Assessment of the Use of E-learning Facilities by Home Economics Teachers in Delta State, Nigeria.

Amedu, Silifat Ozoemena.
Department of Vocational Education (Home Economics)
Delta State University, Abraka.
+234 803811 0019

Abstract
This is an empirical study to assess the use of e-learning facilities by home economics teachers in secondary schools in Delta State, Nigeria. The study adopted a survey research design. A total of 100 questionnaires were distributed to home economics teachers across secondary schools in the state out of which eighty eight were retrieved.
Responses were analyzed using the Statistical Packages for Social Sciences and MS Excel.
The study finds that most secondary schools lack the necessary e-learning devices for teaching and learning. The paper further discovers that school authorities are not doing enough to support e-learning initiatives in spite of the potentials inherent in use of e-learning in the process of educational development and therefore recommends the need for school management and government authorities to brace up to this challenge through provision of modern e-learning infrastructures and active involvement of e-learning in all school curriculums.
Keywords: E-learning, Information Technology, Home Economics, Educational Development.

1.1 Introduction.

The role of e-learning facilities in teaching and learning has become one of the most important and widely discussed issues in contemporary education policy. E-learning is an important factor in this information age so much so that when properly adopted and applied holds a great promise to improving teaching and learning in educational institutions. It is an important instructional tool to facilitate the transfer of many types of information and an effective means of communication in schools and colleges. E-learning or Internet-based instruction has been manifested in one-to-one (teacher-to-student), one-to-many (teacher-to-group) and many-to-many (group-to-group) approaches to instruction (Webb, Jones, Barker & Schaik, 2004).

E- Learning is the application of a whole range of technologies involved in information processing and electronic communications, such as computers, internet, e-mail, computer software, satellite, mobile communication gadgets, and other allied electronic devices for dissemination of knowledge and information. It involves the application of computer and information technology in teaching and learning.
According to Adesoji (2012), e-learning comprises computer and ICT materials and applications, which aid information collection and dissemination, research and global exchange of ideas that are critical for advancing meaningful, educational initiatives and understanding issues related to global development. The introduction of e-learning facilities to the education systems is aimed at improving educational delivery and preparing students for a role in an information age.
Application of e-learning facilities provides productive teaching and learning in order to increase people's creative and intellectual resources especially in today's information society and gives ample and exceptional opportunities to the teachers and students to develop capacities for high quality learning and to increase their ability to innovate (Aduwa-Ogiegbaen & Iyanmu, 2005).
Ozioma and Offordile (2011) state that teachers are able to fashion a focused and relevant assignment for discussion between students and teachers, and among students through e-learning devices. Abidoye (2010) maintains that e-learning devices such as the web, internet, multimedia, computer, projector, television, etc provide easy access to quality learning materials and make reasonable and responsible contributions to the learning process.
The Federal government of Nigeria in an attempt to brace up to the contemporary world in computer education, in 1988, enacted a policy on education which was to establish pilot schools and thereafter diffuse the innovation first to all secondary school and later to the primary schools in the country (Okebukola, 1997). Further, the importance of ICT in curriculum implementation is recognized by the Nigeria Policy on Education where it stated that the government shall provide facilities and necessary infrastructures for the promotion of ICT and e-learning (NPE, 2004).
This study aims to survey the opinion of home economics secondary school teachers on the extent of use of e-learning facilities in order to provide insights on how e-learning impact on teaching and learning as well as to highlight the support of school management on the e-learning initiative.

1.2   Statement of Problem

The IT revolution especially in the area of internet and computer technology has heralded the development and implementation of new and innovative curriculum delivery strategy in the education sector. Oye, Iahad, Madar & Ab.Rahim (2012) emphasize that the growth in internet technology and its application in education have brought great transformation which has made teaching and learning less burdensome, effective and result oriented by providing avenue for sharing idea and information.

Well researched and packaged teaching materials can be prepared by teachers and delivered to students using e-learning devices such as power point presentation, video tutorials, e-books, computer based training and web based training. However, availability and application of these devices to the teachers when required pose a problem. In a developing country like Nigeria, availability and application of these e-learning infrastructures are a far cry from what obtains in other advanced societies and therefore poses a challenge to the educational sector. There is therefore the need to enrich the secondary schools e-learning programmes for effective teaching and learning process.

1.3   Research Questions

(i)   To what extent are e-learning facilities available for teaching home economics in secondary schools in Delta State?

(ii)   How does the use of e-learning enhance teaching of home economics in secondary schools in Delta State?

(iii)   How are school managements supporting e-learning initiatives in secondary schools?

1.4   Research Objectives

The objectives of this study are to:

(i)   Determine to what extent e-learning facilities are available for teaching home economics in secondary schools;

(ii)   Ascertain how e-learning impacts teaching of home economics in secondary schools; and

(iii)   Find out how school managements support e-learning initiatives in secondary schools.

2.1 Conceptual Frammework

There are a number of research works related to e-learning for educational purpose. Many of these studies maintain that e-learning can aid the instructional process and facilitate students' learning. Some have also found positive effect associated with technology aided instruction (Burnett, 1994; Thierer, 2000; Ozioma & Offordile, 2011 and Fitzgerald & Warner, 1996).

Today, most teachers and students in the industrialized nations such as the United States and the European Union have easy access to ICT and the use of computers for teaching and learning (Harper, 1987). In Africa, concerted efforts have been made by many governments to initiate internet connectivity and technology training programs. Such programs link schools around the world in order to improve education, enhance cultural understanding and develop skills that youths need for securing jobs in the 21st century (Aduwa-Ogiegbaen & Iyanmu, 2005).

Optimizing the potentials of e-learning are among the major pedagogical issues facing home economics teachers in secondary schools. The innovation of e-learning has brought about rapid changes in research and teaching, which cannot be simply ignored.

Lau-Ho (2005) in his work noted that e-learning facilities are useful in home economics as a tool for curriculum delivery, assessment, research, and hands-on experience. The study stated further that home economics teachers need to use e-learning to facilitate curriculum delivery, practical lessons, and follow-up of students' learning activities. The study stated that teachers, can download relevant lesson plans for use in curriculum delivery, obtain on-line tests and quiz samples, guide students to read learning material on screen e.g files, links, and even use computer simulations for demonstration lessons.

Aburime and Uhomoibhi (2010) observe that global interconnectedness enabled by information technology calls for new skills, knowledge and ways of learning to prepare students for living and working in the 21st century. Okoroh (2006) opines that e-learning facilities do not only help students but they also assist teachers in the preparation of teaching materials demonstration of equipment and concept.

In a rapidly changing world of e-commerce, e-government, e-banking, etc, it has become necessary for individuals and educational institutions to imbibe the culture of e-learning to have the capacity and capability to access and apply information in the global village

2.2   E-learning as a tool for teaching and learning

The Economic Commission for Africa has indicated that the ability to access and effectively utilize information is no longer a luxury but a necessity for development. From an education point of view, e-learning as a tool for teaching and learning cannot be overemphasized. The advent of the computers and internet has impacted so

much on educational process over the years. The e-learning approach has the capacity to provide higher interactive potential for users to develop their individual, intellectual and creative ability ((Shavinina, 2001).

Thomas (1987) and Calverley and Shephard (2003) all agree that information and communication technologies are being used in the developed and developing world for instructional functions and that computers and internet perform a host of functions in teaching and learning as many nations are adding computer literacy, reading and writing literacy as skills students will need for succeeding in a technologically developed world.

According to Nwana (2009), e-learning provides the relevant platform for teachers   to develop capacities for high quality research and teaching which increase their ability to innovate. Aburime and Uhomoibhi (2010) also observe that other than teaching, e-learning facilities could also be used to provide information about staff and participants, subscriptions for examinations, marking of students examination scripts, communication about the instructional process, collaborative learning, self-assessment and collaborative research activities.

Aduwa-Ogiegbaen and Iyanmu (2005) explain the use of e-learning as an aid to teaching in secondary schools in Nigeria and suggest that e-learning and ICT can enhance educational efficiency. They maintain that efficiency in teaching various subjects could be improved. For instance, many secondary school teachers are already teaching large classes of students. In this situation, students no longer receive the much desired individual assistance. It is possible to use carefully prepared computer programs to ensure that learners are accurately and systematically instructed. Also, the computer can enhance problem-solving skills of the learners by focusing on thinking skills. E-learning also has the potentials that will offer teacher improved method of researching for topics and definitions. The outdated attitude of going to the library to find articles or journals using indexes can be made very easy through the use of goggle search on the internet which will provide extensive list of articles, publications and topics by different authors just in a flash.

2.3 The challenges of e-learning in Nigeria.

The rapid changes that have taken place all over the world pose a challenge to the educational sector in Nigeria. It is noteworthy that in spite of Nigeria's huge human capital and natural endowment, she cannot be counted among progressive nations fully implementing e-learning in educational management

It has become imperative for Nigeria to replace the traditional pedagogical practices that still underpin its educational system. In order to revolutionize the educational system, the country needs ICT not only as tools for teaching and learning but also for effective communication across institutions.

A major problem facing the adoption and application of e-learning in educational institutions is the attitude of school management and authorities towards procuring and installation of the devices. Apart from the basic computers and stable internet connectivity, other peripherals such as printers, paper, modem, extra disk drives are beyond the reach of most secondary schools in Nigeria (Ozoji, 2003).

Another formidable challenge to the use of information and communication technology is infrastructural deficiency.   Regular and stable electricity supply is needed to run ICT devices. Lack of these basic infrastructures to power and run ICT equipment hamper the effective application of e-learning as most secondary schools lack the necessary capacity to put a standby power generating plant for this purpose. Also, most secondary school teachers lack the skills to fully utilize e-learning technology in curriculum implementation hence the traditional chalk and duster approach still dominates in secondary school pedagogy. Besides, inadequate telecommunication facilities hamper ICT development because information transfer using ICT is largely dependent on telecommunication network and bandwidth. These are minimal or non-existent in most secondary schools.(Amedu, 2013 and Anao, 2003). Onyeahu (2009) also finds out that computer and e-learning facilities are expensive to purchase and as such not all secondary schools can afford them.

3.0 Methodology

The survey research design was adopted for this study. The population of this study consist of all home economics teachers in Delta State. There are 453 public secondary schools in Delta State as at September, 2012 (Ministry of Education, Delta State, 2012).

 A sample size of 100 secondary schools was used and a total of 100 questionnaires were randomly distributed to home economics teachers across secondary schools in the state. 88 completed questionnaires were retrieved which represents a recovery rate of eighty eight percent. The questionnaire contains three parts. Part one elicits information about the extent of use of e-learning facility structured from 'Great Extent' (3) to 'Not Available' (0). Parts two of the questionnaire was designed using the 4-point scale ranging from 'Strongly agree' (4) to 'Strongly disagree' (1) while part three asked for information on support of educational management ranging from 'High Support' (3) to 'Not at all'(0). The Statistical Package for the Social Sciences (SPSS) software and MS Excel were employed to analyze and interpret the data.

4.1 Data Analysis

Research question 1: To what extent are e-learning facilities available for teaching home economics in secondary schools in Delta State?

Table 1: Responses on the extent of availability of e-learning devices.
N=88

SN	EXTENT OF AVAIBILITY OF DEVICES	GE	ME	LE	NA	MIS
1	Web based learning	12 (13.6%)	9 (10.2%)	23 (26.2%)	44 (50%)	0.88
2	Screen touch electronic board	**3 (3.4%)**	2 (2.2%)	7 (7.9%)	76 (86.5%)	0.22
3	On-line/Internet Computers	9 (10.2%)	11 (12.5%)	15 (17%)	53 (60.3%)	0.72
4	Off-line ordinary Computer	11 (12.5%)	29 (32.9%)	32 (36.3%)	16 (18.3%)	1.39
5	Computer room	7 (7.9%)	9 (10.3%)	51 (57.9%)	21 (23.9%)	1.02
6	E-mail facilities	6 (6.9%)	12 (13.6%)	22 (25%)	44 (50%)	0.72
7	Laptops+ modem+ Flash drives, discs	13 (14.8%)	21 (23.9%)	38 (43.1%)	16 (18.2%)	1.35
8	Multimedia Projectors/powerpoint	1 (1.1%)	5 (5.6%)	11 (12.5%)	71 (80.8%)	0.27
9	Digital Library	0 (0%)	3 (3.5%)	5 (5.6%)	80 (90.9%)	0.12
10	Electronic device for marking multiple choice questions	0 (0%)	0 (0%)	1 (1.1%)	87 (98.9%)	0.01

KEY: GE=Great Extent, ME=Medium Extent, LE=Low Extent, NA=Not Available, MIS=Mean Item Score.

The table above shows the descriptive statistics on the extent of availability of e-learning facilities in the schools surveyed. It shows that most schools do not apply web based learning as over 50% of the schools under study do not adopt it. It can also be observed from the table that electronic board and computers with internet connection are not available for teachers in most schools with 86.5% and 60.3% respectively indicating non availability opinion. However, responses show that offline ordinary computers are made available for use with a mean score of of 1.39 and 12.5%, 32% and 36% for great extent, medium extent and low extent respectively. 98.9 percent of schools are yet to adopt use of computer or electronic device in marking multiple choice questions answers.

Research question 2: How does the use of e-learning enhance teaching of home economics in secondary schools in Delta State?

Table 2: Impact of e-learning in teaching home economics.
N=88

SN	IMPACT OF E-LEARNING	SA	A	D	SD	MIS
1	E-learning devices help express teaching ideas better.	18 (20.5%)	22 (25%)	36 (40.9%)	12 (13.6%)	2.52
2	Easier storage and retrieval of teaching materials.	45 (51.1%)	29 (32.9%)	2 (2.2%)	12 (13.6%)	3.21
3	Raise the quality of teaching	34 (38.6%)	32 (36.3%)	11 (12.5%)	11 (12.5%)	3.01
4	Source of up to date information	60 (68.1%)	21 (23.8%)	7 (7.9%)	0 (0%)	3.60
5	Easier to demonstrate how to use home economics tools	2 (2.2%)	19 (21.5%)	45 (51.1%)	22 (25%)	0.91
6	Provides platform for group learning	23 (26.1%)	50 (56.8%)	10 (11.3%)	5 (5.6%)	3.03
7	Greater opportunity for individual learning.	31 (35.2%)	37 (42.1%)	16 (18.1%)	4 (4.5%)	3.07
8	Not applicable to secondary school settings	2 (2.2%)	9 (10.2%)	28 (31.9%)	49 (55.7%)	1.59
9	Not suitable for practical subjects like home economics	7 (7.9%)	13 (14.7%)	41 (46.5%)	27 (30.9%)	2.00
10	Development of ICT based curriculum.	36 (40.9%)	32 (36.3%)	11 (12.5%)	9 (10.3%)	3.07

KEY = SA=Strongly Agree, A=Agree, D=Disagree, SD=Strongly Disagree, MIS= Mean Item Score.

Table two shows the descriptive statistics on the impact of e-learning on teaching of home economics in secondary schools. Respondents agree that it helps teachers to express ideas better, enhances easier storage and retrieval of information and raises quality of teaching. These can be observed from responses to items 1,2 and 3

with mean scores of 2.52, 3.21 and 3.01 respectively. 68.1 percent of teachers strongly believe that e-learning facilities serve as a source of up to date information for teaching. The table also shows that e-learning provides a platform for group learning with a mean item score of 3.03 and 26.1% and 56% in agreement.

On the non applicability of e-learning in secondary school setting, 31.9% disagree while 55.7% strongly disagree. This can also be observed with the low mean score of 1.59 on the item. Further, responses to item 9 on table 2 shows disagreement on the question of e-learning not suitable for home economics as a subject in secondary schools with a mean score of 2.0 and 46.5% and 30.9% disagree and strongly disagree respectively.

Question 3: How are school managements supporting e-learning initiatives in secondary schools?

Table 3: Level of support of school management on e-learning initiatives

N=88

SN	LEVEL OF SCH. MGT SUPPORT	HS	AS	N	Na	MIS
1	Sponsoring ICT training and retraining for lecturers	4 (4.5%)	16 (18.1%)	21 (23.8%)	47 (53.6%)	0.73
2	Use of computer internet facilities in internal communication	5 (5.6%)	13 (14.7%)	8 (9.0%)	62 (70.7%)	0.55
3	Provision of new versions of software	0 (0%)	6 (6.8%)	19 (21.5%)	63 (71.7%)	0.35
4	Encouraging teachers and students to keep pace with e-learning devices	21 (23.8%)	18 (20.4%)	28 (31%)	21 (23.8%)	1.44
5	Provision of incentives for courseware development	8 (9.0%)	14 (15.9%)	17 (19.3%)	49 (55.8%)	0.78
6	Upgrade of digital library	0 (0%)	6 (6.8%)	12 (13.6%)	70 (79.6%)	0.27
7	Acquisition and installation of modern e-learning infrastructures.	4 (4.6%)	8 (9.0%)	26 (29.5%)	50 (56.9%)	0.61
8	Active involvement of e-learning in all school curriculum	1 (1.1%)	2 (2.2%)	54 (61.3%)	31 (35.4%)	0.69
9	Improved management –academia interaction	12 (13.6%)	31 (35.2%)	29 (32.9%)	16 (18.3%)	1.44
10	Greater access to e-learning facilities to teachers and students.	5 (5.6%)	19 (21.5%)	41 (46.5%)	23 26.4%)	1.06

KEY = HS=High Support, AS = Average Support, N= Negligible, Na=Not at all, MIS= Mean Item Score.

Table 3 above indicates the mean scores and percentage responses on the level of support teachers of home economics are receiving from school management as regards e-learning initiatives. All the responses have mean scores of less than 1.50 showing that school authorities are not doing enough to support e-learning initiatives in schools. On sponsoring teachers for ICT training and retraining, 53.6% respondents said not at all. On item 5 on table 3 which bothers on provision of incentives for courseware development, 55.8% also answered not at all. 61.3% shows that school management are giving a negligible support in terms of active involvement of e-learning in all school curriculum. Item 7 elicit response on provision of modern e-learning infrastructure in support of e-learning initiatives. However, 29.5% believe that this is negligible while 56.9% said not at all.

5.1 Findings and Conclusion.

This study was carried out to assess the use of e-learning facilities by home economics teachers in Delta State of Nigeria. The study finds that most e-learning devices such as computers connected to internet, web based learning, email facilities, multimedia projectors as well as electronic marking devices are not available in the secondary schools. The study however, observes that computers with no internet connectivity are provided in some schools.

The study also finds that e-learning enhances teaching of home economics through provision of better researched information, easier storage and retrieval of teaching materials, improving quality of teaching and providing platform for update of teachers' knowledge and group learning. Based on the descriptive statistics, the study also found that e-learning can be applied in teaching home economics at the secondary school level.

The paper further discovered that school authorities are not doing enough to support e-learning initiatives in secondary schools with respectto lack of training and retraining of teachers and provision of modern e-learning facilities.

Based on the foregoing the study concludes that in spite of the potentials inherent in use of e-learning in the process of educational development, its use for teaching and learning in secondary schools is abysmally low. There is therefore need for school management and government authorities to brace up to this challenge through acquisition and installation of modern e-learning infrastructures and active involvement of e-learning in all school curriculums.

References

Abidoye, J. A. (2010). The role of electronic learning in improving distance education in Nigeria. *Journal of Teacher Perspective*, 4(2) retrieved 21 March 2014 from www.academicjournals.org/IJNAM/F32BD84246.

Aburime, M. O., & Uhomoibhi, J. O. (2010). Impact of technology and culture on home economics and nutrition science education in developing countries. *Multicultural Education and Technology Journal 4* (1) 4-16

Adesoji, F. F. (2012). Undergraduate students' perception of the effectiveness of ICT use in improving teaching and learning in Ekiti State University, Ado-Ekiti, Nigeria. *International Journal of Library and Information Science 4*(7), 121-130.

Aduwa-Ogiegbaen, S. E., & Iyamu, E. O. S. (2005). Using information and communication technology in secondary schools in Nigeria: Problems and prospects. *Educational Technology & Society*, 8 (1), 104-112.

Amedu, S.O. (2013). Vocational and technical education: A tool for sustainable development in Nigeria. *Journal of Education and Practice*, 4(25), 127-130.

Anao, A. R. (2003). Society, knowledge incubation and management - Lagos. *The Guardian Newspapers, November 11*, 75.retrieved online from www.guardiannewpaperngr.com

Burnett, G. (1994). Technology as a tool for urban classrooms. *ERIC/CUE Digest, 95*, New York: Eric Clearing house on Urban Education, retrieved March 21, 2014, from http://www.ericdigests.org/1994/tool.htm.

Calverley, G., & Shephard, K. (2003). Assisting the uptake of on-line resources: why good learning resources are not enough. *Computers and Education*, 41, 205-24.

Delta State Government. (2012). *Ministry of education reports for 2012*. Available online: ,(www.deltastate.gov.ng/index.php

Federal Republic of Nigeria (2004). *National policy on education: Revised Edition*. Abuja: NERDC press.

Fitzgerald, G., & Werner, J. (1996).The use of the computer to support cognitive behavioral interventions for students with behavioral disorders. *Journal of Computing in Childhood Education, 7*, 127-48.

Harper, D. O. (1987). The creation and development of educational computer technology. In R. M. Thomas & V. N. Kobayashi (Eds.), *Educational technology: its creation, development and cross-cultural transfer,* Oxford: Pergamon Press, 35-63.

Ko, S., & Rosen, S. (2004). Teaching on-line, a practical guide (2nd edition) Boston: Houghton Miffin company.

Lau-Ho, L.K. K. (2005). *Information and communication technologies in Home Economics. What is the situation?* Retrevied from http:repository.ied.edu.hk/dspace/handle/2260.2/8351

Nwana, S.E. (2009). Impediments to effective implementation of the National Open University in an age of computer technology. *Journal of Research and Production*, 15(1), 180-188

Olojo O., Adewumni, M., & Ajisolam K. (2012). E-learning and its effects on teaching and learning in a global age. *International Journal of Academic Research in Business and Social Sciences 2* (1), 203-210.

Okebukola, P. (1997). Old, new and current technology in education. *UNESCO Africa, 14* (15), 7-18.

Okoroh L. (2006). Information and communication technology Lagos: Macmillan publishers.

Onyeadike A. E. (2009). The use of information and communication technology in implementation of secondary education curriculum in Nigeria. *Journal of Business and General Education*, 3(1),

Oye, N. D., Iahad, N., Madar, M. J., & Ab-Rahim, I. (2012). The impact of e-learning on students' performance in tertiary institutions. *International Journal of Computer Networks and Wireless Communications,* 2(2), 39-53.

Ozioma C. A., & S. Offordile. (2011). Strategies for improving the use of electronic teaching and learning (E-Learning) for vocational education in tertiary Institutions of Anambra State-Nigeria. *Mediterranean Journal of Social Sciences. 2 (6)*, 123-129

Ozoji, B. E. (2003). The place of information and communication, technology (ICT) in the teaching and learning of integrated science 44th annual conference proceedings of science association of Nigeria.

Rosen, L., & Michelle, W. (1995). Computer availability, computer experience and technophobia among public school teachers. *Computer in Human Behaviour, 11*, 9-31.

Rosenberg, M.J. (2000). The e-learning readiness survey. [Online] Available: http://books. Mcgraw-hill.com/training/elearning/elearning_survey.pdf

Shavinina, L. V. (2001). A new generation of educational multimedia: High intellectual and creative educational multimedia technologies. *Cyber education: The future of Distance Learning.* Larchmont, NY: Mary Ann Liebert, Inc, 63-82

Thierer, A. (2000). *Divided over the digital divide*, Washington, DC: Heritage Foundation.

Webb, E., Jones, A., Barker, P. & Schaik, P. (2004). Using e-learning dialogues in higher education. *Innovations in Education and Teaching International*, 41(1), 93-103.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:
http://www.iiste.org

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: http://www.iiste.org/journals/ All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: http://www.iiste.org/book/

Recent conferences: http://www.iiste.org/conference/

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library , NewJour, Google Scholar