E-learning and Distance Learning in Teaching and Learning of Home Economics Programmes

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Abstract
Social and economic dynamism in the society today suggest the increasing need for e-learning and distance learning. E-learning programs, as the name implies, incorporate electronic or instructional technology while distance learning may require textbooks, e-learning programs typically function fully online. This study reviewed information from Internet sources, textbooks, journals and conference papers and identified some benefits of e-learning and distance education in teaching and learning of Home Economics Education to include assisting teachers in the preparation of teaching materials and demonstration of practical classes to learners; providing relevant information needed for research and acting as an aid to teaching. Among the challenges of e-learning and distance education in Home Economics Education are inadequate software for teaching and learning and attitude of school management towards procurement and installation of technological devices. It was deduced that the strategies for integrating e-learning and distance education in Home Economics courses included ICT training for Home Economics teachers; provision of adequate ICT facilities and software for teaching of Home Economics courses and curriculum review in Home Economics to embed e-learning.

Keywords: E-learning, Distant Learning, Home Economics, Education

Introduction

E-learning and distance learning is fast becoming an accepted and indispensable part of the mainstream of educational systems in both developed and developing country like Nigeria. This growth has been stimulated in part by the interest among educators and trainers on the use of new, Internet-based and multimedia technologies, and also by the recognition that traditional ways of organizing education needs to be reinforced by innovative methods if the fundamental right of all people to learning is to be realized (Oblinger,2001). Distance education and e-learning provide viable educational alternatives for busy adult learners. While the two terms often seem interchangeable and possess some similarities, they also have subtle differences. E-learning is distance education in a broad sense, but distance education is not necessarily e-learning. Jegede (2005) described electronic learning

(e-learning) as the presentation and delivery of learning materials using the electronic media. 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. Distance learning is the education of students who may not always be physically present at a school (Kaplan & Haenlein, 2016). Distance learning usually involved correspondence courses wherein the student corresponded with the school via post. However, Tabor (2007) reported that in recent times, distance learning involved online education. Courses that are conducted via distance learning are (51 percent or more) hybrid or blended or 100% whole instruction (Tabor, 2007).Various distance education programs may require Internet use for online exams or to review grades, yet many operate strictly on a correspondence basis.

The terms "e-learning" and "Distance Education" represent approaches that focus on opening access to education and training provision, freeing learners from the constraints of time and place, and offering flexible learning opportunities to individuals and groups of learners. Open and distance learning is one of the most rapidly growing fields of education, and its potential impact on all education delivery systems has been greatly accentuated through the development of Internet-based information technologies, and in particular the World Wide Web (Self, 2000). As Nigerian governments becomes more aware of the potential of open and distance learning, it is essential for their educational planners to key into the opportunities offered by new technologies and also to be realistically examined within the framework of national development plans as well as educational policies in particular (Joumana, Dana & Hamid, 2012). Today, e-learning and various online education applications are used in more countries and educational institutions than ever before. E-learning provides students with convenience and flexibility not found in traditional school programs. While some programs may require textbooks, many institutions provide online versions of textbooks as well as all other necessary learning materials, study aids, and even virtual libraries. In addition, students typically have access to asynchronous discussion boards, synchronous live chat options, recorded lectures, and other virtual opportunities to interact with instructors and fellow classmates. Some live sessions require virtual attendance on specific days and times, and assignments have mandatory due dates, but everything else is available any time of the day or night for ultimate convenience in planning ones studying and schoolwork schedule (Joumana, Dana & Hamid, 2012).

Many distance education programmes provide courses in preparation for examinations and degrees which are equivalent or similar to those offered by conventional institutions. Organization for Economic Co-operation and Development (OECD) (2005) stated that e-learning is becoming increasingly prominent in tertiary education, with universities increasing provision and more students signing up thereby changing the way schools teach and students learn. One of the courses offered in Nigerian institutions is Home Economics. Home Economics (HE) is the profession and field of study that deals with the economics and management of the home and community. The field deals with the relationship between individuals, families, and communities, and the environment in which they live. According to Abiamuwe, Seriki-Mosadolorun, Ogbonna, and Otobo (2016), Home Economics prepares students for homemaking or professional careers and assists in preparing to fulfill real-life responsibilities at home. As an academic profession, it includes educators in the field

of human services professionals. The field represents many disciplines including consumer science, nutrition, parenting; early childhood education, family economics, human development, interior design, textiles, apparel design, as well as other related subjects. Anyakaoha (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 & Adu, 2015). HE seeks to provide personal growth through experiential hands-on learning and practical experiences, which in turn support students in developing knowledge and attitudes towards the use of resources, including technology Abiamuwe, Seriki-Mosadolorun, Ogbonna, and Otobo (2016). The practical approach of teaching HE offers opportunities to use active methodologies which can prepare students to think about problems that need to be solved, to seek information, think critically, investigate a range of choices, manage their resources, express themselves with confidence, make judgments and decisions and evaluate their results (Home Economics State School Syllabus, 2008).

Home Economics can lend itself to the integration of e-learning and teachers need to support such a potential. The widespread use of computers and the internet have made distance learning easier and faster, and today virtual schools deliver full curricula online (Targgart, 2007). Application of e-learning facilities provides productive teaching and learning in order to increase student'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 and Iyanmu, 2005). Ozioma and Offordile (2011) stated 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 and television provide easy access to quality learning materials and make reasonable and responsible contributions to the learning process.

Oye, Iahad, Madar and Rahim (2012) emphasized 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 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, Ozoemena (2014) opined that e-learning is a relatively new educational technology in Nigeria and Home Economics Teachers need to acquire the knowledge and competences involved in Internet-based learning. In the same line of thought, Ozioma and Offordile (2011) mentioned that e-learning educational technologies and the potentials involved are not same or similar to the ones in a regular school setting. Also, availability and application of e-learning 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 should be a connection between teaching strategies, economy and the choice of technology to suit the immediate need of the individuals and the society.

Overview of E-learning and Distance Learning

E-learning involves the application of computer and information technology in teaching and learning. Ozoemena (2014) defined e-learning as 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. 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. E-learning refers to any type of learning situation when instructional content is delivered electronically via the Internet when and where people need it. Ajayi (2005) defined e-learning as learning through electronic means such as via the web, internet or other multimedia materials like computer, projector, television, audio and audio visual cassette, radio disc and the likes. E-learning is an important instructional tool needed to facilitate transfer of many types of information and an effective means of communication in schools and colleges. E-learning can be manifested in one-to-one (teacher-to-student), one-to-many (teacher-to-group) and many-to-many (group to group) approaches to instruction (Ozoemena, 2014).

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 intellectual resources especially in today's information society. Computers have become more powerful, satellite, fiber optic cable and wireless technology has increased transmission capacity; and software developments have made it easier to create digital materials such as electronic games, computer simulations and educational materials. The ubiquitous presence of Internet, rapid advancement in ICT and recent developments in learning technology have resulted in transition of traditional technology supported distance education to e-learning. Learning methods need to become more portable and flexible. E-learning has been crucial to meet this new challenge.

The concept of e-learning has emerged from distance learning and offers new methods for distance education based on ICTs. E-learning is the modern form of distance education supported and driven by ICT and is characterized by any place and anytime learning (OECD, 2005). To make use of full potential of this form of learning, it is necessary for both learners as well as instructors to be aware and knowledgeable with the related existing technologies. E-learning is meant for learner communities, which may vary significantly in terms of accessibility, hardware and technical proficiency. Teachers must design the courses keeping in mind the learners' technical limitations so that they may use e-learning tools effectively (Aasim & Nesar, 2006).

Approaches to Lesson Delivery in E-Learning and Distant Learning

The modern use of e-learning facilitates distance learning and independent learning by the extensive use of information and communications technology (ICT) devices, replacing traditional content delivery by postal correspondence. Lee (2008) stated that instruction can be synchronous and asynchronous online communication in an interactive learning

environment or virtual communities, in lieu of a physical classroom. Robbie (2013) mentioned that the focus is shifted to the education transaction in the form of virtual community of learners sustainable across time. Although the expansion of the Internet blurs the boundaries, distance education technologies are divided into two modes of delivery: synchronous learning and asynchronous learning. Synchronous learning occurs in real-time, with all participants interacting at the same time, while asynchronous learning is self-paced and allows participants to engage in the exchange of ideas or information without the dependency of other participants′ involvement at the same time.

In synchronous learning, all participants are "present" at the same time. In this regard, it resembles traditional classroom teaching methods despite the participants being located remotely. Synchronous learning refers to the exchange of ideas and information with one or more participants during the same period (Jedlicka, Brown, Bunch and Jaffe, 2002). Meyer (2015) asserted that synchronous learning requires a timetable to be organized. Robbie (2013) reiterated that web conferencing, videoconferencing, educational television, instructional television are examples of synchronous technology devices, as are direct-broadcast satellite (DBS), internet radio, live streaming, cell phone and phone tablets. Regan (2015) mentioned that web conferencing software helps to facilitate meetings in distance learning courses and usually contain additional interaction tools such as text chat, polls, hand raising and emoticons.

Examples of synchronous learning are face-to-face discussion, online real-time live teacher instruction and feedback, Skype conversations, and chat rooms or virtual classrooms where everyone is online and working collaboratively at the same time. In synchronous approach, a Home Economics teacher can adopt the use of chat rooms like Whatsapp and yahoo messenger in teaching the processes involved in the production of different crafts. The HE teacher can also use chat rooms to explain and describe the procedures involved in bag making, bead making, cake making, macramé articles, dress making and production of different crafts and confectionaries. The HE teacher can also utilize videos such as skype, Whatsapp video or yahoo video in teaching practical demonstration of skills. The teacher can demonstrate how to: lay out fabrics correctly before cutting; mix dough in bread making; cream fat and sugar in cake making; tie knots in macramé articles among other skills. Through the synchronous approach, students are expected to be actively involved by participating in the tasks and asking questions in areas that need clarification.

In asynchronous learning, participants access course materials flexibly on their own schedules. Students are not required to be together at the same time. Meyer (2015) stated that mail correspondence, which is the oldest form of distance education, is an asynchronous delivery technology, as are message board forums, e-mail, video and audio recordings, print materials, voicemail, and fax. In asynchronous approach, a HE teacher can teach students through recording lecture notes in various storage devices such as CDs, VCDs and online textbooks. The learners can access these devices and learn independently. Videos and voice recordings of different lecture notes can also be made available for learners through emails, web 2.0 tools, social networking sites and other electronic devices.

Taggart (2007) reiterated that distance learning can use interactive radio instruction (IRI), interactive audio instruction (IAI), online virtual worlds, digital games, webinars, and webcasts, all of which are referred to as e-learning. The extent to which

e-learning assists or replaces other learning and teaching approaches is variable, ranging on a continuum from none to fully online distance learning (Anderson & Dron, 2011).In asynchronous online courses, students proceed at their own pace. If they need to listen to a lecture a second time, or think about a question for a while, they may do so without fearing that they will hold back the rest of the class.

Benefits of E-learning and Distant Learning in Home Economics Education

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**.** Technology is not an education panacea, it can support and extend teaching and learning through activities which offer new and interesting ways of developing skills. E-learning encourages the creative use of modern information technologies to construct learning environments which are rich, varied and facilitate the development of student-centred learning practices. Eze and Adu (2013) opined that the ability to access and effectively utilize information is no longer a luxury but a necessity for development. The advent of computers and internet has impacted so much on 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 (Shavinina, 2001). Calverley and Shephard (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.

Okoroh (2006) observed that e-learning and technology facilities do not only help students but they also assist teachers in the preparation of teaching materials, demonstration of equipments and concept as well as practical classes. Demonstration of skills can be taught to students through video, Skype and online real time instruction teaching. These forms of synchronous e-learning materials can be very useful in supporting a topic, and the combination of both audio and visual stimuli is particularly effective since the two most important senses are involved. 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 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. 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. E-learning is increasingly deployed as a tool to extend the learner's capacity to perceive, understand and communicate, as seen in the increase in online learning programs and the use of the computer as a learning support tool in the classroom. Aduwa-Ogiegbaen and Iyanmu (2005) explained that the use of e-learning and technological devices as an aid to teaching can enhance educational efficiency. They maintained that efficiency in teaching various subjects could be improved through e-learning. For instance, many Home Economics teachers are teaching large classes because of increasing number of students in schools. In this situation, students no longer receive the much desired individual

assistance but with e-learning integration, individualization of instruction in Home Economics can be enhanced. Eze and Adu (2013) posited that e-learning enhances the possibility of using carefully prepared computer programs to ensure that learners are accurately and systematically instructed.

Distance learning provides a broader method of communication within the realm of education. With the many tools and programs that technological advancements have to offer, communication appears to increase in distance education among students and their teachers, as well as students and their classmates. Robbie (2013) opined that the distance educational increase in communication, particularly communication amongst students and their classmates is an improvement that has been made to provide distance education students with as many of the opportunities as possible as they would receive in regular education. Lee (2008) reported that present-day online communication allows students to associate with accredited schools and programs throughout the world that are out of reach for regular school learning. By having the opportunity to be involved in global institutions via distance education, a diverse array of thought is presented to students through communication with their classmates. This is beneficial because students have the opportunity to combine new opinions with their own, and develop a solid foundation for learning (Nguyen, 2015).In the same line of thought, Michael (2009) deduced that to increase the likelihood that students would build effective ties with one another during the course of study, teachers should use similar assignments for students across different locations to overcome the influence of location on learning.

The high cost of education affects students in higher education, to which distance education may be an alternative in order to provide some relief (Anderson and Dron, 2011). Distance education has been a more cost-effective form of learning, and can sometimes save students a significant amount of money as opposed to traditional education. Distance education may be able to help to save students a considerable amount financially by removing the cost of transportation (Yuan and Geri, 2006). In addition, distance education may be able to save students from the economic burden of high-priced course textbooks. According to Nguyen (2015), many textbooks are available as electronic textbooks, known as e-textbooks, which can offer digital textbooks for a reduced price in comparison to traditional textbooks. The increasing improvements in technology have resulted in many school libraries having a partnership with digital publishers that offer course materials for free, which can help students significantly with educational costs. Furthermore, distance learning may enable students who are unable to attend a traditional school setting, due to disability or illness such as decreased mobility and immune system suppression, to get a good education (Lee, 2008). Also, distance learning offer a final opportunity for adolescents that are no longer permitted in the general education population due to behaviour disorders. Instead of these students having no other academic opportunities, they may continue their education from their homes and earn their degrees, offering them another chance to be an integral part of society (Michael, 2009).

Challenges of E-learning and Distance Learning in Home Economics

The rapid changes that have taken place all over the world poses a challenge to the educational sector in Nigeria. 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 (Ozoemena, 2014). 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). Also, Ajayi (2005) observed that educational institutions are not yet fully computerized hence, the professionals do not have access to the different information and communication technologies. Whilst teachers are coping with the day to day running of the classroom and attempting to use some low level technologies such as using Microsoft PowerPoint, internet searches and video clips, they are expected to integrate technology as a pedagogic practice. However, Ertmer (2005) reported that teachers are ill-prepared to integrate technology in teaching. This can be attributable to inadequate software for teaching different aspects of Home Economics programme.

Most software applications for teaching Home Economics courses such as Computer Aided Pattern Drafting (CAPD) and Computer Aided Designs (CADs) are very expensive and not readily available. Software in schools consists mostly of office software or productivity tools for word processing, slide presentations, numeric spreadsheet, or database management. According to Tinio (2002), educational software for learning vocational subjects, science, English and Mathematics are few. Ozoemena (2014) reported that computer and e-learning facilities are expensive to purchase and as such not all schools can afford them. Inadequate ICT facilities and other basic infrastructures to power and run ICT equipment hamper the effective application of e-learning in Home Economics as most schools lack the necessary capacity to put a standby power generating plant for this purpose (Ozioma and Offordile, 2011). Also, most Home Economics teachers lack the skills to fully utilize e-learning technology in curriculum implementation hence the traditional chalk and duster approach still dominates in school pedagogy. One must also appreciate that there are intrinsic and extrinsic barriers which can play a crucial role in ICT integration. There must be more focus on training and support for the teachers in a school setting which is totally engaged to increase effective technology use in classroom practice. In a study carried out by Cuban (2001), in schools scattered throughout the Silicon Valley and San Francisco Bay, teachers who could integrate technology seamlessly into daily classroom practice and demonstrate high pedagogic skills were the exceptions. For most, the uses of technologies were infrequent and limited. Michael (2009) pointed out that despite the policies and large investments in ICT for schools, there are weak connections between this investment and the use of ICT for teachers' in-service professional development except for teaching teachers basic computer skills. Teachers may be utilizing a computer extensively for personal use, yet technology integration in curricula is not yet satisfactory. Lee (2008) found out that teachers spend time on their home computers for personal businesses, preparing lessons, writing notes, documenting work and emailing and doing internet searches. However, Ozioma and Offordile (2011) argued that teachers need more exposure to simple and appropriate technology for Home Economics in ways which would enhance learning. Department of Education and Skills (2014) reported that until recently schools have been dabbling with technology and

teachers mostly continue to do things with technology in ways which fit in with their present practices. He stated that children are adopting technology in new ways, often inventing innovations and adopting them as their preferred method of behaviour, but this practice has not made its way into schools yet. Embedding ICT in teaching, learning and assessment is a complex endeavour and the mere presence of ICT in a school does not equate to its effective use (OECD, 2015). Oye, Lahad, Madar and Rahim (2012) pointed out that in the absence of a high extent of use of ICT facilities for teaching and learning vocational subjects, digital technologies become more unequally distributed, thus heightening the technical divides between peoples and poor entrepreneurial skills development.

Another barrier to effective distance education and e-learning include obstacles such as domestic distractions and unreliable technology (Robbie, 2013), as well as students' adequate contact with teachers and support services, and a need for more experience (Casey & Michaels, 2010). Students must be provided with training opportunities (if needed) on each tool that is used throughout the program. Lack of advanced technology skills can lead to an unsuccessful experience. Schools have a responsibility to adopt a proactive policy for managing technology barriers. A more complex challenge of distance education relates to cultural differences between student and teachers and among students. Distance programmes tend to be more diverse as they could go beyond the geographical borders of regions, countries, and continents, and cross the cultural borders that may exist with respect to race, gender, and religion.

Strategies for Integrating e-learning in Teaching and Learning in Home Economics programmes

E-learning is an important factor in the educational sector that holds a great promise to improving teaching and learning in institutions, when properly adopted and applied. 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 enhances teaching and learning and increases student's creative and intellectual resources especially in today's information society. In essence, to benefit from the full impact of e-learning integration, ICT should be embedded into the school culture. This often entails redesigning educational infrastructure, teacher training (approaches), curriculum structures and materials, classroom practices and modes of assessment (Adesoji, 2012). Teachers and school leaders also require considerable support in bringing about meaningful ICT integration. This support enables schools to successfully foster a culture of innovation and design more authentic learning experiences for students where they are actively engaged with ICT. The following are some of the strategies for integrating e-learning and distance learning in teaching and learning Home Economics programmes:

1. ICT Training for Teachers

E-learning has been defined as 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 (Adesoji, 2012). By implication, e-learning involves the application of computer and information technology in teaching and learning. Home Economics teachers therefore need adequate professional development trainings so as to update their knowledge. In transforming teacher training

and professional development programmes, there is need to ensure that young graduates and experienced teachers are trained appropriately to teach with technology. Department of Education and Skills (2014) reiterated that the deployment of equipment and infrastructure to schools has been accompanied by some elements of professional training in basic computer skills for teachers. However, Ozoemena (2014) pointed out that the type of training being offered in basic skills is necessary, although it does not fully prepare teachers to successfully integrate lCT into the curriculum in ways which will actively contribute to the teaching and learning. Despite various training programs been provided to teachers, there is still a need to embark on a comprehensive and sustained in-service training on ICT and e-learning integration for HE teachers. To date, HE teachers have not been provided with a specific lCT in-service training (Adeladu & Adu, 2015).Vassallo (2004) reported that teachers did not feel that the induction courses given prior to the introduction of computers to schools were adequate. There is a compelling need for training and retraining of Home Economics teachers in the effective use of information and communication technology.

2. Provision of adequate ICT facilities and Software for e-learning integration in Home Economics programmes

Adequate provision of software applications for teaching Home Economics courses such as Computer Aided Pattern Drafting (CAPD) and Computer Aided Designs (CADs) would go a long way in enhancing e-learning in Home Economics. ICT materials such as software and varying multimedia are needed in an e-learning environment to supplement instruction. Department of Education and Skills (2014) stated that an education modernization program will equip schools with facilities, equipment, materials and skills and introduce new learning and delivery systems necessary to capitalize on recent technological developments. Learning materials and resources are essential components in all distance learning systems. Comprehensive, well designed materials may stimulate self-directed learning and thus influence the quality of the system as a whole. Design, development and production of materials are often considered as a sub-system in distance teaching organizations. Previously produced, existing materials, videos, text-books and software may be used in e-teaching but in most cases each programme benefits from having specifically designed learning materials. Lau-Ho (2005) noted that e-learning facilities are useful in Home Economics as a tool for curriculum delivery, assessment, research, and hands-on experience. Lau-Hostated further that Home Economics teachers need to use e-learning to facilitate curriculum delivery, practical lessons, and follow-up of students' learning activities. 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.

3. Curriculum Review in Home Economics prorammes to infuse e-learning

One of the primary factors that influence the effectiveness of e-learning is the pedagogical curriculum design for effective use of ICT. The computer should be fitted into the curriculum, not the curriculum into the computer (Home Economics State School Syllabus, 2008). Effective ICT integration in Home Economics should focus on pedagogy design by justifying how the technology is used in such a way and why. Effective ICT integration into the learning process has the potential to engage learners

(Wang and Woo, 2007). Most schools in developing countries are presenting themselves as innovative educational institutes by utilizing web-based technology or the Internet to deliver instruction (OECD, 2005). In the last few years, there is an emergence of distance education programs in most schools where online learning classes to students mostly outside the country are provided (Department of Education and Skills, 2014). The curriculum of Home Economics programmes should be reviewed to integrate ICT so as to meet the technological needs of students.

4. Need for Technological Leadership in Schools

To be an experienced and capable technological leader, school administrators must be trained in vision, planning and management. This is the most important foundation of technological leadership. A technological leader must develop a vision of how school reform will be affected by technology. Planning and establishing resources for staff development are the most important responsibilities of a technological leader, followed by ICT tools and infrastructure support and evaluation and research (Adeladu and Adu, 2015). The implication is that technological leaders would plan and provide all the needed technological tools, facilities and equipment for effective e-learning in Home Economics. Effective technological leaders must administer procedures for measuring the growth of each individual teacher. They also must set technological targets and introduce professional development plans (Chang, 2012). A systematic development program for these leaders' needs must be implemented to change their mindset so they appreciate the value of ICT in education.

Conclusion

E-learning is distance education in a broad sense, but distance education is not necessarily e-learning. Distance education and e-learning provide viable educational alternatives for busy adult learners. The benefits of e-learning and distance education in Home Economics include assisting teachers in the preparation of teaching materials and demonstration of practical classes to learners; providing relevant information needed for research and it also act as an aid to teaching. Some of the challenges of e-learning and distance education include inadequate software for teaching HE courses and attitude of school management towards procurement and installation of technological devices. Form the articles reviewed, it was deduced that the strategies for integrating e-learning and distance education in Home Economics courses 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.

Recommendations

The following recommendations were proffered:

1. Home Economics teachers should acquire relevant ICT skills required for adopting e-learning and integrating e-learning in their teaching practice.
2. School management and administrators should provide relevant software for teaching different aspects of Home Economics. For example, in Clothing and Textiles, if Computer Aided Pattern Drafting (CAPD) software is provided, it will facilitate e-learning in pattern drafting classes.
3. 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 knit machines, computerized bread makers, cake mixers, among others.

4. There should be regular training programmes for Home Economics teachers inform of seminars and workshops, organized for both pre-service and in-service teachers

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