COVID-19 AND ADULT LEARNING IN NIGERIA: CAN TECHNOLOGY HELP? AN EXPLORATION OF ADULT LITERACY FACILITATORS' PERSPECTIVE

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ABSTRACT

The outbreak of COVID-19 and its impact on learning globally cannot be overemphasized. Specifically, the pandemic severely affected adult learning and these further compounded issues bedeviling literacy promotion, especially in developing nations like Nigeria. This study assessed the impact of COVID-19 on adult learning and the place of technologies in facilitating adult learning in Nigeria. A qualitative research method through the lens of the interpretive paradigm was adopted for this study. The study is underpinned by the Theory of Andragogy and the Technology Acceptance Model. An in-depth interview with forty-six adult literacy facilitators across selected states in the country forms the participants of the study. The interview transcript was analyzed using a thematic framework. Findings revealed amongst others that COVID-19 impaired adult learning significantly in Nigeria. There exists a strong belief among literacy facilitators in the country that technologies can be used as an instructional delivery mechanism for learners in adult literacy programmes. Thus, radio, television, and mobile phone ranked 1st, 2nd, and 3rd respectively among suggested technological tools to facilitate adult learning in Nigeria. Based on the findings, it was suggested that there is a need for literacy stakeholders in the country to rethink adult literacy delivery modalities beyond the traditional approach. Also, it is suggested that enabling environment should be provided and familiar technologies such as radio, television and mobile phones should be used with adequate guidance and encouragement to improve learners' access and participation in literacy programmes. While technology is not the silver bullet that will solve obstacles facing access to and participation in adult literacy programmes, there is a need to explore opportunities in the use of technologies to facilitate adult learning in Nigeria.

Keywords: Adult Learning and Education (ALE); COVID-19; Literacy Facilitators; Technology; Nigeria

INTRODUCTION

The outbreak of coronavirus (COVID-19) in China's city of Wuhan in 2019 and its subsequent spread across the globe sparked a significant crisis in all areas of human endeavor (Itasanmi et al., 2020). Nigeria recorded her index case on February 27, 2020, and several other cases were recorded afterwards because of the highly contagious nature of the virus (Mogaji, 2020; Liu, et al., 2020). In a bid to contain the fast-spreading virus, a lockdown was declared by the government, and this affected socio-economic activities causing an abrupt closure of all educational activities

including adult literacy centers in the country. According to UNESCO (2020), COVID-19 exposed the unpreparedness and vulnerability of education systems particularly the fragility of adult literacy programmes across the world. Marginalized people, including seven hundred and seventy-three (773) million illiterate adults and six hundred and seventeen (617) million out-of-school children and adolescents before the crises are at risk of being more affected by the pandemic (UNESCO, 2020; European Commission. 2020).

Nigeria, Africa's most populous country and a critical actor in the continent has over 41 million illiterate population and a literacy rate of 62% with huge variations across states, regions, and gender (UNESCO. 2012; UNESCO Institute of Statistics., 2017). The country has 20% of the global out-of-school children population (World Economic Forum. 2020) and less than 2% of the illiterate adults are enrolled in adult learning classes in Nigeria (UNESCO. 2012). With the emergence of the pandemic, obstacles limiting access and participation of adults in literacy programmes are further compounded as the lockdown imposed by the government put a halt to adults' access to literacy programmes and learning stopped with attendant effects on learners' learning interest and progress. The traditional face-to-face instructional delivery system and lack of prior plans to incorporate technologies to facilitate adult learning made adult learning badly hit by the COVID-19 crisis in the country. While there is a myriad of initiatives geared towards helping learners in the formal school system to utilize ICT-learning opportunities, there were no concerted efforts to provide distance learning opportunities for adult learners in the country. The pandemic period, therefore, provides a gloomy picture of the state of adult learning in Nigeria and this serves as a wake-up call to stakeholders to strengthen adult literacy provision as a strategy to make up for the inequalities in access and participation to adult literacy programmes that existed before but more widened by the pandemic.

The impact of the COVID-19 pandemic on adult learning in Nigeria requires attuning to doing things differently especially looking for "resources of hope" (James & Theriault, 2020) that can potentially help improve access and sustain learning interest among adult learners both during and after the pandemic in the country. In this context, the most viable instrument to open wider access and keep learning going is the use of technology. The potential use of technology to facilitate adult learning may have once been ignored by actors in Adult Learning and Education (ALE) in Nigeria but that might no longer be the case due to the pandemic. Technology has become the catalyst for adult learning in the 21st century (Sellers, 2008). Using technology to facilitate adult learning undoubtedly offers the flexibility to extend learning beyond that which can be offered in the traditional face-face programme and offers adults to self-direct their learning as well as provide a unique opportunity for interaction between the facilitator and the learners (Oludeyi, et al., 2018). Barriers such as geographical location and unavailability of literacy centers which often limit participation in adult literacy programmes can be overcome using technologies to mediate learning (Beck & Hughes, 2014). This will help marginalized adult learners during the lockdown access and participate in literacy programmes at their convenience and location.

Actors in ALE are often faced with several issues, especially when considering the use of technologies to facilitate adult learning. Some of the issues centered on whether the use of technology to facilitate learning would be an effective substitute for traditional face-to-face teaching and ways to respond to technology-related concerns on the quality of instruction as well as how to exploit technology to enhance learning outcomes without diminishing the learning experiences amongst other (Imel, 1998; Sellers, 2008). Other questions that have been hovering over the use of technology to facilitate adult learning include what policy guidelines are mapped out on technology use in adult literacy programmes and the level of readiness of adult learners to

adapt to tech-based instructions. Similarly, there are concerns about the level of preparedness of adult literacy providers to adopt technology for instructional delivery and the availability of low-cost technological tools that can be used as well as the source of funding for the effective utilization of technologies to facilitate adult learning (Oludeyi, et al., 2018). These issues have so much generated arguments among scholars and practitioners with no headway and policy direction on the use of technologies to facilitate adult learning. It, therefore, seems that adult education stakeholders who are the core champions of lifelong learning have not yet succeeded in getting the right framework that will accord the adoption and use of technologies the right place and value in national literacy policies and programmes. So, the challenge for the use of technologies to facilitate adult learning is not merely to adapt and use it to improve adult literacy programmes' offering; it is about what technologies works and how they can be adapted to capitalize on the characteristics of adult learners, especially in the context of the current crises ((Imel, 1998).

Studies on the impact of COVID-19 in Nigeria have majorly focused on psycho-social and economic effects as well as the health implication of the pandemic on the populace (Edomah & Ndulue, 2020; Mogaji, 2020; Ahmed et al., 2020; Itasanmi, et al., 2020; Adewole & Ajala, 2020; Mukhtar, et al., 2020; Ogaugwu, et al., 2020; Ajide, et al., 2020; Abulude & Abulude, 2020; Durowade, et al., 2020; Olaseni et al.,2020; Andam, et al., 2020). Only a few studies in the country (Ogunode, 2020; Omang & Angioha, 2021; Ebohon, et al., 2021), assessed the impact of COVID-19 on education. For instance, Ogunode (2020) examined the effect of COVID-19 on education from the perspective of teachers and senior secondary students in the Federal Capital Territory (FCT), Abuja, Nigeria. The result of the study indicates that the pandemic significantly affected academic activities, and this led to the suspension of internal and external examinations as well as a reduction in investment in education generally. Also, Ebohon et al (2021) assessed the impact of the COVID-19 lockdown on education and how teachers and students coped with emergency remote teaching during the period. Results of the study show among others that the pandemic limited interactions between students and teachers and this negatively influences student satisfaction. However, none of these studies examined the impact of the pandemic on adult learning in the country. This study, therefore, takes a bold step toward understanding the extent to which the emergence of COVID-19 affected adult learning in Nigeria and the place of technologies to facilitate learning among adults from the lenses of literacy facilitators who have firsthand experience on how the learning was disrupted by the pandemic. Considering facilitators' closeness to adult learners, they are in a better position to suggest technological tools that may help facilitate learning based on the nature of their learners.

Generally, this study intends to describe the impact of the pandemic on adult learning in Nigeria and what could have been done to make adult learning very much better during the pandemic period as a useful tip to mitigate such occurrences in future. The study also aims to understand facilitators' perception of the use of technologies to facilitate adult learning and their suggestion on technological tools that can be used considering the nature of the adult learners they interact with. This is done to understand the vulnerability of ALE in times of emergencies and the multiplier effect it may have on literacy promotion in the country. The study also contributes to the discourse on the need for adult education stakeholders to rethink adult literacy delivery modalities beyond the traditional face-to-face approach. The study also prompts a better understanding of technologies that have a far-reaching effect, and are more accessible and affordable to facilitate learning among adults in the country.

THEORETICAL FRAMEWORK

This study is underpinned by Malcolm Knowles' Theory of Andragogy and Davis' Technology Acceptance Model (TAM)

Theory of Andragogy:

Malcolm Knowles' theory of andragogy is a learning theory developed based on the characteristics and specific needs of adults in contrast to learning in childhood. Malcolm Knowles defined andragogy as the art and science of helping adults to learn. This is made different from the pedagogy considered the art and science of teaching children (Esra, 2011). The theory of andragogy is pivoted on a set of assumptions about adult learners, and this includes the belief that adult learners are self-directed, rely heavily on their reservoir of life experiences, are ready to learn, problem-centred and pulled by the desire to immediately apply new learning as well as being inwardly motivated to learning than external influences (Ferreira & MacLean, 2017). The implications for the practice of the andragogy assumptions especially for literacy facilitators and organisers to ensure a cooperative climate for learning, understand learner's specific needs and interests from which learning objectives must be developed, learning activities must be designed sequentially and learners' involvement in the selection of materials and resources as well as methods of instruction must be made a key component (Esra, 2011). These will help create a captivating learning environment that will suit the peculiar needs of adult learners and integrate their lives and careers (Akintolu & Letseka, 2021). Specifically, the theory of andragogy emphasizes the role of adult facilitators as someone whose major role is to guide the teaching and learning process, not as the transmittal of knowledge. Hence, facilitators are in charge of coordinating the learning process and facilitating the acquisition of content by the learners (Akintolu & Letseka, 2021).

This study found the theory of andragogy very relevant because the theory indicates that the sole responsibility of literacy facilitators is to guide learning by identifying ways instruction and curriculum could be based on real-world or authentic situations familiar to the learners. Also, the theory emphasises the creation of learning pathways that provide flexibility such that learners are in control of the pace of their learning. it is a considered opinion that through the understanding of the importance of technology and the potential inherent in it to provide flexible instruction to adult learners, facilitators could see it as a game-changer in instructional delivery considering the impact of the pandemic on adult learning in the country. Also, the identification of familiar technologies to facilitate learning among adults by the facilitators could be an eye-opener to creating a learning environment in which learners open their minds to new possibilities of learning and this could improve their motivation and confidence as they try out new technologies for learning. Generally, the use of technologies to facilitate adult learning has the potential to create a collaborative learning platform, provide a wide array of learning materials to meet individual learning needs, present content in small chunks for easy assimilation and provide a unique way of instructional delivery to learners at different place and time. Thus, reinvigorating the major emphasis of the theory of andragogy.

Technology Acceptance Model:

The Technology Acceptance Model (TAM) propounded by Davis (1989) is a well-established model and has been one of the greatest influential models of technology acceptance. The model originated from social-psychology literature based on the Theory of Reasoned Action (TRA)

developed by Ajzen and Fishbein in 1977. TAM presents a clear picture of factors that determine how people come to accept and use technology. The major thrust of the model is based on 'Perceived Usefulness' and 'Perceived Ease of Use as the deterministic factors that influence people's decisions about how and when to adopt the technology. According to the theorist, Perceived Usefulness (PU) refers to the potential user's subjective likelihood that the use of a certain system (technologies) will improve his /her performance or action while Perceived Ease of Use (PEU) indicates the extent to which the potential user of the system (technologies) expects the use of the system to be effortless (Davis, 1989). Though, the model recognizes some other factors considered external variables that may influence people's acceptance of technology but PU and PEU directly predict people's behavioral intention to use technology (Lai, 2017).
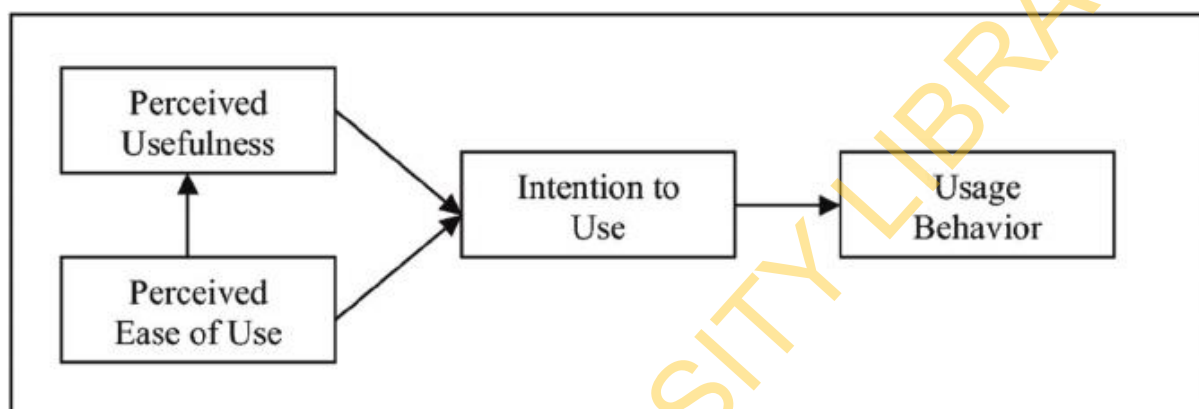
Figure 1: Synoptic of the earliest Technology Acceptance Model
(Source: Alwahaishi & Snasel, 2013).

Figure 1 above suggests an interpretation that people tend to consider the use of technology or a new system before deciding to use it. However, the easier the new system or technology is perceived to be, the more it becomes useful in their minds, thus improving the overall perception with a corresponding increase in usage (Alwahaishi & Snasel, 2013). The implication of this theory to the current study is that the more the literacy facilitators perceive technologies to be an essential tool that could aid and bridge the learning gap for adult learners especially in times of academic disruption due to the ravaging pandemic, the more the likelihood of consideration to use the technologies to facilitate learning among them. Also, literacy facilitators who perceive certain technological tools to be easy to use to facilitate learning among adult learners will consider adopting them for instruction more than those who perceived them to require higher effort to use. In order words, literacy facilitators who perceive the use of technologies to facilitate learning among adult learners as too difficult will be unlikely to want to adopt it while facilitators who perceive technological tools as providing an opportunity to extend learning to hard-to-reach or disadvantaged populations and enhancing instructional delivery as well as easy to use will be more likely to want to adopt technology to facilitate adult learning.

METHODOLOGY

Research Design:
A qualitative research method through the lens of the interpretive paradigm was adopted for this study. This approach is considered suitable because of the need to interpretively explore the

opinions of literacy facilitators on the extent to which adult learning was affected by COVID-19 and the place of technology to facilitate adult learning. This approach provided an opportunity to collect in-depth and comprehensive data sufficient to achieve the aim of the study (Creswell & Creswell, 2018).

Procedure:

Nigeria has 36 federating states and a Federal Capital Territory. The states are grouped into six geopolitical zones (North Central, North East, North West, South West, South East, South-South). South West region of Nigeria was purposively selected based on proximity to the study's researchers and the fact that access to literacy facilitators in other regions of the country proved difficult due to the second wave of the pandemic in the country and fear of contracting the virus. Three states from the South West (Oyo, Osun and Lagos states) were conveniently selected due to the researchers' long-standing relationship with the Adult and Non-Formal Agency in the three states. The researcher sought permission from the agencies to have access to literacy facilitators in the states. The permission was granted and a list of literacy facilitators was given to the researchers. Facilitators were randomly selected from the list and contacted to solicit their participation in the study through the mobile phone number provided in the list given. The researchers intimated to the facilitators the objectives of the study and the need for their participation to achieve the objectives of the study. In all, forty-six adult literacy facilitators from the chosen states participated in the study. Below are the demographic characteristics of the study's participants

Table 1:

Demographic Characteristics of Respondents

Variable	Freq.	Percentage
Age		
18-40	28	60.9
41-60	16	34.8
61 & above	2	4.3
Gender		
Male	16	34.8
Female	30	65.2
Marital Status		
Single	13	28.3
Married	32	69.6
Divorced/Widowed	1	2.2
State		
Oyo	21	45.7
Osun	14	30.4
Lagos	11	23.9

Table 1 presents the descriptive characteristics of the respondents. The table reveals that most of the respondents (60.9%) are within the age bracket of 18-40 years and many of them representing 65.2% are female. It also reveals that most of the respondents (69.6%) are married while many of the facilitators (45.7%) are from Oyo State.

Data Collection:

A one-on-one semi-structured telephonic interview was conducted by the researchers with each of the literacy facilitators at different times within a month from October 20 to November 20, 2020. The central focus and objectives of the interview provided the opportunity for the researchers and literacy facilitators to explore issues related to the impact of COVID-19 on adult learning in the country and the potential to mediate the teaching and learning process for adults with technologies. The researchers prepared an interview guide in line with the study's objectives. The interview guide consisted of specific questions such as: how has COVID-19 affected adult learning? What could have been done to make the adult learning situation better during the COVID-19 pandemic? What opportunity is opened to adult learning/literacy centres as a result of the COVID-19 pandemic? What is the facilitators' perception of the use of technologies to facilitate adult learning? What specific technologies can be used to facilitate adult learning? Each of the interview sessions with adult literacy facilitators lasted for about 30 minutes.

Ethical consideration:

Institutional approval was obtained to conduct the study and permission from Adult and Non-Formal agencies in each of the three states to have access to literacy facilitators in the states was granted. Facilitators were duly informed about the objectives of the study and the fact that participation in the interviews was completely voluntary. They gave verbal consent to participate in the study. Thereafter, they were assured of the confidentiality and anonymity of their information.

Data analysis:

The data transcript of the semi-structured interviews was coded to generate themes for presentation and discussion of results. A thematic framework that allows the identification of recurring themes in the interviews was adopted to properly describe and address the research objectives. Broad themes and sub-themes were established using the inductive method in line with the objectives of the study. To ensure the confidentiality and anonymity of the study's participants, pseudonyms were used in the study to protect their identities. Thus, participants were identified using their profession, sex, age and state i.e., LF/M/36/Lagos. The suggested technologies were ranked based on their frequency.

RESULTS

Theme One: Negative impact

The impact of COVID-19 on adult learning in Nigeria was explored among literacy facilitators. This theme explains how adult learning was affected by the emergence of the pandemic in the country. The participants revealed that the emergence of COVID-19 impaired adult learning significantly as adult literacy centres in the country completely shut down due to the lockdown ordered by the government to curtail the spread of the virus and it was more complicated by the fear of contracting the virus aside from the economic burden placed on them by the emergence of the virus. Two literacy facilitators explained it in this way:

> *"Covid-19 has impeded adult learning in various ways: learners have stopped coming to learn; learners are also beginning to forget what they've learnt in the past, and facilitators can't get close to learners at some point when they need to".* (LF/M/36/Lagos)

> *"Adult learning has been affected because learners have been deprived of learning what will improve their knowledge and what has been taught would have been forgotten, because they need continuous learning and monitoring to improve the way they read, write and communicate with people around them".* (LF/F/32/Oyo)

It is a general opinion among the literacy as they argued that the closure of learning centres deprived adult learners of continuous learning opportunities required to sustain their learning growth and this has a negative consequence on their learning interest and progress.

Theme Two: Strategies

To determine what could have been done to make adult learning during the COVID-19 period among literacy facilitators, findings from the interviews indicate a divergent opinions on what could have been done but all views point to various strategies that could have been adopted to encourage continuous learning among the learners despite the learning disruption occasioned by the pandemic. Some of the strategies as argued by the facilitators to make adult learning situations better during the COVID-19 pandemic include: shifting instruction to online platforms, sensitization, financial incentives and opening more literacy centres with adequate facilitators. These strategies thus emerge as a sub-theme and are presented below:

Sub-theme one: Shifting instruction to online platforms

Some facilitators opined that shifting instruction to online platforms for adult learners would have made the adult learning situation better during COVID-19. This could have been done by moving from a known online platform such as radio and television to more sophisticated online learning platforms i.e., Facebook, WhatsApp and Zoom. The following extracts supported the claim of adult literacy facilitators:

> *"Government could have provided technological materials for them to make use of the online platform for learning"* (LF/F/50/Oyo)
> *"... radio and television teaching (learning) could have been used as a channel to teach the learners".*
> *"Distance learning or social media platform could be used, instead of conventional classroom gathering".* (LF/M/37/Oyo)
> "*Making use of radio or television stations could have improved adult learning. For instance, most of my learners have mobile radios which they take along to wherever they are going and they can tune in to any station of their choice to listen to their favourite programmes. So, if adult education can be organized through this channel, it will encourage others that are scared to join the physical class".* (LF/F/37/Oyo)

Sub-theme two: Sensitization

Some facilitators also argued that adequate sensitization of adult learners and provisions of non-pharmaceutical interventions such as handwashing tools, hand sanitisers, learning environments that encourage social distancing, facemasks etc. to limit the spread of the disease could have helped encourage adult learners to come for classes. Some of the literacy facilitators viewed the situation in this manner:

> *"Giving right orientation to adult learners on how they can be saved during this period and they should be encouraged to come to class by following every safety tip".* (LF/M/34/Oyo)
> *"If there's a provision of hand sanitisers, face masks, sanitiser sprays, it would have been better".* (LF/F/30/Oyo)

> *The literacy centers should be reopened with the mind of social distancing, face masks, hand washing and personal hygiene".* (LF/F/47/Lagos)

Sub-theme three: Financial incentives

Some other facilitators asserted that financial incentives in form of palliatives to reduce the economic burden placed on adult learners by the outbreak of the virus could have made the adult learning situation better. As two participants put it:

> *"Government should give adult learners palliatives in form of money and goods, by so doing, they will have more interest in learning and therefore improve the adult learning situation".* (LF/M/32/Oyo)

> *"Good incentives to learners so that when they are asked to return to class, they will be happy and not feel abandoned - this could be sharing of books, pen, pencil and even a carton of biscuit or anything that will show some sense of care about their well-being".* (LF/F/32/Oyo)

Sub-theme four: More literacy centers with adequate facilitators

It emerged that some facilitators believed that if more literacy centers were opened with adequate facilitators, the learning situation of the adults during the pandemic would have been much better. They argued that more literacy centers would help decongest populated centers and this would have made social distancing easier to achieve in the learning environment. Also, the provision of necessary learning materials such as primers, workbooks etc. would have made it easier for facilitators to engage the learners better, thus, ensuring continuity of learning during the pandemic. According to two literacy facilitators:

> *"More conducive adult learning centers should have been provided along with enough teaching aids like primers, chalks, exercise books, pens, pencils, cleaner, dusters and the likes. This would have allowed learners to enjoy resourceful teaching during this period".* (LF/M/37/Oyo)

> *"Opening more centers and employing more facilitators will help reduce the number of learners per class. As such, social distancing in the classroom would be achieved with less stress".* (LF/F/44/Oyo)

Theme Three: Opportunity

The opportunity opened to adult learning/literacy centers as a result of the COVID-19 pandemic was checked with the literacy facilitators. It was revealed in the course of the interview that most adult literacy facilitators see no opportunity opened to adult learning or literacy centers due to COVID-19. The following quotations supported their claims:

> *"Covid-19 has not brought out any opportunity to adult learning centers".* (LF/F/50/Oyo)

> *"Older learners are prone to easy forgetting or loss of residual knowledge as earlier taught topics can hardly be remembered by them. Hence, no opportunity aside from the drawback".* (LF/M/32/Lagos)

> *"Without any doubt, there is no opportunity opened to adult learning as a result of the pandemic".* (LF/M/48/Oyo)

Contrastingly, despite the numerous challenges posed by the outbreak of coronavirus to adult learning in Nigeria especially the closedown of literacy centers, some literacy facilitators still asserted that it offers a great opportunity to adult learning/ literacy centers in the country. Some literacy facilitators expressed the following views:

> "*It opens the window to the importance of information communication technologies (ICTs) in the teaching-learning process for adults; it informed the literacy programmes'*

stakeholders in the country about the realities of the state of adult learning and; the need for more attention and recognition of adult literacy programmes as a tool to reduce the looming danger associated with increasing illiteracy level of the people". (LF/F/56/Osun)
"Many had acquired one skill or the other during the lockdown which they can share among themselves after the pandemic". (LF/F/47/Lagos)

Theme Four: Appropriateness

The appropriateness of facilitating adult learning using technologies was ascertained by the facilitators. The participants expressed diverse opinions on this. The majority of the facilitators believed that technologies can be used as an instructional delivery mechanism for learners. The following quotations supported their claim:

"It will make teaching and learning more practical and effective". (LF/F/37/Oyo)
"Yes, is the only alternative to the current challenges posed by COVID-19 to adult learning". (LF/F/45/Oyo)
"Technologies could be used by adult facilitators to break the barriers of the inexistence of face-to-face teaching/learning process". (LF/M/37/Oyo)
"Before now, we were using radio and it worked, so we can introduce more of it". (LF/F/37/Oyo)
"Using technologies to facilitate adult learning will give them a sense of belonging and allow them to know what is going around the world and opportunity to compete with their counterparts across the globe". (LF/F/47/Lagos)

In contrast, some facilitators opined that because of the low literacy level of adult learners and lack of access to technological tools, it is impossible to facilitate adult learning using technologies in the country. They explained it in this way:

"Most of the learners are illiterate and cannot handle computers". (LF/M/32/Oyo)
"... lots of them don't have access to the technological tools required" (LF/F/26/Oyo)
"There is no prior plan made before the pandemic to use technology to facilitate learning". (LF/M/48/Lagos)

However, other facilitators sound a note of caution in using technologies to facilitate learning. They expressed the need to give adult learners time for easy adaption to technology use for learning and to use technologies that learners are already familiar with. They expressed the following views:

"I will suggest that the use of technologies to facilitate adult learning should be approached with caution. Adult learners should be given time to adapt to technology use". (LF/F/33/Oyo)
"Familiar technologies such as radio and television should be used". (LF/F/36/Oyo)
"Adult learners have to go through face-to-face sessions first to learn the technology they need to use, before proceeding with technical means of learning with the help of internet". (LF/F/35/Osun)

Theme Five: Suitable technologies

Under this theme, literacy facilitators suggested technologies that can be used to facilitate learning among adult learners bearing in mind the peculiar challenges of the environment and uneven access to technological tools. The most highly suggested technologies by the facilitators are radio, television, and mobile phone. Other technologies suggested included a projector, Zoom, DVD, Microsoft Team, and newspapers. Below is a graph showing suggested technologies to facilitate adult learning in Nigeria.
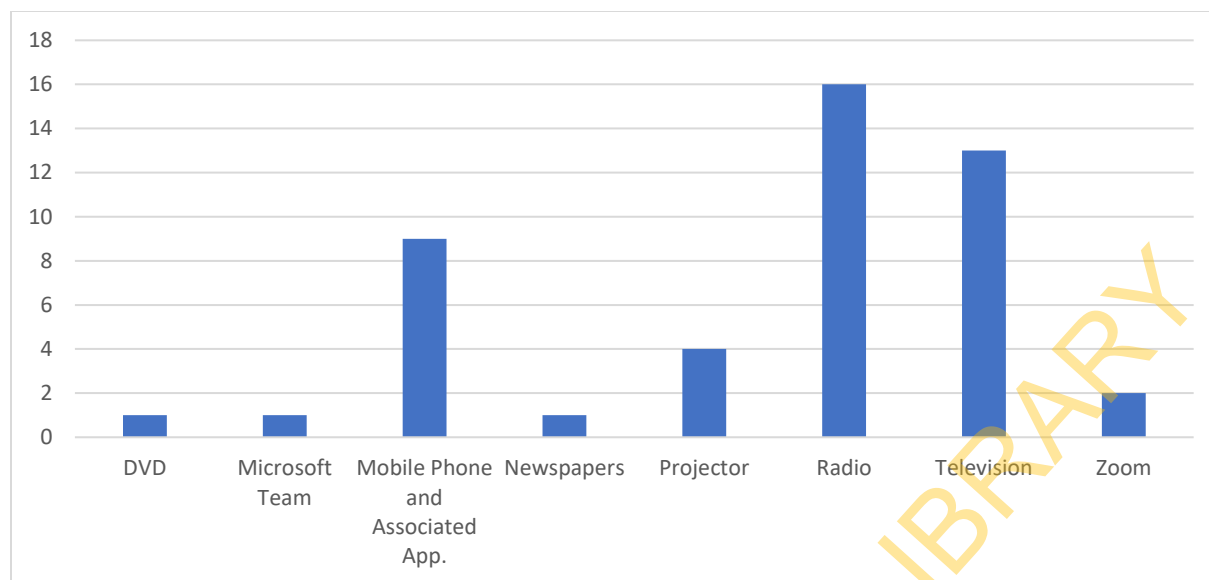
Figure 1: Suitable Technologies to Facilitate Adult Learning in Nigeria

DISCUSSION

This study was conducted to examine the impact of COVID-19 on adult learning in Nigeria and the place of technologies in facilitating learning among adult learners in the country. The findings revealed that just the way educational activities in Nigeria were disrupted by the COVID-19 pandemic, adult learning and education was negatively affected. Adult literacy centers in the country completely shut down and there were no alternative learning opportunities for adults. This affected adult learning significantly with a dire consequence on adult learners' learning interest and progress. This finding corroborates the European Commission (2020) report from the ET2020 Working Group on Adult Learning, that a great number of adult education programmes stopped due to the COVID-19 pandemic crisis. This implies that learning for many adult learners was disrupted with the most disadvantaged and vulnerable groups in society who need face-to-face learning interaction prominently more affected (European Commission., 2020). According to Boeren, Roumell and Roessger (2020), COVID-19 necessitated the closure of many services and the entrenchment of social distance practice to curb the rapid spread of the virus, however, this has served as further obstacles to adult education participation for difficult-to-reach and underserved populations. Specifically, the result aligns with the findings of Omang and Angioha (2021) who found a significant negative impact of COVID-19 on the educational development of learners.

The findings also revealed that adopting certain strategies such as moving instruction to online platforms, adequate sensitization, provisions of non-pharmaceutical interventions, provision of financial incentives in form of palliatives and having more literacy centers with adequate facilitators and learning resources, would have made adult learning situation during the pandemic much better in Nigeria. Shifting instruction for adult learners in Nigeria to online learning platforms just as it was done in most European countries where email, telephone, and online platforms were used with adult learners to continue learning during the pandemic period (European Commission., 2020). This could have made learning easier and more participatory for most adult learners as well as improved their learning experience during the pandemic in the country. However, online learning is often ignored by adult education stakeholders in developing countries

(Houndo, 2020). Also, the severity of COVID-19 infection in adults is high compared to children, hence, adequate sensitization and provision of non-pharmaceutical tools as well as economic empowerment (palliatives) to reduce burdens placed on them by the pandemic could have helped adult learners cope better and sustain their learning interest. Similarly, the existence of adequate literacy centers with the right number of facilitators and learning resources could have engendered a resourceful teaching and learning process for adult learners during the pandemic period. This could have helped make social distance practice in the learning environment much easier and better and individualized instruction to learners would have been guaranteed, thus, making the learning situation better compared to what was obtained during the pandemic era in the country. Generally, these results are corroborated by Houndo (2020) who observed certain initiatives to promote adult learning during COVID-19 in the Republic of Benin, Togo and The Gambia. According to him, a door-to-door awareness campaign on COVID-19 was carried out by literacy facilitators in Togo while a food bank was set up to assist the poor population in the Gambia.

On the opportunity opened to adult learning/literacy centers as a result of the COVID-19 pandemic in Nigeria, the findings of this study showed that COVID-19 impacted negatively adult learning and education in the country. Learning stopped, no room to accommodate new learners enrolled in the programme before the COVID-19 lockdown had their acquired literacy skills slowed or reversed due to the inability to sharpen the skills. Also, getting adult learners back into the classroom post-COVID period may be difficult because of the worsening condition of the nation's economy which might force many adults to lose interest in learning. However, the study's findings revealed that all hope is not lost as the COVID-19 pandemic opened the window for actors in adult education and learning in the country to the potential of ICTs at mediating the teaching and learning process for adult learners. The COVID-19 pandemic collapsed the traditional face-to-face instructional delivery system and the only alternative was to use it as an instructional delivery mechanism to mediate learning during the pandemic period. Technology was used with children and young adults in the formal school system and this significantly throws up debate on the potential adoption of ICTs for adult learning among literacy education actors in the country. Also, the findings show that the pandemic presents an opportunity for stakeholders in adult learning and education in the country to have a clear view of the state of adult learning and the need to devise means to brace up adult literacy provision in the country to stem the tide of increasing illiteracy and associated consequences spurred up by the emergence of the pandemic. This finding corroborates the assertion made by the European Commission (2020) that due to the COVID-19 pandemic, issues related to adult learning and education have moved to the center of discussion from the margins. It was equally revealed that the pandemic period provides an opportunity for adult learners to acquire skills and experiences which may serve as learner-generated content to be shared with colleagues in the classroom, thereby, enriching the literacy programmes in the post-COVID period.

The study's findings further revealed that an overwhelming majority of the facilitators believed that the use of technologies to facilitate adult learning is appropriate and can be well utilised for instructional delivery. This finding aligns with TAM assumptions that when technology is perceived to be useful and requires less effort to use, the propensity to adopt the technology will be high (Davis, 1989). The study's researchers ascribed the result to the fact that adult literacy facilitators believe that there is no alternative to using technologies to facilitate learning during the pandemic period if continuity of learning is desired for adult learners in the country. The use of technologies to facilitate adult learning can potentially open wide access to literacy programme participation and guarantee individualised instruction in a manner that each learner works in

isolation from others (Imel, 1998), and everyone is safe from the highly contagious COVID-19 virus. Literacy facilitators believed in the use of technologies to facilitate adult learning and this stems from the need to quickly fortify adult literacy provision, especially delivery methods in the country to mitigate learning disruption against the future pandemic. Thus, the use of technologies to facilitate adult learning provides the opportunity for literacy facilitators to assist learners to have learning tools in their hands for self-direction to mitigate the effect of the pandemic on their learning. This is a key takeaway from andragogy (Keillor & Littlefield, n.d.). The study's findings also revealed that radio, television, and mobile phone ranked 1st, 2nd, and 3rd respectively among suggested technological tools that can be used to facilitate learning among adult learners in the country. The reason these three technological tools were more rated than others as technologies that can be used to facilitate adult learning was that adult learners are familiar with them and are more easily available to the poor (Obiakor and Adeniran, 2020). The issue of familiarity with the suggested technologies resonates with the assumptions of andragogy especially the principle of experience which serve as a base when they learn. These familiar technologies will allow learners to make connections between their understanding of the technologies and new ways of using them as the medium of instruction. This will make learning more successful using these familiar technologies. Radio and television are low-cost mass communication technologies that reach the widest audience including vulnerable populations in remote areas (UNESCO, 2016). Radio is the dominant news platform in Nigeria followed by television (Broadcasting Board of Governors. n.d.). These platforms provide a viable means to deliver literacy programmes to hard-to-reach or excluded populations to gain access to lifelong learning opportunities in the country. Also, 90% of the Nigerian population is estimated to be using mobile phones with about 50% of the total population using the internet (Gilbert, 2021). Mobile phones continue to extend their reach and provide a high value in terms of access to literacy programmes and the teaching and learning process especially when it is connected to the internet (UNESCO, 2016).

CONCLUSION AND RECOMMENDATIONS

The need for active and gradual incorporation of technologies as an instructional delivery mechanism to complement the conventional system in ALE in Nigeria for sustainable learning during emergencies can no longer be paid lip service. The traditional face-to-face instructional delivery system and lack of prior plans to incorporate technologies to facilitate adult learning made ALE to be badly hit by the emergence of COVID-19 in the country. COVID-19 disrupted the activities of literacy centres and learning stopped with no provision for remote learning for adult learners. This presents a situation where it becomes imperative for all stakeholders to rethink adult literacy delivery modalities beyond the traditional approach. Though the COVID-19 pandemic opened the window for actors in ALE in the country to the potential of ICTs at mediating the teaching and learning process for adult learners, there is ambiguity on literacy education providers' readiness to provide enabling environment and technological tools, and learners' ability to effectively utilize technologies to learn. It is therefore suggested that enabling environment should be provided and that introducing technologies to facilitate learning among adult learners should be carefully approached. Because of the low literacy level of adult learners, familiar technologies such as radio, television and mobile phones should be used with adequate guidance and encouragement to improve learners' access and participation in literacy programmes. Conclusively, while technology is not the silver bullet that will solve obstacles facing access to and participation in adult literacy programmes by learners, but the paper argues that actors in ALE

should explore opportunities in the use of technologies to facilitate adult learning to reduce the existing inequalities in adult literacy provision and fortify ALE against future pandemics in the country.

LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

The study is limited by the non-inclusion of other stakeholders such as government agencies saddled with the organisation and management of adult literacy programmes in the country, NGOs, CBOs, and adult educators in Nigerian universities to express their views on the subject matter. Therefore, future studies should endeavour to include all these stakeholders to have a balanced view of the subject matter. This will help engender a better understanding that will serve as a basis for policy recommendations. Also, due to the non-probability sampling technique used and the limitation of the study population to the South West region of Nigeria, the study's sample is not nationally representative of adult literacy facilitators in the country. Future studies should adopt cluster and proportional sampling techniques for better generalisation of the study's findings. While the current study explored the perspective of literacy facilitators as regards the impact of COVID-19 on adult learning, future studies can explore learners' perspectives on the same subject matter.

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