



## EVALUATING THE EFFECTIVENESS OF DIGITAL LEARNING PLATFORMS IN ENHANCING ADULT LITERACY SKILLS ACQUISITION IN RURAL COMMUNITIES IN CROSS RIVER STATE, NIGERIA

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### **Abstract**

*The study evaluates the effectiveness of digital learning platforms in enhancing adult literacy skills acquisition in rural communities in Cross River State, Nigeria. Two research question were formulated to achieve the purpose of the study. The research design adopted for the study was descriptive survey design. The population of the study comprises of 150 adult learners in rural communities who had engaged in digital learning platforms for adult literacy acquisition. The sample size of this study consisted of all the 150 adult learners. For data collection, a validated 4 point Likert scale structured questionnaire with 0.72 reliability index was utilised. Out of 150 copies of questionnaire distributed, 140 copies representing 93.3% response rate were recovered and used for data analysis. Data collected were analysed with descriptive statistics (mean and standard deviation). The results of the analysis revealed that, digital platforms not only raise reading levels but also motivate students to pursue regular education and hone critical communication skills two things that are vital for both career and personal development. Based on the result of the findings it was recommended among other that rural areas should have better access to digital tools and resources. Non-governmental organizations (NGOs) and government agencies should work together to supply reasonably priced devices. **Keywords:** Digital Learning Platforms, Adult Literacy and Skills Acquisition*

### **Introduction**

The significance of adult literacy as a cornerstone of lifelong learning and socioeconomic development has received much attention in recent years. The emergence of digital learning platforms has caused a radical change in the educational landscape. These platforms present creative ways to close the literacy gap, especially in underprivileged rural areas. The importance of education in empowering people and promoting social progress has long been acknowledged on a worldwide scale. Digital technology's worldwide development has transformed educational methods and opened new avenues for literacy development among various populations. Digital learning platforms in adult education have gained popularity in many developing countries, including Nigeria, as a promising means of overcoming



literacy deficiencies, especially in underprivileged rural populations. In Nigeria, where a sizable section of the rural populace struggles with low reading, writing, and numeracy skills, adult literacy remains a crucial developmental obstacle. This reading divide frequently harms the growth of communities, socioeconomic empowerment, and general quality of life.

Adult education has recently gained more attention as a crucial instrument for developing human capital, particularly in rural areas. Digital learning platforms have emerged as one of the most promising approaches to improving adult literacy skills acquisition, especially in rural areas where access to traditional educational facilities may be limited. By providing accessible, adaptable, and engaging learning experiences designed for adult learners, digital learning platforms have become cutting-edge ways to close this gap. These platforms use internet connectivity, mobile technologies, and multimedia resources to improve student engagement, streamline learning, and offer self-paced learning options. Digital learning platforms provide a good substitute for traditional educational infrastructure in rural areas, where it is frequently insufficient to increase access to literacy programs. However, a comprehensive evaluation of these platforms' efficacy in supporting adults' meaningful literacy skill acquisition in such circumstances is necessary to guide policy and practice.

The southeastern Nigerian state of Cross River State offers exceptional potential and obstacles for implementing digital learning programs. The state has pockets of extreme poverty, especially in rural areas, where a diversified population lives at different socioeconomic levels. Sociocultural hurdles, teacher shortages, and inadequate infrastructure have all impeded efforts to improve adult literacy in these communities, (Adesina, 2017). Therefore, a thorough grasp of these local dynamics is necessary to assess the efficacy of digital learning platforms in this setting. The problem of technology infrastructure is one of the main obstacles to Cross River State's adoption of digital learning platforms. Reliable internet connectivity is scarce or nonexistent in many rural regions (Nnadi, 2019). Furthermore, adult learners who may not be accustomed to using electronic devices for educational reasons exhibit a notable lack of digital literacy. These obstacles must be removed to guarantee the effective implementation and uptake of digital learning solutions.

This study aims to assess how well adult literacy skills acquisition in rural communities in Cross River State, Nigeria, can be improved via digital learning platforms. It investigates the degree to which these platforms raise literacy levels, pinpoints the elements that make them successful, and looks at how well they might be able to meet the particular difficulties faced by adult learners in rural regions. This study intends to offer evidence-based insights into the function of digital learning platforms as instruments for advancing inclusive education and sustainable community development by evaluating their effects.

### **Statement of the Problem**

A key factor in socioeconomic development is adult literacy, which enables people to take advantage of greater possibilities, actively contribute to the advancement of society, and enhance their quality of life. Low literacy rates remain a problem in Nigeria, especially in rural areas like Cross River State. This problem is worsened by a lack of access to traditional educational materials, inadequately qualified teachers, and inadequate infrastructure. These obstacles feed the cycles of social exclusion, poverty, and underdevelopment by preventing adults from learning critical reading, writing, and numeracy skills. A possible answer to these problems is the rise of digital learning platforms, which offer creative, adaptable, and scalable resources for developing adult reading skills. By providing easily accessible, self-paced, and engaging educational information, these platforms can get past conventional obstacles. It is not yet fully known how well digital learning systems work to improve literacy in rural areas. Significant obstacles stand in the way of their effective deployment and impact, including digital literacy, device affordability, internet availability, cultural acceptance, and the ability of digital information to be tailored to local circumstances.



Despite rising spending on these programmes, there is no data on the effects of digital learning programmes on adult literacy in Cross River State's rural regions. A knowledge gap resulting from the absence of such evidence makes it more difficult to formulate effective policies, make well-informed decisions, and strategically deploy digital solutions to address literacy issues. Therefore, this study aims to assess how well digital learning platforms can improve the acquisition of adult literacy skills in rural areas in Cross River State, Nigeria.

### Objectives of the study

1. To examine the extent to which digital learning platforms contribute to improved literacy levels among rural community members in Cross River State
2. **Identifies the challenges** faced by adult learners in using digital learning platforms for literacy skill acquisition.

### Research questions

1. To examine the extent to which digital learning platforms contribute to improved literacy levels among rural community members in Cross River State?
2. Identifies the challenges **faced by adult learners in using digital learning platforms for literacy skill acquisition in Cross River State**

### Conceptual clarification

#### Platforms for digital learning

Digital learning platforms according to Clark and Mayer (2016) are technology-based systems that use various multimedia techniques to deliver instructional content and enable communication between students and teachers. These platforms include interactive exercises, video classes, online tutorials, tests, and real-time feedback systems. They use technology like internet connectivity, cloud computing, mobile applications, and artificial intelligence to create engaging and dynamic learning environments. Sites like Coursera, Khan Academy, and Duolingo are prime examples of digital learning resources' adaptability in various academic fields. With various learning opportunities for multiple populations, digital learning platforms have emerged as revolutionary instruments in contemporary education. These platforms incorporate digital technology to distribute instructional materials, improve student engagement, and offer chances for flexible, self-paced learning (Olson & Kellogg, 2020). Digital learning platforms offer a potential solution to long-standing issues in adult education, especially in underprivileged and rural areas. These issues include low literacy levels, restricted access to qualified facilitators, and inadequate educational resources.

These platforms concentrate on fundamental literacy skills, including reading, writing, and numeracy, and are designed to meet particular learning needs in adult literacy. To accommodate learners' sociocultural realities, they use contextually relevant information, simpler interfaces, and support for vernacular languages (Adebayo et al., 2021). Mobile-enabled platforms are especially beneficial in rural areas, where mobile device adoption is frequently higher than personal computers.

#### Types of digital learning platform

Adult literacy education has been completely transformed by digital learning platforms, which offer adaptable, readily available, and entertaining ways to enhance reading, writing, and comprehension abilities. These platforms serve a wide range of learner needs, from those in rural regions with minimal resources to those in urban locations with access to cutting-edge technology. The tools and technology used in digital learning platforms for adult literacy instruction are intended to improve learning outcomes, increase educational accessibility, and meet various demands. Commonly utilized digital learning tools for teaching literacy to adults include are:



1. Learning Management Systems (LMS)
2. Mobile learning apps
3. E-reading platforms
4. Interactive voice response (IVR) systems
5. Online tutoring platforms
6. Radio and podcast platforms

**Learning Management Systems (LMS):** Moodle and Blackboard are two examples of learning management systems (LMS) that provide extensive platforms for the delivery of structured literacy programs. These systems offer progress monitoring capabilities, interactive resources like quizzes, and centralized access to course content. LMS platforms guarantee a well-structured learning process, which is especially advantageous for formal literacy courses provided by educational institutions (Wang et al., 2021)..

**Mobile learning apps:** These apps are appropriate for places with erratic internet access because they offer bite-sized courses, use gamification components to increase user engagement, and frequently have offline capabilities (Zhang & Zhang, 2020). Adult learners can study independently and at their speed with the help of mobile apps.

**E-reading platforms:** Thanks to culturally relevant content offered by platforms such as World reader and the African Storybook Initiative, learners can interact with stories that represent their experiences. These platforms are accessible even remotely because they frequently permit offline downloads.

**Interactive Voice Response (IVR) systems:** Communities where basic mobile phones are widely available but literacy is low can greatly benefit from Interactive Voice Response (IVR) systems. These technologies allow students to follow audio instructions in their native tongue while making a phone call. Thanks to the adaptability of IVR systems, even the most underprivileged places can receive literacy instruction.

**Online tutoring platforms:** With real-time, one-on-one or group sessions with teachers, online tutoring systems like Preply and iTalki enable individualized learning experiences. These platforms benefit adult learners who need specialized literacy teaching since they guarantee that each student's demands are met (Johnson & Brown, 2022).

**Radio and podcast platforms:** Podcast and radio platforms are also effective tools, especially in areas where radio is the main information source. Educational programs can air literacy classes, or podcasts can be shared through WhatsApp and other media. Thanks to these resources' affordability and accessibility, large audiences can receive literacy instruction.

### Digital Learning Platforms' Functions

By offering easily accessible, adaptable, and captivating educational possibilities suited to adult learners' requirements, digital learning platforms significantly contribute to the advancement of adult literacy programmes. They get over geographical restrictions by sending instructional materials straight to students in far-off places. These platforms promote an inclusive learning environment while addressing several issues related to traditional literacy programs, including time limits, different learner profiles, and restricted access. Some of the functions are:

1. **Improving Accessibility to Education:** Thanks to digital platforms that eliminate physical and geographic restrictions, students in underserved or remote areas may now access high-quality educational materials. Thanks to mobile technology and internet connectivity, literacy content is widely accessible through platforms like open educational resources (OER) and mobile



learning apps. Because of this accessibility, adult learners can participate in worthwhile learning activities that improve their reading, writing, and comprehension abilities no matter where they are.

2. **Encouraging Flexibility and Self-Paced Learning:** Many adult learners cannot attend regular programs due to employment, family obligations, or other commitments. Thanks to digital learning platforms like learning management systems (like Moodle) and smartphone apps (like Duolingo), learners can study whenever and wherever it is most convenient for them. Because of this flexibility, students can incorporate their education into their everyday schedules without interfering with their other commitments.
3. **Meeting Diverse Learning Needs:** Adult literacy learners frequently have different educational backgrounds, learning preferences, and degrees of technical competence. To accommodate this diversity, digital platforms include a variety of multimedia content, such as text-based resources, interactive games, audio lessons, and videos. For example, learners can interact with knowledge in various ways through video-based platforms like YouTube and game-based learning platforms like LiteracyPlanet, which increases the effectiveness and personalization of education.
4. **Promoting Community and Collaborative Learning:** Social media platforms and collaboration tools like Facebook Groups and WhatsApp make peer-to-peer learning and a sense of community among adult learners easier. These platforms allow students to encourage and support one another through group activities, resource sharing, and discussions. This cooperative strategy works exceptionally well to increase participation and retention in literacy initiatives.
5. **Offering Real-World Applications:** Thanks to digital platforms, students can learn useful skills that they can use in their everyday lives. For instance, learners are immersed in real-world situations, like reading signs, filling out forms, or handling money, thanks to Virtual Reality (VR) and Augmented Reality (AR) technologies. Because of these real-world uses, literacy instruction becomes relevant and immediately applicable to students' personal and professional lives.
6. **Increasing Engagement with Gamification:** By adding components like challenges, progress tracking, and prizes, gamification features in systems like Pro Literacy's XPRIZE Apps increase motivation and engagement. These interactive resources make learning fun and less daunting by encouraging students to persevere in their literacy journey.

### **Adult literacy**

The capacity to read, write, and understand basic information is known as adult literacy, and it allows people to participate in social, economic, and personal activities in meaningful ways. Lifelong learning, vital for enhancing people's quality of life and enabling them to participate in local and national development, depends on literacy skills (UNESCO, 2018). Beyond only being able to read and write, adult literacy is critical because it includes critically interacting with information, making wise decisions, and fully engaging in economic and social activities (National Centre for Literacy and Numeracy for Adults, 2015). High illiteracy rates have exacerbated poverty and limited access to essential services in Cross River State's rural communities (Ekong, 2019). Thus, literacy initiatives are vital in promoting socioeconomic development and individual empowerment. However, low literacy rates sometimes endure in rural areas because of a lack of access to formal educational systems, poverty, and cultural barriers. Because illiterate individuals frequently lack the skills necessary to manage their health and well-being, engage in civic activities, or obtain better employment chances, this inequality significantly impacts socioeconomic growth (Akpan & Udo, 2019). Adult education programmes have been created to address these issues by providing individuals with life skills and basic literacy. Despite their widespread use, traditional face-to-face teaching methods have drawbacks in rural areas where access to educational resources is limited and conventional educational institutions' reach is frequently





constrained. Digital learning platforms have become a viable option due to the urgent need to investigate other learning modalities that can close these gaps.

Adult literacy is especially important for developing human capital in areas like Cross River State, Nigeria, where rural communities are the economy's foundation. Adult literacy rates in Cross River State are still below ideal levels, which presents obstacles to socioeconomic growth despite international pledges to achieve universal literacy under the Sustainable Growth Goals (SDGs). There are notable differences in literacy between urban and rural areas of Cross River State, which are distinguished by their varied cultural and linguistic makeup. The National Bureau of Statistics (2022) reports that metropolitan areas like Calabar have better literacy rates than rural ones like Obudu and Ikom. Due to their restricted access to formal education, most adults in these rural areas have low reading levels. Women, who frequently suffer the most from sociocultural barriers to education, are significantly affected by this disparity (UNESCO, 2021).

A key component of empowerment and sustainable development is adult literacy. According to Abiodun and Olatunji (2020), literacy increases a person's capacity to engage in economic activity, raise household earnings, and support community development. Farmers in Cross River State, where farming is the primary source of income, can adopt better farming practices and obtain market information thanks to literacy. Some of the digital literacy platforms applicability in Cross River State adult literacy efforts include:

**Digital Literacy for All (DL4ALL) Initiative:** The DL4ALL programme, which was started by the National Information Technology Development Agency (NITDA), to equip residents of all 774 Local Government Areas (LGAs) with fundamental digital skills, train and certify the workforce, and incorporate digital literacy into school curricula. The programme has been carried out in Cross River State with the National Youth Service Corps (NYSC), state governments, and private partners. To promote digital inclusion, corps members are essential in providing training to communities (NITDA, 2025).

**Asuquo Ekpenyong Foundation's Digital Literacy Training:** The training in digital literacy provided by the Asuquo Ekpenyong Foundation targeted rural clusters in Cross River State. By giving participants the necessary digital skills, the program sought to increase pandemic resilience. Training in computer device use, internet navigation, digital information handling, online communication, and virtual collaboration was provided to more than 1,000 beneficiaries, including those at risk and those with disabilities. The programme aimed to close the digital divide in underprivileged communities and prioritized inclusivity (Vanguard, 2022).

**Teachers' Continuous Training Institute (TCTI) Digital Literacy Workshops:** Workshops promoting digital literacy among educators have been spearheaded by Cross River State's Teachers' Continuous Training Institute. TCTI hosted a three-day intensive training workshop in September 2023 called "The Usage of Digital Facilities for Teaching and Learning for Basic Education Teachers in Cross River State." Forty-five teachers from the state's three senatorial districts participated in the workshop to improve teachers' ability to use digital tools to enhance teaching methods and student engagement. This initiative demonstrates the state's commitment to incorporating digital literacy into education (NUJ CRS, 2023).

**UNESCO's Revitalizing Adult and Youth Literacy (RAYL) Project:** Revitalizing Adult and Youth Literacy (RAYL) is a project of UNESCO. To combat high levels of illiteracy, UNESCO started the RAYL project in Cross River State in November 2015 as a pilot digital literacy programme. The initiative aimed to improve livelihoods by providing adults and youth with essential digital skills and enhancing access to information and opportunities in the digital age (IFACCA, 2017).



### **Challenges in Using Digital Learning Platforms for Adult Literacy**

Several challenges hinder the effective use of digital learning platforms in enhancing adult literacy, particularly in rural communities. These barriers, which are often socio-economic, technological, and cultural, vary widely based on the learners' context and resources available; they include:

1. The digital divide refers to disparities in access to digital technologies and internet connectivity. In many rural areas of developing countries like Nigeria, limited access to affordable internet services and digital devices restricts the reach of digital learning platforms.
2. Lack of digital literacy and technological proficiency among adult learners: Many adults, particularly those in rural and underserved areas, lack the basic skills needed to navigate digital platforms effectively, such as using mobile devices, accessing online content, or interacting with educational tools. This digital divide prevents many potential learners from fully benefiting from the resources available on these platforms.
3. Cultural and language barriers also affect the effectiveness of digital learning platforms. Content not aligning with local languages or cultural contexts may fail to engage learners or address their specific needs. Additionally, resistance to adopting new technologies due to traditional beliefs or scepticism about digital tools further limits their impact.
4. Social stigmas around adult literacy also hinder participation in digital platforms. In some communities, adults may feel embarrassed or ridiculed for seeking education, leading to low enrollment and retention rates in literacy programs (UNESCO, 2021).
5. There is a lack of accessibility and infrastructure in many regions. Stable internet connectivity and reliable electricity are essential for digital learning platforms, yet they remain unavailable in remote or low-income areas. Without the necessary infrastructure, adult learners in these regions are excluded from the benefits of digital education.
6. Socio-economic factors further complicate access to digital learning platforms. Many adult learners, particularly those from low-income households, cannot afford the devices or data plans required for online learning. This financial barrier limits their ability to participate in or sustain engagement with digital literacy programs.

### **Methodology**

This study adopted descriptive survey design. The population of the study comprises of 150 adult learners in rural communities who had engaged in digital learning platforms for adult literacy acquisition. The sample size of this study consist of all the 150 adult learners who were totally sampled. For data collection, a validated 4 point Likert scale structured questionnaire with 0.72 reliability index was utilised. Out of 150 copies of questionnaire distributed, 140 copies representing 93.3% response rate were recovered and used for data analysis. Data collected were analysed with descriptive statistics (mean and standard deviation). Decision on mean response is based on 2.5 a criterion mean. Any response equal or greater than 2.5 will be judged positive while mean less than 2.5 will be regarded as negative response

### **Result**

**Research Question 1:** To examine the extent to which digital learning platforms contribute to improved literacy levels among rural community members in Cross River State?



**Table 2: Mean Analysis on Extent to Which Digital Learning Platforms Contribute to Improved Literacy Levels Among Rural Community Members in Cross River State**

S/N	Statement	Very High Extent	High Extent	Low Extent	Very Low Extent	Total	X	SD	Decision
1	Digital learning platforms help you understand basic literacy concepts better than traditional methods	90 (360)	30 (90)	14 (28)	6 (6)	140 (484)	3.45	0.77	High Extent
2	You noticed an improvement in your reading skills since using digital learning platform	95 (389)	25 (75)	10 (20)	10 (10)	140 (494)	3.52	0.84	High Extent
3	Digital platforms are effective in teaching writing skills to adult learners	90 (360)	17 (51)	15 (30)	18 (18)	140 (459)	3.28	0.71	High Extent
4	Digital learning platforms encourage you to learn more consistently	93 (372)	15 (45)	28 (56)	4 (4)	140 (477)	3.40	0.31	High Extent
5	Your ability to communicate (e.g., writing or speaking) improved through digital learning platforms	97 (388)	22 (66)	6 (12)	15 (15)	140 (481)	3.44	0.69	High Extent

In table 1, responses from adult learners in rural communities on the extent to which digital learning platforms contributed to improved literacy levels among rural community members in Cross River State, indicated mean scores that ranges from 3.28-3.52 which are all greater than 2.5 and it implies that to a high extent digital learning platforms have helped adult learners to understand basic literacy concepts better than traditional methods; improved their reading skills, made transform teaching writing skills effective to adult learners, encourage adult learners to learn more consistently, and also improve their ability to communicate (e.g., writing or speaking).

**Research Question 2:** To identify the challenges faced by adult learners in using digital learning platforms for literacy skill acquisition in Cross River State?

**Table 2: Mean Analysis on Challenges Faced by Adult Learners in Using Digital Learning Platforms for Literacy Skill Acquisition in Cross River State**

S/N	Statement	Very High Extent	High Extent	Low Extent	Very Low Extent	Total	X	SD	Decision
6	technical issues (e.g., internet connectivity, device malfunctions)	102 (408)	20 (60)	15 (30)	3 (3)	140 (501)	3.58	0.77	High Extent





	affect your learning experience								
7	Lack of fund to afford the devices or internet services required for digital learning	99 (396)	23 (69)	7 (14)	6 (6)	140 (485)	3.46	0.81	<b>High Extent</b>
8	Difficulty in understanding how to navigate digital learning platforms	117 (468)	20 (60)	2 (4)	1 (1)	140 (533)	3.80	0.73	<b>High Extent</b>
9	Unavailable of adequate training available to on the use of digital learning platforms effectively	120 (480)	12 (36)	7 (14)	1 (1)	140 (531)	3.79	0.82	<b>High Extent</b>
10	Lack of electricity impact your ability to use digital learning platforms	125 (500)	10 (30)	2 (4)	3 (3)	140 ( )	3.84	0.97	<b>High Extent</b>

In table 2, from adult learners in rural communities on the challenges faced by adult learners in using digital learning platforms for literacy skill acquisition in Cross River State, indicated mean scores that ranges from 3.46-3.84 which are all greater than 2.5 and it implies that adult learners in rural communities in Cross River State to a high extent, identified technical issues (e.g., internet connectivity, device malfunctions), lack of fund to afford the devices or internet services required for digital learning, difficulty in understanding how to navigate digital learning platforms, Unavailable of adequate training available to on the use of digital learning platforms effectively and Lack of electricity impact as challenges faced by adult learners in using digital learning platforms for literacy skill acquisition in Cross River State.

### Discussion of Findings

The results of a study on how digital learning platforms help adult learners in rural Cross River State communities raise their literacy skills show that digital tools significantly influence literacy development. According to the comments, most adult learners believe digital platforms significantly contribute to literacy development. Compared to traditional techniques, digital learning platforms were more effective in helping adult learners comprehend fundamental literacy principles. This is consistent with research by Hussain et al. (2020) that highlights how technology can close educational gaps, especially in rural areas where access to traditional educational resources may be restricted. Additionally, the study found that digital learning platforms considerably enhanced adult learners' reading abilities. This aligns with studies that indicate digital literacy treatments can improve reading fluency by providing real-time feedback and interactive reading materials, which encourage skill development in a way that traditional techniques frequently cannot (Bello et al., 2019). The results also emphasized how teaching writing skills has changed due to digital platforms. Writing skills can be improved more effectively by integrating digital technologies like word processors, online writing courses, and automatic grammatical checks than by using pen and paper techniques (Hughes & Scharff, 2020). These platforms enable engaging learning environments and ongoing feedback, allowing students to hone their writing abilities quickly.

According to the study, digital according to the survey, digital platforms also promote more consistent learning among adult learners. Research highlighting the potential of digital learning to



provide flexible learning schedules, which would make it simpler for adult learners to integrate their education with employment and family obligations, supports this finding (Johnson et al., 2020). A further noteworthy result was the enhancement in communication skills, both in writing and speaking. Learners can practice and enhance their written and verbal communication abilities by using interactive communication tools like voice-recording apps, video calls, and forums made possible by digital platforms (Thompson et al., 2020). In rural areas, where possibilities for in-person communication may be scarce, these tools are incredibly crucial.

The results of adult learners in Cross River State's rural communities show that adopting digital learning platforms to improve reading skills presents several difficulties. This showed that adult learners frequently encountered technical problems that prevented them from accessing and participating in digital learning, such as inadequate internet connectivity and device malfunctions. This result is in line with that of Adebayo, et al. (2021), who found that one of the main obstacles to the efficient use of digital platforms in rural areas is technological difficulties (Adebayo et al. 2021). The inability to pay for gadgets and internet services was cited by many adult learners in the study as a significant obstacle. Access to digital education is limited by the high cost of computers, smartphones, and internet services (Morris & Alam, 2020). This is especially troubling in rural communities, where economic gaps restrict educational options and income levels are frequently low. Adult learners reported having trouble figuring out how to use digital learning environments. Some learners find it challenging to fully utilize digital tools due to their complexity and lack of prior exposure to this technology. Adequate training on the proper use of digital media is conspicuously lacking. Students frequently stated that they lacked access to official instruction in digital literacy. The lack of specialized digital education programs is viewed as a barrier to technology adoption in rural areas, and this lack of instructional support is a recurrent issue mentioned in the literature (Imran & Khan, 2023). Another major issue that was brought up was the intermittent supply of electricity. Digital learning sessions are severely disrupted by frequent power outages, particularly for students who rely on energy to access online content and charge gadgets. This problem aligns with findings from related research in Nigerian rural areas, where inadequate infrastructure continues to be a significant barrier to digital education (Abdullah & Ahmad, 2019).

## **Conclusion**

The study concluded that digital platforms not only raise reading levels but also motivate students to pursue regular education and hone critical communication skills two things that are vital for both career and personal development. To close gaps in access to high-quality education and promote sustainable development in these communities, digital learning plays a critical role in adult education in rural areas. The effective use of digital learning resources is hampered by issues like poor internet connectivity, device malfunctions, a lack of funds to purchase necessary devices and internet services, difficulty navigating digital platforms, a lack of training on digital tools, and an unstable electricity supply. These obstacles restrict adult learners' capacity to improve their literacy and keep them from taking full advantage of digital education options. These issues must be resolved to advance inclusive education and guarantee that adult learners in remote areas have equitable access to online learning options.

## **Recommendations**

1. Rural areas must have better access to digital tools and resources. Non-governmental organizations (NGOs) and government agencies must work together to supply reasonably priced devices.
2. Efforts should be undertaken to upgrade internet infrastructure in remote regions to address the issues associated with inadequate internet access and frequent power outages. This entails extending network coverage, offering reasonably priced data plans, and guaranteeing a steady electricity supply, particularly in regions with regular power outages.



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