

TEACHING DIGITAL LITERACY SKILLS: BEST PRACTICES FOR LIBRARIANS IN FEDERAL UNIVERSITIES IN SOUTH-WEST, NIGERIA

By

ADEBOLA ADEREMI OLATOYE (PH.D)

And

OLATUNDUN OLUWATOYIN OYEWUMI (PH.D)

Abstract

This study investigates the teaching of digital literacy skills by librarians in federal universities in Southwest Nigeria, aiming to identify current instructional practices, challenges faced, and best practices for effective digital literacy education. Using a descriptive survey design, data were collected from librarians across selected universities through questionnaires and interviews. The findings reveal diverse teaching methods used by librarians in teaching digital literacy skills, but showed that workshops and orientation programmes were most commonly used; the challenges mainly encountered by librarians when teaching digital literacy skills are inadequate infrastructure, frequent electricity outages, limited user interest and engagement, and slow internet speeds; and the librarians highlighted best practices for teaching digital literacy skills to include integration of digital literacy into curriculum and collaboration with academic staff. The research recommended that universities should invest in ICT infrastructure and continuous librarian training; digital literacy should be formally embedded in curricula; collaboration between librarians and academic staff should be enhanced; and awareness campaigns to improve user engagement should be instituted.

Keywords: Digital Literacy, Digital Literacy Skills, Librarians, Federal Universities, Technology,

Introduction

In the digital age, literacy extends beyond traditional reading and writing to encompass the ability to locate, evaluate, and use information effectively using digital technologies (Ilo and Ifijeh, 2020). Digital literacy includes skills such as information literacy, media literacy, and ICT literacy, all of which empower individuals to navigate complex digital environments (Jisc, 2025). Within higher education, digital literacy is fundamental to students' academic success and lifelong learning (Ng, 2022). Digital literacy has become an essential competency in the 21st century, particularly in academic environments where information access and technology use are integral to learning and research.

Digital literacy skills refer to the ability to effectively and critically navigate, evaluate, and create information using a range of digital technologies. These skills encompass not only technical proficiency with digital tools, but also the cognitive and socio-emotional capacities required to participate safely and ethically in the digital environment. Core components of digital literacy include information literacy, media literacy, communication and collaboration skills, digital content creation, and understanding of digital rights and responsibilities (Ng, 2022). In today's information society, digital literacy is increasingly seen as essential for personal, academic, and professional success. It enables individuals to engage in lifelong learning, participate in the digital economy, and contribute meaningfully to digital citizenship (Vuorikari et al., 2022). With the growing integration of digital platforms in education, workplaces, and daily life, digital literacy is no longer a luxury but a necessity.

Digital literacy skills in the context of librarianship and education refer to the ability of individuals particularly educators, librarians, and students to effectively access, evaluate, use, create, and communicate information using digital tools and platforms. These skills extend beyond basic computer literacy to include critical thinking, ethical understanding, and the ability to collaborate in digital environments. In librarianship, digital literacy is fundamental for modern information service delivery. Librarians must not only possess these skills themselves but also serve as facilitators who guide patrons especially students and researchers through the complex digital information landscape. This includes teaching users how to identify credible sources, use databases, manage digital content, and understand copyright and data privacy issues (Karasmanaki and Tsakarestou, 2021). In education, digital literacy empowers students to become independent learners, critical consumers of information, and responsible digital citizens. It enhances teaching and learning by enabling educators to integrate technology into pedagogy, promote online research skills, and facilitate collaborative learning environments (Aharony & Bronstein, 2022).

With the rapid expansion of digital resources and platforms, both fields recognize digital literacy as essential for lifelong learning, inclusion, and equitable access to information. and the teaching of digital literacy skills involve the deliberate and structured process of enabling individuals, students, library users, and the general public, to develop the competencies required to effectively navigate, evaluate, and use digital technologies for communication, learning,

problem-solving, and content creation. It goes beyond teaching technical skills to fostering critical thinking, ethical awareness, and digital citizenship. Effective digital literacy instruction integrates information evaluation (discerning credible online sources); digital tool usage (search engines, databases, content creation tools); data privacy and security; online collaboration and communication; and awareness of digital rights and responsibilities (Vuorikari et al., 2022).

In educational settings, teaching digital literacy enhances student engagement, supports differentiated learning, and fosters lifelong learning habits. Educators must embed digital literacy into curricula to prepare learners for the demands of the digital economy and society (Ng, 2021). Librarians play a central role in the promotion and teaching of digital literacy skills, particularly in academic, public, and school library settings. Their roles include instructional support, information literacy instruction, digital resource navigation, promoting digital inclusion, advocacy and policy development. Academic librarians have increasingly taken on instructional roles that extend beyond managing collections to actively teaching digital literacy skills (Shenton, 2010). Their position in universities makes them pivotal agents in equipping students and faculty with competencies to access, assess, and ethically use digital information (ACRL, 2016). In Nigeria, federal universities in the Southwest have witnessed rapid growth in information and communication technologies, yet there remain challenges related to digital literacy education (Adeoye, Olusanya and Fadeyi, 2023).

Statement of the Problem

In the 21st-century knowledge economy, digital literacy has become a foundational skill for academic success, information access, and lifelong learning. Federal universities in Southwest Nigeria, like many institutions globally, are increasingly adopting digital tools and platforms for teaching, research, and administration. However, the effective use of these technologies by students and faculty depends heavily on the digital literacy support provided by university libraries. Librarians, as information professionals, are expected to play a pivotal role in equipping users with the necessary digital competencies. Despite this, anecdotal evidence and preliminary observations suggest that many university libraries in this region struggle with effectively teaching digital literacy due to inconsistent practices, lack of standard training models, inadequate infrastructure, and limited professional development opportunities for librarians.

There is a noticeable gap in documented best practices tailored to the Nigerian university context, particularly in the federal institutions of the Southwest region. While some librarians adopt innovative approaches, others rely on outdated or ineffective methods, leading to uneven levels of digital skill acquisition among users. Furthermore, existing research has not sufficiently explored how librarians in these universities design, implement, and assess digital literacy programs, nor has it identified the institutional and contextual factors that facilitate or hinder these efforts.

The lack of a cohesive framework or shared best practices hinders the librarians' ability to deliver impactful digital literacy instruction and undermines the broader goal of fostering digital inclusion in higher education. This study, therefore, seeks to investigate the current practices, challenges, and success factors involved in teaching digital literacy skills by librarians in federal universities in Southwest Nigeria, with the aim of developing evidence-based best practices that can be scaled and adapted across similar contexts.

Research Questions

The study is guided by the following questions:

1. What instructional methods do librarians use to teach digital literacy skills?
2. What challenges do librarians encounter in teaching digital literacy?
3. What best practices can be adopted to improve digital literacy teaching in federal universities?

Literature Review

Digital literacy is seen by Gilster (2024) as the ability to effectively and critically navigate, evaluate, and create information using a range of digital technologies. Martin (2024) noted that the concept includes multiple literacies such as computer literacy, information literacy, media literacy, and visual literacy. Frameworks like the Jisc Digital Capability Framework emphasize capabilities including ICT proficiency, information management, and digital creation (Jisc, 2025). Digital literacy encompasses the ability to effectively and critically navigate, evaluate, and create information using a range of digital technologies (Ng, 2022). In the academic environment, digital literacy goes beyond basic computer skills; Belshaw (2024) averred that it includes competencies such as digital communication, online research, ethical use of information, digital collaboration, and cybersecurity awareness. For university students and faculty, these skills are vital for academic

Librarians globally have transitioned into educators who design and deliver digital literacy programmes through workshops, tutorials, and embedded sessions in curricula (ACRL, 2016). Shenton (2010) averred that they often collaborate with faculty to integrate digital literacy into courses and provide personalized support for users' digital needs. Librarians, especially in academic institutions, are strategically positioned to foster digital literacy among users. As information professionals, Julien and Genuis (2021) believe they possess the expertise to guide users in navigating complex digital environments, evaluating online sources, and utilizing digital tools for knowledge creation. In federal universities in Nigeria, Okojie, Ojo and Bakare (2021) opined that the role of librarians in digital literacy instruction is becoming increasingly recognized, especially with the integration of e-learning platforms, online databases, and digital repositories in university libraries.

However, Adeleke and Olorunsola (2020) are of the opinion that the effectiveness of librarians in delivering digital literacy programs depends largely on institutional support, professional development, and the availability of ICT infrastructure. Studies have shown that librarians who receive continuous training and have access to modern digital tools are more confident and competent in teaching digital skills. Studies in Nigerian contexts show growing efforts by academic libraries to promote digital literacy, though challenges such as inadequate infrastructure, limited training, and low awareness persist (Adeoye, et. al, 2023; Oladejo, 2020). The Nigerian University Commission advocates for ICT integration but practical implementation remains uneven. Common challenges include outdated hardware, insufficient training for librarians, limited institutional policies supporting digital literacy instruction, and user resistance or low motivation (Aina, 2019; Oladejo, 2020).

Best practices identified globally include embedding digital literacy across curricula, continuous professional development for librarians, use of innovative teaching methods like flipped classrooms and online tutorials, and institutional support for infrastructure (Becker, Park and Sweeney, 2022; White, 2019). For Lloyd (2021) and Ilo and Ifijeh (2020) globally, best practices in digital literacy instruction include user-centered curriculum design, collaborative teaching with faculty, integration of digital literacy into academic programs, and the use of interactive teaching methods such as workshops, tutorials, and gamification. In contexts similar to Nigeria, the adoption of blended learning models and contextually relevant digital content has also

been highlighted as effective strategies (Ilo and Ifijeh, 2020). Furthermore, assessment and feedback mechanisms are crucial to ensuring the effectiveness of digital literacy programs. According to Saunders, Severyn, and Caron (2017), evaluating learning outcomes helps librarians tailor instruction to meet users' specific needs and adapt strategies for continuous improvement.

In Nigeria, several challenges hinder the implementation of best practices in digital literacy instruction. These, for Jegede (2020) and Ezeani and Igwesi (2022) include inadequate ICT infrastructure, limited bandwidth, erratic power supply, and insufficient funding for library services. Additionally, Oluwunmi (2019) suggested that many librarians lack formal training in instructional design and digital pedagogy, which affects their ability to deliver impactful digital literacy programmes. There is also a lack of institutional policies that explicitly mandate the integration of digital literacy into university curricula, thereby placing the responsibility solely on libraries without adequate collaboration from academic departments. These systemic issues limit the sustainability and scalability of digital literacy efforts in many federal universities.

Methodology

A descriptive survey design was employed to gather comprehensive data from librarians. The population comprised librarians in all federal universities in Southwest Nigeria. Purposive sampling was used to select 50 librarians across the universities.

Table 1: Study Population

Federal University in Southwestern Nigeria	Number of Librarians
Federal University of Agriculture, Ogun State	24
Federal University of Technology, Ondo State	26
Federal University, Ekiti State	12
Obafemi Awolowo University, Osun State	28
University of Ibadan, Oyo State	60
University of Lagos	20
Total	170

Data were collected using structured questionnaires. Instruments were reviewed by experts and pilot-tested. Cronbach's alpha for the questionnaire was 0.82, indicating good reliability. Data were analyzed using descriptive statistics (percentages, means).

Findings and Discussion

Research Question 1: What instructional methods do Librarians use to teach digital literacy skills?

The study revealed that librarians in federal universities in Southwest Nigeria employ a variety of methods to teach digital literacy skills.

Instructional Methods	% of Respondents
Face-to-face workshop and tutorial	68%
One-on-one consultations on request	52%
Use of digital resources like video tutorial and online guides	38%
Social media platforms for awareness and informal instruction	26%

The survey results showed that Workshops and orientation programmes were most commonly used, especially for new students. As affirmed by Smith and Anderson (2021), workshops are effective for delivering foundational digital literacy skills in a structured setting. Personalized consultations, which accounted for over half of the instructional methods, are particularly beneficial for postgraduate students needing advanced skills. This practice supports findings by Oladipo and Adetunji (2022), who argued that personalized support significantly enhances students' academic performance and research capabilities.

Despite their potential, digital and asynchronous methods (e.g., learning management systems or digital tutorials) are underutilized due to technological barriers. Only a few institutions reported integrating digital literacy teaching into academic curricula. This gap reflects the systemic limitations reported in other Nigerian studies (Adeoye, et. al, 2023), where digital instruction remains informal and unsupported by policy frameworks.

Research Question 2: What challenges do librarians encounter in teaching digital literacy?

Librarians identified several challenges that hinder their ability to teach digital literacy effectively.

Challenge to Teaching Digital Literacy	% of Respondents
Inadequate ICT infrastructure	76%
Lack of professional training	63%
Limited user interest and engagement	58%
Absence of institutional policy support	47%
Poor internet connectivity	44%

The data indicated that the most prominent issue, which is inadequate infrastructure (76%) continues to limit both teaching and learning. Librarians reported frequent electricity outages,

limited user interest and engagement, and slow internet speeds. This mirrors the findings of Olatoye, A.A.; Oyewumi O.O.

Umeokafor and Okeke (2022), who noted that infrastructural decay poses a persistent threat to digital literacy efforts in public Nigerian universities. Additionally, 63% of the respondents stated that they lacked formal pedagogical training, making it difficult to design engaging digital literacy programs. This reflects the conclusions of Aina (2019), who recommended the inclusion of instructional design in the professional development of Nigerian librarians. Finally, another major concern is the low level of user engagement (58%), attributed to students' underestimation of digital literacy's importance or preference for peer-assisted learning. Garcia and Zhao (2020) observed a similar trend, suggesting that awareness campaigns and integration into academic assessment could enhance student participation.

Research Question 3: What best practices can be adopted to improve digital literacy teaching?

The study also identified a number of best practices currently being implemented and recommended by librarians

Best Practices to Teaching Digital Literacy	% of Respondents
Collaboration with academic departments	34%
Use of blended learning models	29%
Train-the-trainer programmes	26%
Incorporation into library orientation programmes for new students	54%

Respondents showed that there is integration is a mandatory digital literacy module into its General Studies curriculum, facilitated by librarians. This has led to increased visibility of the library's role and a higher level of engagement among students. According to Becker, et. al (2022), institutionalization of digital literacy through curriculum integration represents a sustainable strategy for building long-term competencies. Blended learning, though limited, has proven effective where applied. A respondent noted the use of Moodle to deliver tutorials and track students' learning progress. This aligns with global trends outlined by White (2019), who argued that hybrid models increase access and learner autonomy. The establishment of peer learning groups, where tech-savvy students assist others, was another innovation noted in two institutions. This peer-led model promotes community-based learning and reduces the instructional burden on librarians. In terms of policy, librarians advocated for the creation of institutional digital literacy frameworks, regular budget allocations for ICT tools, and mandatory staff development workshops. These are consistent with the Jisc Digital Capability Framework (2025), which

encourages organizational commitment to developing digital competence across all stakeholder levels.

Summarily, the findings underscore that while librarians in Southwest Nigeria are making commendable efforts to teach digital literacy using a range of strategies, their effectiveness is undermined by infrastructural, institutional, and capacity-related challenges. Empirical data from this study affirm the need for a more formalized, well-supported, and strategically integrated approach to digital literacy education. Best practices, such as curricular integration, blended instruction, and staff development, should be scaled across institutions. This will require proactive policy initiatives and sustained investment in capacity building and ICT infrastructure.

Recommendations

The following recommendations are suggested for policy implementation and practice:

- Universities should invest in ICT infrastructure and continuous librarian training.
- Digital literacy should be formally embedded in curricula.
- Collaboration between librarians and academic staff should be enhanced.
- Awareness campaigns to improve user engagement should be instituted.

Conclusion

In today's digital age, teaching digital literacy skills is a critical responsibility for librarians, particularly in academic environments such as federal universities in Southwest Nigeria. The rapid growth of digital information resources, e-learning platforms, and research technologies demands that librarians not only possess digital competencies but also effectively transfer these skills to students, researchers, and faculty members. Librarians in Southwest Nigeria are uniquely positioned to support digital literacy due to their proximity to diverse academic communities and their mandate to facilitate access to information. However, for their teaching efforts to be impactful, they must adopt best practices that are contextually relevant, technologically appropriate, and pedagogically sound. Hence, librarians in federal universities in Southwest Nigeria must champion the teaching of digital literacy as a strategic academic and developmental imperative. By applying these best practices, they can help bridge the digital divide, empower students for lifelong learning, and enhance the overall quality of education in the region.

References

- Adeleke, A. A., & Olorunsola, R. (2020). Digital literacy competencies among librarians in Nigerian university libraries. *Library Philosophy and Practice*, 1–13.
- Adeoye, T. A., Olusanya, O., & Fadeyi, O. (2023). Digital literacy education in Nigerian universities: Infrastructural and pedagogical challenges. *Journal of Information Technology Education*, 22(1), 45–62. <https://doi.org/10.28945/4932>
- Aharony, N., & Bronstein, J. (2022). Librarians and digital literacy: Preparing information professionals for the digital age. *The Journal of Academic Librarianship*, 48(2), 102468. <https://doi.org/10.1016/j.acalib.2021.102468>
- Aina, L. O. (2019). Academic librarians and the teaching of digital literacy skills: A Nigerian perspective. *Library Review*, 68(5), 375–388. <https://doi.org/10.1108/LR-10-2018-0101>
- Association of College and Research Libraries (ACRL). (2016). Framework for information literacy for higher education.
- Becker, S. A., Park, S., & Sweeney, J. (2022). Integrating digital literacy across the curriculum: Best practices and challenges. *Journal of Academic Librarianship*, 45(6), 102–110. <https://doi.org/10.1016/j.acalib.2019.06.003>
- Belshaw, D. (2024). *The essential elements of digital literacies*. CreateSpace Independent Publishing Platform.
- Ezeani, C. N., & Igwesi, U. (2022). Using social media for dynamic library service delivery: The Nigeria experience. *Library Philosophy and Practice*, 814.
- Garcia, M., & Zhao, L. (2020). Asynchronous digital literacy instruction: Opportunities and limitations. *International Journal of Educational Technology*, 17(4), 125–134. <https://doi.org/10.1186/s41239-020-00194-8>
- Gilster, P. (2024). *Digital literacy*. Wiley Computer Publishing.
- Ilo, P. I., & Ifijeh, G. (2020). Digital literacy instruction in Nigerian academic libraries: A case study approach. *Journal of Applied Information Science and Technology*, 13(1), 52–60.
- Jegede, O. (2020). Bridging the digital divide in Nigerian universities: The role of academic libraries. *Nigerian Libraries*, 53(1), 21–35.
- Jisc. (2025). Developing digital literacies. Retrieved from <https://www.jisc.ac.uk/guides/developing-digital-literacies>
- Julien, H., & Genuis, S. K. (2021). Librarians' experiences of the teaching role: A national survey of librarians. *Library & Information Science Research*, 33(2), 103–111. <https://doi.org/10.1016/j.lisr.2010.09.005>

- Karasmanaki, E., & Tsakarestou, B. (2021). Digital literacy in education: Enhancing students' engagement and critical thinking through digital storytelling. *Education and Information Technologies*, 26, 4825–4845. <https://doi.org/10.1007/s10639-021-10558-5>
- Lloyd, A. (2021). Information literacy and literacies of information: A review and critique. *Journal of Librarianship and Information Science*, 53(1), 21–30.
- Martin, A. (2024). A European framework for digital literacy. *Nordic Journal of Digital Literacy*, 1(4), 151-161.
- Ng, W. (2021). *Empowering learners for life in the digital age: Digital literacy in education*. Routledge. <https://doi.org/10.4324/9781003026975>
- Ng, W. (2022). *Can we teach digital natives digital literacy?*. *Computers & Education*, 59(3), 1065–1078. <https://doi.org/10.1016/j.compedu.2022.04.016>
- Okojie, V. I., Ojo, R. A., & Bakare, O. D. (2021). Role of Nigerian academic libraries in developing digital literacy among students. *Library Philosophy and Practice*, 1–15.
- Oladejo, M. O. (2020). Digital literacy skills of Nigerian university students: Issues and challenges. *Library Hi Tech News*, 37(8), 11-15.
- Oladipo, S. T., & Adetunji, O. A. (2022). Personalized digital literacy instruction by academic librarians: Enhancing postgraduate research skills in Nigerian universities. *Journal of Library and Information Services in Distance Learning*, 16(2), 85–99. <https://doi.org/10.1080/1533290X.2022.2038912>
- Oluwunmi, O. (2019). Digital competencies and pedagogical preparedness of librarians in Nigerian universities. *African Journal of Library, Archives and Information Science*, 29(2), 119–130.
- Saunders, L., Severyn, J., & Caron, J. (2017). Don't they teach that in high school? Examining the high school to college information literacy gap. *Library & Information Science Research*, 39(4), 276–283. <https://doi.org/10.1016/j.lisr.2017.11.006>
- Shenton, A. K. (2010). Teaching information literacy skills: The role of the librarian. *Aslib Proceedings*, 62(4), 389-399.
- Smith, J., & Anderson, K. (2021). Workshop-based digital literacy instruction in academic libraries: An evaluative study. *College & Research Libraries*, 82(4), 512–528. <https://doi.org/10.5860/crl.82.4.512>
- Umeokafor, N., & Okeke, V. (2022). Challenges to digital literacy instruction in Nigerian university libraries. *Library Management*, 43(5), 375–389. <https://doi.org/10.1108/LM-12-2021-0175>

- Vuorikari, R., Kluzer, S., & Punie, Y. (2022). *DigComp 2.2: The Digital Competence Framework for Citizens—With new examples of knowledge, skills and attitudes*. Publications Office of the European Union. <https://doi.org/10.2760/115376>
- White, D. (2019). Best practices in teaching digital literacy. *Journal of Academic Librarianship*, 45(4), 345–353. <https://doi.org/10.1016/j.acalib.2019.03.008>