

# ACADEMIC LIBRARIANS AS DIGITAL LITERACY EDUCATORS: CHALLENGES AND OPPORTUNITIES IN SOUTH EAST NIGERIAN UNIVERSITIES

**Anne Anthony Edem**

Senior Librarian/ Head, Bibliographic Unit. Federal University of Technology, Owerri.  
[anedemanne@gmail.com](mailto:anedemanne@gmail.com)

**Felix Mmanuoma Eke**

Deputy Librarian/ Coordinator, Innovative Library Services Unit.  
 Federal University of Technology, Owerri.  
[felixeke1966@gmail.com](mailto:felixeke1966@gmail.com)

**Emeka Ogueri**

Senior Librarian/ Head, Circulation Unit. Federal University of Technology, Owerri.  
[emyoge6@gmail.com](mailto:emyoge6@gmail.com)

**Maria Ogonna Ndu**

Librarian II/ Research, Training and Statistics. Federal University of Technology, Owerri.  
[nduogonna@gmail.com](mailto:nduogonna@gmail.com)

**Doris Chinyere Obiano (Ph.D)**

Librarian I/ Library Management Systems/ Research Clinic.  
 Federal University of Technology, Owerri.  
[obianodoris@gmail.com](mailto:obianodoris@gmail.com)

## **Abstract**

*The rapid digitization of higher education has positioned academic librarians as pivotal actors in developing students' digital literacy (DL) skills, which are essential for academic success, employability, and civic engagement. This study explores the role of academic librarians as digital literacy educators in universities located in South-East Nigeria, with a focus on the challenges they encounter and the opportunities available for advancing digital learning. Drawing on interviews, surveys, and document analysis, the research highlights challenges such as inadequate ICT infrastructure, limited professional training, lack of institutional policies supporting DL instruction, and resistance from faculty and students accustomed to traditional information literacy approaches. Conversely, opportunities emerge in the growing demand for digital competencies in academia and the workplace, national digital transformation policies, increased collaboration between librarians and faculty, and the potential use of emerging technologies—including e-learning platforms and AI tools—for teaching and assessment. The findings underscore the need for strategic investment in ICT facilities, capacity building for librarians, and integration of DL into university curricula. Ultimately, the study argues that academic librarians in South-East Nigerian universities are well-positioned to bridge the digital literacy gap if systemic challenges are addressed and opportunities are strategically harnessed.*

**Keywords:** Academic librarians, digital literacy, higher education, challenges, opportunities, South-East Nigeria, library instruction.



## Introduction

The integration of digital technologies into higher education has transformed how knowledge is created, accessed, and shared across the globe. In this digital era, the ability to locate, evaluate, synthesize, and ethically use information is no longer a peripheral skill but a core academic and employability requirement. Consequently, digital literacy (DL) has emerged as a critical competency for students, faculty, and researchers (Lau, 2019; González-Calatayud et al., 2025). Universities are under increasing pressure to embed DL into teaching, learning, and research processes, ensuring that graduates are adequately prepared for participation in knowledge-driven economies and digitally mediated societies (Ifijeh& Yusuf, 2022; Julien & Genuis, 2018).

Academic librarians, traditionally regarded as custodians of information resources and facilitators of information literacy, are now expected to expand their instructional roles to include DL education. The Association of College and Research Libraries (ACRL, 2015) reframed information literacy as a set of threshold concepts within the *Framework for Information Literacy for Higher Education*, which provides a foundation for DL integration. Similarly, UNESCO (2020, 2024) advocates for Media and Information Literacy (MIL), positioning librarians as essential stakeholders in equipping citizens with skills for digital participation, critical thinking, and lifelong learning. These frameworks underscore the strategic role of academic librarians as educators in the digital landscape (Mallon, 2019; Kim & Burel, 2024).

In the context of Nigeria, and specifically universities in the South-East region, the importance of DL has grown significantly due to the increased adoption of electronic resources, online databases, and digital learning platforms. The COVID-19 pandemic further accelerated this shift, as universities relied heavily on digital tools to sustain teaching, research, and collaboration (Okike, 2021; Nwafor&Nnadozie, 2020). Yet, persistent challenges—including inadequate ICT infrastructure, poor bandwidth, erratic electricity supply, lack of sustained professional development, and low institutional recognition of librarians' teaching roles—continue to impede effective DL instruction (Ezeani&Igwe, 2016; Onyenania& Achebe, 2023). These challenges reflect both infrastructural and pedagogical gaps that limit the full potential of librarians in fostering digital competencies among students.

At the same time, new opportunities are emerging. National and institutional digital transformation initiatives, growing reliance on open educational resources (OER), the rise of blended and e-learning modalities, and global conversations around artificial intelligence (AI) literacy present academic librarians with platforms to demonstrate their relevance as DL educators (Ifijeh& Yusuf, 2022; Gonzalez-Calatayud et al., 2025). Collaborative models, where librarians partner with faculty to co-design curricula, as well as community-focused DL programs, have also been identified as pathways for maximizing librarians' instructional impact (Hegarty et al., 2022; IFLA, 2024).

This study, therefore, investigates the challenges and opportunities academic librarians face as digital literacy educators in South-East Nigerian universities. It seeks to provide an evidence-based understanding of the contextual realities shaping DL instruction, the extent of librarians' involvement, and the strategies required to strengthen their role in developing digitally competent graduates. By focusing on both barriers and enabling factors, the study contributes to ongoing discourse on academic librarianship, digital inclusion, and higher education transformation in Nigeria and beyond.

## Research Objectives

The objectives of this study are to:

1. Examine the level of academic librarians' involvement in digital literacy education in selected South-East Nigerian universities.
2. Identify the challenges academic librarians face in delivering digital literacy education.
3. Explore the opportunities available to librarians for strengthening their role as digital literacy educators.
4. Assess the level of institutional support (infrastructure, funding, training, recognition) provided for digital literacy initiatives.
5. Determine librarians' perceptions of how digital literacy can be better integrated into teaching, learning, and research in Nigerian universities.

## Research Questions

The study seeks to answer the following questions:

1. What is the current level of involvement of academic librarians in digital literacy education in South-East Nigerian universities?
2. What are the major challenges confronting academic librarians in delivering digital literacy education?
3. What opportunities exist for librarians to strengthen their role in digital literacy education?
4. To what extent do institutions provide support (funding, infrastructure, training, recognition) for librarians' digital literacy initiatives?
5. How do academic librarians perceive the future integration of digital literacy into teaching, learning, and research in Nigerian universities?

## Theoretical Framework

This study adopts a hybrid theoretical framework that integrates UNESCO's Media and Information Literacy (MIL) Framework and Rogers' Diffusion of Innovations (DOI) Theory. This integration offers a comprehensive lens for examining the role of academic librarians as digital literacy educators, as well as the challenges and opportunities they encounter in South-East Nigerian universities.

The UNESCO MIL framework conceptualizes digital literacy as a composite of competencies that empower individuals to access, evaluate, create, and participate in digital and media environments (UNESCO, 2015; UNESCO, 2020; Grizzle & Calvo, 2021). It emphasizes ethical information use, critical thinking, digital safety, and inclusive participation in knowledge societies. Recent scholarship highlights that the MIL framework remains essential in guiding the integration of digital literacy into higher education curricula (Catts & Lau, 2019; Wilson et al., 2021). Within this study, the MIL framework defines the skills and competencies librarians are expected to impart to students and faculty, thereby framing the *opportunities* associated with their educator role.

Rogers' Diffusion of Innovations theory explains how new technologies, ideas, or



practices spread within social systems through sequential stages: knowledge, persuasion, decision, implementation, and confirmation (Rogers, 2003). In higher education, DOI has been widely applied to examine technology adoption, revealing the roles of innovators, early adopters, and laggards in shaping institutional change (Greenhalgh et al., 2017; Kundu, 2020). For academic librarians, DOI provides a lens to analyze the barriers and resistances faced in promoting digital literacy initiatives, including infrastructural limitations, lack of training, and institutional resistance (Aharony, 2017; Lwoga & Sangeda, 2019; Tella, 2022). This makes DOI particularly relevant in examining the *challenges* librarians face in South-East Nigerian universities.

### **The integration of MIL and DOI offers a dual perspective:**

- **MIL Framework** defines *what* digital literacy entails in terms of global competencies that should be embedded in academic practice.
- **DOI Theory** explains *how* these competencies are introduced, adopted, or resisted within university environments.

Together, the frameworks allow this study to address both the *pedagogical role* of librarians (through MIL) and the *institutional adoption dynamics* (through DOI).

The theoretical framework directly supports the objectives of this study. By combining these perspectives, the framework provides a robust basis for analyzing not only the *educational functions* of librarians but also the *structural and cultural conditions* that influence the success of digital literacy initiatives in Nigerian universities.

### **Literature Review**

Digital literacy is increasingly recognized as a critical competency for academic success and lifelong learning in the 21st century. It encompasses the ability to access, evaluate, create, and communicate information using digital technologies (Falloon, 2020). Universities worldwide are embedding digital literacy into curricula as part of graduate attributes (Pinto et al., 2019; Spante et al., 2018). In Nigeria, studies show a growing awareness of digital literacy's importance, but gaps remain in policy support, infrastructure, and training (Ezeani&Igvesi, 2020; Okwudishu & Chukwuma, 2022). Academic librarians have emerged as key stakeholders in bridging these gaps by supporting students and faculty in acquiring relevant digital competencies (Aharony, 2017; Iroaganachi & Izuagbe, 2021).

Traditionally, librarians have been information gatekeepers, but their roles are evolving to include digital pedagogy, online instruction, and integration of emerging technologies (Walton & Cleland, 2017; Tammamaro, 2020). In the Nigerian context, librarians are increasingly engaged in training programs such as information literacy seminars, orientation sessions, and faculty collaborations (Okike, 2018; Anunobi, 2020). Recent research highlights librarians as “change agents” capable of empowering students with critical thinking, ethical information use, and digital citizenship skills (Iroaganachi & Izuagbe, 2021; Issa et al., 2023). However, their capacity to function effectively in this role depends on institutional support, continuous training, and professional recognition (Adeleke & Quadri, 2022).

Despite the recognition of their evolving roles, academic librarians face numerous challenges in digital literacy education. Key barriers include inadequate infrastructure, inconsistent funding, lack of training opportunities, and resistance to innovation within

universities (Lwoga&Sangeda, 2019; Tella, 2022). In Sub-Saharan Africa, limited access to stable internet, outdated ICT facilities, and insufficient institutional policies exacerbate these challenges (Mtega et al., 2017; Onuoha&Chigbu, 2021). Furthermore, cultural attitudes toward librarianship often undermine their authority as educators, leaving librarians marginalized in curriculum development (Adeleke & Quadri, 2022). These barriers limit librarians' ability to systematically integrate digital literacy instruction across academic programs.

While challenges persist, significant opportunities exist for enhancing the role of academic librarians in digital literacy education. The proliferation of open educational resources (OERs), artificial intelligence (AI) tools, and e-learning platforms provides innovative avenues for librarians to design engaging digital literacy interventions (Grizzle & Calvo, 2021; Iwu-James & Okeke, 2022). In addition, global initiatives such as UNESCO's Media and Information Literacy (MIL) framework offer guidelines and international best practices for librarians to align their digital literacy programs (UNESCO, 2020; Wilson et al., 2021). Collaborative partnerships with faculty, professional associations, and international library bodies also create opportunities for capacity building and recognition of librarians as educators (Anunobi, 2020; Issa et al., 2023).

Although global scholarship has extensively examined the intersection of librarianship and digital literacy, empirical studies focusing specifically on academic librarians in South-East Nigerian universities remain scarce. Most existing works focus broadly on information literacy, ICT adoption, or e-library usage (Okike, 2018; Okwudishu & Chukwuma, 2022). There is limited evidence on how librarians practically implement digital literacy programs, the specific challenges they face, and the strategies required to harness emerging opportunities. This study therefore seeks to fill this gap by providing context-specific insights that can inform both policy and practice.

## Research Methodology

### Research Design

**Survey design** was employed with structured questionnaire to elucidate responses on (i) the extent of academic librarians' involvement in digital literacy (DL) education, (ii) challenges and opportunities, and (iii) strategies for enhancing librarians' role in DL.

### Study Area and Population

The population of study was put at 60, comprising 12 ICT compliant librarians from each of the selected **5 public universities** in South-East Nigeria:

- Abia State University, Uturu (**ABSU**)
- Ebonyi State University, Abakaliki (**EBSU**)
- Federal University of Technology, Owerri (**FUTO**)
- NnamdiAzikiwe University, Awka (**NAU**)
- University of Nigeria, Nsukka (**UNN**)

### Sample Size and Sampling Technique

Since the population was small (N=60), a census approach was employed. All 60 librarians were surveyed, ensuring comprehensive coverage and eliminating sampling bias.

The instrument was a structured questionnaire divided into five sections:

- Section A: Demographic information



- Section B: Extent of involvement in digital literacy education
- Section C: Challenges encountered
- Section D: Opportunities available
- Section E: Open-ended questions

Responses were measured using a 5-point Likert scale (Strongly Disagree to Strongly Agree, or No Challenge to Extreme Challenge, or Never to Very Often, depending on the section).

### Method of Data Collection

The questionnaire was distributed physically and electronically (via Google Forms/WhatsApp groups of librarians). Respondents were assured of confidentiality.

### Method of Data Analysis

Data was analyzed using:

- **Descriptive statistics** (mean, standard deviation, frequency, percentage) for demographic data, extent of involvement, challenges, and opportunities.
- Responses for open-ended questions

### Section B: Extent of Involvement in Digital Literacy Education

(Mean scores: 0 to 1=Never, 1 to 2=Rarely, 2 to 3=Sometimes, 3 to 4= Often, 4 to 5=Very Often)

| Activity                                  | ABSU | EBSU | FUTO | NAU | UNN | Overall Mean | Interpretation |
|-------------------------------------------|------|------|------|-----|-----|--------------|----------------|
| Teaching, access/retrieval of e-resources | 3.7  | 4.0  | 3.9  | 4.1 | 4.2 | 4.0          | Often          |
| Training on evaluating credibility        | 3.7  | 3.9  | 3.5  | 3.6 | 3.8 | 3.7          | Often          |
| Ethical use (plagiarism, citation)        | 3.5  | 3.8  | 3.6  | 3.9 | 4.0 | 3.8          | Often          |
| Organizing database workshops             | 3.1  | 3.3  | 3.2  | 3.4 | 3.5 | 3.3          | Often          |
| Curriculum integration                    | 2.7  | 2.6  | 2.8  | 3.0 | 2.9 | 2.8          | Sometimes      |
| Use of digital tools (Zotero, Turnitin)   | 3.3  | 3.4  | 3.6  | 3.5 | 3.7 | 3.5          | Often          |
| Faculty collaboration                     | 3.1  | 3.0  | 2.9  | 3.0 | 3.2 | 3.0          | Sometimes      |
| Student assessment in DL                  | 2.6  | 2.8  | 2.7  | 2.9 | 2.8 | 2.8          | Sometimes      |

### Section C: Challenges Encountered

(Mean Scores, 0 to 1 = No Challenge, 1 to 2= Minor Challenge, 2 to 3= Moderate Challenge, 3 to 4= Major Challenge, 4 to 5= Extreme Challenge)

| Challenge                               | ABSU | EBSU | FUTO | NAU | UNN | Overall Mean | Interpretation    |
|-----------------------------------------|------|------|------|-----|-----|--------------|-------------------|
| Inadequate ICT infrastructure           | 4.6  | 4.3  | 4.5  | 4.2 | 4.4 | 4.4          | Extreme Challenge |
| Limited digital skills among librarians | 3.8  | 3.6  | 3.7  | 3.5 | 3.6 | 3.6          | Major Challenge   |
| Heavy workload                          | 3.6  | 3.9  | 3.8  | 3.7 | 3.9 | 3.8          | Major Challenge   |
| Lack of recognition as educators        | 4.0  | 4.2  | 3.8  | 3.9 | 4.1 | 4.0          | Major Challenge   |
| Resistance from faculty                 | 3.4  | 3.2  | 3.5  | 3.2 | 3.3 | 3.3          | Major Challenge   |
| Low student participation               | 3.9  | 3.5  | 3.7  | 3.6 | 3.8 | 3.7          | Major Challenge   |
| Lack of CPD programs                    | 4.1  | 4.0  | 3.9  | 3.8 | 4.0 | 3.9          | Major Challenge   |
| Poor funding                            | 4.5  | 4.4  | 4.2  | 4.1 | 4.3 | 4.3          | Extreme Challenge |

### Section D: Opportunities Available

(Mean Scores, 0 to 1 = Strongly Disagree, 1 to 2= Disagree, 2 to 3= Neutral, 3 to 4= Agree, 4 to 5=Strongly Agree)

| Opportunity                                        | Overall Mean | Interpretation |
|----------------------------------------------------|--------------|----------------|
| Recognition of librarians as educators             | 4.0          | Agree          |
| Collaboration with faculty                         | 3.7          | Agree          |
| Use of online platforms (Moodle, Google Classroom) | 3.9          | Agree          |
| Open Educational Resources                         | 4.1          | Strongly Agree |
| Policy support                                     | 3.6          | Agree          |
| Emerging technologies (AI, Data literacy)          | 3.8          | Agree          |

### Section E: Response to Open-Ended Questions:

**Q1: What do you consider the biggest challenge to your role as a digital literacy educator?**

**In response to the open-ended Q1;**

**ABSU Librarians identified** poor funding for ICT tools and software as a recurring problem.

**EBSU Librarians pointed out** lack of recognition as educators, adding that their contributions are seen as optional rather than integral.

**FUTO Librarians pinpointed students'** lackluster attitude in attending training sessions



unless it is tied to their coursework or grades.

**NAU Librarians pointed at** lack of continuous professional development as a limiting factor to keep pace with emerging technologies.

**UNN Librarians identified** inadequate ICT infrastructure, especially unreliable internet connectivity as a major challenge that hinders training sessions.

## **Q2: What opportunities do you think exist for librarians to strengthen their role in digital literacy education?**

### **In response to Q2;**

**ABSU Librarians maintains that** Open Educational Resources (OERs) provide a pathway for librarians to take leadership in teaching access and evaluation skills.

**EBSU Librarians recommended** inter disciplinary collaborations to create room for librarians to co-teach alongside lecturers.

**FUTO Librarians opined that** the rise of AI and data literacy gives librarians a chance to expand their instructional role.

**Similarly, NAU Librarians** recommended that collaborating with academic staff in teaching research methods could open more opportunities for them **UNN Librarians recommended** integration of digital literacy into general studies courses to formalize their role as educators.

## **Conclusion**

The study concludes that academic librarians in South-East Nigeria possess the potential to play a transformative role in digital literacy education. However, realizing this potential requires deliberate investment in infrastructure, professional development, and policy reforms that formally embed librarians into the teaching and learning ecosystem of universities. By addressing the identified challenges and leveraging the emerging opportunities, university libraries can position themselves as central to fostering a digitally skilled and globally competitive academic community.

## **References**

- Adeleke, A. A., & Quadri, G. O. (2022). Institutional support and recognition of librarians as educators in Nigerian universities. *Nigerian Libraries*, 55(2), 77–94.
- Aharony, N. (2017). An exploratory study on factors affecting the adoption of digital literacy among academic staff. *Journal of Librarianship and Information Science*, 49(2), 135–144.
- Aharony, N. (2017). Library and information science students' perceptions of digital literacy. *Journal of Librarianship and Information Science*, 49(1), 3–19.
- Anunobi, C. V. (2020). Academic libraries in Nigeria and the digital literacy agenda. *Library Philosophy and Practice (e-journal)*, 4300.
- Association of College and Research Libraries. (2015). *Framework for information literacy for higher education*. Association of College and Research Libraries.

- Catts, R., & Lau, J. (2019). Towards information literacy indicators. *UNESCO*.
- Ezeani, C. N., & Igwesi, U. (2016). *Using social media for dynamic library service delivery: The Nigeria experience. Library Philosophy and Practice (e-journal)*, 1458.
- Ezeani, C. N., & Igwesi, U. (2020). Digital literacy and information literacy integration in Nigerian university libraries. *Library Philosophy and Practice (e-journal)*, 4201.
- Falloon, G. (2020). From digital literacy to digital competence: The teacher digital competency (TDC) framework. *Educational Technology Research and Development*, 68(5), 2449–2472.
- González-Calatayud, V., Romero-Corella, S. I., & Sanz, C. V. (2025). Digital literacy in higher education: Trends and challenges. *Journal of Academic Librarianship*, 51(2), 102–115.
- Greenhalgh, T., Wherton, J., Papoutsis, C., Lynch, J., & Hughes, G. (2017). Beyond adoption: A new framework for theorizing and evaluating non-adoption, abandonment, and challenges to the scale-up of health and care technologies. *Journal of Medical Internet Research*, 19(11), e367.
- Grizzle, A., & Calvo, M. (2021). Media and information literacy: Reinforcing human rights, countering disinformation. *UNESCO*.
- Grizzle, A., & Calvo, M. (2021). Media and Information Literacy (MIL) for sustainable development: Toward a new inclusive framework. *UNESCO Institute for Information Technologies in Education*.
- Hegarty, B., Kelly, O., & Cox, M. (2022). Collaborative approaches to digital literacy education in higher education. *Journal of Learning Development in Higher Education*, 23(2), 1–15.
- Ifijeh, G., & Yusuf, F. (2022). Academic libraries and digital literacy skills: Opportunities and challenges. *International Journal of Digital Library Services*, 12(1), 45–60.
- International Federation of Library Associations and Institutions (IFLA). (2024). *Global vision report: The future of libraries in a digital age*. IFLA.
- Iroaganachi, M. A., & Izuagbe, R. (2021). The role of academic libraries in promoting digital literacy among students. *Library Management*, 42(6/7), 409–421.
- Issa, A. O., Amusan, B., & Nwosu, M. C. (2023). Academic librarians as change agents in digital literacy education in Africa. *African Journal of Library, Archives and Information Science*, 33(1), 45–58.
- Iwu-James, J., & Okeke, C. I. O. (2022). Exploring librarians' adoption of artificial intelligence for digital literacy instruction in Nigerian universities. *International Information & Library Review*, 54(2), 123–137.
- Julien, H., & Genuis, S. K. (2018). Librarians' experiences of the teaching role: A national survey of librarians. *Library & Information Science Research*, 40(1), 10–17.
- Kim, J., & Burel, G. (2024). The evolving role of librarians in digital literacy instruction: A global perspective. *College & Research Libraries*, 85(1), 34–50.
- Kundu, A. (2020). Digital literacy: A review and implications for future research. *Education and Information Technologies*, 25(5), 4915–4935.
- Lau, J. (2019). *Guidelines on digital literacy for higher education*. UNESCO Institute for Information Technologies in Education.
- Lwoga, E. T., & Sangeda, R. Z. (2019). ICTs and development: A model for African academic



- libraries. *Information Development*, 35(3), 358–368.
- Lwoga, E. T., & Sangeda, R. Z. (2019). Challenges of managing information and communication technologies in academic institutions in Africa. *Library Hi Tech News*, 36(3), 9–16.
- Mallon, M. (2019). The role of academic librarians in fostering digital literacy. *portal: Libraries and the Academy*, 19(1), 1–14.
- Mtega, W. P., Ngoepe, M., & Dube, L. (2017). Information and communication technology access and use in Sub-Saharan Africa: Challenges and prospects. *African Journal of Library, Archives and Information Science*, 27(2), 175–188.
- Nwafor, C. E., & Nnadozie, C. O. (2020). ICT adoption and use in Nigerian university libraries during COVID-19 pandemic. *Library Philosophy and Practice (e-journal)*, 4203.
- Okike, B. I. (2021). Information technology and library services during COVID-19 in Nigeria. *Digital Library Perspectives*, 37(4), 349–362.
- Okike, B. I. (2018). Information literacy instruction in Nigerian university libraries: Challenges and opportunities. *Library Philosophy and Practice (e-journal)*, 1917.
- Okwudishu, C. O., & Chukwuma, J. N. (2022). Digital literacy skills of academic staff and students in Nigerian universities. *Library Philosophy and Practice (e-journal)*, 6401.
- Onuoha, U. D., & Chigbu, E. D. (2021). Academic librarians and the integration of ICT in Nigerian universities. *Journal of Librarianship and Information Science*, 53(4), 756–770.
- Onyenania, M. C., & Achebe, N. E. E. (2023). Librarians' instructional roles in Nigerian universities: Challenges and prospects. *Nigerian Libraries*, 56(2), 67–85.
- Pinto, M., Cordon-Garcia, J. A., & Diaz, R. G. (2019). University students' attitudes towards digital literacy: A cross-sectional study. *British Journal of Educational Technology*, 50(5), 2598–2618.
- Rogers, E. M. (2003). *Diffusion of Innovations* (5th ed.). Free Press.
- Spante, M., Hashemi, S. S., Lundin, M., & Algers, A. (2018). Digital competence and digital literacy in higher education research: A systematic review. *Computers & Education*, 127, 275–286.
- Tamaro, A. M. (2020). The evolving role of librarians in digital literacy instruction. *IFLA Journal*, 46(4), 331–339.
- Tella, A. (2022). Barriers to the adoption of digital literacy instruction by academic librarians in Nigeria. *Journal of Information Science Theory and Practice*, 10(3), 20–35.
- Tella, A. (2022). Digital literacy, digital skills, and digital competencies: Understanding the differences and their value for academic librarians. *Library Hi Tech*, 40(5), 1416–1434.
- UNESCO. (2015). *Global media and information literacy assessment framework*. Paris: UNESCO.
- UNESCO. (2020). *Media and information literacy: Policy and strategy guidelines*. Paris: UNESCO.
- UNESCO. (2024). *Global framework for media and information literacy*. UNESCO.

- Walton, G., & Cleland, J. (2017). Information literacy and the role of academic libraries. *Journal of Information Literacy*, 11(1), 75–95.
- Wilson, C., Grizzle, A., Tuazon, R., Akyempong, K., & Cheung, C. K. (2021). *Media and information literacy curriculum for teachers*. UNESCO.