

E-Learning Utilization in Junior Secondary School Home Economics Program in Oyo State Nigeria

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Abstract

The study focused on e-learning utilization in Junior Secondary School (JSS) Home Economics (HE) programs in Oyo State Nigeria. Specifically the study determined: various application options utilized for implementing e-learning in JSS HE programme, challenges encountered by teachers and students in their utilization of e-learning in JSS HE programme and ways of enhancing utilization of e-learning in JSS HE programme. The study adopted a descriptive survey design. Population for the study was 6,981 which consisted of 57 HE teachers, 50 senior staff of Oyo State Ministry of Education, Science and Technology and 6,841 JSS three public school students. Questionnaire was the used for data collection. Data were analyzed using mean and standard deviation. Findings show nine application options utilized for implementing e-learning in JSS HE in Oyo state. These include, among others, slides (2.78), projector (2.80), power point (3.44), and others. There are 11 challenges encountered by teachers in their utilization of e-learning in JSS HE programme. These including, lack of proper and advance planning by teachers (3.51), high cost of internet facilities (3.37), and others. There are also seven challenges encountered by students in their utilization of e-learning in JSS HE programme. These including, difficulty in understanding practical skills taught online (3.44), epileptic power electricity supply (3.21), among others. Other findings are 14 ways of enhancing utilization of e-learning in JSS HE programme. These include ICT training for teachers (3.28), curriculum review in HE programmes (2.53), and others. Six recommendations were made, including that there should be regular training and re-training programs for Home Economics teachers inform of seminars and workshops.

Keywords: Enhancing, E-learning, Students, Utilization, Application, Options, Challenges

Introduction

E-learning can be described as intentional use of information and communication technology (ICTs) in teaching and learning. It is a teaching and learning system based on

formalized teaching with the aid of electronic resources. Aljawarneh (2020) stated that web-based education, digital learning, interactive learning, computer-assisted teaching and internet-based learning are known as

e-learning. Baleye (2018) noted that e-learning is not a new method of knowledge transfer but rather the conveyance of information using a new media. Teaching and learning using e-learning can take place in or out of the classroom and the major component used is computer and the internet. The learner whether far or near have easy access to quality learning materials, have robust and unlimited interaction with instructional contents, facilitators and other learners and are given support and appropriate time to make contributions to the learning process. Kimiloglu, Ozturan and Kutlu (2017) noted that e-learning encourages the creative use of modern information technologies to construct learning environments which are rich varied and facilitate the development of student – centered learning practices. The ability to access and effectively utilize information in e-learning environment has continued to grow at unprecedented rate.

The internet has impacted on the educational process over the years. E-learning has the capacity to provide higher interactive potential for users to develop their individual, intellectual and creative ability. Claverley and Shepherd (2003) mentioned that information and communication technologies are being used in 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. Balaye (2018) noted that e-learning has become an important teaching and

learning mode at all levels of education - higher education, vocational training and also in primary and secondary schools. Schools use different e-learning facilities and materials in teaching and learning process. Ugochukwu and Ibeke (2021) noted that e-learning materials are study materials published in digital format such as e-textbooks, e-workbooks and educational videos. On the other hand, Eze, Chinedu-Eze and Bello (2018) stated that e-learning facilities included hardware such as personal computers (PC), tablets, printer, digital camera, digital videos, overhead projector, slides, transparencies, magnifiers; software such as operating system, cloud technologies; applications (apps); and courseware such as e-course content.

F-learning is fast becoming an expected and indispensable part of the mainstream of global educational system. Teaching and learning has been revolutionized by e-learning in various part of the world including Nigeria. Kare and Chisa (2019) noted that there are variety of e-learning programmes adopted by schools in Nigeria. Most schools in Nigeria keyed into e-learning during COVID-19 pandemic which led to global total lockdown of all economic activities including closure of schools. This was necessitated by the infectious nature of the viral disease transmitted mostly by direct contact with an infected person. Aboagye, Yawson and Appiah (2022) noted that the unexpected closure of educational institutions as a result of the emergence of COVID-19 prompted educational authorities to suggest adopting alternatives to traditional

learning methods in emergencies to ensure that students are not left without studying and to prevent the epidemic from spreading. On 19 March 2020, the Nigerian Federal Ministry of Education approved school closures as a response to the pandemic. States in the federation contextualized this, with Oyo State Ministry of Education releasing a schedule of radio and TV lessons for students in public schools. However, private schools in Oyo State (area of study) were quick to adopt e-learning for both primary and secondary schools during COVID-19 lockdown. E-learning is still in use in Oyo State in form of OYO EDUMIX. Most private schools in Oyo State utilize e-learning in addition to the conventional physical teaching method. Ugochukwu and Ibeke (2021) noted that during the pandemic lockdown, teachers who adopted e-learning taught different subjects including practical skill subjects.

Practical skill subjects entails a range of vocational subjects that involves manipulation of tools and equipment aimed at providing students with needed skill needs. Home Economics (HE) is one of the vocational subjects taught in Junior secondary schools in Nigeria. It is a skill oriented subject. HE deals with the relationship between individuals, families, and communities, and the environment in which they live. According to Abiamuwe, Seriki-Mosadolurun, Ogbonna, and Otobo (2016), Home Economics prepares students for homemaking or professional careers and assists in preparing to fulfill real – life responsibilities at home. HE represents many disciplines including consumer

science, nutrition, and parenting; early childhood education, family economics, human development, interior design, textiles, apparel design, as well as other related subjects. Anyakoha (2015) stated that the major goal of Home Economics is self-reliance. Home Economics curriculum is designed to equip students with a useful range of skills and follows an integrated approach where inter – relationships between diet, health, family, resources and home are addressed in both practical and theoretical contexts (Adeladu and Adu, 2015). HE can be effectively taught through e-learning. Different media can be adopted in teaching HE via e-learning. Abidoye (2010) maintains that e-learning devices such as the web, internet, multimedia, computer, projector and television provide easy access to quality learning materials and make reasonable and responsible contributions to the learning process. Demonstration of skills in Home Economics can be taught to online students through video, skype and online real time instruction teaching. Home Economics teachers can also develop and use e-textbooks as e-learning has the potential to provide relevant information needed for research. According to Abdelsalam, Ebitisam, Aljawarneh, Hasan and Hadeel (2022) e-learning provides the relevant platform for teachers to develop capacities for high quality research and teaching which increase their ability to innovate. Despite the benefits of using e-learning to facilitate teaching and learning, there are challenges facing the usage especially in teaching practical based subjects like Home Economics. Lara,

Aljawarneh and Pamplona (2020) reported that compared to developed countries, most developing countries face many challenges in applying e-learning, including poor internet connection, insufficient knowledge about the use of information and communication technology, and weak content development.

The development and provision of content such as video of practical demonstration of skills and advanced applications is still a new thing for many teachers. Lizcano, Lara and White (2020) stated that challenges facing use of e-learning included acquisition of the Internet infrastructure that supports education systems and the high cost of buying the electronic equipment needed and maintaining the equipment. Lara, Aljawarneh and Pamplona (2020) reported that the use of e-learning can be enhanced when the teacher implement a learning environment that encourages collaboration. Teachers should provide learners with the opportunity to collaborate, share, and create information which will help enhance the learner's use of various technologies, enhance their e-learning experience, and support self-directed and ongoing learning (Aljawarneh, 2020). Malama and Adebisi, (2019) noted that several strategies can be used to enhance teaching with e-learning. According to the authors, the strategies include providing various ways of interacting and communicate through the use of such applications like Skype, chat forums or discussion boards as well as utilizing different e-learning techniques such as online assessment as a form of students motivation. Several studies have

addressed the opportunities and challenges associated with the transition to e-learning. None of the studies reviewed by the authors focused one-learning utilization in Junior Secondary School Home Economics program in Oyo State Nigeria. This is the gap in literature filled by the study.

Purpose of the Study

The main purpose of study was to investigate e-learning utilization in Junior Secondary School (JSS) Home Economics (HE) program in Oyo State Nigeria. Specifically the study determined:

1. various application options utilized for implementing e-learning in JSS HE Programme in Oyo State.
2. challenges encountered by teachers and students in their utilization of e-learning in JSS HE Programme.
3. ways of enhancing utilization of e-learning in JSS HE Programme

Research Questions

The following research questions were answered

1. What are the various means utilized for implementing e-learning in JSS HE Programme in Oyo State?
2. What are the challenges encountered by teachers and students in their utilization of e-learning in JSS HE Programme in Oyo State?
3. What are the ways of enhancing utilization of e-learning in JSS HE Programme in Oyo State?

Methodology

Design of the study: The study adopted a descriptive survey design.

Area of the study: The study was carried out in Oyo State, Nigeria. Oyo State was chosen because it is an urban area with large number of secondary schools. Also, most of the private schools in Oyo State are utilizing e-learning in teaching in addition to conventional teaching and learning.

Population for the Study: The population for the study was 6,981 respondents made of 57 HE teachers, 50 senior staff of Oyo State Ministry of Education, Science and Technology and 6,841 (Source: Oyo State Ministry of Education, Science and Technology 2020).

Sample for the Study: Sample size for the study was 357 which consisted of 57 HE teachers, 50 senior staff of Oyo State Ministry of Education and 250 JSS 3 Students. Simple Random Sampling technique was used to select the students from each of the public Junior Secondary Schools.

Instrument for Data Collection: Questionnaire was the instrument used for data collection. The questionnaire consisted of two sections. Section A sought for demographic characteristics while section B generated items based on purposes of the study and research questions. Section B had 4-point scale for the items as follows: Strongly Agree (SA) =4, Agree (A)=3, Disagree(D)=2 Strongly Disagree (SD)=1. The questionnaire was validated by three University Home Economics lecturers. The validates

made useful corrections and modifications on the instrument before the final copy of the questionnaire was produced. Reliability of the instrument was determined by test re-test method. The questionnaire was pretested among 10 JSS III students and 10 teachers in private schools in Oyo State. These students and teachers are outside the population target but share similar characteristics. The questionnaire was administered again after two weeks to same people. Thereafter, Reliability co-efficient index of 89% was obtained using Spearman's correlation method.

Data Collection Methods: Data for the study was collected by hand with the help of three research assistants. A total of 357 copies of the questionnaire distributed. Only 283 copies were returned indicating 79.3 percent return rate.

Data Analysis Techniques: Data collected were analyzed using mean and standard deviation. For the decision rule, the real limit of numbers of the respondents made was used to categorize the mean ratings of the respondents. Based on the 4-point scale of the instrument, mean score from 2.50 and above (≥ 2.5) were considered as "agreed upon" while items with mean ratings of 2.49 and below (< 2.5) were considered as "disagreed upon". items

Results

Table 1: Mean Responses on Various Application Options Utilized for Implementing e-learning in JSS Home Economics (HE) Programme in Oyo State

S/N	Various means Utilized for Implementing E-learning in JSS	₁	₂	g	Remark
1	Slides	2.90	2.66	2.78	Agreed
2	Projector	2.88	2.72	2.80	Agreed
3	Recorded videos of specific skills	3.21	2.90	3.01	Agreed
4	Google classroom	1.44	1.22	1.33	Disagreed
5	Zoom	2.90	2.80	2.85	Agreed
6	Google meet for teaching	2.12	1.99	2.05	Disagreed
7	Kahoot tool for assessing students	1.01	0.87	0.94	Disagreed
8	Social media such as Whatsapp an Telegram	2.69	2.91	2.80	Agreed
9	Moodle app for teaching	1.99	0.78	1.38	Disagreed
10	Power point	3.56	3.32	3.44	Agreed
11	Articulate Storyline	1.00	0.14	1.07	Disagreed
12	Individual students' internet search for Assignment	3.78	3.66	3.72	Agreed
13	Youtube to demonstrate practical skills	2.67	2.93	2.80	Agreed
14	Flipped classrooms	2.55	2.21	2.38	Disagreed
15	(CDs and Flashdrives)	3.11	2.76	2.93	Agreed

₁ = Mean of Teachers, ₂ = Mean of Students, g = Grand Mean,

Table 1 contains the means () responses of the various application options for implementing e-learning in JSS Home Economics programme. The Table shows that nine of the items obtained means of 2.50 and above

(2.5). These are therefore implementing e-learning in JSS aaplication options utilized for implementing e-learning in JSS in Oyo State.

Table 2: Mean and Standard Deviation Responses on Challenges Encountered by Teachers in their Utilization of E-learning in JSS Home Economics Programme.

S/N	Challenges Teachers encounter in E-learning Utilization in JSS Home Economics Programme	SD	Remark
1	Lack of proper and advance planning by teachers	3.51 0.99	Agreed
2	Inadequate time dedicated to student support and preparation	3.03 0.82	Agreed
3	Attitude of school management towards procuring and installation of the ICT devices in school	3.7 1.01	Agreed
4	Lack of integration of ICT into pedagogic practice	3.45 0.89	Agreed
5	Lack of preparedness of teachers to integrate technology in teaching	2.75 0.91	Agreed
6	Inadequate software for teaching different aspects of HE	2.97 0.83	Agreed
7	Expensive nature of software for teaching HE in JSS	3.76 1.05	Agreed
8	Most HE teachers lack the skill to fully utilize e-learning technology in curriculum implementation	2.35 0.99	Disagreed
9	High cost of internet facilities	3.37 1.01	Agreed
10	Lack of ICT training and workshop for teachers	3.82 1.42	Agreed
11	Traditional approach to teaching still dominates in school pedagogy	3.53 0.76	Agreed

12	Domestic distractions and unreliable technology eg, electricity, in Nigeria	3.23	1.02	agreed
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= Mean, SD = Standard Deviation,

Table 2 contains the mean and standard deviation responses on the challenges encountered by teachers in the utilization of e-learning in JSS HE programme in the area of the study. The Table shows that all but one of the challenges of e-learning at JSS level highlighted were agreed upon, for each obtained mean values ranged from 2.75 to 3.82 which is above

the cutoff point of 2.50. However, the respondents disagreed that most HE teachers lack the skill to fully utilize e-learning technology in curriculum implementation (2.35). On the other, the standard deviation responses ranged from 0.76 to 1.42 indicating that the mean responses were not far from each other.

Table 3: Mean Responses on Challenges Encountered by Students in the Utilization of E-learning

S/N	Challenges Students encounter in E-learning Utilization in JSS Home Economics Programme		SD	Remark
1	Difficulty in understanding practical skills taught online	3.44	0.81	Agreed
2	High cost of buying data subscription	3.99	1.01	Agreed
3	Epileptic power supply electricity supply	3.21	0.88	Agreed
4	Difficulty in getting and installing soft wares for learning practical lessons	3.44	0.93	Agreed
5	Parental negative attitude towards provision of needed ICT tools for e-learning	2.90	1.00	Agreed
6	Parental perception of e-learning as a waste of resources	3.46	0.78	Agreed
7	Distractions at home	2.82	0.69	Agreed

= Mean, SD = Standard Deviation,

Table 3 contains the mean and standard deviation responses on challenges encountered by students in the utilization of e-learning in JSS HE programme in Oyo state. The Table shows that all seven students related challenges were agreed

upon, with mean values ranged from 2.82 to 3.99 which is above the cutoff point of 2.50. The standard deviation responses ranged from 0.69 to 1.01 indicating that the mean responses were not far from each other.

Table 4: Mean Responses on Ways of Enhancing Utilization of E-learning in JSS HE Programme in Oyo State

S/ N	Ways of Enhancing Utilization of E-learning in JSS HE	₁	₂	g	Remark
1	ICT training for teachers	3.06	3.50	3.28	Agreed
2	Provision of adequate ICT facilities and software for e-learning integration in HE programmes.	3.52	2.88	3.20	Agreed
3	Curriculum review in HE programmes to infuse e-learning so as to meet students technological needs	2.57	2.53	2.55	Agreed
4	Employing technological staff who can help students to benefit e-learning programmes	3.03	3.43	3.22	Agreed
5	Proper planning and provision of needed technological tools, facilities needed for e-learning in HE	2.41	3.81	3.11	Agreed
6	Putting in place procedures for measuring the growth of each individual teacher and student.	3.12	3.44	3.28	Agreed
7	Setting technological targets and introduction of professional development training for teachers	3.59	3.55	3.57	Agreed
8	Making result driven evaluation that will help students to appreciate the value of ICT in HE education program.	2.75	3.77	3.26	Agreed
9	Adequate provision of software applications for teaching HE	3.54	3.92	3.73	Agreed
10	Giving learners feedback and assessment on-line	3.26	3.32	3.29	Agreed
11	Guiding and offering adequate guidance for on-line learning	3.07	2.71	2.89	Agreed
12	Promoting of personal relationship between learners and teachers through well-developed online communication tools	2.88	2.73	2.80	Agreed
13	Ensuring instructional materials uploaded are easy to learn	2.69	3.83	3.26	Agreed
14	Engaging students in online learning activities	3.42	3.68	3.55	Agreed

₁ = Mean of Teachers, ₂ = Mean of Students, g = Grand Mean,

Table 4 contains the mean and standard deviation responses on ways of enhancing utilization of e-learning in HE Education programmes in JSS in Oyo State. From the analysis, all of the responses were agreed upon with grand mean values ranging from 2.55

to 3.73 which are above the cut off point of 2.50.

Discussion of Findings

Results in Table 1 show that the various application options of implementing e-learning for teaching

JSS HE programme included use of slides in teaching, use of projector, teaching with recorded videos of specific skills, teaching with zoom, use of social media such as whatsapp and Telegram, use of power point, individual students' internet search for assignment, use of Youtube to demonstrate practical skill and recording practical demonstrations in CDs and Flash drives. The findings are consistent with the findings of Malama and Adebisi, (2019) noted that several strategies (application options) can be used to enhance teaching with e-learning. According to the authors, the strategies include providing various ways of interacting and communication through the use of such applications like Skype, zoom, Google classroom, chat forums or discussion boards as well as utilizing different e-learning techniques such as online assessment as a form of students motivation. The findings of the present study are also in line with the findings, Abdelsalam, Ebitisam, Aljawarneh, Hasan and Hadeel (2022) who reported that e-learning can be effectively utilized through the use of overhead projectors, slides, transparencies and magnifiers and computers with special devices.

Results in Table 2 showed that the teachers challenges of utilizing e-learning in JSS Home Economics programme included lack of proper and advance planning; inadequate time dedicated to student support and preparation; attitude of school management and authorities towards procuring and installation of the ICT devices in school; lack of integration of ICT as a pedagogic practice; preparedness of teacher to integrate

technology in teaching; inadequate software for teaching different aspects of Home Economics subjects; expensive nature of Software for teaching Home Economics in secondary schools; domestic distractions and unreliable technology in Nigeria and most Home Economics teachers do not lack the skill to fully utilize e-learning technology in curriculum implementation. In agreement with the findings, Lara, Aljawarneh and Pamplona (2020) reported that compared to developed countries, most developing countries face many challenges in applying e-learning including poor internet connection, insufficient knowledge about the use of information and communication technology, and weak content development. Also in line with the findings, Idowu, Adagunodo and Popoola (2013) reported that most teachers face challenge in implementing e-learning because they were taught without ICTs (e-learning and they have not developed competence in the use of ICTs (e-learning), thus they cannot model good use of technology to students. The authors further noted that non-inclusion of ICT programs in teacher's training curricula at the basic levels of education.

Findings in Table 3 showed that the challenges encountered by students in the utilization of e-learning in JSS Home Economics Programme included difficulty in understanding practical skills taught online, high cost of buying data subscription, epileptic power supply, difficulty in getting and installing soft wares for learning Practical, parental negative attitude towards provision of needed ICT

tools for e-learning, parental perception of e-learning as a waste of resources and distractions at home. In line with the findings, Lizcano, Lara and White (2020) stated that challenges facing use of e-learning included acquisition of the Internet infrastructure that supports education systems and the high cost of buying the electronic equipment needed and maintaining the equipment. Also in agreement with the findings, Salawudeen, (2010) noted that the challenges facing students in the use of e-learning included inequality of access to the technology itself by all the students. The cost of a personal computer (PC) and Laptop are still very high in Nigeria considering the income level of an average worker in the country. Few students that are privileged to have a PC/Laptop are not connected to the internet as this attracts extra cost which students cannot afford.

Results in Table 4 indicated that the ways of enhancing utilization of e-learning in JSS Home Economics programme included ICT training for teachers; provision of adequate ICT facilities and Software for e-learning integration in Home Economics programmes; curriculum review in Home Economics programmes to infuse e-learning so as to meet the technological needs of students; employing a technological leader who will develop a vision of how the students will benefit from e-learning program and adequate provision of software applications for teaching Home Economics such as Computer Aided Pattern Drafting (CAPD) and Computer Aided Designs (CADs). In agreement with the

findings, Aljawarneh (2020) stated that teachers should provide learners with the opportunity to collaborate, share, and create information which will help enhance the learner's use of various technologies, enhance their e-learning experience, and support self-directed and ongoing learning. Also in line with the findings, Lara, Aljawarneh and Pamplona (2020) noted that the challenges of the use of e-learning can be reduced when the teacher implements a learning environment that encourages collaboration between the teacher and students. Also, Abdelsalam, Ebitisam,

Aljawarneh, Hasan and Hadeel (2022) stated that for effective teaching in internet enabled learning environment, there is need to train and continuously re-train teachers on the use of innovative technologies for online teaching.

Conclusion

E-learning can be described as intentional use of information and communication technology (ICTs) in teaching and learning. Findings of the study indicated that the various means of implementing e-learning in teaching JSS Home Economics programme included use of slides, use of projector, teaching with recorded videos of specific skills, teaching with zoom and social media such as whatsapp and Telegram. Findings of the study also indicated that the teachers' challenges of e-learning included inadequate software for teaching HE courses and attitude of school management towards procurement and installation of technological devices. Findings showed that the challenges encountered by students in the

utilization of e-learning in JSS Home Economics Programme included difficulty in understanding practical skills taught online and high cost of buying data subscription. Findings also showed that the ways of enhancing use of e-learning in Home Economics programme included ICT training for Home Economics teachers; provision of adequate ICT facilities and software for teaching Home Economics courses and curriculum review in Home Economics to embed e-learning.

Recommendation

Based on the findings of the study, it was recommended that:

1. Teachers should utilize several e-learning platforms in teaching Home Economics.
2. Parents should provide the needed ICT facilities such as broadband, computer systems, electricity and soft wares for their children to enhance children participation in e-learning.
3. Home Economics teachers should acquire relevant ICT skills required for adopting e-learning and integrating e-learning in their teaching practice.
4. School management and administrators should provide relevant software for teaching different aspects of Home Economics, for example, in clothing and textile, if Computer Aided Pattern Drafting (CAPD) software is provided, it will facilitate e-learning in pattern drafting classes and intelligent tutor will help in teaching food and nutrition.
5. There should be provision of ICT infrastructures and facilities in different areas of Home Economics.

For example, provision should be made for ICT facilities such as monogramming machines for garment making, computerized bread makers, cake mixers, among others.

6. There should be regular training and re-training programmes for Home Economics teachers inform of seminars and workshops.

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