

E-LEARNING THROUGH INFORMATION AND COMMUNICATION TECHNOLOGY: A SUSTAINABLE METHODOLOGY FOR ADULT EDUCATION IN NIGERIA

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Abstract

In keeping with the philosophy of adult education, the adult education policy would require continual review of both content and method of delivery of instruction in a sustainable way in order to ensure their currency, appropriateness and conformity with trends in the 21st century in terms of the pedagogy among other things. This paper discusses e-learning through Information and Communication Technologies (ICT) as basic tools which have a revolutionary impact on educational methodology globally. Information and Communication Technology has given birth to the contemporary e-commerce, e-government, e-medicine and e-learning which is the primary focus of this paper. The paper discusses the use of e-learning through ICT as a suitable methodology for adult education in Nigeria. It discusses the conceptual clarifications, the provision of ICT in the National Policy on Education stressing the deficiencies in the policy. It also examines the fundamental requirements of e-learning in adult education in Nigeria, the benefits of e-learning in adult education and the challenges to its application. The paper lastly offers recommendations for the development of e-learning in adult education in Nigeria.

Key Words: E-Learning, Information Communication (ICT), Online learning, Adult Education, E-Education, National Policy on Education

In today's knowledge economy, learning is needed to survive and to thrive, therefore knowledge is power and the proliferation of knowledge through e-learning is not a luxury but a necessity for current and future generations. The introduction of e-learning through information and communication technology (ICT) as an innovative method of disseminating knowledge seems to be an indispensable technological device that is capable of enhancing knowledge and also serving as powerful tool for the acquisition of skills. The use of technology in education, commonly defined as e - learning, has become a standard component in many courses. The latest e-learning Innovations such as mobile learning (MLearning) according to (Tremblay, 2010) or web based collaborative open environments (Lewin, 2011) is making the education more competitive but also saves resources now and in the future

Current realities in the globalized world have made it necessary for the introduction of certain innovations in our educational system. In fact, society and education are highly interdependent. As society changes, the educational system has to change accordingly (Westera and Sloep, 2001). ICT in education has the potential to be influential in bringing about changes in ways of teaching and learning.

Online and web based courses within the scope of adult education has become popular with both students and educational institutions as a new mediums to deliver educational programs and opportunities. For universities and other educational programs, e- learning is an excellent way to reach adult students in diverse and distant locations. Therefore, e-learning through ICT has come to meet the thirst for knowledge in the area of adult education

Conceptual Clarifications

E-Learning- E-learning is a term, introduced along with the introduction of information and communication technology for educational purposes. Definitions of e-learning are various, diverse and lack unity, consequently, it is of outmost importance to provide a precise definitions of e-learning and the

related notions. For the purpose of this paper, the umbrella term “e-learning” refers to all forms of electronically supported instruction. Tinio (2002) defines E-learning, to encompass learning at all levels, both formal and informal, with the use of an information network – the Internet, an intranet (LAN) or extranet (WAN) whether wholly or in part, for course delivery, interaction and/or facilitation.

E-Learning provision may be either:

- a) Web-supported
- b) Web-dependent
- c) Fully online

From the foregoing, it is referred to as online learning using an Internet browser (such as Netscape or Internet Explorer). E-learning applications and processes include web-based learning; computer based learning, virtual education opportunities and digital collaboration. E-learning signifies some sort of pedagogy with which learning is transported via digital technology of any kind that uses the computer in most cases. In whatever form that it is used, e-learning connotes that learners’ access information online or use the internet to receive instructions from expert instructors separated from them in time and space (Wikipedia, 2015). The term “e-learning” has many connotations and forms. These can be categorized under three e-learning course types.

- I. **Online distance-learning courses:** Here, the instructor conducts class sessions online— not via mail. This usually requires no face-to-face meetings between students and instructor in the classroom.
- II. **Traditional courses supplemented with technology:** The instructor teaches all sessions in the classroom but incorporates technology in some or all classes, such as PowerPoint, Web-based, multimedia, virtual library, and online testing.
- III. **Hybrid courses:** The instructor here combines the elements of online distance-learning courses to replace some classroom sessions with virtual sessions, online forums, or Web-based activities.

Information and Communication Technology (ICT) - ICT refers to technologies that are applied in the process of collecting, storing, editing, retrieving and transfer of information in various forms (Olakulehin, 2007). The Federal Ministry of Education, Nigeria (2010) defines ICT as encompassing all equipment and tools (inclusive of traditional technologies of radio, video and television to the newer technologies of computers, hardware, etc.), as well as the methods, practices, processes, procedures, and principles, that are used in the conduct of the information and communication activities. The information and communication technology (ICT) has become a key tool that has revolutionized how we see the world and how we live in it. This phenomenon has given birth to advances in our ways of life and also having a revolutionary impact on educational methodology in adult education (Adewale, 2003). These new ways constitute a shift from a teacher-centered to learner-centered pedagogy (Tinio, 2003).

Adult Education- Adult education emphasizes all forms of functional education programmes for youths and adults outside the formal school system. Such educational programmes include basic literacy programme, post literacy programme, continuing education programme and vocational education programme (F.R.N. 2008). Adult education programmes cover basic literacy, post-literacy, women’s, workers’, vocational, extension agent training, in-service training, on-the-job training, distance and nomadic education. The Adult education, as an integral aspect of education is a learning process whether formal, informal and non-formal which an adult person engages in for better information, self and national development (Onyenemezu, 2012). The National Policy on Education (2004) provides for Adult and non-formal education as an instrument par excellence for lifelong education. Section 6 of the Policy outlines the goals of adult and non-formal education to include providing functional literacy and continuing education for adults and the youths, provide education for different categories of completers of the formal education system to improve their basic knowledge and skills, provide in-service, on-the-job,

vocational and professional training for different categories of workers and give adult citizens of the country necessary aesthetics, cultural and civic education for public enlightenment.

Adult education can be explained using four approaches for analysing it: education as a practical training for an individual's career and professional life; education as an activity meant to enhance life quality; education as a form of democratic activity; and education as a form of social action. Li and Irby (2008, pp. 450-451) differentiate three categories of adults who participate in on-line courses: these categories include "employed individuals who strive for promotion, individuals whose activity does not allow for a regular schedule, and parents with children, who, due to their family responsibilities, cannot attend a face-to-face form of training. They regarded e-learning as "a vehicle to facilitate access to the underserved populations, and also expands student access to courses or institutions that are not in their geographical area including international locations". A great deal of research has proven the benefits of ICT in improving the quality of adult education (AL-Ansari, 2006)

The National Policy on ICT

The Federal Government of Nigeria in the National Policy on Education 1998 and 2004 recognizes the prominent role of ICTs in the modern world and has integrated ICTs into education in Nigeria (Adomi and Kpangban, 2010; Nwachi, 2013). In the same vein the National Policy on Information Technology (IT), Federal Republic of Nigeria (2004) also envisage the integration of ICT at every level of educational institution in order to realize the goals of education as enshrined in the National Policy on Education (Udiana, 2013). This according to Udiana (2013) has made Nigerians to embrace technology and the development of technologically skilled work becomes a major concern and the continuous development of human capital, an important source of economic value. These make education and training lifelong issue for all citizens and e-learning offers opportunity to those adults wish to continue their formal education under non-formal setting.

In 2001 the Federal Government of Nigeria approved a National Policy for Information Technology (IT). The implementation of the ICT policy started in April 2001 after the Federal Executive Council approved the establishment of the National Information Technology Development Agency (NITDA). The vision statement of the policy aimed "to make Nigeria an IT capable country in Africa and a key player in the information society, using IT as the engine for sustainable development and global competitiveness." Its mission statement is "to use IT for education, creation of wealth, poverty eradication, job creation and global competitiveness" (Hooker, Mwiyeria & Verma, 2011).

The policy, judging from its mission, general objectives and strategies recognized the importance of ICT in education. Some deficiencies observed according to Olatokun (2009) are as follows:

- a. The document lacks any sectoral application to education. While sectoral application exist for health, governance, agriculture, legislation, and others, issues on education are grouped under sectoral application for human resources development.
- b. The impact of ICT on education is limited to its economic competitiveness. It ignores the potential of ICT as a means of teaching and learning.
- c. Students cannot acquire knowledge in a vacuum; they must be taught by teachers. However, the policy does not address the issue of teachers' ICT education. Many teachers are incompetent in using ICT to impart knowledge because they also lack such education.
- d. The national IT policy does not acknowledge the need to develop nationally relevant context software for the education system.

The reality according to Olatokun (2009) is that the national policy is not focused on the basic issues involved in quality ICT application in education.

E-Learning and Adult Education

The use of e-learning through Information and Communication Technology in educational process especially adult learning cannot be over looked. It is the best and the easiest way of communication between the instructors and their individual students across distances. The need to use e-

learning in a knowledge-based society, which prompts the adult to strive to achieve professional development, is emphasized by Siebert (2001) using the following arguments:

- a. scientific information becomes obsolete at an increasingly quicker pace;
- b. an increasing number of people are involved in producing science: among them are the people in the pedagogical professions, in consulting, high tech, scientific journalism;
- c. producing and mediating science are international and global processes;
- d. the competitive capacity of many entrepreneurs depends firstly on efficient knowledge management and the efficient management of their own learning capabilities ("learning organizations");
- e. the boundaries between "general background knowledge" and "professional knowledge" become blurred and are easy to cross. The economic importance of "soft skills" (personal, social, emotional, communicational competences) is increasing;
- f. lifelong learning becomes a professional competitive element and a necessity in personal life. Thus, the role of self directed learning skills is increasingly significant;
- g. the systemic-constructivist paradigm becomes generally accepted in pedagogy as well, at the expense of the compartmental-technological concepts;
- h. Modern educational policy is a "continuous learning policy" and not just "school learning policy".
- i. Weaving e-learning into teaching and learning practices adds more for students to be actively and deeply involved with subject materials" (NZCER, 2004, pp. v-vi).

E-Education Initiatives in Nigeria -- There are presently at least nine ICT for education initiatives at various stages of development being carried out by the education coordinating agencies of government and the ministry of education. They include:

1. The Nigerian Universities Network (NUNet) Project
2. The Polytechnics Network (PolyNet) Project
3. The School Net Project
4. The Nigerian Education, Academic and Research Network (NEARNet)
5. The Teachers Network (TeachNet) Project
6. National Open University
7. National Virtual (Digital) Library (Ministry of Education/ NUC)
8. National Virtual Library (Ministry of Science and Technology/NITDA)
9. National Information, communication and education programme of the Presidency (Mac-Ikemenjima, 2005).

Four of these are discussed in this paper, they include:

1. National Open University of Nigeria- According to Mac-Ikemenjima (2005), the National Open University (NOU) was first established on 22nd July 1983 but became functional in April 2001. The institution was set up on the premise to absorb about 80% of those who could not secure the JAMB admission and also to increase the access of all Nigerians to formal and nonformal education in a manner convenient to their circumstances, and cater to the continuous educational development of professionals. The course delivery is through a combination of Web-based recourses (National Open University of Nigeria, 2008). It employs a range of delivery methods such as electronic transmission of materials in multimedia (voice, data, graphics, and video) over fixed line (telephone or leased lines), terrestrial, and VSAT wireless communication systems.

2. Nigerian Universities Network (NUNet) Project-The NUNet project was conceived in 1994 by the National Universities Commission (NUC) when it was realized that Nigerian academic staff and students should not be isolated from each other and from the global academic community (Mac-Ikemenjima, 2005). The decision mandated all Universities to be linked through e-mail through Trieste

via a dial-up system and also to solve the problems of resource sharing among Nigerian Universities and their counterparts all over the world (UNESCO, 2002)

3. Virtual Library Initiatives-The objectives of the national virtual library include improving the quality of teaching and research institutions through the provision of current topics, journals, and other library resources; enhancing access of academic libraries to global library and information resources; enhancing scholarship and lifelong learning through the establishment of permanent access to shared digital archival collections.

4. Civil Society (NGO led) E-learning Initiatives- Several NGOs have had a notable impact on the development of telecenters, that usually have rudimentary ICT facilities designed to acquaint people with technologies, and to teach people in marginalized regions about how to use them (Mac-Ikemenjima, 2005). Examples include community teaching and learning centers, Lagos Digital Village by Junior Achievement Nigeria, Owerri Digital Village by Youth for Technology Foundation, Computer Literacy for Older Persons Programme by Mercy Mission, SchoolNet Nigeria and so on.

Benefits of E-Learning through ICT in Adult Education

Integrating e-learning in to adult education by using technological tools to support learning activities gives learners opportunities to develop technology skills and experiences in contexts that are similar to those in which technology is used outside the classroom. Establishment of E-learning has:

1. Satisfied the demand for alternative forms of education: Adult education uses the work of the best instructors, an extensive collection of resources and provides a 24/7 approach. It serves as an equalizer in terms of access and equity.
2. Made it possible for the learners to access the learning programme anywhere and at convenient time. making it possible for students to select their path and time for the learning course
3. Made asynchronous interaction possible, providing the participants and tutors with time to prepare their responses leading to succinct and direct intervention and creative conversation.
4. Reduced cost and time of travelling to attend course lecture.
5. Made it possible for the use of new educational approach where faculty teams with different specialties from anywhere in the world can be put together to share teachers innovations for improvement.
6. Facilitated group collaboration and cooperative learning, encourages dialogue, creates a more engaging classroom for learning and solving educational problems.
7. Allowed teachers to add content to their lessons and disseminate useful information to students and parents without waste of valuable class time.
8. Enables students to pace their studies according to their needs, making learning accessible to people who do not have enough free time for studying.

Adopting E-Learning through ICT in Adult Education: The Challenges

Taking advantage of e-learning technologies in Adult Education presents some challenges which can plague its implementation.

1. Learner's technical infrastructure limitations such as lack of bandwidth, computer hardware and also lack of equal access to computing capability can create something of a digital divide among them.
2. Not all adults, even those comfortable with using a PC for e-mail, Web browsing, or playing games, have the necessary skills to fully succeed in e-learning courses.
3. Unreliable technology can hinder instructors' ability to monitor student activities "Students can claim to log in when the system is down. "If it does not come back up, the students can then use that as their excuse when they are late with their assignments."
4. Power situation in the country such as the incessant power outage can pose a serious problem to the use of ICT

Conclusion

The integration of e-learning through technology into adult education particularly when used as an instructional tool, can empower learners to take more responsibility for their own learning and creates a powerful learning environment. We all acknowledge that the information age has had a profound impact on the world around us; thus it is not unreasonable to posit that the information age should also affect pedagogy of adult education. However, the integration of technology into adult education instruction is a worthwhile but daunting task. In order to effectively develop a conducive environment for adult learner in an online environment, instructional designers, educators, trainers, and facilitators must pay particular attention to the design of instruction, modes of delivery, instructional and teaching practices. Only then can we begin to harness the power of e-learning in adult education. Pedagogical practices must be adapted, technical proficiency becomes more important, and a reliable and robust technical infrastructure must be maintained in order to use e-learning effectively.

Recommendations

- i. Instructors should consider students' technical limitations—bandwidth and computer hardware, for example—when designing online adult -learning courses.
- ii. Institutions should provide an adequate and reliable technical infrastructure to support e-learning activities.
- iii. Instructors and students should possess the technical skills to use e-learning tools.
- iv. Instructors should redesign their courses to incorporate e-learning effectively into their pedagogy
- v. There is need for restructuring, redeveloping, and reinforcement of the Nigeria Policy for integration of ICT in the adult education systems.

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