

The Impact of ICT in Adult and Non-Formal Education in Nigeria: A Review

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Abstract

This article is attempting to comprehend the effects of Information and Communication Technology in the exercises of Adult and Non-Formal and Education. It diagrams various techniques to confer training by using Information and Communication Technology (ICT) apparatuses, developments, and arising patterns. Simultaneously, this text features the benefits accumulated by the utilization of Information and Communication Technologies (ICTs) in teaching and learning processes. The effect of Information and Communication Technology on all schooling areas raises difficulties for legislatures, educators and learners. There is a more noteworthy interest for and reception of innovation in training in adult and non-formal education. The realization of the potential of ICTs to improve educational practices is a series of pedagogical and practical challenges. This article considers the issues starting with the basic motivation behind instruction and closes by raising a progression of difficulties that instructive foundations should confront in case they are to effectively coordinate ICT into educating and learning rehearses. The inescapable utilization of ICTs for long-lasting learning just as local area strengthening is a huge pattern in realizing in the current century.

Keywords:
ICT; Adult
Education;
Non-Formal
Education;
E-learning;
ANFE

INTRODUCTION

Information and communications technology usually abbreviated as ICT is a weapon for development. It is often used as an extended synonym for information technology (IT) but is usually a more general term that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals), computers, middleware as well as the necessary software, storage- and audio-visual systems, which enable users to create access, store, transmits, and manipulates information. In other words, ICT consists of IT as well as telecommunication, broadcast media, all types of audio and video processing and transmission and network-based control and monitoring functions (Choudhary 2012), (Suleiman et al. 2020), (Suleiman, Muhammad Muhammad; B/Zuwo, Haruna Salihu; Babayo 2020), (William 2014).

The term ICT is now also used to refer to the merging (convergence) of audio-visual and telephone networks with computer networks through a single cabling or link system. There are large economic incentives (huge cost savings due to elimination of the telephone network) to merge the audio-visual, building management and telephone network with the computer network system using a single unified system of cabling, signal distribution and management. This in turn has spurred the growth of organizations with the term ICT in their names to indicate their specialization in the process of merging the different network systems (Thakral 2015), (Avidov-Ungar and Emma Iluz 2014). ICT is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. ICTs are often spoken of in a particular context, such as ICTs in education, health care, or libraries (Choudhary 2012), (Suleiman, Muhammad Muhammad; B/Zuwo, Haruna Salihu; Babayo 2020), (Choudhary 2012).

Sceptics and neophytes to the field of adult learning have misconstrued, misjudged and misconceived adult and non-formal education as mere literacy and remedial education whose main focus is the adult who must be given a second chance to learn formally. This narrow view was jettisoned since the 1930s and 1940s and substituted with a comprehensive description of adult and non-formal education to cover the wide range of activities, institutions and agencies and to include content as wide as life (Akpama, Asor, and Erim 2011).

Adult education is a wide field which is dealing with the educational needs of adult learners from a diversity of groups, including people with special needs, women, not in education, employment or training, refugees and asylum seekers (Vezne 2020). The specific features of adult learners that should be taken into consideration while organising training for adults are that adults need to connect new knowledge to past events and experience (Kolb, 1984; Lieb, 1991) cited in (Vezne 2020), an adult is more problem-centred than subject-centred in learning (Merriam & Caffarella, 1999), adults need to be actively involved in the learning process and adult learner needs a climate that is collaborative, respectful, mutual and informal (Cercone, 2008) cited in (Vezne 2020). To provide an appropriate education for adult learners, there are different adult learning theories. However, Frey and Alman (2003) cited in (Vezne 2020) state that there is not one adult learning theory that successfully applies to all. Therefore, adult educators

should learn the background of adult learners, use adult learning theories to understand them and design more meaningful learning experiences for them (Vezne, 2019).

THE CONCEPTS OF ADULT AND NON-FORMAL EDUCATION

Who is an Adult?

An adult has attained a certain age of 18 to 21 years and above depending on the stipulations of the law. The problem with using chronological age as a measure of adulthood is that it varies from country to country, from time to time and even from age to age. The Constitution of the Federal Republic of Nigeria (1999) puts the adult age at 18 years. Certain characteristics can also be used to describe adulthood (Nnamani 2014). These include maturation, measuring adulthood in terms of the socio-economic status of the person and locally by the opportunity to be initiated into an age grade masquerade cults, puberty rites and initiation into manhood/womanhood. Simply put Eya (2006) says that “an adult is a person who shows a reasonable measure of moral and emotional maturity and prudent, patient and tolerant as well as socially responsible” (Nnamani 2014).

ADULT EDUCATION

Adult education is a collective name for all forms of learning programs in which adults participate to develop their abilities, enrich their knowledge and improve their technical or professional qualifications to enable them to meet their needs and those of their societies (Ihejirika 2012), (Ekezie 1997). It is a transmission process of general technical or vocational knowledge, as well as the acquisition of skills, values and attitudes, which takes place in and out of the formal education system with the view to catering for early education deficiencies of mature people and enhancing their self-fulfilment and active participation in the social, economic and political life of the society. Adult education programs vary in the organization from casual incidental learning to formal credit courses (Seya, 2005) cited in (Ihejirika 2012). Nzeneri (2008) perceives adult education as an indispensable tool for adjustment, for individuals, groups, national and international bodies, for development, for need identification, need meeting and for problem-solving. Thus, adult education is development-oriented; a process that is geared towards making an adult more useful to himself and his society. Without mincing words, Imhabekhai (2009) described adult education as a process of removing obstacles and impediments that reduce the full realization of each adult's potentialities (Ihejirika 2012), (Ekezie 1997).

The National Policy on Education (1977) has defined adult education as the education of the youths and adults outside the formal system of education (Okoro, 1993) cited in (Ekezie 1997). The policy lists the following objectives of adult education (Ekezie 1997);

- 1) To provide functional and remedial education for those young people who prematurely dropped out of the formal school system.
- 2) To provide functional literacy education for adults who have never known about any formal education
- 3) To provide further education for different categories of completers of the formal education system to improve their basic knowledge and skill

- 4) To provide in-service, on-the-job, vocational and professional training for different categories of workers and professionals to improve their skills.
- 5) To give the adult citizens of the country the necessary aesthetic, cultural and civil education for public enlightenment.

THE EVOLUTION OF NON-FORMAL EDUCATION IN NIGERIA

According to Ngwu, (2006) cited in (Idogho P. O., Kayode J. F. 2012), adult education in the modern sense could be said to have started in Nigeria in 1845 in Badagry with a literacy class for the youth and adults. The interest of colonial government on adult education was primarily to enable adults to read government instructions to appreciate the danger of breaking the rules. Adult education activities got a boost during the Second World War to mobilize the needed support by the colonial government for Nigeria to contribute to the war effort (Idogho P. O., Kayode J. F. 2012). The development traits of adult education in Nigeria continued through the periods such as the 1943 Advisory Committee on Education in Africa Report titled "Mass Education in African Society", the appointment of a pioneer mass education officer, A. I. Carpenter in 1946; the subsequent launching of a mass literacy programme in the same year 1946; the launching of the campaign against illiteracy (Yaki - da - Jahilci) in 1956; 1982 launching of National mass literacy campaign (Idogho P. O., Kayode J. F. 2012).

INFORMAL EDUCATION

Informal education has no defined structure, it has no curricula and it takes place through experience. It consists of accidental or purposeful ways of collaborating with other persons and acquiring new information and everyday skills (Roy Alonso Terrazas Marín 2021), (Ainsworth and Eaton 2010), (Mustafa 2015).

ADULT AND NON-FORMAL EDUCATION (ANFE)

The various definitions of adult and non-formal education portray it as a response to the educational needs of men and women. They tend to emphasize the whole range of part-time educational provision for persons whose social and economic responsibilities give them adult status within a community (Ainsworth and Eaton 2010). Adult and non-formal education is part of the wider process of lifelong learning, and includes fundamental or remedial, agricultural extension, co-operative education, skill training, vocational, political, recreative education and community development in general (Idogho P. O., Kayode J. F. 2012), (Akpama et al. 2011), (Mustafa 2015).

Adult and non-formal education programs are intricately interwoven because the programs which many agencies or individuals often refer to as adult education sometimes involve a mixture of adults and children participants. For instance, in some states in Nigeria, we find children or young persons in literacy classes side by side with adult learners yet such classes are labelled Adult literacy classes or centres (Akpama et al. 2011), (Ainsworth and Eaton 2010). The various definitions used in this study are inexhaustible as different factors determine what adult education and non-formal education mean to different people (Ihejirika 2012), (ROMI S. 2008).

SCOPE AND FORMS OF ADULT AND NON-FORMAL EDUCATION (ANFE)

Adult and Non-Formal Education could take divergent forms as diagrammatically presented here. Some forms of adult and non-formal education programmes are related to the eradication of extreme poverty and hunger (Akpama et al. 2011), (Ainsworth and Eaton 2010).

In Nigeria, the scope of adult and Non-Formal Education can vividly be seen in the educational blueprint of the nation. The National Policy on Education (2004) section 6 contains the scope and objectives of adult and non-formal education (Nnamani 2014), (Ainsworth and Eaton 2010). These are some areas of ANFE (Nnamani 2014), (Akpama et al. 2011):

FORMS OF ANFE
Basic literacy
Vocational education
Environmental protection Education
Computer literacy
Women Education
Child Welfare and Child Protection Education
Entrepreneurial skill
Population Education
Family planning Education
Functional literacy education
Remedial education
Aesthetic, cultural and civic education.
In-service or on-the-job education and vocational and professional training

Source: (Nnamani 2014), (Akpama et al. 2011).

ICT AND ADULT AND NON-FORMAL EDUCATION (ANFE)

Information and Communication Technologies (ICT) can be defined as electronic means of capturing, processing, storing and disseminating information. It is the convergence of microelectronics, computing and telecommunications which has become a global phenomenon of great importance and impact in all spheres such as labour, productivity, trade, commerce and others (Sesan, 2001). It is a technology that uses computers, software, peripherals and internet infrastructure required to support information processing and communication functions (UNDP, 2001) cited in (Idogho P. O., Kayode J. F. 2012).

New educational technologies and their implementation in Adult and Non-Formal Education are introduced here. The paper describes adult and non-formal educational activities from a variety of countries, including Israel, for integrating computer use, internet, and community television for children and adults. Finally, the chapter examines the social and economic meaning of implementing these new technologies (ROMI S. 2008).

ENHANCING ADULT AND NON-FORMAL EDUCATION THROUGH THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGY

Early Adult and Non-Formal Education projects used to print, radio, television, audiotape, videotape, and satellite transmission as an efficient and cost-effective way to provide illiterate adults and out-of-school learners with educational opportunities. Further innovations in ICTs like Very Small Aperture Terminal (VSAT) satellite communications, the Internet, and CD-ROMs are helping to create new innovative learning tools that will profoundly change the way Adult and Non-Formal Education is delivered (Idogho P. O., Kayode J. F. 2012).

Many nations have developed e-learning and m-learning strategies, and are rapidly expanding the use and knowledge of ICT in educational activities by incorporating ICT into lesson plans, teaching methodologies and curricula, and devoting funds to procuring ICT-related resources. The following methods suggest ways of using Information and Communication Technology (ICT) to enhance Adult and Non-Formal Education delivery (Idogho P. O., Kayode J. F. 2012).

- **Blogging:** A blog is a personal journal published on the World Wide Web consisting of discrete entries ("posts") typically displayed in reverse chronological order so the most recent post appears first. From an educational perspective, the availability and ease of use of blogging software make creating blogs a viable classroom activity and a means for teachers to communicate with other teachers (Idogho P. O., Kayode J. F. 2012).
- **Social Media Network:** Social media includes web-based and mobile-based technologies which are used to turn communication into interactive dialogue between organizations, communities, and individuals. Kaplan and Haenlein (2010) defined social media as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allows the creation and exchange of user-generated content." Social media is ubiquitously accessible and enabled by scalable communication techniques. Social Media becomes more popular among older and younger generations; sites like Facebook and Youtube gradually undermine the traditionally authoritative voices of news media. Social Media could be used in the following ways: Integrating real-world applications into teaching, networking with colleagues, collaborative learning, cross-cultural communication and language learning, assessments, distance learning, parent communication, course assignments, community outreach and professional development (Idogho P. O., Kayode J. F. 2012).
- **Skyping:** Skype Technologies has offered free video and phone conferencing service since 2003, though at the time, many schools weren't equipped with the technological hardware, like webcams, and high-speed connectivity necessary for video correspondence. But with improving technology infrastructures, modifications to the Skype software and an increasing push for teachers to find new ways to give their students educational experiences, educators appear to have turned more to Skype later in the decade. In addition to combating logistical hurdles, educators say targeted use of Skype can bring pedagogical benefits, as it makes students conduct the research necessary for a video presentation more seriously, encourages instructors to focus on broader concepts instead of individual problems because tracing and fixing student work directly is more difficult, or exposes students and teachers to real-time technology problem-solving (Idogho P. O., Kayode J. F. 2012).
- **Mobile Learning:** The term mobile learning, has different meanings for different communities. Although related to e-learning and distance education, it is distinct in its focus on learning across contexts and learning with mobile devices. One definition of mobile learning is any sort of learning that happens when the learner is not at a fixed, predetermined location or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies

(Guidelines for learning). In other words, mobile learning decreases the limitation of learning location with the mobility of general portable devices (Idogho P. O., Kayode J. F. 2012).

- **M-Learning:** is convenient in that it is accessible from virtually anywhere. M-Learning, like other forms of E-learning, is also collaborative; sharing is almost instantaneous among everyone using the same content, which leads to the reception of instant feedback and tips (Idogho P. O., Kayode J. F. 2012).
- **Podcasting:** Podcasting consists of listening to audio recordings of lectures, and can be used to review live lectures (Clark & Westcott, 2007) and to provide opportunities for students to rehearse oral presentations. Podcasts may also provide supplemental information to enhance traditional lectures (McGarr, 2009 and Steven & Teasley, 2009) cited in (Idogho P. O., Kayode J. F. 2012).
- **E-Learning:** E-learning comprises all forms of electronically supported learning and teaching. The information and communication systems, whether networked learning or not, serve as specific media to implement the learning process (Tavangarian, Leypold, Nölting, Röser, 2004). The term will still most likely be utilized to reference out-of-classroom and in-classroom educational experiences via technology, even as advances continue regarding devices and curriculum (Idogho P. O., Kayode J. F. 2012).

E-learning is essentially the computer and network-enabled transfer of skills and knowledge. E-learning applications and processes include Web-based learning, computer-based learning, virtual education opportunities and digital collaboration. Content is delivered via the Internet, intranet/extranet, audio or videotape, satellite TV, and CD-ROM. It can be self-paced or instructor-led and includes media in the form of text, image, animation, streaming video and audio (Idogho P. O., Kayode J. F. 2012).

- **Flexible Skills Development:** Blended learning refers to a mixing of different learning environments. It combines traditional face-to-face classroom methods with more modern computer-mediated activities. According to its proponents, the strategy creates a more integrated approach for both instructors and learners. Formerly, technology-based materials played a supporting role in face-to-face instruction. Through a blended learning approach, technology will be more important (Idogho P. O., Kayode J. F. 2012).
- Psychological research suggests that university students who download podcast lectures achieve substantially higher examination results than those who attend the lecture in person, but only in cases in which students take notes (Callaway & Ewen 2009). Podcasts may be delivered using syndication, although it should be noted that this method of delivery is not always easily adopted (Lee, Miller & Newnham 2009) cited in (Idogho P. O., Kayode J. F. 2012).

OBSTACLES TO ADULT NON-FORMAL EDUCATION PROGRAMMES IN NIGERIA

The Adult and Non-Formal Education programme in Nigeria is faced with various challenges and constraints (Nnamani 2014), (Idogho P. O., Kayode J. F. 2012). Some of them include;

- i) Poor funding is a major problem.

- ii) Non-Use of Multi-Media for meaningful vocational and science subjects, the use of multimedia equipment is important. This limits their curriculum to liberal arts subjects and thus reduces their contribution to the development of technical manpower
- iii) Equipped Study Centres There is hardly any studies centre that is well stocked with relevant and current books
- iv) Inadequate facilities: Most centres are not properly equipped
- v) Poor monitoring and supervision of adult education programmes In Nigeria by the relevant ministry

BENEFITS OF USING ICT IN ADULT AND NON-FORMAL EDUCATION

Ogedegbe and Oyaniyi (2010) stated that there are so many reasons for the integration of ICT in Adult and Non-Formal Education apart from the fact that there is a need to embrace new technology (Idogho P. O., Kayode J. F. 2012). Firstly, the majority of Nigerians live below the poverty level thereby depriving them of attending urban-based institutions and thus remain deprived of education despite their superior merit. Secondly, those who joined workforce without completing their education due to family commitments are unable to combine their work with studies and very few of them who have a strong desire for education could not do so because of the limited offer in the traditional institution of learning (Idogho P. O., Kayode J. F. 2012). Thirdly, the tradition of childhood, early marriage and religious beliefs in the country deprive the majority of the female population of education. Also, physical disabilities, remoteness of localities, exorbitant tuition fees in most privately owned institutions are some of the impediments that deprive the majority of Nigerians of education (Idogho P. O., Kayode J. F. 2012). ICT-enabled learning provides an avenue for higher education for such a vast underprivileged population (Ogechukwu and Osuagwu, 2008) cited in (Idogho P. O., Kayode J. F. 2012). Some of the advantages provided by ICT enabled education include:

- Provide wider access to education
- Ensure equity and equality of opportunities in education
- Enhance education for all and life-long learning
- Provide the entrenchment of global learning culture
- Provide flexible, but qualitative education
- Reduce the cost, inconveniences, hassles of and access to education and its delivery
- Enhance more access to education
- It provides student courses round the clock i.e. 7 days, a week and 24 hours a day, which further attracts working-class students and individuals.

CHALLENGES OF ICT IN ADULT AND NON-FORMAL EDUCATION

Integration of ICT is still a dream in the Nigerian educational sector because of the poor ICT infrastructure and other socio-economic reasons. Ogedegbe and Oyaniyi (2010) cited in (Idogho P. O., Kayode J. F. 2012) stated some of the impediments to its full integration as follows:

- Digital Divide This is the inequality of access to technology by the students. The costs of personal computers and laptops are still very high in Nigeria (Idogho P. O., Kayode J. F. 2012).

- Literacy and Local Content Barrier Interfaces have been developed using icons, graphics, touch screens and voice recognition for the illiterate and neo-literate. The information available through ICTs is mostly in English, which the majority of developing countries rural communities cannot read. There is a marked shortage of relevant materials in local languages that respond to their needs (Idogho P. O., Kayode J. F. 2012).
- Technology Infrastructure Public access to ICT is available to various extents in most of the larger urban centres in all countries through cyber cafés, but access is largely non-existent in rural areas. Lack of infrastructure (electricity, telephone connections and hardware) is still the major challenge for introducing ICT in rural areas (Idogho P. O., Kayode J. F. 2012).
- ICT Policy and Implementation The absence of policy at the ministerial level has not helped coordinate ICT projects and programmes being carried out separately by various agencies operating in the education sector and will lead to resource wastage and duplication (Idogho P. O., Kayode J. F. 2012).
- Gender Equity Traditional daily household demands still take priority over girls' education especially in the Northern states (Idogho P. O., Kayode J. F. 2012).
- Maintenance and Technical Support There is few technical staff to maintain the system; this makes it very expensive for a few students that have PCs to maintain them when a technical problem is noticed (Idogho P. O., Kayode J. F. 2012).

CONCLUSION

Decisively, Information and Communication Technology (ICT) is a fundamental and far and wide means to play out a significant assignment in adjusting and modernizing present instructive frameworks and the method of learning. Not simply in Adult and Non-Formal Education, it is a significant piece of a few parts of regular routines. Information and Communication Technology (ICT) is essentially an innovation that assists with getting admittance to data assets for all classes of students just as instructors. The positive effect of Information and Communication Technology (ICT) on instruction is incorporated. and coordination that is critical to hierarchical achievement and can altogether improve the presentation of vital participants in revamping the instructive framework influenced by Pandemic Covid-19.

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