

## **Digital Literacy Skills in Adult Education: Implications for Knowledgeable and Informed Citizens in Nigeria**

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**Abstract.** *The concept "literacy" has historically been associated with the capacity to read and write. But as technology has developed, the definition of literacy has broadened to include a variety of different competencies. One important component is digital literacy, which encompasses a variety of abilities necessary for efficient teaching and learning and extends beyond computer ability. In order to maintain an educated, varied, and active community in the modern world, digital literacy is not only a technological skill but also a civic requirement. The increasing significance of digital proficiency for long-term socioeconomic involvement and lifelong learning is highlighted by global development frameworks. It is essential for improving information accessibility and honoring adult learners' preferences. To flourish in today's increasingly digital environment, facilitators and learners need to become digitally competent. As a result, it becomes essential to include digital literacy in all areas of adult education as it not only promotes lifelong learning but is also a necessary skill for future jobs and informed citizens. This article presents an overview of the literature on the benefits of digital literacy and its related learning outcomes in adult education. It seeks to address adult learners and their digital learning needs as well as the challenges of integrating digital literacy in adult education. Through exploring the processes of enhancing digital literacy in adult education, this discourse shed light on the significance of digital literacy in adult education and its potential implications for knowledgeable and informed citizens.*

**Key words:** *Digital Literacy Skills, Adult Education, Knowledgeable and Informed Citizens, Nigeria.*

### **Introduction**

The traditional adult education system, developed during the industrialized epoch, is now outdated, unproductive, and insufficient to address the desires of our 21st-century civilization, which has been profoundly altered by information and communication technology (ICT). ICT has revolutionized businesses with no exception to education and many aspects of daily life, with numerous individuals and organizations relying on it to reshape learning experiences. Historically, education followed a "banking" model, where the teacher was considered the sole authority ("Mr. Know-all") and the learner was viewed as an empty vessel (Tabula Rasa), this approach was heavily teacher-centered and

did not accommodate the dynamic, interactive, and technology-driven learning environments required today [1].

It has long been acknowledged that adult education is an essential tool for social inclusion, community development, personal growth, and national advancement. Over time, adult education has concentrated on civic education, occupational skills, functional literacy, and basic literacy to help people contribute to their communities. However, the design, reach, and delivery of adult education programs have undergone tremendous change with the dawn of the digital epoch. The industrial-centered society has given way to a new-fangled, vibrant society known as the “in order society, informed society, or universal society”, this is due to the rapid advancement of ICT over the precedent few decades. Most individuals now face additional difficulties as a result of having to continuously adapt to changes in their environment. Adult learners now more than ever need to refresh their knowledge in order to enhance their abilities, succeed in their careers, and gain a better understanding of themselves. Adults should be capable of learning innovative skills so as to prosper and survive in today's culture, as career and job changes are regular occurrences.

Only reading and numeracy have been seen as the fundamental abilities for social and professional success since the late 1990s. However, along with literacy and numeracy, digital literacy is now seen as a third crucial skill for life and the workforce [2]. Adult education in the digital age goes beyond traditional literacy, which includes reading, writing, and numeracy, to include digital literacy, which includes the ability to utilize digital apparatus, decisively assess online information, communicate effectively through digital platforms, and engage responsibly in the digital global community. Digital technology is becoming more and more necessary for adults to use for work, entrepreneurship, health information, civic engagement, lifelong learning, etc. Adult education programs must thus change to provide students with pertinent digital skills that encourage responsible decision-making and engaged citizenship [3].

Increasing adult digital literacy is essential to closing the digital gap and successfully addressing the problems of marginalization and exclusion that come with the growing significance of technology-mediated activities in contemporary social life. In order for individuals to have control over their own life opportunities, it is thought that increasing the use of technology by both adults and children is essential to lowering inequality and guaranteeing individual inclusivity in the socio-economic, opinionated and cultural verve of their community, society and the nation at large. With the increasing interest in the Internet and mobile technology, it has become clear that digital literacy encompasses more than just computer usage. In order to contribute to their own and their communities' socio-economic, cultural and political success, citizens must not only function effectively on a special level, rather they should also grow, progress, and thrive in their personal and proficient lives as well as grow to be engaged populace in the technological epoch.

It is also important to highlight how digital technologies have made adult education more accessible through flexible learning options like blended learning, online courses, and mobile learning. These developments facilitate self-directed learning and take into account the various socioeconomic obligations of adult learners. However, there are still gaps in access to digital resources and abilities, especially in poor countries, which emphasizes the necessity of consciously incorporating digital literacy into adult education practices and policies [4]. Therefore, in the context of the digital age, including digital literacy into adult education is crucial to producing educated and competent individuals who can contribute significantly to contemporary knowledge-based societies.

The growing dependence on digital technology in all spheres of society is the driving force behind the inclusion of digital literacy in adult education. Adults must utilize digital technologies for social communication, work, commercial transactions, government services, and healthcare information. Adults who lack sufficient digital literacy run the danger of social marginalization, less economic possibilities, and decreased political engagement. As a result, adult education needs to close these gaps by giving students the necessary digital skills [3]. In addition, by giving individuals access to a wealth of online educational materials and adaptable learning platforms, digital literacy promotes self-directed and lifetime learning. By empowering individuals to assess information sources and

reject false information, it promotes critical thinking and well-informed decision-making. Digital literacy in adult education is also indispensable for closing the digital divide and fostering social inclusion in emerging nations. Therefore, it is crucial to incorporate digital literacy into adult education programs in order to create informed, capable, and empowered individuals who can make significant contributions to the advancement of their country [4].

Even though digital technologies are fitting more and more importantly in today's globe, a sizable percentage of adult learners lack the digital literacy skills necessary to act as educated and aware members of their communities. Adult education programs frequently still place a strong emphasis on conventional literacy and practical skills while paying insufficient attention to digital competences including safe use of digital media, online communication, and information evaluation. This disparity might make it extra difficult for citizens to get hold of reliable information, engage in meaningful political engagement, and take advantage of digital-driven economic possibilities. Digital literacy skills are the only way to access the riches that can be extracted from digital economies in today's technologically advanced society. By examining how digital literacy in adult education might enable individuals to participate ethically and effectively in contemporary society, this discourse aims to address this issue and foster educated and aware citizenship.

## **Methodology**

The methodology used in this descriptive study is Qualitative Description through an expansive literature review and analysis regarding the topic of digital literacy in adult education; This study draws on secondary data sourced from academic journals, books, policy reports and publications of major international organizations, particularly UNESCO, OECD, and the World Bank in order to guarantee a wide and credible evidence base. Interviewees were selected in a systematic process from the literature that addresses digital literacy skills, adult learning needs, technology integration, and the potential for informed citizenship. The data are then analysed thematically to highlight central themes and elements for the most relevant digital literacy competencies, benefits, challenges and solutions for its integration into adult education. Findings are also grouped under key themes such as access to digital devices, evaluation of relevant information, lifelong learning, learner agency and socio-economic engagement. Further, it adopts a contextual-analysis approach and demonstrates how digital literacy operates through the Nigerian educational and socio-cultural contexts, focusing on digital divide, infrastructural challenges, and attitudinal barriers. This research also includes interpretive analysis to discuss the link between the concepts of digital literacy and the fostering of informed and knowledgeable citizens. The approach presents a comprehensive perception of contribution of digital literacy to the transformative role of adult education and to the progress towards inclusive and sustainable development by integrating concepts from multiple perspectives. It allows for conclusions to be made based on the study not only for finding results but also for suggestions to improve digital literacy skills amongst adult learners.

## **Result and Discussion**

### **The Concept of Adult Education & Digital Literacy**

**Adult:** The fundamental query that is frequently posed during the adult education process is: "Who is an adult?" Nzeneri sees an adult as a person who have reached bodily and psychological maturity and who is accountable in social, economic, and political spheres [5]. Physical maturity indicates that a person is proficient of maintaining a house, choosing a partner, raise a family, and becoming a parent. The capacity to offer well-reasoned, coherent, and well-balanced views is a sign of psychological maturity. In order to be considered an adult, a person must be dedicated to their family, village, society, social organizations, or clubs by contributing to them on time. This is implied by the concept of social responsibility.

The ability to work or choose a job and support oneself and others is a sign of economic responsibility. An adult's political responsibilities include being able to vote and be voted for, as well as being a good citizen by paying taxes in accordance with their financial situation.

According to Nigeria's constitution, an adult is someone who has turned eighteen. Accordingly, an adult is a person who bears whole responsibility for their commitments, undertakings, and social, economic, and political involvement. It is important to remember that designating an adult based on the criteria listed in the definition above may not be sufficient. For this reason, UNESCO recommended that society should determine what constitutes an adult. Accordingly, they defined an "adult" as person considered an adult by the society to which he/she belongs. This helps to put an end to the many questions individuals have when they contend that a person might be physically mature but not psychologically mature.

**Adult Education:** We can better understand the nature of adult education if we have a clear understanding of what education is all about. One way to think about education is as a process that helps people improve their behavior and attitude in ways that are relevant and desirable. According to Okafor in Nzeneri, education is any experience that helps a person learn new things, grow intellectually, and fortify his will [5]. According to several authors, education entails imparting knowledge to individuals who are dedicated to it. Regardless of age, gender, or developmental stage, this definition demonstrates that education entails a learning effort on the part of the learner. Formal, informal, and nonformal education comprise the three forms of education.

Literacy is only one aspect of adult education, which is a fairly broad notion but adult education is much more than literacy, it is multi-facet and all encompassing. Okeke in Nzeneri sees adult education is a crucial component of countrywide education initiatives and a basis of a country's socio-economic, cultural and opinionated progress [5]. It is important to keep in mind that, regardless of prior educational attainment, this is the only type of education that gives people a second chance to improve their lives and actively participate in social, economic, political, and cultural activities for the benefit of themselves and their communities. A number of socioeconomic, political, cultural, and environmental factors have prevented many individuals from exercising their entitlement to an education. It emphasizes the need of lifelong learning.

The processes of social transformation, emancipation, conscientization, collective dynamism, cultural awareness and assimilation, personal and national development are all facilitated by adult education. It may be seen as a process when an individual consciously engages in an educational activity with the aim of bringing about desired changes in knowledge, cognition, skills, and suitable attitudes for the purpose of identifying and addressing individual or group issues. This category includes all forms of education, including nonformal and informal ones. Furthermore, its ultimate objective is to create a method that teaches community members how to collaborate in order to recognize issues and look for solutions [6]. He continued by saying that its function goes beyond the conventional notion of educating children to include the more general idea of recognizing a community's needs, issues, and desires as well as developing facilities for the community's overall progress.

Also, UNESCO defined adult education in Nzeneri as thus [5]:

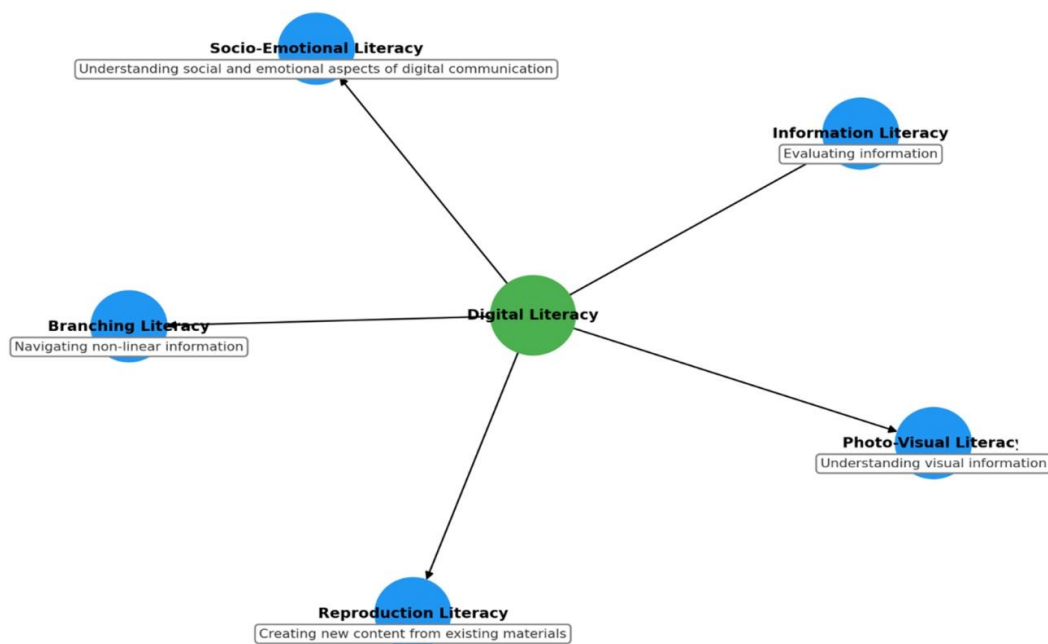
The entire body of organised educational processes, whatever the content, level and methods, whether formal or otherwise, whether it prolong or replaces initial education in schools, colleges, and universities, as well as in apprenticeship whereby person regarded as adult by the society to which they belong develop their abilities, enrich their knowledge, improve their technical or professional qualifications and bring about changes in their attitudes or behaviour in two-fold perspective of full-personal development and participation in balanced and independent social, economic, and cultural development.

For the above criteria, adult education serves all types of learners, including those who are previously enrolled in formalistic education, early dropouts, and those who are unable to see the classroom's four walls. By definition, adult education is adaptable, learner-centered, voluntary, experience-based, practical-oriented, ongoing and lifelong, varied, and inclusive. Interestingly, flexibility is prioritized above rigidity in the process of providing education. This demonstrates why it affected people from all areas of life. To Kazakovna, adults are individuals who engage in educational activities in the

social, industrial, and family household strata of society along with practical participation that allows them to develop their skills, enhance their knowledge, skills, personal qualities, and spiritual values, acquire a new profession, improve their skills, or apply them in new directions to meet the needs of society and individuals [7]. In view of foregoing, it is clear that adult education encompasses all long-term, methodical, and structured learning activities, whether official, informal, or non-formal, in order to survive in a world that is changing quickly.

**Literacy:** The problem of defining literacy in today's global world has evolved beyond considering it as merely the acquisition of fundamental cognitive skills (capacity to read, write, and count), to applying those skills in ways that support socioeconomic development, cultivate social awareness, and foster critical reflection as a foundation for both social and personal change. The idea of literacy has changed in the twenty-first century to include capacity to distinguish, grasp, construe, construct, commune, calculate, and put to use written and printed information related to assorted settings. This is the working definition of literacy that was decided upon at the UNESCO Experts' conference in Paris in June 2003. A continuum of learning is necessary to assist people in achieving their goals, developing their knowledge and potential, and participating fully in their community and broader society (UNESCO in Andrea, 2011). The notion of literacy in today's technologically advanced environment goes beyond that to encompass the usage of digital technologies. Literacy is much more than just being competent to interpret and etch in order to succeed in our modern digital world. The capacity to comprehend and create meaning from one's ever-changing surroundings is the foundation of 21st-century and future literacy [1].

**Digital Literacy:** The literature has several definitions of digital literacy. Robert, for instance, defines digital literacy as a set of skills, knowledge, and abilities that ensure the efficient and secure use of digital technology [8]. To Gorshkova, digital literacy is a multifaceted notion that encompasses informational, cognitive, and social elements in addition to technological abilities [9]. Digital literacy is the ability to locate, evaluate, utilize, and create information with the aid of digital machinery, communication apparatus, or networks. In our today's highly linked world, being digitally knowledgeable will mirror the shift in how information is given, developed, and consumed. Another definition of digital literacy is the ability to use digital technology to efficiently and responsibly acquire, evaluate, generate, and communicate information in a range of contexts [10]. Five essential components are identified by Eshet-Alkalai in Sabyrkhanova et al. as contributing to a thorough comprehension of the idea of digital literacy in technical and educational contexts. Figure 1 below illustrates this [11]:



**Figure 1:** Digital literacy framework.

**Source:** (Eshet-Alkalai's in Sabyrkhanova et al. [11])

Five essential components of digital literacy are depicted in this graphic. In contrast to the conventional method, which defines digital literacy as computer proficiency, this paradigm takes into account the social, creative, and cognitive abilities necessary for productive engagement in the digital world. It encompasses critical thinking, information management, media awareness, and the ethical use of digital resources in addition to fundamental technical abilities like using computers or mobile devices [11]. These are necessary for an informed society. The potential and obligations of modern digital literacy go beyond reading and writing to include proficiency with emerging media and information technologies. Adult education students today utilize a wide range of social media and technologies, such as Facebook, Twitter, video games, instant messaging, virtual worlds, wikis, and blogs, to debate problems, find solutions, and amuse themselves. Digital life skills are a result of digital literacy. Emerging technologies always call for users to acquire new abilities and tactics. For instance, new literacy skills are needed while searching for information online.

### **Digital Literacy and Adult Education**

Even if a facilitator or learner is proficient with search engines, they might not have the necessary skills to choose trustworthy content from the many links that are available. One of the most crucial components of digital literacy in the age of disinformation is the critical assessment of digital information, the capacity to evaluate sources, identify fake news, and make educated judgments [12]. Socio-emotional literacy, which encompasses abilities for moral and responsible digital communication, comprehending online social norms, combating cyberbullying, and promoting digital citizenship, is a particularly important feature of digital literacy in adult education [13]. A literate adult should understand the value and reliability of information, as well as the advantages and disadvantages of various media formats. A person who is digitally literate must be able to analyze a variety of data sources and propose applications for seemingly unrelated concepts that are both relevant and macro.

The capacity to locate, assess, use, exchange, and produce content utilizing informational strategies and the internet to improve learning processes is known as digital literacy in adult education. Reading and interpreting media, reproducing data and pictures through digital modification, and assessing and applying newly acquired information from a digital environment are all included in this. It suggests a more comprehensive and well-rounded understanding. In the context of adult education, digital literacy includes a variety of abilities, such as media literacy, internet safety, communication skills, and information literacy. It gives the adult the ability to connect with technology in meaningful ways, traverse digital settings, and evaluate the reliability of information found online. Because it promotes lifelong learning, flexibility, and successful engagement in a fast evolving, technologically advanced society, digital literacy is especially important for adult learners [14]. Therefore, digital literacy is a fundamental ability that enables individuals to perform effectively in civic, professional, and personal spheres.

### **Adult Learners and Digital Learning Needs**

American scientist Malcolm Knowles in Kazakovna, listed five traits that influence adult learning as follows [7]:

1. **Self-Awareness and Direction:** He stated that It's possible that adult learners are already conscious of their goals and values. They have values and beliefs and are conscious of their priorities in life. They prefer to be in charge of their own education and are generally independent. They should therefore have access to unbolt educational materials, flexible, self-paced online courses, learning management systems (LMS) that facilitate independent navigation, and opportunities for customized learning pathways. These promote the independence, adaptability, and choice of learners.

2. **Wealth of Experience:** Adults' extensive life and professional experiences influence how they interpret new information. They probably have enough life experience to either help or hinder learning right now. Thus, their needs for digital learning should include the following: Discussion

boards and interactive forums, case-and problem-based digital assignments, collaborative resources (like online communities of practice), and opportunities for reflective blogging or e-portfolios.

**3. Willingness/Readiness to Learn:** Adults decide for themselves whether or not they are prepared to learn, why they need to learn, and whether or not learning is pertinent to their goals. Their readiness to learn is directly impacted by their shifting roles in life as workers, parents, citizens, etc. Because of this, the OECD stated that people need to have digital skills in order to actively participate in the modern economy and civic life [15]. Requirements for digital learning must include: competence in cybersecurity, digital financial literacy, e-governance and online civic engagement, digital communication and collaboration, and safe online practices. These should satisfy real-world digital demands.

**4. Practical Oriented:** Adults prefer learning that addresses urgent issues over abstract theory, and learning becomes more appealing if they can put what they have learned into practice right away. Scenario-based e-learning, simulation tools, interactive digital projects, and task-based instructional design are all essential components of digital learning. Adult digital learning instructional design should prioritize application over memory.

**5. Motivation to Learn:** As a person ages, their intrinsic motivation rises. Adults are usually driven by social, professional, or pragmatic objectives. This explains why UNESCO feels that adult education is closely linked to employability, reskilling, and lifetime adaptation [14]. Adult learners learn because they recognize the importance of learning, not because they are forced or instructed to. Micro-credentials, short online courses, industry-relevant certification programs, career-aligned digital competencies, and immediate use of digital technologies should therefore be among their digital learning needs.

### **Benefits of Digital Literacy in Adult Education**

The following are some advantages of digital literacy in adult education for educated and aware citizens:

1. It enables learners learn at their own pace, making it easy to interact asynchronously with online learning environments, enabling them to manage their studies with obligations to their families and jobs.
2. It makes education more affordable and accessible for students by lowering expenses.
3. It makes learning pervasive as adult learners who possess digital literacy skills may use laptops, mobile devices, and other internet-enabled devices to access learning resources at any time and from any location. This encourages inclusive education and lowers geographical based obstacles.
4. Adults with digital literacy skills are better equipped to easily access and choose online courses that fit their career or personal objectives.
5. It enables continuity in learning. During emergencies like pandemics, natural catastrophes, or societal upheaval, digital learning guarantees that education continues.
6. It is less expensive as online courses frequently result in lower infrastructure, facility, and material expenditures.

### **Challenges of Integrating Digital Literacy in Adult Education**

Having outlined the benefits of digital literacy in adult education, its expedient we check out some of the challenges that can mar its integration, which includes the following:

1. **Low Digital Skills:** A lot of facilitators say they are not very good at using digital tools and platforms. Digital literacy scores fall short of expectations, especially when it comes to creating technology-integrated teaching and assessing learning digitally [16].
2. **Limited Digital Infrastructure:** Digital facilities are limited in most our learning centres in Nigeria. This might be why Belessova et al. stated that the primary obstacles to incorporating digital technology into the educational process are regional disparities in digital access, a lack of computers, interactive panels, and internet bandwidth, and restricted access to contemporary educational platforms [17].

3. **Inadequate Financing:** Financing digital literacy is no small funds; it requires big budgetary allocation due to the high cost of electronic devices. This makes finance is also a difficulty.
4. **Resistance to Technology:** Resistance to technology refers to the active or passive opposition to implementing technological advancements in educational settings. Faculty opposition to change, which might include a preference for more conventional teaching techniques and a reluctance to embrace new technologies, is a significant obstacle to technology integration. Even when tools are available, researchers observe that facilitators may choose not to use them out of habit or familiarity with more traditional approaches.
5. **Attitudinal Barriers:** The ideas, attitudes, and mindsets that affect how people regard technology from positive acceptance to hesitation or fear are referred to as attitudinal barriers. Many people shun technology rather than try it out because of this reluctance, which is frequently exacerbated by worry about learning new systems, fear of failing, and a lack of confidence in digital surroundings [18].
6. **Epileptic Power Supply:** Limited electricity as a result of power supply irregularities has a negative effect on the adoption of digital literacy.
7. **Inadequate Internet Connectivity:** Poor internet connections also have negative effect on the adoption of digital literacy Statistics show that 5.5 billion people, or 68% of the world's population, have access to the internet. Nonetheless, 2.6 billion individuals, or 32% of the global population, are still unconnected [19]. This suggests that millions of people lack access to digital educational tools.

### **Implications of Digital Literacy for Knowledgeable and Informed Citizens**

Some implications of digital literacy for an educated and aware society are listed below:

1. **Empowerment of Information and Knowledge:** People with digital literacy are able to find, assess, combine, and use information from a variety of digital sources. This ability improves the ability to make well-informed decisions in daily life, governance, health, and education. The ability to utilize ICT critically and confidently for knowledge generation and information retrieval is known as digital literacy [20]. These abilities enable citizens to pursue self-directed learning and ongoing intellectual development, improving the well-being of society.
2. **Inclusion and Reduction of Digital Divide:** By facilitating marginalized groups' access to online social networks, healthcare, education, and financial services, digital literacy helps to lessen disparities in our communities. In order to close the digital gap and advance inclusive lifelong learning systems, UNESCO identified digital literacy as a critical approach [14]. This demonstrates that in a society that is becoming more digitally connected, residents and community members who lack digital competency run the danger of social marginalization.
3. **Responsible Digital Citizenship and Critical Thinking:** Digital literacy also helps individuals think critically, reason ethically, and behave responsibly online. It enables individuals to recognize false information, steer clear of online dangers, uphold digital rights, and participate in online communities in an ethical manner. This reveals why UNESCO emphasizes the need of media and information literacy in the fight against hate speech, fake news, and internet manipulation [20]. Therefore, persons who are digitally literate help create a digital society that is safer, better informed, and more responsible.
4. **Empowerment and Employability:** Workforce engagement and economic mobility are strongly associated with digital literacy. Citizens with digital literacy abilities can participate in a number of venues for wealth creation and digital empowerment. Digital competency is necessary for work, entrepreneurship, and innovation in knowledge-based economies. Especially in developing nations like our country ‘Nigeria’, this must be the reason why the World Bank states that digital skills are crucial for enhancing employability and promoting economic transformation. Studies have shown that those who are more proficient in digital technology have better job and income prospects than their peers [21][22][23].
5. **Democratic Participation/Commitment:** Through access to e-governance platforms, online advocacy, digital petitions, and civic discourse, digital literacy enables citizens to actively

participate in democratic processes. This shows why OECD stated that having digital skills improves a citizen's capacity to participate in public debate and make a significant contribution to democratic life [15]. The significance of media and information literacy in thwarting disinformation and fostering democratic resilience is also emphasized by UNESCO [20]. By critically evaluating political information, confirming sources, and engaging in responsible participation in digital public spaces, a digitally literate citizen can improve his/her nation's democratic process.

### **Processes of Enhancing Digital Literacy in Adult Education**

1. **Training Programmes:** It has been shown that on-the-job training, in-service training, and ongoing, practice-based professional development significantly boost facilitators' and learners' confidence in utilizing technology [20]. This will enhance the facilitator's ability to use digital tools and technology andragogically for adult learners. In adult learning environments, digital pedagogy is more widely used, especially when it is integrated with real classroom assignments.
2. **Supplying Digital Learning Resources:** Ensure that relevant, easily accessible, and contextually appropriate digital learning resources are available to instructors and adult learners. The availability of digital resources is a crucial element that enables digital learning. Adult learners learn more efficiently when resources are accessible, suitable, and adaptable enough to satisfy their diverse needs [21].
3. **Government Interventions:** When an enabling environment is created where digital learning is a supported institutional goal rather than an alternative, it becomes more inspiring and engaging. Countries with specific digital education plans exhibit higher adoption rates and better outcomes because their efforts are planned, monitored, and not haphazard [15].
4. **Public-Private Partnerships in Adult Digital Education:** PPPs have proven to be effective when governments lack resources or technological know-how. PPPs enable resources to be scaled and made applicable to actual digital career paths [21].
5. **Community-based Digital Literacy Initiatives (CBDLI):** Meeting learners in neighborhood settings promotes continued engagement, relevance, and trust. Contextual barriers, like time constraints and budgetary constraints, are common for adult learners. Community-integrated programs reduce access barriers and promote social support. Studies show that place-based, culturally aware programming increases students' persistence and engagement in online learning [20].

### **Conclusion**

In order to maintain an educated, varied, and active community in the modern world, digital literacy is not only a technical skill but also a civic requirement for well-informed and incisive citizens. The increasing significance of digital proficiency for long-term socioeconomic involvement and lifelong learning has been highlighted by global development frameworks. It is essential for improving information accessibility and honoring adult learners' preferences, this is why adults and other educational participants should actively participate in this process to prevent stagnation, as technology has permeated almost every aspect of human existence in our globalized age. In the modern world, digital literacy enhances the efficacy of adult education by promoting flexibility, affordability, continuity, accessibility, and learner autonomy. It is a powerful force in the twenty-first century because it supports crisis-resilient educational systems, removes geographical and financial barriers, and aligns education with the demands of the modern workforce. Therefore, since digital literacy is a prerequisite for an informed and knowledgeable citizenry, our educational system, particularly the one for adult citizens of our country, should integrate it into all facet of the adult learning processes.

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