SA	A	D	SD	X	Decision
1	Computer	210	70	05	15	3.58	AV
2	Internet	15	30	55	200	1.53	NA
3	Digital camera	0	0	19	221	0.86	NA
4	Scanner	43	147	40	70	2.54	AV
5	printer	200	40	10	50	3.30	AV
5	Multimedia	25	15	50	210	1.52	NA
6	Projector	0	0	10	290	1.03	NA
7	VCD Player	0	0	07	293	1.02	NA
8	Satellite T.V	0	0	0	300	1.00	NA
9	Mobile phone	0	0	0	300	1.00	NA
10	Telephone/wireless	0	0	0	300	1.00	NA



**Figure 1** shows chart summary of availability of e-learning tools

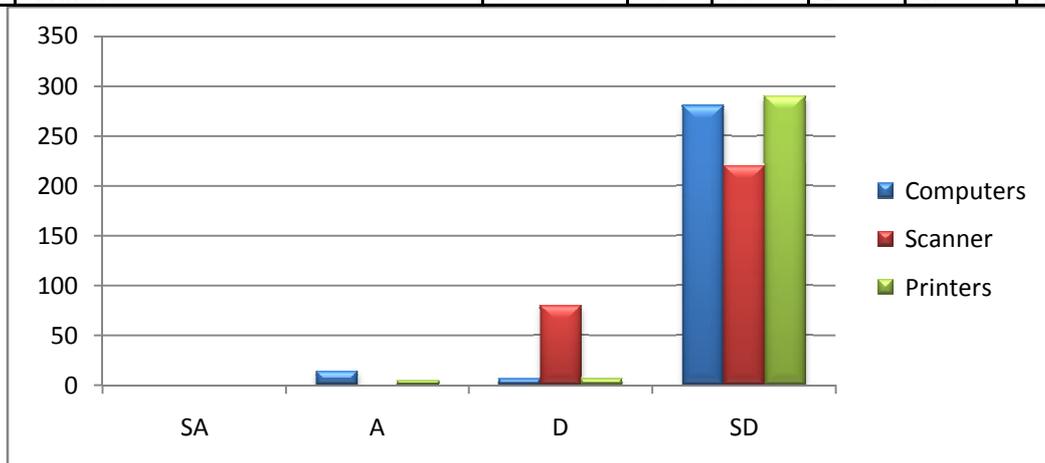
**Table 1** columns are labeled as follows: S/N = Item Number; Items: Availability of Materials = do you believe the following item (as listed by S/N) is available; SA = Strongly Agree it is available; A = Agree it is available; D = Disagree it is available; SD = Strongly Disagree it is available, X = mean score of responses for this item; Decision = overall respondent outcome based on the mean score for

the item. The “decision” is AV which means Available or NA which means Not Available. Table 1 shows that all the items except item1, 2 and 3 are not available. They include: computers, scanners and printers.

**Research question 2.** To what extent are the available e-learning tools used by the teachers?

**Table 2: Mean Responses on the Use of Available Materials (N = 300)**

S/N	Items: Use of Available Materials	SA	A	D	SD	X	Decision
11	Computers	0	14	06	280	1.11	NIU
12	Scanner	0	0	80	220	1.15	NIU
13	Printers	0	04	06	290	1.07	NIU



**Figure 2 shows chart summary of e-learning tools available but not in use**

Table 2 columns are labeled as follows: S/N = Item Number; Items: Use of Available Materials = to what extent do you believe the following available item (as listed by S/N) is used by the teachers; ; SA = Strongly Agree it is used; A = Agree it is used; D = Disagree it is used; SD = Strongly Disagree it is used, X = mean score of responses for this item;; Decision = overall respondent outcome based on the mean score for the item. The “decision” is either IU which means In Use or NIU which means Not in Use. Table 2 indicates that items 11, 12 and 13 are available but not in use.

**Research question 3.** What are the strategies for improving e-learning applications in curriculum implementation?

**Table 3: Mean Responses on the Strategies for Improving E-learning Applications (N = 300)**

S/N	Items: Strategies for Improvement	SA	A	D	SD	X	Decision
14	Massive computer literacy program for teachers.	200	100	0	0	3.00	Agree
15	Adequate provision of online computers/e-mail.	250	50	0	0	3.83	Agree
16	Connection of classrooms/Auditorium to the internet.	275	20	05	10	3.93	Agree
17	Procurement of multimedia systems.	256	44	0	0	3.85	Agree
18	Provision of incentives for courseware development.	278	17	05	0	3.88	Agree
19	Provision of digital libraries.	287	13	0	0	3.96	Agree
20	Employment of computer technicians for routine repairs.	210	30	25	35	3.38	Agree
21	Provision of standby generators for regular power supply.	288	12	0	0	3.96	Agree
22	Provision of security for safeguarding e-learning materials.	280	20	0	0	3.93	Agree
23	Training & retraining of teachers through seminars, workshops, and/or conferences.	291	09	0	0	3.97	Agree

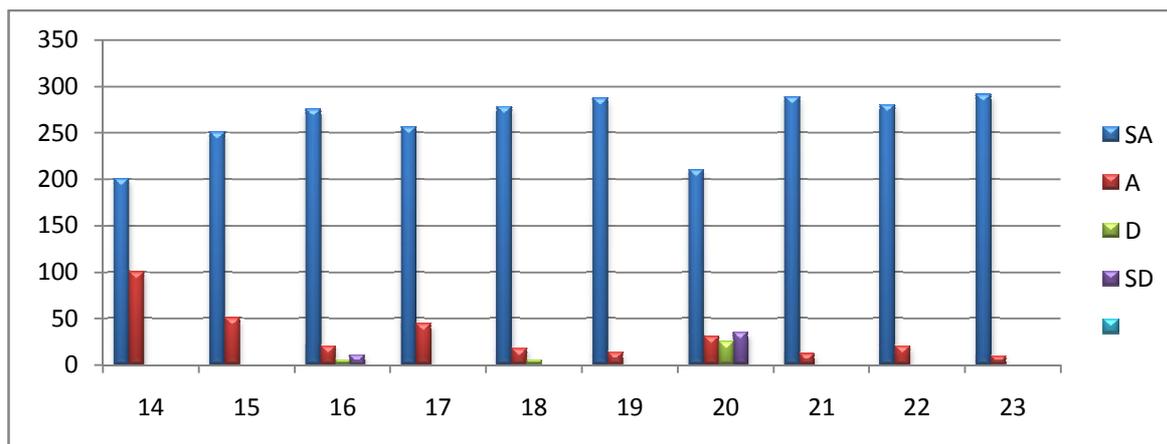


Figure 3 shows chart summary of strategies for improving the use of e-learning tools in secondary schools.

Table 3 addresses research question 3 on the strategies for improving e-learning applications in curriculum implementation. The table shows that all the respondents agreed that all variables listed above will improve e-learning applications in curriculum implementation in secondary schools.

**Research question 4:** What are the prospects of e-learning secondary school?

Table 4: Mean Responses on the prospects of e-learning secondary school.

S/N	Items: Prospect of e-learning	SA	A	D	SD	X	Decision
24	Using e-learning makes it easy to control large class.	200	30	23	47	3.28	Agree
25	E-learning makes the lesson more easy	250	50	0	0	3.83	Agree
26	It enables the learner to learn at his own pace/encourages individual learning.	245	20	25	10	3.67	Agree
27	E-learning makes teaching and learning effective and efficient.	210	44	26	20	3.48	Agree
28	E-learning makes teaching more interesting and makes teaching student centre	270	17	05	08	3.88	Agree
29	Using e-learning makes it easy to achieve lesson objectives.	200	100	0	0	3.00	Agree
30	E-learning assists learners to develop problem solving skills.	210	30	25	35	3.38	Agree

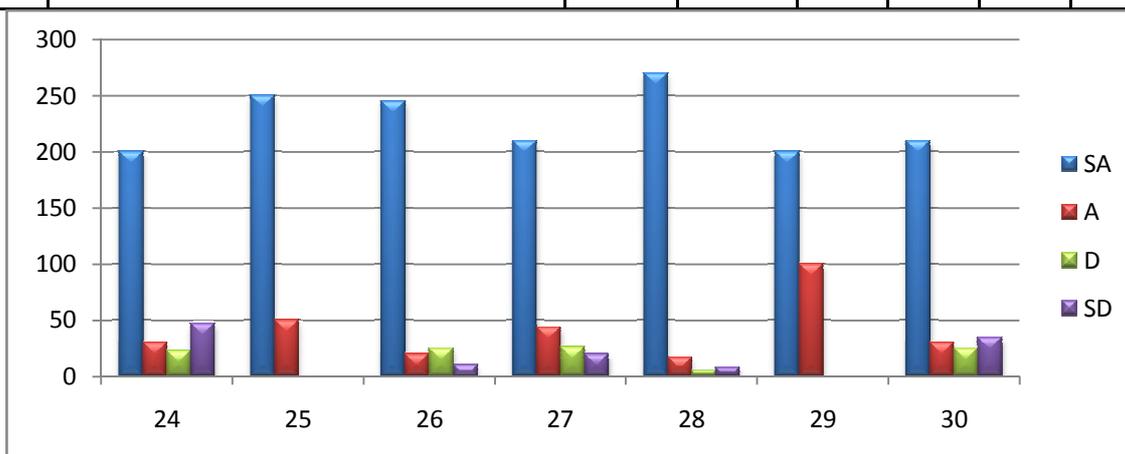


Figure 4 shows chart summary of prospects of e-learning in secondary schools.

Table 4 addresses research question 4 on the prospect of e-learning in secondary schools. The table shows that all the respondents agreed that all variables listed above are prospect of e-learning in secondary schools.

**DISCUSSION**

The findings from research question 1; table 1 indicates the availability of three out of the ten items listed for e-learning applications. The three that are available are: computers, scanner and printers. This study is consistent with the findings of Ikemenjima (2005) and Jegede and Owolabi (2008) that there are infrastructural deficiencies and shortage of facilities, including: computers, computer laboratories and online-classroom for the study of Computer Education in secondary schools.

Research question 2, table 2 addresses the use of the available e-learning tools for curriculum implementation. Table 2 indicates that items 11, 12 and 13 are available but not in use. This confirms the results of Effiong (2005) and Jegede and Owolabi (2008) that ICT materials such as computers, computer labs, printers, scanners, e-books, textbooks, workbooks and books on ICT are not available and not in use in Nigerian secondary schools for computer education. Again, the findings agree with that of Seiden (2000) and Uhaegbu (2001) for Nigeria which revealed a low level of usage of ICT equipment and facilities in secondary schools.

Research question 3, table 3 indicates that all the respondents agreed that all variables listed above will improve e-learning applications in curriculum implementation in secondary schools. This is in agreement with Nwana (2012) that teachers should have adequate training for computer education. Also, that necessary facilities and e-learning materials should be provided for effective curriculum implementation in secondary school. All classrooms and auditoriums in Nigeria should be connected to the internet in order to enhance web-based instruction. The government should do this by paying internet connection fees to internet service providers (ISP) to provide internet services.

Table 4 addresses research question 4 on the prospect of e-learning in secondary schools. The table shows that all the respondents agreed that all variables listed above are prospect of e-learning in secondary schools. This is in agreement with Aboderin (2012) which says that application of ICT in the classroom makes lesson very interesting and easy to deliver. Effective implementation of ICT in secondary schools brings about effective teaching and learning and contributes to the performance of the students.

## CONCLUSION

E-learning means electronic learning. It is a computerized and digital type of education in which texts, audio or sound, pictures, images, graphics and videos can be simultaneously presented online to students. Two models of e-learning are the classroom and distance education models. E-learning enhances curriculum implementation through the development and use of multimedia courseware relevant to teaching-learning situations. Some multimedia coursewares include Learning Activity Package (LAP), power point slides, and diskettes. Software may be ready-made or teacher developed instructional software. Problems hindering e-learning were identified as follows: a dearth of videophone and teleconferencing systems, massive computer illiteracy, difficulties in the internet application and use, difficulties in the use of World Wide Web (www), and problems associated with e-mail. Other factors include the opportunities for development and use of courseware, the high cost of digital libraries, cost of internet connection, cost of computer and its accessories, lack of multimedia systems, epileptic or inconsistent power supply, techno-phobia and resistance. In conclusion, the government should mount an intensive e-learning training program for teachers, as well as adequately provide all the materials needed for e-learning application in curriculum implementation in secondary schools.

## RECOMMENDATIONS

Consequent upon these findings of this study, the following recommendations were made for prospective and effective e-learning:

- Professionals should organize training for teachers on how to utilize e-learning facilities in solving everyday educational problems.
- Federal, state and local government, corporate bodies and PTA should extend helping hands in the provision of e-learning facilities to schools within their locality.
- The government should employ graduate with B.sc(Ed) and B.Ed. Computer education to teach the subject in our secondary schools.
- The government should be provision of incentives for courseware development.
- Conferences, workshops and symposium should be organized to train people and enlighten them on the need for e-learning.

- Curriculum developers should make computer education one of the core subjects to be offered in secondary schools.
- The state ministries of education through their local inspectors of education (LIE) should monitor the implementation of computer education programme in Nigeria secondary schools.

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