

Transformation Of Adult Learning In Literacy Centres In Delta State Through The Use Of Digital Technologies: Challenges And Strategies For Improvement

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Abstract— The present study is thus, designated to investigate the transformation of adult learning in literacy centres in Delta State through the mobilization and use of digital technologies: challenges and strategies for improvement. Four research questions guided the study in order to find out the mobilization, utilization, challenges and strategies for improvement in the use of various digital technologies for transformation of adult learning in the literacy centres in Delta State. A descriptive survey research design was employed in the study. Population for the study included all the 492 facilitators in 67 literacy centres within the 25 LGAs in Delta State. Sample size for the study consisted of 294 facilitators from 28 literacy centres in Delta State selected using purposive sampling technique drawn at 80%. Both validity and reliability of the research instrument were established in the study. A 45-item researcher self-developed questionnaire titled: “Transformation of Adult Learning through Digital Technologies Questionnaire (TALDTQ)” designed only for the facilitators which served as instrument for data collection was face validated by two experts from the Department of Adult and Continuing Education; and one Measurement and Evaluation expert from the Department of Educational Foundations, Nnamdi Azikiwe University, Awka, Anambra State. Reliability of the questionnaire was determined through a pilot test sampling some facilitators in a few literacy centres in Anambra State. Method of data collection was executed through a face to face contact with the respondents. Method of data analysis was done using mean statistics and standard deviation statistics. Among the findings of this study were that many of the digital technologies were neither mobilized nor utilized by the facilitators for transformation of adult learning in the literacy centres in Delta State. This poor situation was responsible by some challenges, in which possible strategies for improvement were indicated. From these findings, recommendations were made and among them

included that; the State Agency for Mass Literacy, Adult and Non-Formal Education through collaboration with the Federal and State governments together with the private sector contributions and support should make provisions through adequate budgetary allocation, funding and financial assistance to the adult education sector for mobilization and utilization of various digital technologies which is necessary for transformation of adult learning in literacy centres in Delta State. Also, constant training and retraining programmes should be provided for the facilitators to equip them with the necessary skills and competence for utilization of various digital technologies for transformation of adult learning.

Keywords— Transformation, Adult, Learning, Literacy, Centres, Digital, Technologies, Strategies, Improvement

I. INTRODUCTION

Nowadays, digital technologies which is equivalent to and as the same as the use of information communication technologies are making significant inputs and impacts all-over the world, globally, including, in the Nigerian education sector, likewise, in the area of adult education and adult learning. Scholars like Haleem, Javaid, Qadri and Suman (2022) attested that the globalization of education has already necessitated the application of digital technologies. Online platforms are available for conducting classes, sharing resources, doing the assessment and managing the day to day activities of academic institutions. The COVID-19 Pandemic forced educational institutions to adopt digital technologies like the online teaching mode to sustain

the education system. Developed countries were well equipped to deal with this crisis. However, developing countries worked hard to meet this requirement but having being faced with many challenges found it difficult to fully integrate the process in education. Digital technologies have emerged as the saviour of education in this critical time and technological era. This global crisis highlights the need for digital technologies to be internationally integrated into the education system (Haleem et al, 2022). Different organization including educational institutions in Nigeria precisely, seeing the important role of digital technologies are beginning to mobilize and utilize different digital technologies especially in this 21st century of technological and knowledge-based economy. Series of scholars and writers have equally observed that digital technologies offer opportunities that facilitate blended learning, on-line education/learning and mobile learning. According to Hanif (2023:1), digital technologies involves the process of integrating digital solutions and devices in business and education processes to provide value to the customers/students and become more competitive. They are also electronic tools, devices, systems, and resources which generate, store or process data.

Digital technologies as indicated by Tulinayo, Ssentume and Najjuma (2018) denote a wide range of technologies, tools, services and applications using various types of hardware and software. They facilitate services or activities by electronic means to create, store, process, transmit and display information. Broadly, digital technologies include the use of personal computers, digital television, radio, mobile phones, robots etc. When coupled with learner centered instructions, the use of digital technologies is claimed to improve learning. Anand (2022) observed that digital technologies are all electronic instruments, automated systems, technical equipment, and resources that produce, process or store information. They are any technologies controlled using digital logic, including computer hardware and software,

digital media and media devices, digital toys and accessories and contemporary and emerging communication technologies (School Curriculum & Standards Authority, Government of Western Australia, 2014). The distinction between analog and digital technology is that in analog technology, data is transformed into various amplitude electric rhythms, whereas in digital technology, data is translated into the binary system, that is, zero or one, with each bit representing two amplitudes. Digital technologies have progressed faster than any other breakthrough in history, reaching over half of the world's population in just two decades and changing civilizations. Technology can help to level the playing field through improving connection, financial inclusion, trade access, education, improved learning and access to public services. Digital technology has also grown into gaming world. Nowadays due to advancement of technology, games are far easier to play, can be effectively used to improve learning and they have become more mobile than ever. Digital technology tools used in education therefore, include social media, mobile phones, online games, and multimedia (Anand, 2022).

The British Broadcasting Corporation (BBC, 2023) disclosed that digital technologies are electronic systems and resources that help people to learn, communicate, play and more. The use of digital technologies demands innovation and culture change for a massive transformation of any organization which includes the educational institutions. The mobilization and use of digital technologies in education will thus, entail adequate and effective integration of various technologies into all areas of education, fundamentally changing how people operate and deliver value to customers (students). Examples of these digital technologies may include: computers, laptops, smartphones, smart TVs, online games, video on demand websites, traffic lights and pedestrian crossings, and automatic doors. Others may include: Websites, video streaming for movies and TV shows on the internet through Skype,

YouTube, e-books which involves wide range of electronic reading materials, block chain used for maintaining track records of public transactions, and digital currency like Bitcoin and cryptocurrency (Anand, 2022). Hanif (2023) gave examples of these digital technologies as including mobile technologies, the Internet, robotics, artificial intelligence (AI) and machine learning, augmented reality (AR), big data and real-time analytics, digital twin, API-Based integration, Robotic Process Automation (RPA), and cloud-based technology. Further describing some of these digital technologies, the BBC (2023) stated that a computer is a type of machine which does not have a brain like humans and it can neither think nor have ideas, but it can **follow stored instructions** and do lots of useful things. Computers can help people do things quickly, save and retrieve information fast and assist them to keep in touch with classroom activities. People use computers in lots of different ways, to do many different types of jobs. They are used in places like schools, shops, factories, offices and hospitals. For instance, the librarian in a school uses a computer to know exactly where the books are. When someone borrows a library book, a computer scans the book and the library card. The computer remembers who has the book and when it will be returned (BBC, 2023).

Computers and laptops as indicated by Anand (2022) are becoming faster, more convenient, and more powerful than they have ever been. Technology has made our life easier, faster, more convenient, comfortable, accurate, and pleasurable as a result of all of these advancements. Computers can help people learn in many different ways. They can be used in the class or at home to: find things out by looking on the web, write a story and draw a picture, do mathematics online, make/draw charts and graphs, make music and record people playing songs, take photographs, read an e-book, and watch educative videos, among others (BBC, 2023). Streaming videos may be utilized for a variety of reasons. People may view movies and TV shows on the internet. With

programs like Skype, people can talk with people online and see them in real-time. Live streaming allows people to watch or stream live events. Other viewing alternatives for knowledge or enjoyment may be found on sites like YouTube. Streaming technology is becoming available on a wide range of devices, including computers, TVs, and smartphones (Anand, 2022). Smartphones use computer programs to make them work. The computer programs let people choose between a variety of apps, including a camera or music app. A person can also use a smartphone to send and receive messages or phone calls. Smartphones can as well be used in the classroom to provide and enhance learning. Anand (2022) opined that smartphones are the main reason why digital technology has grown at such a pace. Mobile phones changed the way people communicated, both verbally and through texting. We now have smartphones, which have cameras, calculators, and mapping capabilities, among other digital technologies. Consumer selections are becoming even more diverse as a result of mobile apps. Automatic doors use a computer program. When they see someone is near, they open. They only close if there is nobody nearby. A computer program tells the traffic lights when to change from red to green. When the push button is pressed at a crossing, it tells the computer that someone wants to cross. It will tell the cars to stop with a red light and then turn the pedestrian crossing light green. At some crossings, the computer may also play a sound or activate a physical sensor to assist people who may have visual or hearing impairments cross the road safely (BBC, 2023). Hanif (2023) emphasized that mobile devices increase the speed and frequency of interactions between organizations and their customers. These interactions allow access to **real-time data** that is nearly impossible to replicate through any other means. The internet consists of a large network of connected systems that can collect and share information without manual input. The

technology links the sensors of the devices with a centralized internet platform that extracts and stores data from them. Robotics is the branch of technology that deals with the design, construction, operation, and application of robots. The objective of the robotics field is to create intelligent machines that can assist humans in a variety of ways. They can enhance user experience, boost efficiency, and improve productivity tenfold. A great example of smart robotics in member-based organizations is the use of gamification technology at virtual events to improve attendees' experiences. Artificial Intelligence (AI) according to the BBC (2023), refers to the ability of computers to simulate what people think and do in the real world. It is incorporated in almost all high-end technologies that people use today including smart devices, computer vision, natural language processors, and **voice assistants**. Anand (2022) opined that through AI, virtual learning environments and remote learning have offered up educational opportunities to students who would otherwise be shut out. It allows membership organizations to automate tasks, make faster decisions, and engage customers through chatbots. Machine learning is a category of artificial intelligence that focuses on the use of algorithms and data to emulate how human brains learn, gradually increasing its accuracy. It works by extracting insights and patterns from the input data. It allows systems to evaluate and contextualize data so that information or actions are automatically triggered without human assistance.

Augmented Reality (AR) is one of the buzzing new digital technologies used by several organizations and industries. Simply explained, augmented reality (AR) is a virtual augmentation of the physical world by adding digital elements, sounds, and other sensory stimuli (Hanif, 2023). Augmented and virtual reality systems allow a 3D environment and the users can interact using VR glasses or headsets. AR uses mobile technology coupled with real-time data to generate visual graphics. These technologies are impressive in teaching subjects like

history, geography, or biology with more added dimensions. Big data refers to large volumes of raw data collected from various sources like internet devices, social networks, and website trackers. This data, when processed and interpreted, can provide valuable insights to drive business strategies and is a significant component of digital transformation. AI and machine learning are powerful tools that can automate processes, analyze data, and make predictions. They can comb through big data, identify patterns, and generate insights, thus helping in decision-making and business strategy development. Digital twins are digital replicas of physical systems, processes, or products. They allow organizations and educational institutions to simulate changes, predict outcomes, and optimize processes without risking real-world consequences. This can save resources, time, and money (Hanif, 2023). API integration as further disclosed by Hanif (2023) is a method that connects two or more systems to facilitate smooth data transfer in digital transformation. Through API integration, an application can be located from a vast database and integrated into a service whenever a system tries to establish or modify a service. This aids in creating new services, increasing efficiency, and reducing costs. API integration allows member-based organizations to sync data, enhance processes, prevent system disruptions, and reduce costs. It replaces multiple digital tools and offers a centralized platform for efficient service and feature development. RPA is a technology that uses chatbots, AI, and bots to automate manual processes. It mimics user actions and can execute simple tasks to complex workflows. RPA reduces human errors, offers faster workflows, and provides robust system management. It also includes big-data analytics to understand member trends and improve digital transformation plans. Cloud is an inevitable component in digital transformation that provides flexibility, scalability, and agility to organizations. Traditional storage services are not adequate for handling large amounts of data cost-effectively and securely. The technology stores all the

data in the cloud, freeing organizations from the hassles of downloading heavy files, finding IT experts, or manually updating their programs. The best cloud technology for managing memberships is a **SaaS (Software as a Service)**. Organizations that have members can take advantage of this technology to strengthen relationships, boost engagements, and automate tasks (Hanif, 2023).

The Websites as stated by Anand (2022) are one of the most popular methods for individuals to access the web, which is as a result of several pieces of digital technology. Websites provide people with a wealth of information and have grown increasingly interactive—for example, people may not only view what is playing at their local movie theatre but also purchase tickets. From all the foregoing explanations, mobilization and utilization of digital technologies is very crucial for adult learning in adult education programmes and literacy centres. Besides, adult education is one of the programmes for nation-building and national development in the country. According to the Federal Republic of Nigeria (FRN, 2014), adult education and literacy programmes provide effective means of developing the full capacities and potentials of human resources as well as the development of competent workforce through the acquisition of practical life skills relevant to the world of work. Adult literacy is also designed to help in developing a sound and intelligent learning in persons engaged in the programme. Adult literacy programmes inculcate into adult learners' entrepreneurial skills, knowledge and rightful attitudes that will enable them function properly in the world of work and society. Nzeneri (2010) sees adult education as an educative programme such as the functional literacy, basic and post literacy programmes, environmental education, civic and political education, technical and vocational education, women education, health education and extension programmes, necessary for man's liberation from poverty, hunger and starvation, ignorance and illiteracy, diseases, among others. These programmes aids sustainable

development of the society. With the various adult education and literacy programmes, many adults can easily engage in adult learning in order to solve their problems. Adult learning according to Pathania (2019), on the other hand, is the entire range of formal, non-formal and informal learning activities undertaken by adults and out of school youth, which result in the acquisition of new knowledge, skills and attitude. Adult learning which distincts from child education, is a practice in which adults engage in systematic and sustained self-educating activities in order to gain new forms of knowledge, skills, attitudes, or values. It focuses more on the self-directed learning process. It is defined as the practice of teaching and educating adults. Adebola (2014) described adult learning as any activity with an educational purpose that is carried out by people engaged in the ordinary business life, with purposeful effort directed towards self and community development. It is the fulcrum in which the human index of any nation could be developed. Adult learning provides for citizens of Nigeria including those in Delta State, the type of education that will promote literacy for sustainable development of the society. Sustainable development, positively impacts on all areas and corners of educational, environmental, socio-economic, political, religious, environmental and cultural aspects of the society. That is why stakeholders in adult education like the centre coordinators, facilitators, supervisors, policy makers, among others, should focus attention towards transforming the quality of education and learning provided for adults in the literacy centres through effective mobilization and utilization of digital technologies. Mobilization of digital technologies for improvement of adult learning in the literacy centres as described within the context of this present study refers to how these technologies are assembled, available and provided in the literacy centres for usage. On the other hand, utilization of digital technologies can be described as how these technological devices are adequately accessible and

used in by facilitators to promote adult learning in the literacy centres. Hence, mobilization and utilization of digital technologies in the literacy centres aids the provision of quality and sound education to adult learners to enable them function effectively and participate in the socio-economic development of their society.

Mobilization and utilization of digital technologies promote and improve adult learning in varieties of ways as observed by Haleem, Javaid, Qadri and Suman (2022). They have become vital and effective tools in promoting adult learning in so many ways and diversities; such as the student response systems like the smartphones and clicker devices which provide a quick and easy technique for teachers and facilitators to determine students' learning of the presented content quickly and whether more explanation is required. From the environmental impact of using less paper for handouts and books to the time savings and convenience of research, digital technology enhanced learning is a wonderful way to cut costs, better utilize resources, promote sustainability and expand both reach and impact for students/adult learners, facilitators who are also teachers. Adult learners might become more engaged in learning if technology is used in the classroom. Because youngsters nowadays are pretty accustomed to the usage of electronic gadgets; incorporating them into adult learning also, would undoubtedly assist in piquing their interest and enhance their involvement levels. Integrating digital technologies into adult education and learning provides learners with an engaging learning experience, allowing them to remain more interested in the subject without being distracted. The utilization of projectors, computers, laptops, ipods/ipads, tablets, and other cutting-edge technical gear in the classroom may make studying fascinating and entertaining for both adult learners and their facilitators (Haleem et al, 2022). Tulinayo, Ssentume and Najjuma (2018) emphasized that in education, digital technologies pave ways for new pedagogical and andragogical approaches, where

students and adult learners are expected to play a more active role than before, thus focusing on the crucial issues of how people communicate and learn in an electronic environment. Digital technologies in higher institutions of learning just like in adult learning can be effectively used for developing course material; delivering and sharing content; communication between learners, lecturers and the outside world; creation and delivery of presentation and lectures; academic research; administrative support, student enrollment (Tulinayo et al, 2018). Adult learning according to (Haleem et al, 2022) can become more dynamic and engaging by establishing tasks in classroom that incorporate technology resources, oral presentations, and group participation. Participation can extend beyond verbal communication as well. Using computers and other digital technology devices in conjunction with digital tools allow adult learners to play a more proactive role and be at the centre of the process. The instructor/facilitator becomes a guide in this process and can approve the adult learners learning efficiency. Using the myriad of digital resources, adult learners may download the required information or upload their content. The web 2.0 technologies (wikis, podcasts, blogs, etc.) will facilitate adult learners to generate content, collaborate with others, assess each other work and move toward co-learning. Digital technologies make it easy to use classroom tactics like gamification or approaches like flipped classrooms that optimize learning. Learning landscapes have evolved as a didactic tool that mixes several techniques and enables distinct itineraries to be presented to each student.

Digital technologies make the instruction more inspiring and meaningful. Digital technology classrooms are defined by using electronic devices or platforms such as social media, multimedia, and mobile phones to teach students/learners. With digital technology in adult education, today's educational landscape has altered for the better or improvements. Digital technology learning is a

learning strategy that employs technology to fulfil the entire curriculum and allows adult learners to learn quickly and rapidly. The digital classroom entirely focuses on teaching and facilitating learning via the use of technology. Adult learner will have access and use technological or internet-connected gadgets like laptops, tablets, Chromebooks, etc. Instead of taking notes on what the teacher or facilitator has taught, most of the curriculum is delivered to students online through an engaging and interactive platform. Despite its many facets, education is fundamentally a kind of communication. The internet has resulted in the rise of new communication channels, which have extended the options for the transmission and access to educational information. Digital technologies assist in developing abilities that will require adult learners' professional performance, such as problem-solving, thinking structure creation, and process comprehension. These media and virtual venues serve as learning facilitators. Various features of a digital technology classrooms likewise their benefits are shown below in Fig. 1.



Figure 1: Features of Digital Technologies in the Classroom

(Source: Haleem, A., Javaid, M., Qadri, M.A. & Suman, R. (2022). *Understanding the role of digital technologies in education: A review*. pp. 277. [https://www.sciencedirect.com/science/article/.](https://www.sciencedirect.com/science/article/))

The above diagram is an illustration of the features of digital technologies and their benefits in using them in the classroom. However, the mobilization and utilization of digital technologies in the classroom will bring about collaborative and affordable learning, ease teaching process, upgrade adult learning, introduce innovative contents into adult learning, makes adult learning more interactive and accessible, and ignites flexible learning, which leads to actualization of both instructional objectives and

educational goals. Nevertheless, mobilization and utilization of digital technologies will equally enable facilitators achieve the goals and objectives of adult education as illustrated in the National Policy on Education (NPE) by the Federal Republic of Nigeria (FRN, 2014). Never minding the crucial role and importance of digital technologies, yet many educational institutions including adult literacy centres seem not to utilize them in promoting students' and adult learning. Many institutions still focus on the old traditional way and practice of teaching without technology. Most of these digital technologies are either lacking or not present in the institutions and centres. Even where most of them are available, they are not adequately being utilized by facilitators and teachers.

The issue concerning the mobilization and utilization of digital technologies in education have long drawn the attention of many scholars and researchers such as Ali, Nwafor and Onoh (2019), Amuchie (2015), Ogunode, Nasir, Yahaya and Jegede (2021), Olelewe and Amaka (2011), and Ugwoke (2011), who reported in the studies that most of the technological resources are either found wanting, lacking and appropriately not mobilized and sufficiently utilized in various educational institutions. This situation could be responsible by some factors and challenges as well. Supporting the above statements, Tulinayo et al (2018) opined that in as much as digital technology solutions are believed to have the potential to widen access, reduce costs, and improve the quality of education; however, the adoption of digital technologies in educational institutions of learning as constrained by several factors still remains a very big challenge. Haleem et al (2022) pointing out the challenges to use of digital technologies in education, highlighted the following and they include that both students and teachers are having difficulty since some are utterly inexperienced with digital technologies. Some students come from low-income families and do not have money to afford most of these technologies. Also, issues such as

connectivity problem, low-tech interventions for instruction at the appropriate level which can significantly affect learning with technologies, lack of in-service training for instructors, lack of support to incorporate technology in instruction, among others. Those complex system of factors interrelated to create barriers to adoption and use of digital technologies in learning as identified by Tulinayo et al (2018) includes high cost involved, socioeconomic and technological conditions, lack of a systematic approach to teaching and learning, awareness and attitudes towards digital technologies, administrative and technical support, staff development, limited infrastructure, lack of hybrid classroom, poor implementation of e-curriculum in schools and little or no expertise in the use of digital technology tools. Albert (2016) classified the challenges inhibiting the use of technology in education into three groups namely: infrastructural, capacity building, and finance related challenges. Infrastructural related challenges include consistency of electricity supply whereby the country still experience erratic power failure, availability of ICT facilities, access to computers in school, communities, and households, as well as, affordable internet service. Capacity building related challenges includes teacher technical skills, skills for educational administrators, technical support specialist, and for content developers. Financial challenges are associated with educational stakeholders like the government and institutions providing sufficient funds for mobilization of technologies in the schools. Olutola and Olatoye (2015) identified the challenges to e-learning technologies in the universities as including limited and lack of connectivity challenge, lack of pedagogy in their curriculum, lack of user touch and feel in their e-learning platform, lack of both technical and social skills required for the implementation of e-learning, equipment such as computers, digital technology, and internet are not available for proper utilization, softwares are costly and not available for use in some of the universities to facilitate e-learning programme, lecturers and students are not trained to

make use of some of the e-learning equipment, and students lack of confidence and experience with computers. Other challenges may include: inadequate security for universities Cyber Café, inadequate e-learning experts or manpower to train both the staff and the students, Internet facilities adopted in most universities are not functioning very well, hardwares used for e-learning classes are costly and some universities cannot afford it, inadequate supply of electricity to e-learning centres for effective teaching and learning, inadequate funding of the universities to buy e-learning technologies and inadequate laptops or computers for both the students and staffs (Olutola & Olatoye, 2015).

Given the above challenges, there are some effective strategies to improve both mobilization and utilization of digital technologies in educational institutions including in the adult literacy centres as observed by a few scholars. Garba, Singh, Yusuf and Ziden (2013) gave a remark that the success of ICT integration in the teaching-learning process is dependent on teachers' high level of ICT proficiency, ICT integration both as instructional aid and also as a course of study in every educational system, adequately equipping institutions with the needed ICT facilities that should be constantly upgraded to meet up with the increasing changes and development in digital technologies, employment of sufficient technicians for the maintenance of the ICT equipment, and teacher educators need to be constantly up-dated with the knowledge and skills of using the emerging technologies for educational purposes. Also, lecture hall, laboratories and venues of teaching and learning in the institutions needs to be provided with multimedia systems and overhead projectors that should be permanently fixed. ICT courses curriculum need to be flexible to accommodate the rapid changes in technological development. From all the foregoing discussions, it shows that appropriate or adequate mobilization and utilization of digital technologies in adult literacy centres and programmes will definitely transform adult learning. Adult education and adult

learning ever since inception has played significant role on both human capacity empowerment and socio-economic development throughout the Nigerian society. Never minding the importance of adult education towards sustainable development in the society, yet there seems to be a lacuna and gap in the process and delivery of adult learning; which calls for significant changes and transformation in teaching methodologies and practices through constant use of digital technologies. Besides, since the world globally is going digitalized in education coupled with the impact of the just ended COVID-19 pandemic in countries like Nigeria, there is need to focus attention on the mobilization and use of digital technologies in order to transform and improve adult learning in the literacy centres especially in Delta State. Although, several literature and empirical studies such like those of Albert (2016), Garba, Singh, Yusuf and Ziden (2013), Haleem et al (2022), Johnson, Jacovina, Russell and Soto (2016), Olutola and Olatoye (2015) and Tulinayo et al (2018), have been carried out in the areas of ICT and technology, all these studies have their own mix, shortcomings and findings which have equally necessitated and warranted the present study. It is therefore, upon this background that the researcher in this present study sought to examine the need for transformation of adult learning in literacy centres in Delta State through the use of digital technologies: challenges and strategies for improvement.

Statement of the Problem

The use of digital technologies recently in education has proven to make significant contributions and impacts especially in the Nigerian education sector which includes the adult and non-formal education sector. Today, effective and adequate use of digital technologies such as the virtual technologies, social media, multimedia, among others have seem to provide digital learning which has positive advantage in the transformation of teaching and learning in the classroom. Never minding the importance of digital technologies in education, yet,

they seem not to be fully integrated into adult learning. Observations from many literacy centres in Delta State showcase that they seem to be poor managed without the provision of modern technologies that will aid in transformation of adult learning. Many of these literacy centres still heavily rely and fall back on utilizing the traditional classroom where the old conventional method is highly practiced. And this situation seems to affect adult learners' enrolment and active participation in the literacy centres, therefore, having negative consequences on adult learning in the programme. Given the present global technological changes which positively affects all sectors including education, a lot of transformation seems to be ongoing in education as regards to transformation of teaching-learning, and adult learning cannot be an exception or be left out. The traditional classroom instructions alone have been proven to fall short of providing an immediate learning environment, faster evaluations, reality learning and more engagement. In contrast, digital learning tools and technology fill this void. Some of the efficiencies such technologies provide are simply unrivalled by traditional learning methodologies. With smartphones, Internet and many other wireless technology devices becoming popular among the general public, it only makes sense that schools and educational institutions like the adult literacy centres make efficient use of them by putting most of these digital technologies in the classroom. Indeed, today's technology's adaptability and non-intrusive character make learning more appealing to both the present and next generation. The question there to answer is whether the present poor state of adult education in Delta State is affected by the teaching methodologies of poor mobilization and utilization of digital technologies for transformation of adult learning? If so, what are the challenges and strategies for improvement? This is the gap in which the present study sought to fill. However, the need to transform adult learning through the use of digital technologies has become the problem of this present study.

Purpose of the Study

The present study was designated to investigate the essence of transformation of adult learning in literacy centres in Delta State through the use of digital technologies: challenges and strategies for improvement. Specifically, the study aimed to find out:

1. The mobilization of various digital technologies for transformation of adult learning in the literacy centres in Delta State.
2. The utilization of various digital technologies for transformation of adult learning in the literacy centres in Delta State.
3. The challenges inhibiting both mobilization and utilization of various digital technologies for transformation of adult learning in the literacy centres in Delta State.
4. The possible strategies for improvement in the mobilization and utilization of various digital technologies for transformation of adult learning in the literacy centres in Delta State.

Research Questions

The following four research questions guided the study:

1. What are the various digital technologies mobilized for transformation of adult learning in the literacy centres in Delta State?
2. In what ways are the various digital technologies utilized for transformation of adult learning in the literacy centres in Delta State?
3. What are the challenges inhibiting both mobilization and utilization of various digital technologies for transformation of adult learning in the literacy centres in Delta State?
4. What are the possible strategies for improvement in the mobilization and utilization of various digital technologies for transformation of adult learning in the literacy centres in Delta State?

Methodology

A descriptive survey research design was employed in the study. This design entailed using a research instrument (questionnaire) to collect data from a few sample of facilitators within a given large

population of facilitators in the literacy centres in Delta State. Information retrieved from the sample of facilitators was thereafter analyzed using a statistical tool in order to generate data and draw generalization based on the findings of the study. Nworgu (2015) opined that this research design is used in collecting data and describing them in a systematic manner of the characteristics, features or facts about a given population or elements and generalization drawn based on the findings. This makes this design suitable for the present study. Population for the study included all the 492 facilitators in 67 literacy centres within 25 LGAs in Delta State. Sample size for the study consisted of 294 facilitators from 28 literacy centres in Delta State selected using purposive sampling technique drawn at 80%. A 45-item researcher self-developed questionnaire titled: "Transformation of Adult Learning through Digital Technologies Questionnaire (TALDTQ)" designed only for the facilitators served as instrument for data collection. Construction of the research instrument was guided by the purpose of the study and research questions. The response items on the questionnaire was structured on a 4-point scale of Strongly Agree (SA) – 4, Agree (A) – 3, Disagree (D) – 2 and Strongly Disagree (SD) – 1 in order to answer research questions. The questionnaire was face validated by two experts from the Department of Adult and Continuing Education; and one Measurement and Evaluation expert from the Department of Educational Foundations, Nnamdi Azikiwe University, Awka, Anambra State. Few corrections were made on the questionnaire by the experts based on double-barrel items, content coverage and sentence/language construction. The instrument was corrected before its final print out and administration to the respondents. Reliability of the questionnaire was determined through a pilot test sampling some facilitators in a few literacy centres in Anambra State. Delta State shares boundary with Anambra State and both States have something in common as far as the administration of literacy centres is concerned. Data obtained from the

facilitators after the pilot test were computed using the Cronbach Alpha statistics which gave internal consistency reliability coefficients of 0.77, 0.73, 0.71 and 0.79 for the four clusters and were added up and divided to give an overall value of 0.75. This result showed that the instrument was reliable and dependable to conduct the study.

Method of data collection was executed through a face to face contact with the respondents. An on-the-spot method was employed, which enabled the researcher and the five research assistants to meet the respondents, that is, facilitators, in their respective literacy centres to wait and collect the necessary information from them. The five research assistants who were people familiar with the terrains of Delta State were instructed on how to collect the necessary information from the facilitators using the questionnaire. At first, the research assistants took permission from the centre coordinators before administering the questionnaire to the facilitators. Distributing the questionnaire to the respondents took a period of five working days. A total of 294 copies of the questionnaire were distributed to the 294 facilitators and all of them were retrieved at a 100% rate of return. Method of data analysis was done using mean statistics and standard deviation statistics. The decision rule for taking decisions on the items on the questionnaire was that any mean score which rated at 2.50 and above was regarded to be in support of the statement and therefore termed as agree. Any mean score that rated 2.49 and below was regarded as not in support of the statement and therefore termed disagree.

Results

Research Question One: What are the various digital technologies mobilized for transformation of adult learning in the literacy centres in Delta State?

Table 1: Various Digital Technologies Mobilized for Transformation of Adult Learning in the Literacy Centres in Delta State

N = 294 Facilitators

S / N	Please indicate the various digital technologies mobilized for transformation of adult learning in the centre	SA	A	D	SD	Mean	SD	Decision
1	Multimedia technologies such as the smart television, projectors, film strips, DVD player mobilized to transform adult learning in the classroom	35	44	111	104	2.03	0.99	Disagree
2	Laptops connected with projectors mobilized to support adult learning	27	50	107	110	1.98	0.95	Disagree
3	Desktop computers connected with monitors and keyboards to transform adult learning	19	68	98	109	1.99	0.93	Disagree
4	Hardware digital technologies such as SMART boards, ipads, ipods, microphones, 3D printers and scanners, radio cassette player, duplicating machines mobilized for transformation of adult learning	24	55	118	97	2.02	0.92	Disagree
5	Mobile technologies such as the smart phones mobilized to support adult learning in the classroom	104	110	33	47	2.92	1.05	Agree
6	Cloud computing mobilized to store large files, information, among others	26	56	122	90	2.06	0.92	Disagree
7	Video streaming mobilized to display reality of lessons through pictures and sounds	37	46	105	106	2.05	1.01	Disagree
8	Digital tools mobilized in class to elaborate adult learning with Augmented Reality, Virtual Reality, and other visualization technologies which uses VR glasses or headsets	19	25	161	89	1.91	0.80	Disagree
9	Online games through gamification mobilized for boosting adult learning	41	62	89	102	2.14	1.05	Disagree
10	Social media technologies providing various apps such as google apps such as google classroom, Meet, Hangouts, Zoom, teleconferencing, WhatsApp, etc mobilized to transform adult learning	35	49	103	107	2.04	1.00	Disagree
11	Internet connectivity mobilized to provide WWW resources necessary for transforming adult learning	31	66	97	100	2.10	0.99	Disagree
Overall Mean Score & SD =						2.11	1.00	Disagree

Analysis of result from the respondents presented in Table 1 revealed that items 1 to 4 and 6 to 11 were rated above 2.50 of the acceptable mean score by the respondents in order to agree with these statements. Only item 5 was rated below 2.50 of the acceptable mean score by the respondents in order to disagree with the statement. The overall mean score and SD is 2.11 and 1.00 indicating that there were a lot of negative responses from the respondents showing that various digital technologies were not mobilized for transformation of adult learning in the literacy centres in Delta State.

Research Question Two: In what ways are the various digital technologies utilized for transformation of adult learning in the literacy centres in Delta State?

Table 2: Various Digital Technologies Utilized for Transformation of Adult Learning in the Literacy

S/N	Please indicate the various digital technologies utilized for transformation of adult learning in the centre	SA	A	D	SD	Mean	SD	Decision
12.	Multimedia technologies such as the smart television, projectors, film strips, DVD player utilized in order to provide a seamless experience of the subject under investigation for transformation of adult learning in the classroom	40	36	125	93	2.08	0.99	Disagree
13.	Laptops connected with projectors utilized in the classroom to display lessons for transformation of adult learning	24	34	132	104	1.93	0.89	Disagree
14.	Desktop computers connected with monitors and keyboards utilized to facilitate adult learning in the classroom	36	38	120	100	2.03	0.98	Disagree
15.	Hardware digital technologies such as SMART boards, ipads, ipods, microphones, 3D printers and scanners, radio cassette player, duplicating machines utilized for display of pictures, graphics, video, sound, and text to explain topics of interest for transformation of adult learning	29	49	106	110	1.99	0.97	Disagree
16.	Mobile technologies such as the smart phones utilized in the classroom to support adult learning	31	37	105	121	1.93	0.98	Disagree
17.	Cloud computing utilized to store large files including information, for transformation of adult learning	45	32	104	113	2.03	1.05	Disagree
18.	Video streaming utilized in the classroom to display reality of lessons through pictures and sounds for transformation of adult learning	29	20	101	144	1.78	0.95	Disagree
19.	Digital tools utilized in class to elaborate adult learning with Augmented Reality, Virtual Reality, and other visualization technologies which uses VR glasses or headsets impressive in teaching subjects like history, geography, or biology with more added dimensions	33	25	181	55	2.12	0.84	Disagree
20.	Online games through gamification also used for quizzes, and online exams to facilitate learning and provide better evaluation methods for transforming adult learning	42	39	111	102	2.07	1.02	Disagree
21.	Social media technologies providing various apps such as google apps such as google classroom, Meet, Hangouts, Zoom, teleconferencing, WhatsApp, YouTube, etc to facilitate learning including other educational activities for transformation of adult learning	32	34	89	139	1.86	1.00	Disagree
22.	Internet connectivity which provide WWW resources utilized to provide enormous pool of knowledge and novel insights into the topics of interest with ample opportunities for sharing knowledge and resources electronically necessary for transforming adult learning	19	49	107	119	1.89	0.90	Disagree
Overall Mean Score & SD =						1.97	0.97	Disagree

Analysis of result from the respondents presented in Table 2 revealed that none of the items were rated above 2.50 of the acceptable mean score by the respondents in order agree with these statements. All the item from 12 to 22 were rated below 2.50 of the acceptable mean score by the respondents in order to disagree with the statements. The overall mean score and is 1.97 and 0.97 indicating that there were a lot of negative responses from the respondents showing that various digital technologies were not utilized for transformation of adult learning in the literacy centres in Delta State.

Research Question Three: What are the challenges inhibiting both mobilization and utilization of various digital technologies for transformation of adult learning in the literacy centres in Delta State?

Table 3: Challenges Inhibiting both Mobilization and Utilization of Various Digital Technologies for Transformation of Adult Learning in the Literacy Centres in Delta State

N = 294 Facilitators

S/N	Please indicate the challenges inhibiting both mobilization and utilization of various digital technologies for transformation of adult learning in the centre	SA	A	D	SD	Mean	SD	Decision
23.	Inadequate funding of literacy centres for adequate procurement/mobilization of the multimedia, mobile and hardware digital technologies	129	113	27	25	3.18	0.92	Agree
24.	Lack of many of these digital tools/resources mobilized in the literacy centres	118	132	23	21	3.18	0.86	Agree
25.	Poor ICT policy implementation in adult learning which continues affects the application of e-curriculum in andragogical practices therefore, affecting utilization of digital technologies in the literacy centres	123	130	17	24	3.20	0.87	Agree
26.	Resistance to change from facilitators towards using digital technologies to facilitate adult learning	132	129	15	18	3.28	0.82	Agree
27.	Adult learners unreadiness/unpreparedness to adopt new method of using digital technologies in learning	106	143	24	21	3.14	0.84	Agree
28.	Facilitators low level including poor competency towards using digital technologies to facilitate adult learning in the literacy centres	118	126	28	22	3.16	0.88	Agree
29.	Poor Internet services including connectivity to utilize these virtual including social media and online digital technologies	104	144	33	13	3.15	0.79	Agree
30.	Lack of consistency in training facilitators on the use of certain digital technologies to facilitate adult learning	109	131	19	35	3.07	0.95	Agree
31.	No permanent structure or site to promote the use of digital technologies in adult learning	154	103	11	26	3.31	0.91	Agree
32.	No technical/professional support for digital technology facilities repair or replacement	130	112	32	20	3.20	0.89	Agree
33.	Constant power eruption due to electricity challenges	121	102	30	41	3.03	1.03	Agree
34.	High cost of many of these digital technologies hindering their mobilization in adult learning	117	132	28	17	3.19	0.83	Agree
35.	Constant changes in nature of many digital technologies which requires consistency in upgrade of outdated technologies, hence, inhibiting their mobilization in the literacy centres	127	103	24	40	3.08	1.03	Agree
Overall Mean Score & SD =						3.17	0.90	Agree

Analysis of result from the respondents presented in Table 3 revealed that all the items from 23 to 35 were rated above 2.50 of the acceptable mean score by the respondents in order agree with these statements. None of the items were rated below 2.50 of the acceptable mean score by the respondents in order to disagree with the statements. The overall mean score and is 3.17 and 0.90 indicating that there were a lot of positive responses from the respondents showing that

the challenges inhabiting both the mobilization and utilization of various digital technologies for transformation of adult learning in the literacy centres in Delta State.

Research Question Four: What are the possible strategies for improvement in the mobilization and utilization of various digital technologies for transformation of adult learning in the literacy centres in Delta State?

Table 4: Possible Strategies for Improvement in the Mobilization and Utilization of Various Digital Technologies for Transformation of Adult Learning in the Literacy Centres in Delta State
 N = 294 Facilitators

S/N	Please indicate the possible strategies for improvement in the mobilization and utilization of various digital technologies for transformation of adult learning in the centre	SA	A	D	SD	Mean Score	SD	Decision
36.	Adequate funding of adult education by Government and the private sector for adequate procurement/mobilization of the multimedia, mobile and hardware digital technologies for transformation of adult learning	115	123	38	18	3.14	0.86	Agree
37.	Effective ICT policy implementation in adult education which will aid integration of digital technologies in the curriculum for transformation of adult learning	122	112	39	21	3.14	0.90	Agree
38.	Effective incorporation of digital technologies into andragogical practices for transformation of adult learning in the literacy centres	114	134	30	16	3.18	0.82	Agree
39.	Constant training and retraining of facilitators for capacity building towards using digital technologies to facilitate adult learning	116	128	26	24	3.14	0.89	Agree
40.	Motivation of facilitators including adult learners for their acceptance to adopt new method of using digital technologies in the literacy centres for transformation of adult learning	117	111	28	38	3.04	1.00	Agree
41.	Ensure adequate Internet access and connectivity to encourage utilization of digital technologies for transformation of adult learning in the literacy centres	120	121	29	24	3.15	0.90	Agree
42.	Provision of permanent structure or site to promote the use of digital technologies in literacy centres for transformation of adult learning	141	113	23	17	3.29	0.84	Agree
43.	Employment of the services of technicians for appropriate maintenance of the digital technologies when mobilized in the literacy centres for transformation of adult learning	112	115	31	36	3.03	0.99	Agree
44.	Provision of stable power generating device for constant electricity which will enhance utilization of these digital technologies in the literacy centres for transformation of adult learning	110	140	19	25	3.14	0.87	Agree
45.	Financial support for facilitators for personal procurement of these digital technologies so as to reduce cost which aids utilization of these technologies in the literacy centres for transformation of adult learning	115	127	26	26	3.13	0.90	Agree
Overall Mean Score & SD =						3.14	0.90	Agree

Analysis of result from the respondents presented in Table 4 revealed that all the items from 36 to 45 were rated above 2.50 of the acceptable mean score by the respondents in order agree with these statements. None of the items were rated below 2.50 of the acceptable mean score by the respondents in order to disagree with the statements. The overall mean score and is 3.17 and 0.90 indicating that there were a lot of positive responses from the respondents showing the

possible strategies for improvement in the mobilization and utilization of various digital technologies for transformation of adult learning in the literacy centres in Delta State.

Discussion of Findings

Findings of this study generally revealed that many of the digital technologies were neither mobilized nor utilized by the facilitators for transformation of adult learning in the literacy centres in Delta State. This poor situation was responsible and caused by some challenges, in which possible strategies for improvement were indicated. It was discovered through the present study finding that the various digital technologies were not mobilized for transformation of adult learning in the literacy centres in Delta State. Digital technologies apart from mobile technologies such as the smart phones such as: multimedia technologies such as the smart television, projectors, film strips, DVD player necessary to transform adult learning in the classroom including laptops connected with projectors, desktop computers connected with monitors and keyboards, hardware digital technologies such as SMART boards, ipads, ipods, microphones, 3D printers and scanners, radio cassette player, duplicating machines, cloud computing which stored large files, information, among others, video streaming which displayed reality of lessons through pictures and sounds, digital tools which elaborated adult learning with augmented reality, virtual reality, and other visualization technologies which used VR glasses or headsets, online games through gamification, social media technologies providing various apps such as google apps such as google classroom, Meet, Hangouts, Zoom, teleconferencing, WhatsApp, etc, and Internet connectivity which provided WWW resources and necessary for transforming adult learning; were not all mobilized to support facilitation of adult literacy which would be beneficial in the transformation of adult learning in the literacy centres in Delta State. This finding agrees and corroborates with the findings of Ali, Nwafor and Onoh (2019) study which revealed that ICT facilities required for teaching and learning LIS were available to a certain degree and proportion. Also, in some of the universities studied, some of the available ICT facilities were not functional. The finding

equally revealed that, ICT facilities had not been fully made available to lecturers for teaching and learning in undergraduate programme. It was also observed that the ICT facilities that were not available in some of the universities studied were very essential for teaching. Some of the ICT facilities not available included television/video, radio set, fax machines, wide area network, modern and stylus pen. This finding also supports the findings of Ugwoke (2011) study which revealed that ICT resources were not available in different proportions in library schools. However, in some of the universities studied, some of the available ICT facilities were not functional. This situation calls for a serious concern as different. The non – availability of these facilities may be attributed to poor funding of ICT resources in library schools (Ugwoke, 2011). Therefore, failure to mobilized sufficient digital technologies in the adult literacy centres will definitely have negative consequences on adult learning. This creates a lot of difficulties for transformation of adult learning in the literacy centres in Delta State as well.

It was also found out that the various digital technologies investigated from the multimedia technologies such as the smart television, projectors, film strips, DVD player, laptops connected with projectors, desktop computers connected with monitors and keyboards, hardware digital technologies such as SMART boards, ipads, ipods, microphones, smart phones, 3D printers and scanners, radio cassette player, duplicating machines, cloud computing, video streaming, digital tools with augmented reality, virtual reality, and other visualization technologies which used VR glasses or headsets, online games through gamification, social media technologies providing various apps such as google apps such as google classroom, Meet, Hangouts, Zoom, teleconferencing, WhatsApp, etc, and Internet connectivity which provided WWW resources; were not utilized for transformation of adult learning in the literacy centres in Delta State. This situation created a lot of difficulties in application of

different methodologies in facilitating adult learning in the literacy centres. This finding agrees and is in line with the finding of Olelewe and Amaka (2011) study which discovered that computer educators utilized ICT effectively as a tool in their teaching and learning basically in instructional delivery and individualized learning process. There is poor utilization of ICT in evaluation of learning. Amuchie (2015) study found out that information and communications technology resources were not available in the secondary schools in Ardo-kola and Jalingo. This makes them to lag behind in the utilization of ICT resources in teaching-learning process. The scenario was also responsible for the very poor extent of accessibility rating of all ICT resources as availability leads to accessibility. Ogunode, Nasir, Yahaya and Jegede (2021) study found out that the school administrators' usage of ICT was very low in school which was responsible by several factors. Whereby the digital technologies are adequately not utilized, this becomes a big challenge in promoting effective adult learning the will bring about positive transformation in the adult literacy centres in Delta State.

It was further discovered through the finding of this study those challenges inhibiting both mobilization and utilization of various digital technologies for transformation of adult learning in the literacy centres in Delta State. This challenges included: inadequate funding of literacy centres for adequate procurement/mobilization of the multimedia, mobile and hardware digital technologies, lack of many of these digital tools/resources mobilized in the literacy centres, poor ICT policy implementation in adult learning which continues affects the application of e-curriculum in andragogical practices therefore, affecting utilization of digital technologies in the literacy centres, resistance to change from facilitators towards using digital technologies to facilitate adult learning, adult learners unreadiness/unpreparedness to adopt new method of using digital technologies in learning, facilitators low level including poor competency towards using digital technologies to

facilitate adult learning in the literacy centres, poor internet services including connectivity to utilize these virtual including social media and online digital technologies, lack of consistency in training facilitators on the use of certain digital technologies to facilitate adult learning, no permanent structure or site to promote the use of digital technologies in adult learning, no technical/professional support for digital technology facilities repair or replacement, constant power eruption due to electricity challenges, high cost of many of these digital technologies hindering their mobilization in adult learning, and constant changes in nature of many digital technologies which requires consistency in upgrade of outdated technologies, hence, inhibiting their mobilization in the literacy centres.

This finding concurs with Garba, Singh, Yusuf and Ziden (2013) study which found out that the challenges to technology integration in Nigerian colleges of education include: low level of technology integration into pedagogical practices whereby courses were being more theoretical than practical, low level of institutions preparedness associated to two main issues of infrastructure and manpower development, up to date ICT facilities in some of the colleges is lacking and grossly inadequate in some others. The level of ICT literacy and proficiency among the teacher educators was very low and theoretical (certificate-based), therefore most of the teacher educators lacked the experience and competence of using computer associated facilities, lack of access to basic ICT equipment, low internet connectivity and computers and the inadequacies in the use of educational software have become a barrier to effective and professional development of teachers in Nigerian Colleges of Education as well. Johnson, Jacovina, Russell and Soto (2016) found out in their study that the challenges to technology integration in the classroom included external challenges relating to such issues surrounding insufficient equipment or connectivity, termed the access constraint, inadequate training related to

technology, factors related to the support constraint which include inadequate technical support and administrative/peer support, factors related to reliable access to computers and other equipment necessary to run educational computer programs, limited time to access computer lab weekly, and limited access to hardware (i.e., laptops or tablets), software (e.g., reading and writing software, internet browsers), and internet connection. Findings of the previous study as discovered the internal challenges to technology integration in the classroom are closely related to teachers' negative attitudes and beliefs, teachers' acceptance of technology and resistance to change, teachers' poor skills and knowledge, and low confidence of teachers as they pertain to technology.

Finally, the finding of this present study disclosed the possible strategies for improvement in the mobilization and utilization of various digital technologies for transformation of adult learning in the literacy centres in Delta State. This finding include: adequate funding of adult education by Government and the private sector for adequate procurement/mobilization of the multimedia, mobile and hardware digital technologies for transformation of adult learning, effective ICT policy implementation in adult education which will aid integration of digital technologies in the curriculum for transformation of adult learning, effective incorporation of digital technologies into andragogical practices for transformation of adult learning in the literacy centres, constant training and retraining of facilitators for capacity building towards using digital technologies to facilitate adult learning, motivation of facilitators including adult learners for their acceptance to adopt new method of using digital technologies in the literacy centres for transformation of adult learning, ensure adequate internet access and connectivity to encourage utilization of digital technologies for transformation of adult learning in the literacy centres, provision of permanent structure or site to promote the use of digital technologies in literacy centres for transformation of adult learning, employment of the

services of technicians for appropriate maintenance of the digital technologies when mobilized in the literacy centres for transformation of adult learning, provision of stable power generating device for constant electricity which will enhance utilization of these digital technologies in the literacy centres for transformation of adult learning, and financial support for facilitators for personal procurement of these digital technologies so as to reduce cost which aids utilization of these technologies in the literacy centres for transformation of adult learning. This finding corresponds with the finding of Johnson, Jacovina, Russell and Soto (2016) study which indicated that the strategies that can be used by educators and researchers alike to encourage technology integration in the classroom include: teacher autonomy in the selection of educational technology, encouraging acceptance of classroom technology, improving teachers content knowledge, pedagogical knowledge, technological knowledge, pedagogical content knowledge, technological content knowledge, technological pedagogical knowledge, and technological pedagogical content knowledge through constant training and upgrading, effective integration of technology in the educational context and curriculum, sufficient professional development and technology support to teachers through collaboration with and support of different institutions (universities, government, administrators and schools), provision of funds for ICT resources, among others. Supporting the above finding, Olutola and Olatoye (2015) study found out that the strategies to improvement of e-learning technologies in the universities include: Government provision of e-learning technologies to Nigeria universities to equip their e-learning centres, adequate power supply to enhance the use of e-learning, training of lecturers in appropriate skills in e-learning, adequate funding of e-learning centres, employment of capable computer experts to train Nigerian universities lecturers on how to use e-learning technologies to deliver their lectures, private sectors, non-governmental and voluntary

organizations should assist to equip universities e-learning centres, employment of computer engineers to maintain e-learning facilities, among others. However, the present study finding also conforms with the finding of Olutola and Olatoye (2015) study as well. For transformation of adult learning in the literacy centres in Delta State, all these strategies must be put into considerations and effectively applied.

Conclusion

This present study concludes that the various digital technologies were neither mobilized nor utilized by the facilitators making it difficult for transformation of adult learning in the literacy centres in Delta State. Failure to effectively mobilize and utilize most of these digital technologies in the literacy centres will continue to have negative impression and impacts on adult learners who would not be competent to solve or tackle challenges of the 21st century technology age. Upon this premise, recommendations have been proffered below.

Recommendations

Based on the findings of this study the following recommendations were provided:

1. The State Agency for Mass Literacy, Adult and Non-Formal Education through collaboration with the Federal and State governments together with the private sector contributions and support, should make provisions through adequate budgetary allocation, funding and financial assistance to the adult education sector for mobilization and utilization of various digital technologies which is necessary for transformation of adult learning in literacy centres in Delta State.
2. Also, constant training and retraining programmes should be provided for the facilitators to equip them with the necessary skills and competence for utilization of various digital technologies for transformation of adult learning in the literacy centres in Delta State.
3. The Delta State government in strong collaborations with the Agency for Mass Literacy, Adult and Non-Formal Education in the State and

the private sector should work effectively towards curbing if possible eradicate all the challenges inhibiting both mobilization and utilization of various digital technologies for transformation of adult learning in the literacy centres in Delta State, through adequate support and encouragements.

4. The centre coordinators through maximum support and encouragements from the Agency for Mass Literacy, Adult and Non-Formal Education in Delta State coupled with the support from private sector like the financial institutions, businessmen and women, voluntary and international organizations, among others, should employ these strategies so as to curb the challenges indicated for transformation of adult learning in the literacy centres in Delta State.

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