DIGITAL LITERACY AND LEARNING AS TOOLS TO QUALITY EDUCATION IN NIGERIAN SECONDARY SCHOOLS IN POST COVID-19 ERA

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Abstract
This study examines digital literacy and learning as tools to quality education in Nigerian secondary schools in the post-Covid-19 era, with a specific focus on Rivers State. There search objectives are to assess the digital literacy level of secondary school students, examine the impact of digital learning on academic achievement, identify challenges in implementing digital learning, and investigate the role of teacher training and support in facilitating digital literacy and digital learning. The study involved 420 teachers from various secondary schools in River State, Nigeria. Data were collected through a questionnaire-based survey and statistical analysis was conducted by use of mean responses. The findings revealed that there is confidence level of students in using digital tools, there is limited access to reliable internet connectivity, sufficient availability of digital devices. On the role of teacher training and support in facilitating digital literacy and learning, there is disagreement. That is there is insufficient training opportunities for teachers to develop their digital literacy skills, among others. Recommendations include strengthening digital literacy initiatives, enhancing instructional strategies, improving infrastructure and access, providing comprehensive teacher

training, and fostering collaboration among teachers. By implementing these recommendations, Nigerian secondary schools can enhance the quality of education in the digital era. The findings of this study have implications for policymakers, educators, and stakeholders in designing and implementing effective digital learning strategies.

Keywords: Digital literacy, Digital learning, Quality education, Nigerian secondary schools, Post-Covid-19era, Teacher training

Introduction

The Covid-19 pandemic has initiated a global disorder in education systems, requiring rapid adjustment to remote learning methods to ensure continuity and quality of education. Nigeria, likemany other countries, faced significant challenges in implementing digital learning during thepandemic. Issuessuchaslimitedaccesstodigitaldevicesand internet connectivity, particularly in rural areas, have posed substantial barriers to online education (Onyema, 2020; Jamil & Muschert 2023). Additionally, concerns have been raised regarding the level of digital literacy among secondary school students and the capacity of teachers to effectively integrate digital technologies into their pedagogical practices (Simamora, 2020, Medi, 2021).

Understanding the current state of digital literacy among secondary school students in Nigeria iscrucial for identifying gaps and developing targeted interventions (UNESCO, 2017). Assessing their knowledge, skills, and competencies in using digital tools and resources for educational purposes can provide valuable insights into their readiness for digital learning. This study aims to examine the digital literacy levels of secondary school students in Nigeria post-Covid-19, inorder to ascertain strategies that promote equitable access to digital learning opportunities and enhance digital literacy.

Furthermore, it is essential to investigate the impact of digital learning on academic achievement in Nigerian secondary schools. Research suggests that well-designed digital learning environments can enhance student engagement, motivation, and knowledge retention (Daud, Jalil, and Gunawan, 2015). Therefore, exploring whether digital learning has positively influenced academic outcomes in the Nigerian context will

provide insights into the potential benefits of these technologies for improving educational quality.

Identifying the challenges and barriers to implementing digital learning in Nigerian secondary schools is another critical aspect of this study. Factors such as infrastructure limitations, lack of teacher training, and inadequate technical support may hinder the successful integration of digital technologies (Lin, Chen & Liu, 2017). By understanding these challenges, policy makers and educators can develop targeted interventions to address the specific areas that require attention and support.

Moreover, investigating the role of teacher training and support in facilitating digital literacy and digital learning is essential. Teachers play a central role in driving the effective use of digital technologies and fostering digital literacy skills among students (Sunkara & Kurra, 2017, Kamble, 2013). Therefore, understanding the extent of teacher training programs, their effectiveness, and the available support mechanisms for educators in Nigerian secondary schools will provide valuable insights for enhancing their capacity to deliver quality digital education.

In summary, this background study aims to address the gaps in the existing literature and provide a comprehensive understanding of the interplay between digital literacy, digital learning, and quality education in Nigerian secondary schools in the post-Covid-19 era. The findings will inform educational policies and interventions that promote equitable access to digital learning opportunities, enhance digital literacy levels, and improve the overall quality of education in Nigeria.

The Covid-19 pandemic has propelled the urgent need for digital literacy and digital learning in Nigerian secondary schools, as the traditional face-to-face education system has been disrupted.

However, the extent to which secondary school students in Nigeria possess the necessary digital literacy skills and the impact of digital learning on their academic achievement remains largely unexplored. Furthermore, the challenges and barriers faced by educational institutions ineffectively implementing digital learning, as well as the role of teacher training and support infacilitating digital literacy and digital learning, have not been thoroughly examined.

This lack of understanding regarding the digital literacy levels of Nigerian secondary school students and the effectiveness of digital

learning in enhancing academic achievement represents a critical gap in the education landscape.

Digital literacy refers to the ability to access, evaluate, utilize, and create digital information and resources using digital technologies (Fayomi, Ajaye and Okorie, 2015). It encompasses a range of skills, including basic computer proficiency, information literacy, critical thinking, digital communication, and online safety (Galy, Downey, & Johnson, 2017). In the context of this study, digital literacy is focused on the competencies required by secondary school students in Nigeria to effectively navigate and utilize digital tools and resources for learning purposes.

Digital learning, also known as e-learning or online learning, refers to the use of digital technologies and electronic devices to facilitate teaching and learning. It encompasses a variety of approaches, such as online courses, virtual classrooms, educational apps, multimedia resources, and interactive learning platforms. Digital learning offers opportunities for personalized and flexible learning experiences, collaborative learning, and access to a wealth of educational resources beyond traditional classroom settings (Alqahtani, & Mohammad2015).

Quality education is a multifaceted concept that encompasses various dimensions of educational provision, processes, and outcomes. It goes beyond mere access to education and encompasses factors such as relevance, equity, inclusiveness, and effectiveness (UNESCO, 2020). In this study, quality education refers to an educational system that effectively integrates digital technologies and digital literacy to enhance teaching and learning processes, improve student engagement, promote critical thinking and problem-solving skills, and facilitate equitable access to educational opportunities for all students.

Correlates of quality education are factors or variables that are closely associated with and have asignificant impact on the quality of education. In the context of this study, digital literacy and digital learning are considered as key correlates of quality education in Nigerian secondary schools. The level of digital literacy among students and the effective integration of digital learning methods are hypothesized to have a positive influence on academic achievement, student engagement, and overall educational outcomes (Ashraf, 2016).

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The post-Covid-19 era refers to the period following the global Covid-19 pandemic, during which educational systems have undergone significant transformations in response to the challenges posed by the pandemic. It recognizes the need for educational institutions to adapt to the new normal by leveraging digital technologies to ensure the continuity and quality of education in a post-pandemic world. This era highlights the increasing reliance on digital literacy and digital learningas essential components of the education system.

In summary, this conceptual clarification provides a clear understanding of the key terms and concepts related to digital literacy, digital learning, quality education, and their relevance in Nigerian secondary schools in the post-Covid-19 era. By exploring the relationships and inter dependencies among these concepts, this study aims to shed light on the crucial role of digital literacy and digital learningas basic tools to quality education in Nigeria.

Therefore, this study aims to address the following compelling and engaging research questions:
1. What is the current level of digital literacy among secondary school students in Nigeria inthepost-Covid-19 era?
2. What is the impact of digital learning on the academic achievement of secondary school students in Nigeriain the post-Covid-19 era?
3. What are the challenges and barriers faced in implementing digital learning in Nigerian secondary schools in thepost-Covid-19 era?
4. What is the role of teacher training and support in facilitating digital literacy and digital learning in Nigerian secondary schools in the post-Covid-19 era?

Methods
This study utilizes a quantitative research design to collect and analyze data. A cross-sectional survey approach is employed togather information from a sample of secondary school teachers in Rivers State, Nigeria. The participants in this study consist of 420 teachers from various secondary schools in Rivers State. A purposive sampling technique was employed to ensure representation from different schools and areas within the state. Data was collected through a structured questionnaire. The questionnaire consists off our sections corresponding to there search questions,

addressing digital literacy, the impact of digital learning on academic achievement, challenges in implementing digital learning, and the role of teacher training andsupport. The instrument is a Likert scale questionnaire; participants are to indicate their level of agreement or disagreement on a four-point scale. Mean scores were used to analyze the opinions of the respondents.

The Findings of the Study are presented below

Research Question 1: What is the current level of digital literacy among secondary school students in Nigeria in the post-Covid-19 era?

S/N	Item	$\overline{X}$	Remark
1	Students in my school are confident in using digital tools and resources for educational purposes.	2.73	Agree
2	Students have access to digital devices (e.g., computers, smartphones) for their educational activities.	2.82	Agree
3	Students possess the necessary skills to evaluate there liability and credibility of digital information sources.	2.44	Strongly disagree
4	Students actively engage in collaborative online learning activities with their peers.	2.40	Disagree
5	Students demonstrate proficiency in using digital tools tocreate and share their own digital content.	2.44	Disagree
	Total	**12.83**	

The criterion mean value is 2.50. The table 1 above showed result of the current level of digital literacy among secondary school students in Nigeria in the post-COVID-19 era. it revealed that the average mean is 2.57 and falls above 2.50 reference mean. it showed that respondents generally expressed agreement in terms of their confidence in using digital tools and resources for educational purposes.

Research Question 2: What is the perceived impact of digital learning on the academic achievement of secondary school students in Nigeriain the post-Covid-19 era**?**

S/N	Item	$\overline{x}$	Remark
6	Digital learning has improved my understanding of the subject matter.	2.43	Disagree
7	Digital learning has increased my motivation to actively participate In class activities.	2.00	Disagree
8	Digital learning has enhanced my ability to apply knowledge and skill store al-life situations.	2.5	Disagree
9	Digital learning has provided personalized and self-paced learning.	2.60	Disagree
10	Digital learning has improved my overall academic performance.	2.43	Disagree
	Total	**11.96**	

The table above showed results of the impact of digital learning on the academic achievement of secondary school students in Nigeria during the COVID-19 era. it revealed from the above table that the mean average is 2.4, falls below 2.5 reference mean. this means that there is disagreement among respondents regarding the impact of digital learning on their academic achievement.

Research Question 3: What are the challenges and barriers faced in implementing digital learning in Nigerian secondary schools in the post-Covid-19 era?

S/N	Item	$\overline{x}$	Remark
11	Limited access to reliable internet connectivity hinders the effective implementation of digital learning.	3.40	Agree
12	Insufficient availability of digital devices for all students impedes equitable access to digital learning opportunities.	3.52	Agree
13	Inadequate technical support and trouble shooting resources make it difficult to address technical issues during digital learning.	3.42	Agree
14	The lack of teacher training and professional development programs on integrating digital technologies in teaching practices creates challenges in implementing digital learning.	3.10	Agree
15	Limited digital content and resources tailored to the Nigerian curriculum restrict the effective	3.34	Agree
	Total	**16.78**	

The table above shows results of some of the main challenges and barriers faced in implementing digital learning in Nigeria secondary schools in the post-COVID-19 era. It revealed from the above table that the mean average is 3.36, and falls above 2.5 reference mean. This means that students generally agreed that there are challenges and barriers facing implementing digital learning in Nigeria.

Research Question 4: What is the role of teacher training and support in facilitating digitalliteracyanddigital learningin Nigerian secondary schoolsin thepost-Covid-19 era?

S/N	Item	$\overline{x}$	Remark
16	My school provides sufficient training opportunities for teachers to develop their digital literacy skills.	2.24	Disagree
17	The training programs offered to teachers effectively prepare them to integrate digital technologies in their teaching practices.	2.30	Disagree
18	Teachers receive ongoing support and guidance from school administrators or instructional technology specialists to enhance their digital teaching skills.	2.43	Disagree
19	The availability of technical support staff ensures that teachers receive timely assistance in resolving technical issues related to digital tools and resources.	1.73	Disagree
20	Teachers in my school actively collaborate and share best practices with their colleagues to improve their digital literacy and teaching effectiveness.	2.0	Disagree
	Total	**10.7**	

The above table showed results of the role of teacher training and support in facilitating digital literacy in Nigerian secondary schools in the post-COVID 19 era. The average mean is 2.14 revealed, and falls below 2.5 reference mean. This means that there is disagreement among students

regarding the provision of sufficient training opportunities for teachers to develop their digital literacy skills.

Conclusion

The findings of this study shed light on the current state of digital literacy, the impact of digital learning on academic achievement, challenges in implementing digital learning, and the role of teacher training and support in Nigerian secondary schools in the post-Covid-19 era. The data revealed varying levels of digital literacy among students, indicating a need for further efforts to enhance their skills in evaluating digital information, engaging in collaborative online learning, and creating digital content. The impact of digital learning on academic achievement was found to be less pronounced, suggesting the importance of exploring effective instructional strategies and personalized learning opportunities. Challenges such as limited access to reliable internet connectivity, insufficient availability of digital devices, and the need for teacher training and support were identified as significant barriers to successful implementation.

However, teacher training and support play a crucial role in enhancing digital literacy among students. when teachers are well trained and supported in integrating technology effectively into their classrooms, they can provide more engaging and effective learning experiences. this, in turn helps students develop the digital skills necessary for success in the modern world. Addressing these challenges and providing comprehensive teacher training programs are crucial for realizing the full potential of digital learning in Nigerian secondary schools.

Recommendations

Based on the findings of this study, the following recommendations are put forth:

1. Strengthen digital literacy initiatives: Schools should develop comprehensive digital literacy programs to improve students' skills inevaluating digital information, engagingincollaborative online learning, andcreating digital content. These initiatives can include workshops, online resources, and partnerships with industry experts to enhance students' digital literacy competencies.

2. Enhance instructional strategies: Educators should explore and

implement effective instructional strategies that promote engagement, motivation, and academic achievement in the digital learning environment. This can include adopting blended learning approaches, incorporating interactive multimedia resources, and providing personalized learning opportunities tailored to students' needs and interests.

3. Improve infrastructure and access: Efforts should be made to address the challenges of limited access to reliable internet connectivity and insufficient availability of digital devices. Government bodies, educational institutions, and stakeholders should work together to invest in infrastructure development and provide equitable access to digital resources for allstudents.

4. Provide comprehensive teacher training: Teachers should receive continuous and comprehensive training programs to enhance their digital literacy skills, pedagogical practices, and proficiency in integrating digital technologies in their teaching. These programs should focus on effective instructional strategies, assessment methods, and leveraging digital tools to facilitate student learning.

5. Foster collaboration and sharing of best practices: Schools should create platforms for teachers to collaborate, share experiences, and exchange best practices related to digital learning. This can be facilitated through professional learning communities, online forums,and workshops, fostering a culture of continuous improvement and innovation in digital teaching practices. By implementing these recommendations, Nigerian secondary schools can better harness the potential of digital literacy and digital learning to provide quality education and equip students with the necessary skills for success in the post-Covid-19 era and beyond.

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