THE ROLE OF DIGITAL LITERACY IN ENHANCING SCHOOL ADMINISTRATION: A CASE STUDY OF SENIOR SECONDARY SCHOOLS IN BORNO STATE, NIGERIA

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Abstract

"The Role of Digital Literacy in Enhancing School Administration: A Case Study of Senior Secondary Schools inBorno State, Nigeria" The integration of digital technologies into educational management presents significant opportunities for enhancing decision-making, streamlining record-keeping, improving communication, and strengthening instructional oversight. Despite supportive national and state ICT policies, disparities in infrastructure and training, especially in conflict-affected areas like Borno State, continue to hinder the effective use of digital tools in school administration. This study investigates the current level of digital literacy among administrators in senior secondary schools in Borno State and its impact on key aspects of educational management. Guided by four research questions, data were collected through a structured 5-point Likert scale questionnaire and analysed using frequency tables and percentages via SPSS. Findings reveal that digital literacy significantly enhances decision-making and internal communication, while promoting workflow automation and information management. The study recommends regular professional development, improved infrastructure, mentorship initiatives, and supportive policy reforms to advance digital integration in school management.

Keywords: *Digital literacy, Digital tools, Educational Records, SchoolManagement*

Introduction

Education is a cornerstone of national development, and the effective management of educational institutionsis essential for delivering quality education. In the 21st century, the advent of digital technologies hasreshaped the way institutions are managed, offering tools to streamline administrative processes, improve communication, and enhance overall efficiency.Digital literacy is the ability to effectively and critically use digital tools and technologies to access, manage, and communicate information.

In the context of school administration, digital literacy is integral in equipping administrators, teachers, and support staff with the necessary skills to effectively manage and streamline various administrative tasks. This includes organising and maintaining school records, planning and delivering lessons, and enhancing decision-making processes. Digital literacy promotes efficient communication among stakeholders, such as teachers, students, parents, and external organisations, through digital platforms. It enables data-driven decision-making by providing valuable insights and supports the

integration of online tools and platforms that enhance the delivery of academic activities, ultimately improving overall school operations and fostering an environment conducive to educational success.

Borno State has faced substantial disruptions in education due to prolonged insecurity, inadequate infrastructure, and socioeconomic challenges. These issues have further compounded the difficulties of adopting digital solutions in educational management. Many secondary schools in the state struggle with inconsistent access to electricity and internet connectivity, while staff members often lack the necessary training and exposure to effectively utilise digital tools. Support for digital transformation from government and institutional leadership is frequently insufficient, hindering the progress of modernisation efforts. Despite these challenges, some institutions have begun integrating digital tools into their management processes, signallinga gradual shift toward embracing modern, technology-driven practices.

Statement of the problem

The effective integration of digital literacy in educational management requires a workforce equipped with robust digital literacy tools and skills. However, in Borno State, Nigeria, thesecondary schools face significant challenges, including infrastructural deficits, security concerns, and limited access to digital training and resources. These challenges have created barriers to adopting and leveraging digital literacy, despite its recognized potential to transform educational management and improve administrative practices.The lack of digital literacy in school management can lead to inefficiencies, diminished competitiveness, and missed opportunities for innovation in the educational sector. While global research has extensively examined the relationship between digital literacy and education management, critical gaps remain. Specifically, there is limited research addressing the unique challenges of integrating digital literacy in senior secondary schoolsin conflict-affected areas like Borno State, Nigeria.These gaps underscore the need for a deeper, context-specific understanding of how digital literacy can address the socio-economic and infrastructural challenges faced by senior secondary schools in Borno State. This study aims to bridge this gap by exploring the role of digital literacy in enhancing school management (decision-making, record management, instructional supervision, and communication) within secondary education in Borno State.Research Questions

The study will answer the following research questions.

- What is the current level of digital literacy among school administrators in senior secondary schools in Borno State?
- How does digital literacy influence decision-making, record management, instructional supervision, and communication in school administration?
- What are the major challenges hindering digital literacy adoption in school administration?
- What strategies can be implemented to improve digital literacy in secondary school administration?

Literature Review

The literature review provides a comprehensive exploration of the key concepts and prior research related to digital literacy and its role in school management.

Ladipo and Aramide (2021) examined digital literacy and social media use among university registry staff in Southwest Nigeria. Their findings showed high levels of digital literacy, with frequent use of tools like email, Twitter, and LinkedIn. Although their study focused on tertiary institutions, it suggests that with adequate infrastructure and policy support, digital competence is achievable across all education levels.

Atmojo et al. (2022) investigated elementary school teachers in Indonesia using the Instant Digital Competence Assessment (IDCA) framework. The study identified disparities in technological, cognitive, and ethical domains, with most teachers ranking in the low to medium range—highlighting the need for context-specific interventions.

Arigidi and Sanni (2022) found a moderate digital literacy level (mean score of 19.15) among public school teachers in Rivers State. Their study also revealed a positive correlation between digital literacy and participation in skill-enhancement initiatives, suggesting that teacher development programs directly improve digital competence.

Aluko and Ooko (2022) reported substantial gaps between expected and actual digital competency levels among South African teachers, particularly in rural and semi-urban schools during the COVID-19 pandemic.

Oyewole and Adetimirin (2015) noted that digital literacy enables the shift from manual to electronic records, improving accuracy and accountability. Their research emphasized the value of digital tools for safeguarding sensitive data such as student grades and staff evaluations.

Similarly, Isa and Umar (2021) found that in Northern Nigeria, continued reliance on manual systems leads to frequent record mismanagement, but where digital platforms are introduced, issues such as data loss and duplication are greatly reduced.

Instructional management benefits from digital tools like electronic lesson plans, class scheduling software, and Learning Management Systems (LMS). Adebayo and Olayemi (2021) argued that digitally literate administrators are more effective in supporting teachers to integrate ICT into teaching. In conflict-affected areas like Borno, such tools are essential for ensuring continuity in teaching and supervision.

Omosekejimi et al. (2019) demonstrated that ICT use, including computers and projectors, improved teaching quality in Nigerian Colleges of Education. However, limited teacher proficiency with software such as PowerPoint and Excel posed a constraint to optimal usage.

Rahmi et al. (2022) observed that effective support systems and digital strategies in Indonesian blended learning environments enhanced preservice teachers' skills and learning outcomes, underscoring the importance of capacity-building alongside digital infrastructure.

Thelma et al. (2024), who linked digital literacy integration in school curricula to improved workforce readiness. Their findings reinforce that digital literacy not only strengthens school administration but also contributes to employability, an important outcome in conflict-affected regions like Borno State.

Robinson and Taneh (2018) highlighted poor infrastructure and inadequate teacher training as major barriers to technological education in Nigeria. Digital illiteracy remains widespread due to lack of foundational exposure.

Bello and Ajao (2025), after reviewing two decades of Nigeria's digital policy evolution, found that while tertiary institutions are gradually improving digital training, basic education, particularly among teachers in the arts and humanities, receives inadequate attention. This undermines the broader goal of digital inclusion.

Hendrarso and Ahsan (2022) identified weak government-led digital awareness programs and a lack of motivation among teachers as key obstacles, which may similarly affect Nigerian educators in rural areas.

Pawar (2021)emphasised infrastructure deficits—particularly unreliable internet and insufficient device availability—as serious issues in Indian schools, drawing parallels to the situation in Borno, where electricity and security concerns further complicate implementation.

Salami and Oladejo (2020) listed infrastructural constraints—irregular power supply, high internet costs, lack of devices, and limited technical support—as major barriers to digital integration. These are exacerbated in Borno State by security issues and displacement, where many schools operate in temporary shelters without digital facilities (UNESCO, 2021).

Resistance to change, especially among older staff, and the absence of well-defined digital literacy policies also hinder progress. Ladipo and Aramide (2021) recommended routine digital training, institutional ICT policy frameworks, and the promotion of communication platforms like emails and forums to improve digital competence.

Bello and Ajao (2025) urged for targeted ICT training at the basic education level and called for substantial investment in digital infrastructure to achieve Nigeria's 95% digital literacy target by 2030.

Aluko and Ooko (2022) proposed aligning national teacher training with evolving digital trends and providing consistent professional support to educators.
Hendrarso and Ahsan (2022) advocated for community sensitisation programs and proactive teacher engagement in digital upskilling.

Arigidi and Sanni (2022) reinforced the need for continuous professional development through workshops and digital exposure initiatives.
Eze and Eze (2019) found that school leaders who use platforms like WhatsApp, virtual meetings, and online bulletins communicate more efficiently and involve stakeholders effectively.

Uko and Ayuk (2020) emphasized that digitally literate principals rely on data dashboards and cloud-based tools to guide administrative decisions, improving accountability and reducing favouritism. Adeyemi (2019) added that digital transparency enhances trust and limits errors common in manual systems. However, these tools remain underused in Borno due to persistent infrastructure gaps.

Research Methodology

This study adopts a quantitative research method and employs a descriptive survey research design. The population of the study comprises all principals, vice principals (academic and administration), senior masters, and school examination officers in 82 senior secondary schools across Borno State. The sample size was determined using the Research Advisor sampling table, maintaining a 95% confidence level and a 0.05 margin of error. A total of 196 respondents from 39 senior secondary schools were selected using purposive sampling. Data were collected through a 25-item questionnaire constructed on a 5-point Likert scale: Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), and Strongly Disagree (1). The instrument was administered via Google Forms and was developed by the researcher. Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics such as means and percentages were used to analyse the data, and findings are presented in tabular format to enhance clarity and ease of interpretation.

Table 1: Level of Digital Literacy among Senior Secondary School Teachers in Borno State

Item	SD	D	UD	A	SA
Knowing the existence of the digital tools	2%	6%	15%	54%	22%
Accessibility of Digital Tools	1.0%	2.0%	9.8%	55.5%	32.3%
Attend Digital Literacy Training	0%	0%	5.3%	59%	35.8%
Utilizes Word, Excel, PowerPoint, etc.	0%	0%	9.8%	58%	32.3%
Ability to do minor troubleshooting	5.3%	12.0%	36.8%	45.3%	0.8%

The analysis shows that mostrespondents are aware of the existence of digital tools, with **54% agreeing**and**22% strongly agreeing**. However, **only 32.3% strongly agreed**and**55.5% agreed** that digital tools are accessible, indicating a relatively high accessibility level.In terms of training, **59% agreed**and**35.8% strongly agreed** that they have attended digital literacy training. Similarly, **58% agreed**and**32.3% strongly agreed** to using Microsoft Word, Excel, PowerPoint, and other collaborative tools, suggesting good engagement with essential software tools. It also revealed that a notable gap appears in basic troubleshooting skills. Only **45.3% agreed,** and a minimal **0.8% strongly agreed**, while a significant number were undecided (**36.8%**) or disagreed (**12%**), indicating a need for more technical upskilling.

Table 2: Impact of Digital Literacy on Management of Senior Secondary Schools

Item	SD	D	UD	A	SA
Record Management	2%	1%	8%	50%	39%
Decision-making	0%	1%	4.5%	66.8%	28.5%
Communication	3%	7%	7.8%	50%	32.2%
Instructional Management	1%	5%	12%	59%	23%

Table 2 shows that 39**% strongly agreed and 50% agreed**, believe digital literacy aids record management. On decision-making, **66.8% agreed** and**28.5% strongly agreed**, reflecting strong consensus that digital tools enhance logical and rational decisions. Digital literacy was seen to improve communication among stakeholders, with **50% agreeing** and **32.2%** stronglyagreeing**.** Similarly, in instructional management, **59% agreed** and 23% strongly agreed that digital literacy enhances lesson planning and delivery.

Table 3: Strategies for Improving Digital Literacy

Item	SD	D	UD	A	SA
Provision of updated digital tools and resources	3%	3%	3%	54%	37%
Regular digital literacy training	1%	2%	7%	59%	31%
Integrate digital literacy into education programs	2%	4%	11%	30%	53%
Encourage mentorship and peer learning	4%	11%	10%	42%	33%
Incentives for active engagement	8%	12%	10%	40%	30%

Table 3 shows that **54% agreed**, and**37% strongly agreed** of the respondents overwhelmingly supported with the provision of updated digital tools and resources and the regular training of teachers (**59% agreed**, **31% strongly agreed**). Integration of digital literacy into teacher education programs was also well received, with **53% strongly agreeing** and **30% agreeing**. Encouraging mentorship and peer learning received positive feedback (**42%agreed**, **33% strongly agreed**), and incentive-based engagement in digital literacy was supported by **40% agreement**and**30% strong agreement**.

Table 4: Challenges in Utilizing Digital Literacy

Item	SD	D	UD	A	SA
Inadequate access to computers/internet	9%	10%	12%	54%	15%
Frequent power outages	11%	9.5%	8%	49.5%	22%
Limited technical support	19%	21%	20%	22%	18%
High cost of digital devices	11%	8%	18%	41%	22%
Resistance to change	10%	9%	19%	40%	23%

Table 4 illustrated that 54% agreed and 15% strongly agreed that lack of access hinders digital literacy, **10% disagreed**, and**12% were undecided**, indicating variability across locations. With**49.5% agreement**and**22% strong agreement** thatthe power supply is a notable issue. A mix of opinions shows **21% disagreed** and**20% undecided**, reflecting inadequate IT support.**41% agreed**and**22% strongly agreed that Digital literacy is expensive**, while**18% remained undecided**aboutaffordability. **40% agreed**and**23% strongly agreed**withthe respondent that there were cultural and attitudinal barriers to digital adoption.

Result of the Findings

Data collected through questionnaires were analysed, and the findings are presented in alignment with the research questions.

Current Levels of Digital Literacy: A majority (67%) of respondents reported moderate confidence in using basic digital tools such as Microsoft Office and email, while only 35% indicated proficiency in advanced tools like data management systems. The respondents highlighted a lack of formal training as a significant barrier to achieving higher proficiency. Many staff members rely on self-taught skills to navigate digital tools.

Use of Digital Tools in School Management: Approximately 72% of respondents indicated that their institutions use digital tools for managing student records, while 60% acknowledged the use of online portals for administrative processes. However, only 48% felt these tools were fully integrated

into day-to-day management.Participants noted that digital tools are primarily used for record-keeping and communication but are underutilized in decision-making and strategic planning.
Impact of Digital Literacy Utilization: The majority (81%) agreed or strongly agreed that digital literacy enhances administrative efficiency. Additionally, 74% reported improved communication within the institution due to digital tools.Respondents provided examples of improvements in communication and transparency, such as streamlined workflows and faster dissemination of information. However, challenges in utilizing data analytics for decision-making were frequently mentioned.

Challenges in Adopting Digital Technologies: The primary challenges identified were inadequate internet connectivity (84%), inconsistent electricity supply (79%), and lack of funding for digital tools (68%).Security concerns, such as cyber threats and data breaches, were highlighted as barriers to wider adoption of digital tools. Additionally, limited access to modern equipment and software was frequently mentioned.

Strategies for Improvement: A significant proportion (88%) of respondents supported regular digital literacy training for staff, while 82% recommended investment in digital infrastructure. The respondents suggested government partnerships to fund infrastructure development and implement policies supporting digital transformation. They also emphasized the importance of fostering a digital culture within institutions to encourage adoption.

Discussions of the Findings

These findings are discussed concerning the extant literature reviewed earlier in this study.
Digital Literacy Levels in Government Senior Secondary Schools in Borno State

The findings revealed that 67% of respondents reported moderate confidence in using basic digital tools such as Microsoft Office and email, whereas only 35% expressed proficiency in more advanced applications such as data management systems. This suggests a foundational, yet limited, level of digital competency among school administrators. These results are in line with the work of Arigidi and Sanni (2022), who found that public school teachers in Rivers State possessed moderate digital literacy levels and that skill enhancement initiatives positively correlated with improved competence. Similarly, Atmojo et al. (2022), through the Instant Digital Competence Assessment (IDCA) framework, identified low to medium digital competence in Indonesian elementary schools, particularly in the technological and ethical domains.

Furthermore, the reliance on self-taught digital skills, as reported in this study, underscores the inadequacy of formal training programs for school administrators. This observation echoes the findings of Bello and Ajao (2025), who argued that basic education, especially among arts and humanities teachers, has historically received insufficient digital training attention. This lack of structured training limits administrators' ability to fully leverage digital tools for planning and oversight.

Use and Impact of Digital Tools in School Administration

Approximately 72% of respondents stated that their institutions used digital tools for managing student records, while 60% reported using online portals for administrative processes. However, only 48% believed these tools were fully integrated into their day-to-day management routines. These results align with the assertions of Oyewole and Adetimirin (2015), who noted that digital literacy facilitates the transition from manual to electronic processes, improving efficiency and accountability. Isa and Umar (2021) further supported this by highlighting the reduction in record mismanagement where digital systems have been implemented in Northern Nigeria.

The study also revealed that 81% of participants agreed or strongly agreed that digital tools enhanced administrative efficiency, and 74% indicated that communication within schools had improved due to these tools. Eze and Eze (2019) similarly found that platforms like WhatsApp and online bulletins helped school leaders communicate effectively and engage stakeholders more efficiently. However, the limited use of digital platforms for strategic decision-making, noted by participants in this study, is consistent with the observations of Uko and Ayuk (2020), who emphasized that data dashboards and cloud-based systems improve administrative accountability but remain underutilized in many schools, especially in low-resource settings.

Challenges of Digital literacy and tools in Senior Secondary Schools in Borno State

The most prominent barriers reported include inadequate internet connectivity (84%), inconsistent electricity supply (79%), and insufficient funding for acquiring digital tools (68%). These findings corroborate the research by Salami and Oladejo (2020), who cited irregular power supply, limited internet access, and poor technical support as significant hindrances to digital adoption in Nigerian schools. In conflict-affected areas like Borno State, these infrastructural issues are exacerbated by insecurity and displacement, as highlighted by UNESCO (2021).

Moreover, concerns about cybersecurity and data protection were raised by respondents. This aligns with broader discussions in the literature about the importance of safeguarding digital platforms against threats such as data breaches, particularly where digital literacy and awareness are low (Robinson &Taneh, 2018; Pawar, 2021). Another significant factor affecting adoption is resistance to change, particularly among older staff, as noted by Ladipo and Aramide (2021), who recommended routine digital training and policy support to overcome institutional inertia.

Strategies for Improvement of Digital Literacy in Senior Secondary Schools in Borno State

A substantial proportion (88%) of respondents emphasized the importance of regular digital literacy training for staff, and 82% recommended increased investment in digital infrastructure. These findings are in strong agreement with suggestions by Arigidi and Sanni (2022), who advocated for continuous professional development and targeted digital exposure initiatives. Similarly, Ladipo and Aramide (2021) and Aluko and Ooko (2022) called for national teacher training programs to align with global digital standards and trends.

Respondents in this study also proposed government partnerships with private organizations to fund digital infrastructure and develop clear institutional policies supporting digital transformation. These proposals reflect the strategic insights of Bello and Ajao (2025), who reviewed Nigeria's digital policy landscape and emphasized the need for targeted ICT training in basic education to meet national digital inclusion targets by 2030.

In addition, fostering a digital culture within schools was identified as a critical step towards sustainable digital integration. Hendrarso and Ahsan (2022) similarly highlighted the importance of community sensitization and proactive teacher engagement in overcoming motivational and awareness-related barriers. The respondents' support for creating institutional policies and awareness campaigns indicates a growing recognition of digital literacy not only as a technical requirement but also as an organizational and cultural shift.

Conclusion

The study also confirms that digital literacy contributes significantly to improving the decision-making process, communication, and records management in school administration. However, its potential in strategic planning,such as forecasting, data-driven decision-making, remainsunderutilised. Schools must go beyond basic proficiency and leverage digital tools for long-term planning and sustainable management improvements.Despite its benefits, the adoption of digital literacy faces substantial challenges, including inadequate infrastructure, financial constraints, and security concerns. These barriers hinder the widespread use of digital tools in school management, reinforcing the need for targeted interventions. Addressing these challenges requires a multifaceted approach, including investments in digital infrastructure, comprehensive training programs, and supportive policy frameworks.Ultimately, advancing digital literacy in Borno State's senior secondary schools demands a concerted effort from policymakers, educators, and stakeholders. By prioritising infrastructure development, capacity building, and strategic collaborations, institutions can harness digital literacy's full potential, improving school management and fostering better educational outcomes in the region.

Recommendations

A multifaceted approach is adopted and proposes several key recommendations to address the challenges identified and to maximise the benefits of digital literacy in school management.

First, advancedtrainingprograms should be developed and implemented to equip teachers and administrators with higher-level digital competencies. While foundational skills are relatively common, there is a pressing need for targeted training in areas such as data analysis, digital communication tools, and data management systems. These capacity-building initiatives will enable educators and school leaders to integrate technology more effectively into administrative and academic processes, ultimately improving efficiency and decision-making.

Additionally**,** infrastructure development is crucial for the successful adoption of digital literacy. Schools require stable electricity, reliable internet connectivity, and adequate digital resources to fully integrate technology into their operations. Without these improvements, even the most well-designed digital literacy programs may fail to achieve their intended impact.

To sustain these efforts, policy frameworks must be established to prioritize digital literacy as a core component of educational management. Government policies should support the integration of digital tools into school administration, ensuring that digital literacy is not treated as an optional skill but as an essential requirement for modern education. Policies should also emphasize the need for continuous professional development, ensuring that educators remain up to date with emerging technological advancements.

Moreover, collaborative partnerships between the government, private sector, and non-governmental organizations (NGOs) should be actively encouraged. These partnerships can provide the necessary financial and technical support to expand digital literacy initiatives, supply digital resources, and develop tailored training programs. By leveraging the expertise and resources of multiple stakeholders, schools can build sustainable digital ecosystems that support long-term technological advancement.

Finally, a robust monitoring and evaluation system should be put in place to assess the effectiveness of digital literacy programs. Regular assessments will help identify gaps, measure progress, and refine strategies as needed. By systematically evaluating the impact of digital literacy initiatives, policymakers and educators can make informed adjustments to ensure continuous improvement and sustainability.

References

Adeyemi, T. O. (2019). ICT utilization for decision-making in secondary school administration in Nigeria. *Journal of Education and Practice*, *10*(5), 21–29.

Adebayo, A., &Olayemi, K. (2021). Instructional leadership and ICT integration in Nigerian schools. *Journal of Contemporary Educational Research*, *8*(2), 44–53.

Aluko, R., &Ooko, M. (2022). Enhancing the digital literacy experience of teachers to bolster learning in the 21st century. *Journal of Learning for Development*, *9*(3), 420–435.

Arigidi, E., &Sanni, A. B. (2022). Skills enhancement and digital literacy among public secondary school teachers in Rivers State, Nigeria. *Nigerian Journal of Business Education*, *9*(1), 79–90.

Atmojo, I. R. W., Ardiansyah, R., &Wulandari, W. (2022). Classroom teacher's digital literacy level based on Instant Digital Competence Assessment (IDCA) perspective. *MimbarSekolahDasar*, *9*(3), 431–445. https://doi.org/10.53400/mimbar-sd.v9i3.51957

Bello, M. A., &Ajao, K. A. (2025). Digital literacy policy and implementation in Nigeria: Two decades of progress and prospects. *African Journal of Educational Development*, *10*(1), 1–16.

Eze, P., &Eze, M. (2019). Influence of digital communication on school management. *Journal of Educational Management and Leadership*, *4*(1), 56–64.

Hendrarso, Y., & Ahsan, H. (2022). Implementation of digital literacy in schools and challenges faced by teachers in Indonesia. *Asian Journal of Educational Research*, *10*(2), 101–113.

Isa, H., & Umar, S. (2021). Record management practices in Northern Nigeria's public schools. *International Journal of Educational Administration*, *13*(2), 101–113.

Ladipo, S. O., &Aramide, K. A. (2021). Digital literacy and social media use among university registry staff in Nigeria. *Nigerian Journal of Educational Technology*, *5*(2), 45–55.

Ng, W. (2012). Can we teach digital natives digital literacy? *Computers & Education*, *59*(3), 1065–1078.

Omosekejimi, A. F., Brume-Ezewu, S., Brume-Ezewu, E. G., Nwobu, B. K., &Nweke, A. C. (2019). ICT and digital literacy skills: A mechanism for efficient teaching in Nigerian Colleges of Education. *Information Impact: Journal of Information and Knowledge Management*, *9*(3), 57–71. https://doi.org/10.4314/iijikm.v9i3.6

Oyewole, O., &Adetimirin, A. (2015). Electronic records management in Nigerian secondary schools. *African Journal of Library, Archives and Information Science*, *25*(1), 67–76.

Pawar, V. (2021). Digital literacy and educational innovation in 21st-century India. *International Journal of Modern Education Research*, *3*(1), 15–28.

Phuapan, P., Viriyavejakul, C., &Pimdee, P. (2015). Elements of digital literacy skill: A conceptual analysis. *Asian International Journal of Social Sciences*, *15*(4), 88–99.

Rahmi, U., Mahande, R. D., &Azrul, A. (2022). The role of support systems, digital literacy and learning strategy on learning outcomes for preservice teachers in a blended learning environment. *The Journal of Educators Online*, *19*(3). https://doi.org/10.9743/JEO.2022.19.3.5

Robinson, R. N., &Taneh, A. N. (2018). Digital illiteracy: A constraint to technology education advancement in South-South region of Nigeria. *International Journal of Research Granthaalayah*, *6*(1), 1–11. https://doi.org/10.5281/zenodo.2173142

Salami, A., &Oladejo, T. (2020). Barriers to ICT integration in Nigerian secondary schools. *Nigerian Journal of Educational Technology*, *6*(1), 88–95.

Thelma, C. C., Sain, Z. H., Shogbesan, Y. O., Phiri, E. V., &Akpan, W. M. (2024). Digital literacy in education: Preparing students for the future workforce. *International Journal of Research*, *11*(8), 75–89.

Uko, E. S., &Ayuk, A. A. (2020). Principals' digital competence and decision-making. *Journal of Educational Research and Policies*, *12*(3), 54–61.

UNESCO. (2021). *Digital learning for all: Challenges in conflict zones*. UNESCO Policy Brief.

UNESCO. (2020). *The role of education management information systems in supporting progress towards SDG 4*. Global Partnership for Education. https://doi.org/10.54675/IYVM7139