

Original Article

ENHANCING THE FRONTIERS OF ADULT AND NON-FORMAL EDUCATION PRACTICE THROUGH DIGITAL LEARNING IN NIGERIA.

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ABSTRACT

This study focused on Enhancing the Frontiers of Adult and Non-Formal Education Practice through Digital Learning in Nigeria. Adult education has permeated into all sectors of human existence and practice with its increased scope and usefulness. As an emerging discipline, adult education can play remedial, developmental, civic and social functions aimed at empowering adults to continue in their functional roles in society. The continuous societal changes such as COVID-19 pandemic has continued to affect human interactions within the society, changing operational procedures, with adults regularly putting up strategies to mitigate these changes. Adult education programmes, as the pivot for development can play a key role, imparting functional skills. This can be facilitated using digital learning as an online environment that utilizes the technological affordances of a system to enhance learning. Software-based environments are available for use, to facilitate instructional experiences. Online digital learning has considerable potential to create room for all adult learners using electronic technology. This paper examined the potential uses of digital technology to promote adult education practice in Nigeria, through the Paragogy theory of peer assisted ICT learning platforms and will be achieved through improved digital pedagogical skills, provision of ICT infrastructure, adult sensitization and regulations on the use of these infrastructure based on national set goals.

Keywords: Adult Education, Non-Formal Education, Digital Learning, Technology.

Introduction

Digital learning, facilitated through the use of technology is introducing and creating opportunities for all learners, thereby improving education (formal, informal and non-formal) practice the world over, creating room for learners to learn at their own pace, time and location. The trend today is the reinventing

of learning strategies based on learners' need through the deployment of digital learning strategies for instructions and facilitation. According to Anderson, (2008), digital learning is anchored on Information and Communication Technology (ICT) which creates a digital learning environment. However, Littlejohn and Margaryan, (2014), observed that information and

communication technology ensures the removal of obstacles to adult learner participation in adult education programmes. Its main pivot is learning using technology which is the application of technology as an instructional method for content delivery. Digital learning is adaptive in nature and individual centred and friendly by its designed tools with different models.(Constantakis,2016). It encompasses different models designed to promote effective instructional activity that is learner friendly. Learning in adult education has two component, non-formal and informal. Non –formal can be planned learning activities with guidance from a facilitator with stated objectives and can cover all aspects of life endeavour aimed at skill acquisition, while informal is accidental and unplanned learning that occurs anywhere anytime without stated objectives. Non-formal and informal learning both have a target of improving the skills of the learner for functional performance of the adult.

The world is rapidly moving towards a digital agenda in all spheres of human endeavour and existence with the promotion of digital learning environments. The need to reduce the cost of education and its instructional delivery mode is high. Technology seems to be the easiest way to do this owing to the present exigencies of our time where direct contact between learners and facilitators for a long time are becoming dangerous to both and also infringing on other productive activities especially adults who are in the world of work saddled with other social, cultural, political and religious responsibility. Digital learning therefore is the available alternative that can be explored for adult education practice as it can accommodate all thereby promoting inclusiveness. Adults are in the world of work, saddled with professional performances aimed at goal achievement, thus requiring regular learning and acquisition of skills. Adults learning holds the pivot upon which sustainable development thrives and Nigeria cannot be left behind. With the present global

changes that has shaped and created new educational goals, adult education programmes should be planned to include all clients and stakeholders using the available technology. This can be achieved through creating a digital learning environment which is the focus of this paper.

Components and Goal of Adult Education in Nigeria

Hanachor & Olumati;2014, Nzeneri;2013, & Owede;2014, identifies the components to include Basic/Post Literacy Education, Remedial/extramural Education, In-service programmes, Seminars/workshops, Consumer Education, Agricultural/Extension, Nomadic Education, Sandwich Programme, Community development, Women Adult Education Programme, Audio visual Education for Adult, Prison Education, Entrepreneurship Education, Co-operative Education, Human Resource Development. Out-of-school Education, Mass media Education, Distance Education Programme, Herbalist Education, Vocational Education, Birth Attendants Education, Death Education, Peace education, Citizenship education, Pre-retirement Education, Environmental Adult education and other skills acquisition education etc. The scope of adult education involves all post formal education programmes aimed at empowering the adult to function in a constantly changing world.

Goals of Adult Education in Nigeria

Adult education goals in Nigeria as outlined in her national policy (NPE.2014) include:

- The provision of functional continuing literacy education for all Nigerians without discrimination
- Provision of functional remedial education for non-completers of post initial education.
- Provision of basic skills and knowledge to all graduates of formal education in the country.

- Provision of education to empower and improve all categories of workers, thus enhancing their productivity
- Provide opportunities for all adults to acquire values and attitudes to enable them become functional members of the society.

The achievement of these stated objectives is anchored on learning. However the continuous global changes have affected the learning environment. Presently learning is been organized more virtually using ICT facilities and adult education practice in Nigeria has to key into digital adult learning.

Adult Learning

Adults are those that are the managers of society for sustainable development thus are in regular need of skills to improve their functionality in their various field of endeavour. Learning in adult education involves the acquisition and improvement of knowledge and skills. The functionality of adults is based on education and training which is hinged on learning. Cedefop (2008), opined that adult learning is aimed at adult acquisition of new knowledge and skills that helps them carry out their duties as a parent, worker, administrator and custodian of our culture, religion and politics, and performing their adult roles in society.

Adult learning is anchored on andragogy, which to Corley (2008) assumes that adults are

- Not dependent but are self-directed with increased maturity.
- Have enough life experiences that helps their learning
- Can acquire new roles
- Interested in new knowledge for immediate use to solve immediate problems and
- Motivated internally to learn.

The implications of these assumptions is that adults should be informed of the reason and need of the new knowledge to be acquired. Also adult's effective instruction is centred on activities that can be carried

out by them using their experiences emphasizing of practical than theory. Adults have peculiar learning characteristics which Smith (2002) identifies them to include:-

- *Self-direction.* Adults initiates their decisions and actions.
- *Problem centred orientation.* Adults' interest is solving immediate problem, thus need knowledge for that purpose.
- *Reserved and change resistant.* Adults do not easily let go their experiences without a better alternative.
- *Slow learning.* They take time to acquire new information.
- *Life experience.* Their life experiences are always used to evaluate new one to be acquired.
- *Motivation.* Learning by adults are voluntary and based on self-motivation.
- *Time.* Owing to their status in the society with family, cultural, political, religious, work etc responsibility, they lack enough time for learning thus are always on the move and
- *Result centred.* They are always interested in activities that will satisfy them and produce results, thus not interested in frivolities. (Pappas, 2013)

Digital Learning

Digital learning is a learning method based on the use of new digital tools to enable learners learn in different ways either as face-to-face, distance learning (asynchronous or synchronous) or blended learning with a set of educational methods. Digital learning is e-Learning (electronic learning) that facilitates learning through technology. E-Learning describes a set of technology-driven process that facilitates learning (Wheeler, 2012). Digital learning is a technology driven type of learning and is done virtually using models and tools designed to meet individual learner needs and characteristics. It uses

ICT as its main pivot of operation for instructional delivery and evaluation with the learners in charge of their participation at their convenience. Thus digital learning involves the digitalization of formal, informal and non-formal learning experiences through networking. Digital learning applies digital technology, Information and Communication Technology (ICT), is an electronic technology driven communication, using soft and hardware computer system that can be deployed to cover all areas of human endeavour. It can be used across all curriculum learning areas including adult education. UNESCO. (2014). Reddi (2007), identifies digital learning as using ICT support learning, which is the use of ICT to support the learning of topics and ICT enabled learning which is the delivery of an instructional activity using ICT as the pivotal method. This can be achieved through the interaction between the learners (students) and facilitators (teachers).

Methods of Teaching Digital Learning

Digital learning creates a learning environment for digital application of various teaching techniques as an instructional process employing technology and ICT tools to promote learning and it includes software as interactive resources, personalized instruction, communication through collaboration with professionals with evaluation and assessment all done online at the convenience of the learner. (Anderson, 2008).

These can be carried out in:-

- *The virtual classroom.* This brings learners together irrespective of their location and encourages interaction between learners and facilitators. It does not discriminate.
- *Badging and Games.* This is the use of games, simulation to promote learning and is activity and skill acquisition centred based on needs.
- *Massive Open Online Course (MOOC).* This involves the use of audio-visual materials and

equipment's and applications for training and instructions.

- *Small Private Online Course (SPOC).* This also involves the use of audio-visual materials and applications but for a smaller group. It promotes effective learner facilitator interactions.
- *Mobile Learning.* This is learning through the use of small electronic communication gadgets such as smartphones. It allows learning and training to take place at any place and time at the convenience of the learner and trainer.
- *Social Learning* (social and collaborative learning). This is group interaction and sharing of ideas, experiences, skills and attitude without specified rules. The learner is at liberty to choose opt in and out. It is collaboration in nature and informal.
- *Adaptive learning.* It is the design of programmes and course specifically for individuals. The peculiarity of the individual is taken into cognizance and covers a wide variety of models, tools and services. (Neil, Gorard, & Furlong, 2004)

Digital learning in Adult Education Practice

Digital learning is anchored on Information and Communication Technology (ICT). Digital learning promotes and supports learning using ICT tools. (Gegenfurtner, Zitt, and Ebner.2020). This involves the use of multimedia to enhance learning as an instructional educational activity through ICT. How adults learn is important especially in a digital learning environment. One key type of digital learning is adaptive learning which is personalized, where learners learn at their own time dictated by needs. This means that for adults to learn effectively, have to be motivated to design, plan, manage and evaluate their own learning programmes. Doing so will involve the exhibition of certain characteristics for self-directed learning which are

1. Ownership of content.

- Identify issues to learn.
 - List objectives with task to help attain the objectives.
2. Content scope.
 - Apply new ideas and skills.
 - Go beyond stated content.
 3. Assessment and evaluation.
 - Provide enough options as alternatives
 - Design personal items for evaluation.
 - Design learning activities within learners' capacity.
 - Use assessment results for further instructional design.

Some adults have the ICT capacity skills while others don not. It is therefore expedient that the ones that do not have the skills should be sensitized and helped through andragogical principles.

ICT Tools for Digital Adult Education Practice

The pivot of learning is interaction between clientele (learners) and clients which can be powered with information technology. (Goertz 2013; UFI 2012)). ICT tools are classified into hardware and software and both can be used for adult education practice.

1. *Hardware.*

The hardware include computers (laptops, desktop) as ICT tools that can be deployed for learning with the same technology for all learners creating room for individual and collective group learning. Some of the ICT tools than can be used to enhance adult education practice include

- A. *Smartphones, tablets and other mobile devices.* They constitute all handsets as mobile phones with great flexible usability for all types of education (formal, informal, non-formal) with high precision. They have a great potential for adult learners with all learners having access them for use. They can be used to access social sites and applications such as WhatsApp, Instagram, YouTube, Twitter, Telegram among others that can record and

disseminate photos, videos(recorded instructions) for learners to learn at their own convenience,

- B. *Interactive Digital Television (IDTV).* This is a digital television technology that enables users to interact using a command and feedback information as a two way communication system between the facilitator and the learner. (ITU,2011)
- C. *Audio - visuals devices.* These are digital devices which include cameras, printers, scanners, fax machines, smart watches that can record and take photographs. Most modern day android phones have these devices fixed in them. They can be deployed for adult education purpose individually or collectively. Instructions can be recorded and sent where learners are at liberty to use them at his own convenience. (Economist 2015).
- D. *Assistive Technology (AT).* These are devices designed to cater for adults with special physical needs. Adults constitute different categories of people including the disabled, but they have to be carried along as adult education is inclusive. Some of these are picture communication board, braille, speech to text etc All these can be applied with the appropriate software to enhance adult learning among the disabled.

2. *Software Applications*

This constitute programmes designed that can be applied using and ICT devices such and smart phones, and computers. It can be done both online and offline. They are of many types and include:-

- A. *Games and simulations.* These are application software programmes designed to assist learners understand certain concepts either educational or social. It can be focused on any important and relevant issue that will help the learner acquire the necessary skills.it involves a process as a

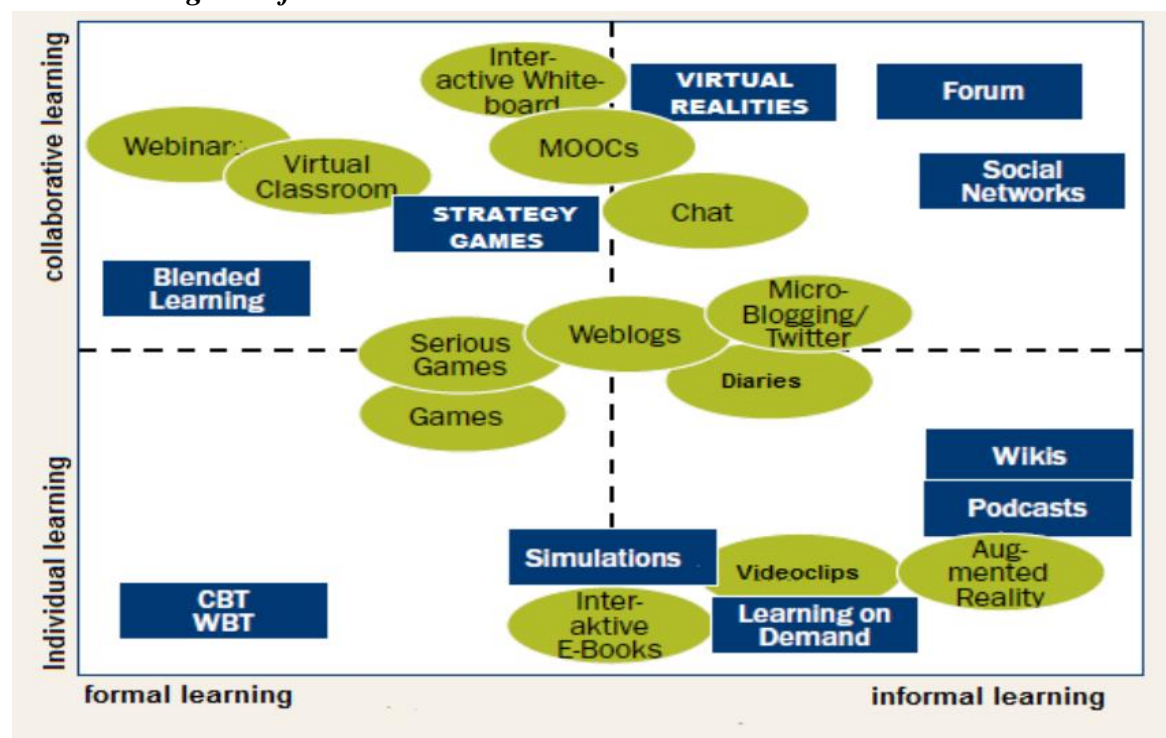
game engaging the learner with various tasks aimed at arriving at a solution to a problem

- B. **Augmented applications.** This is application of computers software to create an environment that appear real and natural to solve issues
- C. **Flipped virtual learning environment.** This is an online learning environment that promotes collaborative learning using online tools. It enhances learners learning at their own pace base on their personal peculiarities. The materials for learning can be provided in advance. However the instructor core duty is to coordinate learners activities
- D. **Collaboration software.** These are soft wares that promotes communication

between learners and facilitators as teachers. It is mainly online where the facilitator and the learners chat and communicate sharing ideas.

- E. **Social networking application.** These are networks that apply different applications for interactions and sharing of ideas including audio and video. Most of them include WhatsApp, twitter, Instagram, webinars, google etc. they can be deployed for any adult education programme giving participants the privilege to learn irrespective of their location and time. hey A diagrammatic representation of some of these tools are presented below that can be adapted for formal and informal learning base on collaborative and individual learning.

ICT- learning tools for adults



Source (Goertz 2013, p.11)

Digital Learning Environment for Improve Adult Learning

Application of computer technology for digital learning has some advantages for the adult learner as it can be designed to reflect individual learner needs and characteristics by the inclusive nature of adult education programmes. The world is presently adopting new instructional techniques for effective instructional delivery enhanced by digital infrastructure that adult education can easily adapt to. The design of adult education programmes is based on learner felt needs. Meeting these needs by empowering the adult with the requisite skills and knowledge is the ultimate goal. Therefore material that can be deployed to attain these goals is encouraged. One of such is digital learning that uses online learning environments. These online learning tools can be used to produce learning content that is learner friendly and flexible as supported by the Paragogy theory that encourages peer assisted learning.(Corneh & Danoff,2011). Other designs that can be deployed is the learners frame work that links personal needs to behaviour of learners.(Moggridge,2007). This design is anchored on a 2x2 matrix of pathfinder, onlookers, organizers and daydreamers. Others learning platforms are interaction designs, consisting of performance/activity, guru/genius, learner/user centred and system designs that can be meaningfully deployed for adult education practice by the principles guiding its operations. Each of these designs have their components as the performance centred is on tasks and guided learners actions as aids that is need centred, content development and awareness tailored towards attainment of goal. The suitability of these designs is on the premise that adults know who they are and what they want and are thus interested only in what will provide solutions to their problems. (Owede, 2015)

Due to the peculiar characteristics of adult learners (physiological and sociological), programmes

designed for them should reflect their characteristics which is to include;-

- Learner friendly design. It should be designed for easy understanding and use by the learner, with appropriate instructions on how to use them.
- Avoid using ambiguous words but rather with simple short statements.
- Provide guidelines and explain terms to understanding of users.
- Include appropriate and relevant visuals as they convey more meanings than words to users.
- Audios should reflect and based on the topic with enough directives and explanations for better understanding.
- An audio transcript should be made available to serve as a guide to learners.

Way Forward

Adult education programmes are usually designed to empower everyone with the necessary skills to function properly in society and contribute to individual and collective growth. However this cannot be achieved without the adults learning as per the present world situation. Though adults are willing to acquire new functional skills, but there are hindrances that should be shelved aside and steps to be taken which include:-

- a) Educators/Learners need digital and pedagogic skills. For effective delivery of adult education programmes and participate in digital learning adults have to be equipped with the requisite knowledge on how to use the infrastructure.
- b) Both learners and facilitators should be involved in the planning, design and implementation of the programmes, thus need capacity building.

- c) Provision of ICT Infrastructure. Digital learning depends on availability of infrastructure thus the provision of these infrastructure is required.
- d) Sensitization/Awareness creation. There is the need to create the awareness on the availability of ICT-enabled adult learning resources. This will include sensitization on the uses of available hardware and software programmes and apps that can enhance adult learning.
- e) Regulation of operations. A policy for the regulation, monitoring and control of the operations is needed to avoid imposing and inculcating non useable ideas, attitude and skills.

Conclusion.

Digital technology is here to stay thus the practice of Adult and Non Formal education can benefit from it. Since adult learners have peculiar characteristics, the design of adult learning environment should be need centred and encourage the application of adults prior experiences as learning can be built solidly on that. With the dynamic nature of technology, programmers and designers should also be conscious of this as adult's needs new skills that are user friendly reflecting on adult learning styles. The activation of digital leaning environment in adult education practice is capable of improving the fortunes of adult education practice.

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