ASSESSMENT OF DIGITAL LITERACY SKILLS POSSESSED BY ACADEMIC STAFF OF LIBRARY AND INFORMATION SCIENCE SCHOOLS IN FEDERAL UNIVERSITIES IN NIGERIA

By

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Abstract

This study assessed the digital literacy skills possessed by academic staff of Library and Information Science (LIS) schools in federal universities in Nigeria. The study adopted a descriptive survey design. Data were collected from the entire population of 344 academic staff across 27 LIS schools, out of which 298 valid responses were obtained, representing an 86.6% response rate. The findings revealed that the academic staff possessed high levels of digital literacy skills across key areas, including basic computer operations, information retrieval and evaluation, research and data management, communication and collaboration, digital content creation and online engagement, and online teaching and learning support. The study further revealed that academic staff primarily acquired their digital literacy skills through self-study (75.5%), workshops and seminars (65.1%), and workplace training (59.4%), while peer guidance and trial-and-error served as supplementary means of skills acquisition. The findings highlight both the strengths of the academic staff and the need for sustained institutional support and structured training programmes. The study concludes that academic staffs of LIS schools in federal universities in Nigeria possess a high level of digital literacy skills necessary for effective teaching, research, and professional engagement in the digital environment. The study recommends continuous capacity-building programmes and institutional support to further strengthen advanced digital competencies among academic staff.

Keywords: Assessment, digital literacy skills, academic staff, Library and Information Science schools, federal universities.

Introduction

The rapid advancement of Information and Communication Technologies (ICTs) has significantly transformed the landscape of higher education, reshaping the ways in which teaching, learning, and research are conducted. In the contemporary digital environment, academic staffs are required to possess a wide range of competencies beyond traditional scholarly skills. Central among these competencies is digital literacy, which involves The ability to effectively locate, evaluates, create, and communicate information using digital technologies.

Digital literacy is not limited to basic computer operations; rather, it encompasses critical thinking, the ethical use of information, and effective engagement with digital platforms for academic and professional purposes (Gilster, 1997; Eshet-Alkalai, 2004). In the context of higher education, academic staff plays a critical

role in knowledge creation, dissemination, and the development of future professionals.

For academic staff in Library and Information Science (LIS) schools, the expectation is even greater because they are responsible for educating and preparing future information professionals who are expected to function effectively within an increasingly digital information environment. Consequently, LIS academic staff are expected to demonstrate a high level of digital literacy to enable them to teach effectively, conduct quality research, and utilise digital information resources and technologies. Their level of competence in digital technologies has direct implications for teaching effectiveness, research productivity, professional practice, and the overall quality of graduates produced.

In Nigeria, federal universities have increasingly invested in digital infrastructure, including electronic databases, institutional repositories, and online learning platforms, to support teaching, learning, and research activities. However, the mere availability of digital resources does not necessarily guarantee their effective utilization. Evidence suggests that variations exist in the levels of digital literacy among academic staff, often influenced by factors such as access to training, institutional support, technological infrastructure, and individual motivation. In some cases, academic staff may possess basic digital skills but lack the advanced competencies required for efficient research, digital scholarship, data management, and online teaching (Ferrari, 2013; European Commission, 2018).

This situation presents a significant challenge, particularly for LIS schools, where academic staffs are expected to serve as role models in the acquisition and application of digital competencies. Inadequate digital literacy skills among academic staff may negatively affect the quality of instruction, limit the effective use of digital resources, and reduce research productivity. It may also hinder the capacity of universities to compete globally in terms of research output, innovation, and knowledge production.

Despite the growing importance of digital literacy in higher education, there appears to be limited comprehensive empirical evidence specifically assessing the digital literacy skills possessed by academic staff of Library and Information Science schools in federal universities in Nigeria. Without such empirical assessment, it may be difficult to identify existing strengths and areas requiring improvement, develop targeted capacity-building programmes, or formulate effective institutional policies.

This gap in knowledge therefore necessitates a systematic investigation into the digital literacy skills possessed by academic staff of LIS schools. Consequently, this study assessed the digital literacy skills possessed by academic staff of Library and Information Science schools in federal universities in Nigeria, with a view to providing evidence-based recommendations for improvement.

Research Objectives

The main objective of the study was to assess the digital literacy skills possessed by academic staff of Library and Information Science schools in federal universities in Nigeria.

The specific objectives were to:

1. determine the level of digital literacy skills possessed by academic staff of LIS schools in federal universities in Nigeria; and
2. Identify the methods through which academic staff acquires digital literacy skills.

Literature Review

Digital Literacy Skills of Academic Staff

Digital literacy skills refer to the competencies that enable individuals to engage effectively, critically, and intelligently with digital

technologies and online environments. Digital literacy has been described as the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills (Knobel & Lankshear, 2022). Digital literacy is therefore critical to contemporary teaching, learning, research, and professional engagement. In this regard, university academic staffs are expected to possess the competencies required to interact effectively and productively within the digital environment.

Osisanwo and Kanu (2022) examined technology literacy and research productivity among academic staff in selected private universities in Ogun State, Nigeria. Using a survey design, data were collected from 700 academic staff. The findings revealed that academic staff possessed a high level of digital literacy, which significantly enhanced their research productivity and academic output.

Similarly, David-West (2021) investigated digital literacy skills and the utilization of online platforms for teaching among Library and Information Science educators in universities in Rivers State, Nigeria. The study adopted a descriptive survey design. The findings showed that academic staff generally possessed high levels of digital literacy skills, particularly in the use of online teaching tools and digital communication platforms.

Osinulu (2022) investigated an evaluation of staff digital literacy skills in academic libraries in South-West Nigeria. The study adopted a descriptive survey design and used a Likert-scale questionnaire for data collection. The findings revealed that the staff demonstrated low levels of digital literacy.

Adeoye and Adeoye (2017) conducted a study on digital literacy and ICT usage in Nigerian university environments. The study revealed that both academic staff and students possessed basic to moderate levels of digital literacy, particularly in internet usage and communication technologies. However, the findings indicated that many academic staff lacked advanced digital competencies required for complex academic tasks such as database management, digital content development, and research analytics.

Arslan and Gül (2022) conducted a mixed-method study on digital literacy skills among university educators in a higher education setting. The findings revealed that academic staff generally possessed low levels of digital literacy skills, particularly in searching for academic materials, using digital libraries, and communicating through online platforms.

Similarly, Neubaum (2025) conducted a large-scale empirical study on digital skills development in higher education during periods of digital transformation. The findings revealed that individuals in academic environments generally demonstrated high levels of digital skills, particularly in communication and information access. However, disparities were observed in advanced digital competencies, with many participants lacking skills in data analytics and digital content creation.

Afolami, Yaya, Ogunleye, and Yusuf (2024) investigated digital literacy among academic library personnel in Ekiti State and found that staff possessed limited competencies in modern digital tools, relying heavily on traditional methods despite the availability of digital technologies. The study identified deficiencies in areas such as digital content creation, the use of advanced software tools, and online knowledge management.

Eze, Chinedu, and Bello (2018) conducted a study titled *ICT Competence among Academic Staff in Nigerian Universities*. Using a descriptive survey design, the study found that

lecturers possessed moderate ICT and digital literacy skills, with limitations in the use of advanced applications. Similarly, Olatoye (2011), in a study titled *ICT Competence and Utilisation among University Lecturers*, adopted a descriptive survey design and found that lecturers possessed basic ICT skills but demonstrated deficiencies in advanced competencies.

Based on the reviewed literature, it can be deduced that academic staff in universities generally possess moderate to high levels of digital literacy skills. However, there appears to be limited empirical evidence specifically focusing on the digital literacy skills possessed by academic staff of Library and Information Science schools in federal universities in Nigeria. This study therefore seeks to address this gap.

Methods of Acquiring Digital Literacy Skills

Previous studies have shown that academic staffs acquire digital literacy skills through various formal and informal methods. Okoye and Nwankwo (2022) categorised these methods into two broad categories: formal and informal methods. According to the authors, formal methods involve organized training provided by an institution, while informal methods involve the acquisition of skills through self-learning, guidance from friends or colleagues, and the use of ICT-related learning materials.

Kumar and Kaur (2006) similarly observed that digital literacy skills among academic staff could be acquired through pre-professional education and continuing education programmes. Such skills may be developed through short courses, workshops, specialized training programmes, and professional conferences. Through these platforms, academic staffs have opportunities to share ideas and experiences that may contribute to their technological development and the improvement of their digital competencies.

Osinulu (2022) reported that staff acquired digital literacy skills through seminars, workshops, and self-study. Similarly, Ajayi (2019) identified trial and error, institutional training, guidance from colleagues and friends, and the use of learning materials as some of the means through which digital literacy skills can be acquired. The author further suggested that such skills could be enhanced through the introduction of computerized and programmed instructional methods.

Ajetunmobi, Thomas, and Ige (2021) investigated digital literacy and skills among education lecturers in public universities in Lagos State. The study adopted a descriptive survey research design. The population comprised 223 lecturers from the Faculties of Education at the University of Lagos and Lagos State University. The entire population was used for the study, comprising 159 lecturers from the University of Lagos and 64 lecturers from Lagos State University. The findings revealed that the organization of non-formal training programmes on digital skills, as well as collaboration and teamwork among lecturers, were important methods through which lecturers acquired digital literacy skills.

Emiri (2015) examined contemporary digital literacy skills among academic librarians in university libraries in Edo and Delta States, Southern Nigeria. The study adopted a descriptive survey design and collected data through a questionnaire. The data were analysed using frequency counts, percentages, and SPSS. The findings revealed that librarians acquired digital literacy skills through colleagues' assistance, trial and error, IT programmes, self-sponsorship, and personal efforts.

Similarly, Clement, Ndidi, Ifeanyi, and Emmanuel (2020) assessed digital literacy skills in private universities in Anambra State. The

study adopted a descriptive survey design. The findings revealed that self-sponsorship and personal effort were among the major methods through which respondents acquired digital literacy skills.

From the reviewed literature, it can be observed that academic staffs acquire digital literacy skills through various formal and informal approaches. However, most of the available studies have focused on academic staff and library personnel in general, with limited attention specifically directed towards academic staff of Library and Information Science schools in federal universities in Nigeria. This study therefore seeks to investigate the methods through which academic staffs of LIS schools acquire digital literacy skills.

Methodology

The study adopted a descriptive survey research design. The design was considered appropriate because it enabled the researchers to collect data from a relatively large population and describe the existing level of digital literacy skills among the respondents.

The population of the study consisted of 344 academic staff drawn from 27 Library and Information Science schools in federal universities in Nigeria. A total enumeration technique was employed because the population was considered manageable.

An online questionnaire was used as the instrument for data collection. The data collected were analysed using descriptive statistics, including frequency counts, percentages, mean scores, and standard deviations, to answer the research questions.

Data Analysis, Presentation and Discussion of Findings

This section presents the findings of the study based on the analysis of the data collected from the respondents.

Response Rate

The response rate obtained from the administration of the questionnaire is presented in Table 1.

Table 1: Response Rate

S/N	Response Rate	Frequency	Percentage
1	Number of questionnaires administered	344	100%
2	Questionnaires returned	298	86.6%
3	Questionnaires not returned	46	13.4%

Source: Fieldwork (2025)

Table 1 presents the response rate of the respondents. Out of the 344 questionnaires administered to academic staff of LIS schools in federal universities in Nigeria, 298 were properly completed and returned, representing a response rate of 86.6%. However, 46 questionnaires, representing 13.4%, were not returned.

Level of Digital Literacy Skills Possessed by Academic Staff

A. Basic Computer Skills

S/N	Items	VH/H	MS	VL/L	Mean	SD
1	Ability to connect to and maintain internet access	273 (91.6%)	23 (7.7%)	2 (0.7%)	4.46	0.667
2	Proficiency in using word-processing software	255 (85.6%)	38 (12.8%)	5 (1.7%)	4.28	0.748
3	Proficiency in using spreadsheet software, such as Microsoft Excel	199 (66.8%)	83 (27.7%)	16 (5.4%)	3.80	0.880
4	Ability to troubleshoot common software or hardware problems	182 (61.1%)	93 (31.2%)	23 (7.7%)	3.75	0.943
5	Ability to store and copy data using storage devices	255 (85.6%)	38 (12.8%)	5 (1.7%)	4.36	0.793
6	Ability to create presentations using Microsoft PowerPoint	251 (84.3%)	34 (11.4%)	13 (4.4%)	4.23	0.842
	Weighted Average				**4.14**	**0.81**

B. Information Retrieval and Evaluation Skills

S/N	Items	VH/H	MS	VL/L	Mean	SD
7	Ability to use advanced search strategies for information retrieval, such as Boolean operators and filters	236 (79.2%)	54 (18.1%)	8 (2.7%)	4.20	0.852
8	Ability to identify credible internet resources	242 (81.2%)	42 (14.1%)	14 (4.7%)	4.15	0.858
9	Ability to conduct literature searches using digital tools	245 (82.2%)	40 (13.4%)	13 (4.3%)	4.21	0.884
10	Proficiency in retrieving documents from online databases, such as ProQuest and JSTOR	238 (79.9%)	49 (16.4%)	11 (3.7%)	4.14	0.847
11	Familiarity with online institutional repositories and open-access resources	229 (76.9%)	52 (17.4%)	17 (5.7%)	4.03	0.873
	Weighted Average				**4.14**	**0.86**

C. Research and Data Management Skills

S/N	Items	VH/H	MS	VL/L	Mean	SD
12	Skills in using reference management tools, such as Mendeley and Zotero	173 (58.0%)	87 (29.2%)	38 (12.8%)	3.65	0.962
13	Proficiency in using plagiarism detection tools, such as Turnitin	174 (58.3%)	87 (29.2%)	35 (11.7%)	3.64	1.02
14	Ability to use statistical analysis tools, such as SPSS and R	156 (52.3%)	97 (32.6%)	43 (14.4%)	3.48	1.01
15	Ability to use qualitative data analysis tools, such as NVivo and ATLAS.ti	119 (40.0%)	111 (37.2%)	64 (21.4%)	3.25	1.09
16	Awareness of copyright and the ethical use of research materials	205 (68.8%)	73 (24.5%)	20 (6.7%)	3.91	0.949
17	Understanding of data privacy and responsible data handling	196 (65.8%)	78 (26.2%)	24 (8.1%)	3.84	0.967
	Weighted Average				**3.62**	**0.99**

D. Communication and Collaboration Tools

S/N	Items	VH/H	MS	VL/L	Mean	SD
18	Skills in email communication	270 (90.6%)	26 (8.7%)	2 (0.7%)	4.47	0.711
19	Proficiency in using cloud-based platforms, such as Google Drive and Dropbox	209 (70.1%)	78 (26.2%)	11 (3.7%)	4.00	0.891
20	Ability to participate in or host webinars and virtual meetings	205 (68.8%)	79 (26.5%)	14 (4.7%)	3.95	0.908
21	Proficiency in using academic collaboration platforms, such as ResearchGate	214 (71.8%)	56 (18.8%)	28 (9.4%)	3.98	0.963
	Weighted Average				**4.10**	**0.86**

E. Digital Content Creation and Online Engagement

S/N	Items	VH/H	MS	VL/L	Mean	SD
22	Ability to create and share digital content, such as blogs and infographics	192 (64.4%)	75 (25.3%)	31 (10.4%)	3.83	0.989
23	Proficiency in using content management systems, such as Moodle, WordPress, and DSpace	166 (55.7%)	80 (26.8%)	52 (17.5%)	3.59	1.13
24	Skills in uploading content to institutional repositories	166 (55.7%)	78 (26.2%)	54 (18.1%)	3.60	1.19
					3.67	**1.10**
	Weighted Average					

F. Online Teaching and Learning Support Skills

S/N	Items	VH/H	MS	VL/L	Mean	SD
25	Skills in using learning platforms, such as Moodle and Google Classroom	189 (63.4%)	80 (26.8%)	29 (9.8%)	3.84	0.995
26	Ability to create and deliver online learning materials	196 (65.7%)	76 (25.5%)	26 (8.7%)	3.87	0.986
27	Familiarity with tools for student engagement and feedback in online learning environments	167 (56.1%)	98 (32.9%)	33 (11.1%)	3.67	0.976
	Weighted Average				**3.79**	**0.98**

Source: Fieldwork (2025)

Key: VH/H = Very High Skills/High Skills; MS = Moderate Skills; VL/L = Very Low Skills/Low Skills; M = Mean; SD = Standard Deviation.

Table 2 presents the level of digital literacy skills possessed by academic staff of Library and Information Science schools in federal universities in Nigeria. The findings indicate that the respondents generally possessed high levels of digital literacy skills across the six

Dimensions assessed. The weighted mean scores ranged from 3.62 to 4.14, indicating relatively high levels of competence across the various dimensions.

The highest levels of competence were recorded in basic computer skills and information retrieval and evaluation skills, both with a weighted mean of 4.14. Communication and collaboration tools also recorded a high weighted mean of 4.10. The findings further indicate relatively high levels of competence in online teaching and learning support skills (3.79), digital content creation and online engagement (3.67), and research and data management skills (3.62).

Although all the dimensions recorded mean scores above the moderate level, the relatively lower scores in research and data management and digital content creation suggest areas where further capacity development may be beneficial. Overall, the findings indicate that academic staff of LIS schools possess substantial digital

competencies and are able to utilize digital technologies for teaching, research, communication, collaboration, and other academic activities.

Methods of Acquiring Digital Literacy Skills

Table 3: Methods of Acquiring Digital Literacy Skills

S/N	Methods	Frequency	Percentage
1	Trial-and-error method	155	52.0%
2	Guidance from friends and colleagues	164	55.0%
3	Self-study	225	75.5%
4	Workplace training	177	59.4%
5	Attending IT programmes	148	49.7%
6	Attending workshops and seminars	194	65.1%

Source: Fieldwork (2025)

Table 3 presents the methods through which the respondents acquired digital literacy skills. The findings reveal that self-study was the most commonly reported method, with 225 respondents (75.5%). This was followed by attending workshops and seminars, reported by 194 respondents (65.1%), and workplace training, reported by 177 respondents (59.4%).

In addition, 164 respondents (55.0%) indicated that they acquired digital literacy skills through guidance from friends and colleagues, while 155 respondents (52.0%) reported learning through trial and error. Attending IT programmes was the least reported method, although it was still identified by 148 respondents (49.7%).

The findings suggest that academic staff acquire digital literacy skills through a combination of formal and informal learning approaches. However, the prominence of self-study and peer learning indicates a considerable reliance on individual initiative and informal methods of professional development. This underscores the need for institutions to provide more structured and continuous opportunities for digital skills development.

Discussion of Findings

The study assessed the digital literacy skills possessed by academic staff of Library and Information Science schools in federal universities in Nigeria and examined the methods through which they acquired these skills.

With regard to the level of digital literacy skills, the findings revealed that academic staff generally possessed high levels of digital literacy across the various dimensions assessed. The respondents demonstrated particularly high levels of competence in basic computer skills, information retrieval and evaluation, and communication and collaboration tools. They also demonstrated relatively high levels of competence in research and data management, digital content creation, and online teaching and learning support.

The findings are consistent with those of Osisanwo and Kanu (2022), who reported that academic staff possessed a high level of digital literacy that significantly enhanced their research productivity and academic output. The findings also agree with David-West (2021), who found that academic staff generally possessed high levels of digital literacy skills, particularly in the use of online teaching tools and digital communication platforms.

Regarding the methods of acquiring digital literacy skills, the findings revealed that self-study was the most common method, followed by attending workshops and seminars and receiving training in the workplace. The findings also showed that guidance from friends and colleagues, as well as trial and error, contributed to the acquisition of digital literacy skills.

These findings support those of Okoye and Nwankwo (2022), who identified both formal and informal approaches to digital skills acquisition. The findings are also consistent with Osinulu (2022), who reported that staff acquired digital literacy skills through seminars, workshops, and self-study. The prominence of self-study in the present study further suggests that academic staff demonstrate considerable personal initiative in developing their digital competencies.

Conclusion

Based on the findings of the study, it can be concluded that academic staff of Library and Information Science schools in federal universities in Nigeria possess a generally high level of digital literacy skills across the major dimensions assessed. These dimensions include basic computer skills, information retrieval and evaluation, research and data management, communication and collaboration, digital content creation and online engagement, and online teaching and learning support.

The findings further revealed that academic staff acquires digital literacy skills primarily through self-study, workshops and seminars, and workplace training. Guidance from friends and colleagues, as well as trial and error, also serves as important supplementary means of acquiring digital competencies.

Overall, the study concludes that academic staffs of LIS schools in federal universities in Nigeria possess substantial digital competencies that can support effective teaching, research, communication, collaboration, and engagement within the digital information environment. Nevertheless, the relatively lower levels of competence in some advanced areas, particularly research and data management and digital content creation, indicate the need for continuous professional development and institutional support.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. University management should sustain and strengthen the digital literacy skills of academic staff by organizing regular capacity-building programmes, workshops, seminars, and refresher training on emerging digital technologies, research software, data management tools, digital content creation, and online teaching technologies.
2. Universities should provide regular, structured, and practical digital skills training programmes tailored to the specific needs of academic staff in order to reduce excessive reliance on self-study and informal methods of skills acquisition.
3. Special attention should be given to advanced areas of digital competence, particularly statistical and qualitative data analysis, research data management, digital content creation, content management systems, and other emerging technologies relevant to teaching, research, and professional practice in Library and Information Science.

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