

## **DEMOCRATIZING ADULT EDUCATION: A CRITICAL ANALYSIS OF THE RELEVANCE OF INTEGRATING TECHNOLOGY IN ADULT EDUCATION FOR NATIONAL DEVELOPMENT IN NIGERIA**

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**Abstract:** There is no denying the fact that Internet connectivity is steadily increasing globally in all facets of human endeavour. The technological advancements and the integration of these technologies in the education sector have witnessed an exponential increase in all aspects of education, especially for adult literacy, not only in the advanced worlds but in Nigeria as well. It will also not sound hyperbolic to say that there is an alarming magnitude of adult illiteracy in Nigeria today. The situation is continuously on the increase, and has raised concerns among scholars in the field. There is a need to ameliorate the situation by democratizing adult education, and the hope of curtailing it can only be solved through technology integration into adult education delivery that will enable any organized programmes to reach the less privileged citizens in their remotest areas (rural communities) in Nigeria. Consequently, this study focuses and/or highlights the advantages of integrating ICTs in the business of adult education in Nigeria. Furthermore, it assesses how the integration of technology in adult education in Nigeria could enhance national development, and finally attempts to examine the pitfalls of integrating these innovative ideas, and looks into the futuristic use of these new technologies in the education industry.

**Keywords:** Adult education, National development, Developing Country, Alternative education, and Technology integration.

### **Introduction**

The quality of citizens in a nation determines the quality of the output. A nation is usually transformed by literate adults, as they have the capabilities to move the nation forward unlike the children (Hussain & Alhassan, 2023). Hence, any nation that wants to move forward must first develop the adults, who are the potential force in any form of development. Globally, there is no doubt that adult education has witnessed remarkable modifications (moving out of formal educational institutions) across the world due to educators' constant search for alternative education to meet the needs of different groups in society (Rogers, 2019). With the present situation of adult programmes in Nigeria, there will be not much headway for Nigeria. If the scenario has to change, then, there

must be adequate integration of ICTs in adult education delivery to democratize education to the adults. Globally, the purpose of education, in whichever methods it was acquired (formal, non-formal, and informal), is to groom individuals cognitive, emotional, physical skills and spiritual wellbeing. The reason being that any uneducated person is assumed to be an ignorant person. It is on this background that Plato (2022) stated that an ignorant person encounters several challenges in life (Plato, 2022).

Therefore, it becomes paramount for citizens to be educated, to be free from ignorance, and to live a quality life that is free of many challenges. Therefore, the purpose of this write-up is to focus on how Nigerian illiterate adults could be reached through appropriate application of ICTs. Therefore, to meet any sustainable development goals, there is a need to move out of the traditional instructional strategy and move to the modern one that is not constrained to the classrooms but democratized by technology. The authors examined the role of adult education at this critical time of national development, and examined the positive and negative roles of technology integration in adult education processes in Nigeria, while examining the futuristic adult education programmes, and at the same time made suggestions for its improvement in Nigeria.

## **Review of Related Literature**

### ***Definition of Terms***

**Adult education:** As the name suggests, adult education usually refers to any form of learning undertaken by or provided for mature men and women outside the formal school system, and the notion of adult education is often used interchangeably with literacy, adult basic education, lifelong learning, continuing education, adult basic education, non-formal education, etcetera (Jinna and Maikano, 2014). In the same manner, Hussain and Alhassan (2023) conceptualized adult education as any educational program(s) organized for adults and youths regardless of its contents, place of study, and flexibility to satisfy the needs and aspirations of the beneficiaries and their communities. In totality, therefore, according to Seya (2014), adult education is understood as a transmission process of general, technical, or vocational knowledge, as well as skills, values, and attitudes, that takes place out of the formal education system with a view to remedying early education inadequacies of mature people or equipping them with the knowledge and cultural elements required for their self-fulfillment and active participation in the social, economic, and political life of their societies.

**Adult Learners:** Some scholars defined adult learners as students who are 25 years and above; those who do not fit the typical definition of a college student (Lewin & Lundie, 2016; Mubayrik, 2018; Mangal & Mangal, 2019); those who are dependents; those who are single parents; those who are working part-time; those who are financially independent; those who are enrolled in part-time and full-time jobs; those who do not have a high school diploma; and those who possess life/career experience (Lewin & Lundie, 2016; Mubayrik, 2018). Vezne (2020) conceptualized adult education as a wide field which deals with the educational needs of adult learners from a diversity of groups, including people with special needs, women, not in education, employment or training, refugees and asylum seekers.

**Alternative Education:** As the name suggests, alternate education provides an educational program that is not available in a traditional education system, which could be online learning that focuses on catering to students' learning and socio-emotional needs that are not being served in the traditional setup (Admin, 2022). Parker (2023) defined alternative education as a program of study for learners that need specialized instruction outside of the traditional education setting. In its broadest sense, alternative education covers all educational activities or programs that fall outside the traditional school system, Parker (2023).

**Technology Integration:** The effective implementation of educational technologies to accomplish intended learning outcomes is referred to as technology integration.

**National Development:** National development is the ability of a country to improve the social welfare of the people, provide infrastructure, such as good roads, functional hospitals, airports, and schools, and provide employment for its citizens (Ugwu, 2023).

**ICTs:** This stands for the plural of ICT. Operational definition of terms Information Communication Technologies (ICT) in this review article refers to the computer and internet connections used to handle and communicate information for learning purpose (Ratheeswari, 2018).

**Developing Country:** According to the UN, a developing country is a country with a relatively low standard of living, undeveloped industrial base, and moderate to low Human Development Index (HDI). This index is a comparative measure of poverty, literacy, education, life expectancy, and other factors for countries worldwide (<https://www.educationalpathwaysinternational.org/what-is-a-developing-country/>). According to O'Sullivan (2003), a developing country is a sovereign state with a less developed industrial base and a lower human development index (HDI) relative to other countries, and commonly characterized by lower levels of access to safe drinking water, sanitation and hygiene, energy poverty, higher levels of pollution, such as air pollution, littering, water pollution, open defecation, and higher proportions of people with tropical and infectious diseases, more road traffic accidents, and generally poorer quality infrastructure. Added to the above are low access to healthcare (Alhaji, and Sartaj, 2019), high unemployment rates, widespread poverty, widespread hunger, lower life expectancies lower income levels and poorer public health (Freeman, Gesesew, Bambra, Giugliani, Popay, Sanders, Macinko, Musolino and Baum, 2020), the burden of infectious diseases (Fauci, 2001), maternal mortality (Declercq and Zephyrin, 2020), child mortality (Mohsin, Keenan and Guo, 2021), infant mortality (Mohsin, Keenan and Guo, 2021), the effects of climate change, a high climate vulnerability or low climate resilience, etc. ([https://en.wikipedia.org/wiki/Developing\\_country](https://en.wikipedia.org/wiki/Developing_country)).

### **Why Nigerians Need Adult Education?**

The need for adult education in Nigeria cannot be overemphasized based on the present situation. Adult education plays a momentous role in stimulating the personal, social, and economic well-being of citizens. Scholars have also acknowledged the multi-dimensional role of adult education in national development. Monye (1981) had adequately answered the above question when he outlined the objectives of adult education. The scholar opined that the objective is to equip the adult with everything he needs for life to be relevant to himself by helping him

to solve his problems and those of society at large. For meaningful national development to be effective, adults need to be trained collectively or individually to change their attitude and behaviour, so as to positively contribute to national development. Monye (1981) stated that for people to survive in an environment they reside in, they must have awareness of it, and for them to be aware of the environment, they must be literate to have adequate knowledge of the said environment. Therefore, a literate person understands his environment better than a nonliterate individual. Hence. The scholar revealed that a literate person serves to bring about a fundamental change in man's attitudes and lifestyle. To survive, people must have awareness, and to become aware, they must be literate.

Ewuzie (2012) opined that adult education in Nigeria is presently geared towards national development. The scholar further stressed that the objective of providing adult education for the citizens is to: -

- To provide functional literacy education for adults who have never had the opportunity of any formal education
- To provide functional and remedial education for those young people who prematurely dropped out of the formal school system.
- To provide further education for different categories of completers of the formal education system in order to improve their basic knowledge and skills
- To provide in-service and on-the-job vocational and professional training for different categories of workers and professionals in order to improve their skills
- To give the adult citizens of the country aesthetic, cultural, and civic education for public enlightenment.

The most apparent reason for adult education in Nigeria is to help adults, who prematurely left school to overcome some factors that put them in their current situation, whereby they could not complete their academic programmes due to some noticeable factors, such as bad peer groups. That is, when students are in situations where their peers are not good examples, this can lead to poor behavioral outcomes; also, a catastrophe within the family, such as a terminal illness of parents or death, which can send a learner out of school. Additionally, another possible contributing factor could basically be the student's maturity level within their peer groups, home lifestyle of the learner, which may lead to inappropriate behavior problems.

Equally important are the issues between parents, for example, separation or divorce could be a major negative contributor; again, the socio-economic status of the family could also come into play when the student's basic needs are not being met and resources are not readily available. For this group of adults, the eventual goal is to give them the alternative education that will lift them to meet their maximum potential growth in all ramifications throughout their lifecycle and make positive contributions to national development (Parker, 2020).

### **Need for Democratizing of Adult Education in Nigeria?**

No nation can afford to develop fast when the majority of its citizens are illiterate to the core. With the alarmingly illiterate adults in Nigeria, there is a need to train and retrain the adult population in Nigeria to cope with the

present national development programmes or plans. Therefore, with Nigeria's traditional methods of teaching still active, the nation cannot make any headway if its education system is not digitalized to give way for inclusive education of the adult population, who are to take the major policy decisions for national development. Poor inputs beget poor results; hence, the present Nigerian adult citizens need to be academically improved to make meaningful contributions to national development.

Kumar and Chand (2024) have already emphasized the need for effective ICT policies in education to create a knowledge-based society, empower students and teachers, and prepare future generations to meet the demands of a globalized world. A country cannot parade a bunch or bulk of illiterates and expect to develop like other nations that parade literate citizens. In fact, asking for the need for democratization of adult education in Nigeria is to remind us of the importance of adult education in national development. In this development, it has become very paramount to give a comprehensive importance of adult education in any developing nation.

Educating adult citizens of a nation is not just about the basic rights; it is also about preparing the building blocks, the foundation for progress in basic areas such as human capital, nutrition, health, and the development of institutions and the democracy of that nation. Literate adults of any nation can effectively contribute to the nation's economic, political, social, and cultural developments. On health issues, Jinna & Maikano (2014) stated that literate adults can "improve sanitation and nutrition that improve people's standard of living and productivity by reducing sickness and mortality rates and by increasing life expectancy, adult basic education, by equipping recipients with essential literacy and numeracy skills, yields high rates on investment, thereby enhancing labour productivity" (Jinna & Maikano, 2014). Seya (2014), in his contribution to the role of literate adults in development, opined that an educated population provides a more attractive investment climate in the development of human capital, which is also crucial for developing a labour force and managerial knowledge that is capable of competing in today's global knowledge economy.

There is a need for adult education of the citizens of Nigeria because the requirements of today's knowledge society have started rendering previously acquired knowledge and skills unsuitable and old-fashioned, hence, there is a need to re-educate/re-skill the adult population through adult education as the formal education system or programmes alone is no longer sufficient for the modern society's technological demands. Adult education, if properly handled, could, in the long run, familiarize Nigeria's active population with information and communication technology, which could smoothly integrate Nigerian economies in the global market/economy, and link individuals, firms, and countries electronically in interdependent and interactive relationships (Jinna & Maikano, 2014).

Adult education is a multidisciplinary process oriented towards lifelong education for all, as well as efficient learning throughout life (Ugwu, 2023). It aims to provide the knowledge that improves professional qualifications and to achieve civic, social, moral, and cultural attitudes and skills for performing responsibilities and for progress in all spheres of life. In a time of constant socio-economic changes and scientific advances, adult education creates an increase in the choices and mirrors in problem-solving in everyday life. More emphasis is also placed on human

skills and abilities, where the involvement of adults in matters that confront them on a daily basis, as well as the existing learning opportunities, lead them to greater personal, social, and professional recognition.

At this time of constant scientific discoveries, and the consequences of financial, technological, social, and cultural changes, it becomes necessary for adults to have multiple knowledge and skills that are adapted to their environments. Furthermore, according to Ugwu (2023), adult education leads to economic and social transformation of nations and enables individuals to become knowledgeable citizens, and capable of thinking critically, which will enable them to participate dynamically in contemporary society. Nigeria as a nation needs literate adults, who can think critically and adapt to various changes that are brought about by technological advancements of our time. Nations the world over aspire to develop, and that development can never be meaningful when the totality of the adults are stack illiterates. However, this can only take place when the adults are literate and can positively participate in the socio-economic and political life of the population. The role of adult education in any society is to provide an educational opportunity for people who want to upgrade their general education or learn specific skills that they did not learn before (Georges son, 2018).

### **Benefits of Integrating ICTs in Adult Education Delivery in Nigeria**

Presently, the role of technology in the education process is enormous. The introduction of information and communication technology (ICT) into the education sector has led to improved learners' engagement and interaction with educational materials (Ullah, 2024), and also made the adaptability of learning styles easier (Parker, 2023). In view of the learners need for technology education for both now and in their future careers, most of the adults are now embracing online education (WGU, 2020; Parker, 2023). The majority of adults today have various reasons to acquire some academic qualifications to meet up with the challenges of the 21<sup>st</sup> century. Hence, most learners presently enroll in online courses to improve their job skills or just for the sheer love of learning (González, Castillo, Pauca, & Chávez, 2022). Mendonca (2019) recognized the importance of technology in measuring the effectiveness of learning and recommended that the users of technology consider how it improves feedback and increases learner satisfaction.

Technologies are impacting society in many capacities or areas, particularly in the education segment. The new technologies are offering new techniques of teaching-learning and transforming the old-styled system of education, whereby the teaching conveyed from the teachers to students has started losing its significance in modern times. When ICTs were applied in adult education delivery in Nigeria, it would enhance learning activities and increase the level of enrollment in adult learners (González et al, 2022).

Also, the study brings to light how significant technological advancement in education is to adult learners since a higher percentage of students are busy people with different sets of commitments. The study suggests that faculty members' attitudes toward instructional technology, particularly those geared toward adults, need to be re-evaluated to serve their students better. Instructors need to think about how technology might affect the development and use of andragogy in the classroom to help adult learners.

Research has proven that the introduction of information and communication technologies has expressively enhanced students' performance. AU (2020) highlighted that the integration of technology into higher education has significantly improved student performance, allows for easier access to information, accelerates learning, and makes learning fun, focused, and effective. Technology enhances personalized learning among learners. Parker (2023) affirmed that to personalize learning, educators can tap into the expansiveness of appropriate technologies to access real-time data, information, and instructional content at a click.

Parker (2023) opined that when the right technology is in the hands of bright learners, it prepares them for learning and their future careers, improves their technical skills, and makes learning relevant to them. The scholar further stated that appropriate technology empowers the learner because technology is relevant to their current digital lives, interests them, and can be successfully integrated into the classroom.

The effectiveness and efficiency of integration of various forms of technology use into the academic space is well-established; effective use of technology connects learners with learning materials (engagement) and also allows the information to be part of the learner's real-world, thereby making the learning more realistic, relevant, and dynamic, as learning approaches no longer are tied to the four walls of the classroom or boardroom at the company (Parker, 2023). Technology allows learners to interact or collaborate globally and allows learners to study at their pace, anytime, anywhere. Further, the Communication Team (2023) has outlined some major benefits of technologies in the education sector below.

New technological tools have become a fundamental support for education professionals, a great support for teachers, and improve the quality of student learning. Technologies allow teachers to store, process, provide unlimited access to resources and information, and share teaching material via multiple electronic devices, and even create new content in much more attractive ways. New technological tools give greater emphasis to dynamism and student interaction with the subject matter. The use of technologies in education enhances and/or facilitates teaching via simultaneous presentations, increasing logical tools give greater emphasis to dynamism and student interaction with the subject matter. the involvement of students in the teaching process.

New technologies promote flexibility and autonomous learning for learners, as they study at their leisure time, whenever, and wherever. It enables collaboration within and outside the geographical areas. New technological tools not only bring innovation to academic centers but also speed up the transfer of information, increase student interest, and allow processes to be automated, among other aspects to be taken into account. The activities carried out through digital/interactive tools increase student concentration, and also help in the assimilation of concepts and enhance learning. The new technology brings innovation to the academic circle, facilitates communication between teachers and students, fastens the transfer of information, and arouses students' interests. It also enables the automation of academic processes, engages learners, and encourages creativity among learners.

Furthermore, the easy exchange of thoughts allows students to learn about different cultures; bring new points of view to students. In this way, information and communication technologies encourage learners debate and the acceptance of other people's opinions at a faster rate. With the instruction of artificial intelligence in the academic

process, teaching has been made very easy. Quick and diverse sources of information and learning resources are some of the benefits of the application or integration of technologies in the education process. Technology enables both synchronous (immediate interactions) and asynchronous (delayed interactions) techniques of learning, and, at the same time, improves the digital skills of both the teachers and the learners.

#### **Drawbacks of Integrating ICTs in Adult Education Delivery in Nigeria**

Every innovation is geared towards solving some identifiable problems. Why this is true, it also has its drawbacks. This is in line with Communication Team (2023), which states that technologies are not perfect; as they bring many benefits to education, they also have some pitfalls to be taken into account. The Communication Team (2023) has outlined some of the drawbacks of technology application in adult education.

**Distractions and Lack of Attention:** Digital distraction is one of the ills of technology integration in the education arena. In recent times, digital distraction has drawn the attention of scholars. Digital distraction, as defined by Africa et al (2017), occurs when the use of modern technologies interferes with learning, such as when a student constantly uses his smartphone to check on his messages or watches videos on his laptop. The use of digital technology disrupts, interrupts, and diverts learners' attention from effectively performing their meaningful activities; in fact, it is a situation of divided concentration on a certain task. Therefore, adult learners may be more distracted when calls from their workplaces, children, and other family members start coming in their numbers. Added to the above are distractions that come from social media and Internet chats.

**Excessive Use of Technology:** Technology is addictive in nature, and the excessive and inappropriate use of it could lead to uncontrollable consumption, which will consequently have adverse effects on the learners' health, social, family, and academic life.

**Human Isolation:** The integration of technologies in teaching and learning reduces human physical contact. The cordial relationship between the teacher and the learner becomes more distanced as the teaching-learning is conducted online, and the learning process becomes more distant, and the physical relationship with teachers and students and their classmates' decreases, thereby bringing obstacles to students' personal development.

**Some Skills Are Less Development:** Some important skills, such as writing, public speaking, and reasoning, may be quashed due to learners' prevalent adoption of digital tools in academic pursuit, thereby reducing inter-personal communication with peers and the teachers. In this way, the students.

**Low Literacy Rate of Adults:** No meaningful development can take place in any nation if the majority of its citizens, especially the adults, are swimming with a high rate of illiteracy. Nigeria has a population of adults, which poses a significant challenge to the growth of adult education. Many adults lack basic literacy skills, making it difficult for them to participate in educational programs and further their learning. Addressing low literacy rates is essential for the development of adult education in Nigeria.

**Limited Infrastructure:** The inadequate infrastructure in Nigeria for adult learners is another issue affecting adult education. Basic amenities like computers, internet access, and classrooms are absent from many adult education

institutions. Adults find it challenging to obtain educational opportunities as a result, which negatively impacts their whole learning process.

**Societal Attitudes:** In Nigeria, adult education is still stigmatized, with many seeing it as an indication of incapacity or failure. Adults may be deterred by this unfavorable opinion from pursuing opportunities for additional education and training, which could result in a lack of involvement in adult education initiatives. Due to their limited access to technology, a large number of adult learners in Nigeria may find it difficult to obtain educational resources and engage in online learning programs (<https://disciplines.ng/future-prospects-for-adult-education/>).

**Unreliable Information:** There are lots of fake or false news and incomplete information on the net, which has undeniable effects on the media literacy of students, especially as most of them do not know how to evaluate Internet materials for authenticity.

**Absence of Government Assistance:** In Nigeria, there is little government support for adult education, despite its significance in closing the skills gap and encouraging lifelong learning. This restricts the opportunities accessible to adult learners and impedes the expansion and development of adult education programs (<https://disciplines.ng/future-prospects-for-adult-education/>).

**Personal Data Theft:** There are a lot of cyber or Internet crimes that go on today. This is because most of the pupils that go online lack the knowledge of the dangers inherent in the Internet. They unintentionally and innocently expose their data to strangers or cybercriminals through the sharing of photos and other valuable information (Jurado-Gutiérrez, 2024).

**Restricted Access to Technology:** Due to their limited access to technology, a large number of adult learners in Nigeria may find it difficult to obtain educational resources and engage in online learning programs. Improving the accessibility and caliber of adult education in Nigeria can be achieved by addressing the digital divide and giving adult learners access to technology. In actuality, resolving these issues is crucial to maintaining adult education's prospects in Nigeria.

**Digital Bullying:** Presently, bullying has become one of the biggest problems on the Internet; lack of physical contact by the children has led to misuse of online tools and platforms, which can lead to digital bullying situations. Research shows that about 73% of our children are bullied online through social networks (McCrinkle & Renton, 2018).

**Funding:** The lack, or inadequate funding has been identified as one of the primary obstacles hindering the development of adult education in Nigeria. When there are sufficient financial resources, then, it becomes very difficult to provide quality education and training programs for adult learners in Nigeria. Inadequate funding also leads to insufficient and outdated learning materials and a shortage of facilitators.

**Lack of Qualified Instructors:** It is on record that the Nigerian education system faces the challenge of a shortage of qualified adult education teachers or instructors. It has been proven that many adult education centers in the Nigerian education system struggle to employ and retain the services of experienced instructors that have the

capability to provide quality education and training to adult learners, thereby affecting the quality of adult education learners (<https://disciplines.ng/future-prospects-for-adult-education/>).

Unsatisfactory Monitoring and Evaluation: It is challenging to evaluate adult education programs' impact and efficacy in Nigeria due to inadequate monitoring and assessment procedures. Determining areas for improvement and making well-informed decisions about future investments in adult education are difficult without trustworthy statistics on the results of adult education programmes.

### **Prospects of Integrating ICTs in Adult Education Delivery in Nigeria**

It is undoubtable that Internet connectivity is gaining ground in Nigeria today, especially in the education circle. Again, much awareness on the use of computers in education is also being created for Nigerian citizens. The Nigerian government is currently making efforts to provide computers and related equipment to schools to enhance digitized education aimed at democratization of education with adult education not excluded. The training of teachers towards democratization of adult education is gaining momentum currently. This is because both the teachers or the instructors and the students are becoming computer literate. Additionally, curriculum planners are stressing on adult education programmes to liberalize education for adults. The truth must be told that many rural communities in Nigeria are being electrified, which will boast online learning that will reach all adult learners in all nooks and crannies of Nigeria in the next few years.

Inadequate power supply and funding had remained a bottleneck to the development of e-learning in Nigerian universities. But, currently, the Nigerian government is making all efforts to invest and connect all universities with a steady electricity supply. There has been great advocacy for well-meaning people and policymakers to increase allocation to education in the annual budget, which will definitely affect adult education programmes. In the same development, the Nigerian government has started considering the Almajiri children as a vulnerable group, as they often abandon their Quranic schools to beg for alms all the time and are denied full access to formal education. One of the impacts of ICT on education is that it is changing the nature of the teacher-learning process. According to Abdullahi & Muhammad (2023), currently in Nigeria, education has changed in its mood and pattern with ICT or computers as new innovations that will provide education to the doorsteps of Nigerian children. The same could be used provided appropriate education programmes for such diverse people, as established in the national commission for nomadic education in 1989, which is saddled with the responsibilities of providing quality basic education for nomads. The future of ICT is bright on the grounds that the demand for education among Nigerian citizens has been on the increase. Therefore, there is a need to improve people's access to learning. Besides, technology, which is one of the commonest means of communication, extends the possibilities for teaching and learning in educational institutions (Kabir & Kadage, 2017).

### **Summary**

Internet connectivity is increasing globally, which is leading to an exponential increase in adult literacy, particularly in Nigeria, where there is an alarming increase in adult illiteracy, raising concerns among scholars. To address this issue, technology integration into adult education delivery can be used to reach less privileged

citizens in rural communities. This study focuses on the advantages of integrating information and communication technologies in adult education in Nigeria, assessing how this integration could enhance national development, and examining the pitfalls of integrating innovative ideas. The purpose of education is to groom individuals' cognitive, emotional, physical skills, and spiritual wellbeing. Uneducated individuals face numerous challenges in life, making it crucial for citizens to be educated and free from ignorance. This study aims to address the issue of adult illiteracy in Nigeria through the appropriate application of ICTs. To achieve sustainable development goals, Nigeria needs to move away from old-style instructional strategies and adopt a contemporary, technology-democratized approach. The authors examined the role of adult education in Nigeria's critical time of national development, the positive and negative roles of technology integration in adult education processes, futuristic adult education programs, and suggestions for improvement.

### **Conclusion**

Educators', school administrators', policymakers', and institutions' must understand the influence of technology on learning outcomes and pursue technological integration. Furthermore, there should be an increased budget for adult education programmes, an upward review of facilitator remuneration, training and re-training of facilitators, and mass mobilization of the target group (Parker, 2023). In this age of computers, it is becoming increasingly difficult for anyone to function effectively in any field without good knowledge and skill in ICT. Adult literacy centers therefore have to incorporate ICT skills in their programmes. The incorporation of ICT skills into literacy programmes of the adult learners holds a lot of benefits that cannot be overemphasized. The paper has delved into some of the ways the integration of ICT in adult literacy programme will help to make the programme and the recipients functional. Integration of ICT in adult literacy programmes will surely contribute to the achievement of the goals. González, Castillo, Pauca, and Chávez (2022) state that in order to better serve their students, faculty members' attitudes towards instructional technology, especially that aimed at adults, should be reevaluated. Additionally, instructors should consider how technology might impact the creation and application of andragogy in the classroom, which will be beneficial to adult learners.

### **Recommendations**

Every country needs its adults to be developed to contribute significantly for national development initiatives. And for these countries to meet up with the training of the adults to meet the challenges, something concrete efforts must be made to develop its adult education sector programme. Hence, the poor budgetary allocation to the adult education programmes, reflects the low priority given to adult education programmes in Nigeria since the 90s; therefore, if this poor budgetary allocation continues, the Nigeria will be deprived of significant human resource that are so much needed to meet its developmental challenges (Jinna & Maikano, 2014).

Again, if adult education would continue to be recognized in theory in this contemporary time, then, Nigeria is bound to forfeit is human capital, well-informed citizens that would be capable of thinking critically, and the adults that would participation actively in national development. Therefore, more holistic studies should be taken

by researchers to understand the positive impacts of the adult education learning in order to developed the adult education programmes. The Nigerian government and its agencies should make it a priority to develop the adult education programmes. Finally, the authors in line with Ololube (2012) recommend the immediate revitalization of the National Commission for Mass Literacy, Adult and Non-Formal Education (NMEC).

As recommended by Kabir & Hamza (2023), facilities for ICT infusion, such as computers, projectors, smart televisions, and power backup, should be provided, noting that children had successfully learnt through the use of mobile phones and other related devices, and the benefits of ICT in teaching-learning far outweigh the disadvantages. As the scholar further emphasized, the adoption of ICT is required to develop new, innovative ways to interact and communicate with students, higher engagement rates, faster learning, and improved teaching methods for the benefit the Nigerian citizens.

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