

Interplay of Digital Literacy Skills and Utilization of Electronic Resources among Postgraduate Students of National Open University of Nigeria in North-Western States, Nigeria

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Abstract

This study investigates the relationship between digital literacy skills and utilization of electronic resources among postgraduate students at the National Open University of Nigeria's North-Western Study Centres. The study employed a survey research design. The population of the study comprised 753 postgraduate's postgraduate students of National Open University of Nigeria in North-Western States study centres. The sample size of the study is 261 postgraduate's postgraduate students of National Open University of Nigeria in North-Western States study centres. The data was analysed using descriptive and inferential statistics. The findings reveal a high level of digital literacy among students. The study also found a relatively low extent of electronic resource utilization. The further found that significant challenges such as internet costs, power supply issues, and digital literacy gaps. A significant positive correlation was found between digital literacy and resource utilization, suggesting the need for targeted interventions to enhance electronic resource usage. The study concludes with recommendations for students and university management to leverage digital skills to improve electronic resource utilization and address existing barriers.

Keywords: Digital literacy skills, Library, utilization of electronic resources, Postgraduate students

Introduction

In an era dominated by the rapid evolution of digital technologies, the intersection of digital literacy skills and the utilization of electronic resources has become a pivotal aspect of academic success. This holds particularly true for postgraduate students navigating the academic landscape of the National Open University of Nigeria in the North-Western states. As technology continues to reshape the educational paradigm, it is imperative to investigate the dynamic interplay between students' digital literacy competencies and their engagement with electronic resources.

Over the years the National Open University of Nigeria has in the forefront fostering open and distance learning, relying heavily on digital platforms and electronic resources to deliver education. According to Alquda (2021), the emergence of the internet and other electronic sources of information has led to a shift from traditional methods of searching, retrieving, sharing and disseminating of information are now digitally managed. The interplay between digital literacy skills and the utilization of electronic resources among postgraduate students of National Open University of Nigeria (NOUN) in North-Western States requires a certain amount of digital literacy, which involves using the internet for shopping or streaming, creating skills, knowing how to transfer ideas to the internet and knowing how to utilize information resources. Digital platforms refer to the internet and all the devices that allow a person to access the internet. Yo (2021) described digital literacy skills as a term often used interchangeably with digital fluency and digital

competencies. Therefore, digital literacy is the ability to understand and use information in multiple formats from wide range. Rapheal & Ebere (2021) added that digital literacy could simply be described as information literacy in the digital age and the ability to access, use and evaluate information from a variety of electronic resources.

In the fast-growing knowledge society, information literacy skills have become one of the most important skills. This is because students with research information needs will most likely use electronic resources in order to get required information through internet, this includes frequency, strategies, browsing, exploring and searching trends to find out desired information. Electronic resources are increasingly important to libraries which enable the library to save space and time of the users. According to Ugonnna (2022) the emergence of electronic resources has cut the barrier to valuable information resources which have been difficult to access by students in developing world. The importance of electronic resources cannot be overemphasized towards achieving the university's goals and objectives

Electronic resources are wide range of digital materials and tools that facilitate learning, research and academic activities. These include online databases, e-books, academic journals, multimedia content, virtual libraries and educational software. This study will explore the interplay of digital literacy skills and utilization of electronic among postgraduate students of National Open University of Nigeria in North-Western states, Nigeria.

Problem Statement

The National Open University of Nigeria in North-Western States faces the challenges of ensuring that postgraduate students possess adequate digital literacy skills and effective utilization of electronic resources in their academic pursuits. With the institutions commitments to open and distance learning, there is a pressing need to understand the current state of digital literacy among postgraduate students and how it influences their utilization of electronic resources. The unique challenges and opportunities in the North-Western States may impacts the student's ability to develop digital literacy skills and harness electronic resources effectively. This study aims to address the concerns and contribute to the enhancements of the educational experience for postgraduate students of National Open University of Nigeria in North-Western States, Nigeria.

Research Questions

This study will be guided by the following research questions:

1. What is the level of Digital literacy skills among postgraduate students of National Open University of Nigeria in North-Western States?
2. What is the extent of electronic resources utilization by postgraduate students of National Open University of Nigeria in North-Western States
3. What are the types of electronic resources provided by National Open University of Nigeria for postgraduate student in North-Western States?
4. What are the challenges hindering utilization of electronic resources of National Oen University of Nigeria in North- Western states?

Objective of the Study

The main objective of the study is to investigate the relationship between digital literacy skills and electronic resources utilization by postgraduate students of National Open University of Nigeria in North-Western States. The specific objectives of the study are as follows:

1. To assess the level of digital literacy skills of postgraduate students of National Open University of Nigeria in North-Western States.
2. To ascertain the extent of electronic resources utilization by postgraduate students of National Open University of Nigeria in North-Western States.
3. To investigate the relationship between of digital literacy skills and effective utilization of electronic resources by postgraduate students of National Open University of Nigeria in North-Western States.
4. To identify the types of electronic resources provided by National Open University of Nigeria in North-Western States.
5. To find out the Challenges associated with digital literacy skills and utilization of electronic resources in North-Western States.

Hypothesis

Hypothesis of this study was tested at 0.05 level of significance:

H₀: There is no significant relationship between digital literacy skills of postgraduate students and their use of electronic resources

Literature Review

The interplay of digital literacy skills and the utilization of electronic resources among postgraduate students has been a subject of scholarly inquiry. In a case study on Cameroonian universities, Bawack, Tiamiyu, and Adebajo (2019) delve into the digital literacy levels of postgraduate students, shedding light on the nuances of their competence. A study by Ugwulebo and Okuonghae (2021) found that postgraduate students from the University of Uyo, University of Calabar, and University of Port Harcourt exhibited high level of digital literacy skills. The study highlighted a significant relationship between students' knowledge of electronic resources and their ability to utilize these resources effectively for academic purposes. Similarly, Adegboro (2023) explored the digital literacy skills of postgraduate students in Ibadan, focusing on the use of learning management systems (LMS). The study revealed that digital literacy skills and system quality are strong predictors of effective LMS usage among students.

Recent studies from Nigerian on the extent of electronic resources utilization among postgraduate students, revealing both trends and challenges. For instance, Ogunsola and Aina (2016) explored usage patterns across selected Nigerian universities, highlighting a significant reliance on electronic resources for academic research. They found that utilization of electronic resources among postgraduate students was low. In the same vein Oyewusi and Owolabi (2020) provided insights specific to private universities, emphasizing the variations in electronic resource access and usage patterns among postgraduate students at Covenant University. The finding of their study revealed that the extent of electronic resources utilization of postgraduate students was moderate.. Meanwhile, Aina and Oduwole (2017) focused on the discipline-specific usage among Library and Information Science students, demonstrating nuanced preferences and needs within academic fields.

Adomi and Kpangban (2019) conducted a study at Delta State University, revealing that e-journals and electronic databases such as JSTOR and ScienceDirect are the most frequently accessed resources by postgraduate students for their research needs. Similarly, Oduwole (2020) at the University of Ibadan found that institutional repositories and digital libraries are heavily utilized, especially for accessing theses, dissertations, and other academic publications that are not readily available in print format. Ezeani (2021) also explored the usage patterns of e-books among

postgraduate students at the University of Nigeria, Nsukka. The study revealed a high preference for e-books, with many students citing the convenience of accessing multiple books on a single device and the ability to search text quickly as significant advantages.

A study by Adeyemi and Oyewusi (2020) identified inadequate access to reliable internet connectivity and erratic power supply as significant barriers affecting students' ability to effectively use electronic resources. These infrastructural challenges were found to hamper access to online databases and hinder timely completion of research tasks (Adeyemi & Oyewusi, 2020). Similarly, Oduwole and Owolabi (2021) highlighted issues such as limited computer literacy skills among postgraduate students, which exacerbate the difficulties in navigating and utilizing electronic resources effectively. Their findings underscored the need for enhanced digital skills training tailored to the academic context to improve resource utilization (Oduwole & Owolabi, 2021).

Furthermore, research by Balogun, Adeola, and Oyewole (2019) indicated that inadequate funding for library infrastructure and subscriptions to electronic resources poses a significant challenge. This financial constraint limits the availability and accessibility of up-to-date electronic materials crucial for postgraduate research (Balogun et al., 2019). Moreover, Ajayi and Bolarinwa (2022) explored the role of institutional support and found that insufficient technical support and inadequate provision of computer terminals hindered students' access to and use of electronic resources effectively.

Methodology

The study employed a survey research design. The population of the study comprised 753 postgraduate's postgraduate students of National Open University of Nigeria in North-Western States study centres. The sample size of the study is 261 postgraduate's postgraduate students of National Open University of Nigeria in North-Western States study centres. Taro Yamane sampling formular was used to determine the sample size. The instrument that was used for data collection is a self-structured questionnaire. The data collected for this study was analysed using descriptive statistics such as frequency distribution, simple percentage scores, standard deviation and mean to analyse the research questions with the aid of a statistical software (SPSS) version 23.

Data Analysis

This section presents the data analysis of the study thus:

Research Question One: What is the level of Digital literacy skills among postgraduate students of National Open University of Nigeria in North-Western States?

Table 1: Level of Digital Literacy

SN	Item	VH	H	L	VL	Mean	SD
1	How confident are you in using basic computer hardware (e.g., keyboard, mouse, monitor)	155 (59.5)	36 (13.8)	70 (26.7)	0	3.59	.51
2	How proficient are you in using common software applications such as word processors and spreadsheets?	156 (59.3)	101 (38.8)	4 (1.9)	0	3.59	.51

3	How comfortable are you with navigating the internet and using web browsers effectively	126 (48.1)	101 (38.8)	34 (13.2)	0	3.57	.53
4	How skilled are you in conducting online research and evaluating the credibility of online sources	157 (60.1)	101 (38.8)	3 (1.2)	0	3.35	.70
5	How confident are you in managing and organizing digital files and folders on your computer or device	126 (48.1)	101 (38.8)	34 (13.2)	0	3.35	.70
6	How knowledgeable are you about internet safety and privacy concerns (e.g., avoiding phishing scams, protecting personal information)	123 (47.3)	67 (25.8)	70 (26.9)	0	3.33	.87
7	How proficient are you in using email for communication and managing your inbox efficiently	94 (36)	164 (62.8)	3(1.2)	0	3.33	.55
8	How comfortable are you with using social media platforms for networking, communication, or professional purposes	157 (60.1)	101 (38.8)	3(1.2)	0	3.23	.66
9	How skilled are you in using digital tools for collaborative work or group projects	94 (36)	160 (61.8)	3(1.2)	3(1)	2.98	.14
10	How adept are you at troubleshooting common technical issues with devices or software	95 (36.4)	62 (23.6)	71 (27.2)	33 (12.8)	2.84	.06
11	How familiar are you with basic coding concepts or programming languages	33 (12.6)	223 (85.5)	5(1.9)	0	3.24	.45
12	How confident are you in adapting to new digital technologies or software applications	2(0.8)	254 (97.3)	5(1.9)	0	3.11	.37
13	How proficient are you in using digital tools for multimedia creation (e.g., photo editing, video editing)	66 (25.4)	192 (73.4)	3(1.2)	0	2.99	.86
14	How knowledgeable are you about digital citizenship and responsible online behaviour	62 (23.8)	135 (51.6)	33 (12.6)	31(12)	2.87	.91

15	How comfortable are you with using cloud-based services for storage, collaboration, or backup purposes	95 (36.4)	62 (23.6)	71(27.2)	33 (12.8)	2.84	1.06
16	How skilled are you in using digital platforms for online learning or professional development	33 (12.6)	163 (62.4)	31 (12)	34(13)	2.76	.81
17	How confident are you in adapting to changes in digital interfaces or user experiences	62 (23.6)	135 (51.6)	33 (12.8)	31(12)	2.75	.84
18	How proficient are you in protecting your devices from malware, viruses, or other cybersecurity threats	134 (51.2)	127 (48.8)	0	0	3.49	.50
19	How comfortable are you with using digital tools for financial management or online transactions	128 (49)	103 (39.3)	30(11.6)	0	3.37	.68
20	How knowledgeable are you about digital rights, copyright laws, and intellectual property issues	128 (49)	101 (38.6)	32(12.4)	0	3.37	.69
	Average Mean					3.02	

Decision rule: 1.5-2.0=Very low, 2.1-2.49, Low, 2.5-3.49= High, 3.5-4.0=Very high

The data 1 table present respondents' varying levels of confidence across different digital literacies with an average mean of (3.02). Highest confidence was reported in basic computer hardware use (M = 3.59, SD = .51) and common software applications like word processors and spreadsheets (VH, M = 3.59, SD = .51). Navigating the internet and using web browsers also showed significant confidence levels (VH, M = 3.57, SD = .53). Respondents demonstrated proficiency in online research and source credibility evaluation (VH, M = 3.35, SD = .70), whereas managing digital files and internet safety showed moderate confidence. Conversely, respondents were less confident in adapting to new digital technologies (M = 3.11, SD = .37) and troubleshooting technical issues (M = 2.84, SD = .06). Multimedia creation, digital citizenship, and basic coding concepts were areas of lower proficiency, highlighting a need for further training and development to enhance overall digital literacy and adaptability.

Research Question Two: What is the extent of electronic resources utilization by postgraduate students of National Open University of Nigeria in North-Western States

Table 2: Extent of electronic resources utilization

SN	Item	VHE	HE	LE	VL E	Mean	SD
1	I use electronic databases for research purposes to a	31 (11.8)	167 (64)	0	63 (24.2)	2.88	.81
2	I used online journals or articles for academic or professional purposes to a?	46 (17.6)	152 (58.4)	31 (12)	31 (12)	2.85	.81
3	I often use e-books or online textbooks for studying to a?	30 (11.6)	167 (64)	31 (12)	32 (12.4)	2.76	.81
4	I rely on online tutorials or educational videos for learning to a?	35 (13.4)	102 (39.3)	92 (35.3)	31 (12)	2.54	.87
5	I usually engage with online forums or discussion groups related to your field of interest to a?	43 (16.3)	102 (39.3)	85 (32.4)	31 (12)	2.54	.87
6	I use electronic resources to conduct surveys or collecting data to a?	35 (13.4)	100 (38.4)	94 (36.2)	31 (12)	2.53	.87
7	I use online databases of company or industry reports to a?	0	167 (64)	63 (24)	31 (12)	2.52	.70
8	I use electronic resources such as multimedia content (e.g., podcasts, webinars) to a?	33 (12.6)	100 (38.4)	97 (37)	31 (12)	2.51	.86
9	I use online simulations or virtual labs for practical learning to a?	4 (1.6)	102 (39.1)	123 (47.3)	31 (12)	2.30	.69
10	I rely on online communities or social media platforms for professional networking or collaboration to a?	2 (0.8)	105 (39.7)	123 (47.5)	31 (12)	2.29	.68
11	I have use electronic government or public data sets to a?	94 (36)	133 (50.8)	34 (13.2)		3.35	.50
12	I do use online tools or software for data analysis or visualization to a?	157 (60.3)	33 (12.8)	68 (26.2)	4 (0.7)	3.32	.89
13	I have access to online libraries or archives for historical or research purposes to a?	64 (24.6)	162 (62.2)	3 (1.2)	31 (12)	2.88	.91
14	I do engage with online communities or platforms for skill development or training to a?	95 (36.4)	62 (23.6)	71 (27.1)	33 (12.8)	2.84	1.06
15	I have access to academic or scientific papers from other institutions to a?	32 (12.4)	127 (48.8)	67 (25.8)	33 (13)	2.61	.86
16	I have access online webinars or conferences for professional development to a?	30 (11.6)	127 (48.8)	66 (25.4)	37 (14.1)	2.58	.87
17	I do you utilize electronic resources for accessing open educational resources (OERs) to a?	0	157 (60.3)	67 (25.6)	37 (14.1)	2.46	.73
18	I rely on online databases or repositories for accessing patents or intellectual property information to a?	33 (12.8)	62 (23.6)	125 (47.7)	41 (15.9)	2.33	.89

19	I access to digital archives or primary sources to a?	33 (12.6)	62 (23.6)	125 (47.7)	41 (16.1)	2.33	.89
20	I have access to online courses or certifications to a?	33 (12.6)	62 (23.4)	125 (47.7)	41 (16.3)	2.33	.89
	Average Mean					2.64	

Decision rule: 1.5-2.0=Very low extent, 2.1-2.49, Low extent, 2.5-3.49= High extent, 3.5-4.0=Very high extent

The survey presented in Table 2 evaluates the extent of use of electronic resources among respondents. Key findings include high utilization rates for electronic databases and online journals for research and academic purposes, with mean scores of 2.88 and 2.85, respectively, and standard deviations of 0.81. In contrast, resources like e-books and online textbooks show lower usage levels. Notably, resources such as online tutorials and educational videos, as well as online forums, exhibit moderate usage patterns. Overall, the survey revealed low extent of utilization of electronic resources with an average mean (2.64).

Research Question Three: What are the types of electronic resources provided by National Open University of Nigeria for postgraduate student in North-Western States?

Table 3: Types of electronic resources

SN	Item	SA	A	D	SDA	Mean	SD
1	Availability of electronic academic journals in your field of study	95 (36.2)	158 (60.7)	8(3.1)	0	3.33	.53
2	Availability of e-books for educational purposes	95 (36.4)	158 (60.7)	5 (1.9)	3(1)	3.32	.56
3	Online databases for research purposes	62 (23.6)	190 (72.7)	7 (2.7)	3(1)	3.19	.52
4	Multimedia resources (videos, animations, etc.) are available for learning	64 (24.6)	160 (61.4)	37(14)	0	3.11	.61
5	Availability of online courses and tutorials	63(24.4)	161 (61.6)	37(14)	0	3.10	.61
6	Availability of electronic scientific articles and papers	31(12)	194 (74.2)	36 (13.8)	0	2.98	.51
7	Availability open educational resources (OERs)	31(12)	194 (74.2)	36(13.8)	0	2.98	.51
8	Availability of online forums and discussion platforms for academic purposes	32 (12.6)	189 (72.5)	37(14)	3(1)	2.97	.55
9	Availability of online encyclopaedias and reference materials	2(0.8)	223 (85.3)	37(14)	0	2.87	.36
10	Availability of digital archives and repositories	67 (25.8)	194 (74.2)	0	0	2.74	.44
11	Availability of online simulation tools for learning	32 (12.6)	223 (85.5)	5(1.9)	0	3.24	.45

12	Availability of online platforms for collaborative work and projects	2(0.8)	254 (97.3)	5(1.9)	0	3.11	.37
13	Availability of online assessments and quizzes	66 (25.4)	192 (73.4)	3 (1.2)	0	2.99	.86
14	Availability of online research repositories and archives	62 (23.8)	135 (51.6)	32 (12.6)	31 (12)	2.87	.91
15	Availability of online peer-reviewed articles	95 (36.4)	62 (23.6)	71 (27.2)	33 (12.8)	2.84	1.06
16	Availability of online citation management tools	33 (12.6)	163 (62.4)	31 (12)	33 (13)	2.76	.81
17	Availability of online thesis and dissertation databases	62 (23.6)	135 (51.6)	33 (12.8)	31 (12)	2.75	.84
18	online tools for data analysis and visualization	33 (12.6)	223 (85.5)	5(1.9)	0	3.24	.45
19	Availability of online libraries for public domain materials	66 (25.4)	192 (73.4)	3 (1.2)	0	2.99	.86
20	Availability of e-newspapers and magazines	32 (12.6)	223 (85.5)	35 (1.9)	0	3.24	.45
	Average Mean					3.03	

Table 3 summarizes data on the types of electronic resources used among respondents with an average (mean=3.03). This implies that postgraduate student highly uses different types of electronic resources. Key findings indicate that electronic academic journals and e-books are highly accessible and well-regarded (mean = 3.33, SD = .53 and mean = 3.32, SD = .56, respectively), with a majority of respondents expressing strong agreement or agreement. Online databases and simulation tools also received positive feedback (mean = 3.19, SD = .52 and mean = 3.24, SD = .45, respectively). Conversely, peer-reviewed articles and citation management tools received lower mean scores (mean = 2.84, SD = 1.06 and mean = 2.76, SD = .81, respectively), suggesting areas where availability or satisfaction may be lacking.

Research Question Four: What are the challenges hindering utilization of electronic resources by postgraduate students of National Open University of Nigeria in North-Western States?

Table 4: Challenges hindering utilization of electronic resources

SN	Item	SA	A	D	SDA	Mean	SD
1	The accessibility of electronic resources is a challenge	128 (49)	99(38.2)	25(9.5)	8(3.3)	3.46	.70
2	I find it difficult to navigate and search for electronic resources efficiently	127(48.6)	99(38.2)	34 (13.2)	0	3.36	.70
3	The electronic resources available do not adequately meet my needs	106 (40.7)	99 (38.2)	33 (12.8)	43(8.3)	3.36	.70

4	There is insufficient awareness or promotion of available electronic resources	128 (49)	56 (21.3)	33 (12.8)	44 (16.9)	3.26	.69
5	Technical issues, such as slow loading times or system crashes, impede my use of electronic resources.	68 (26)	99 (38.2)	62(24)	31 (11.8)	2.78	.96
6	I face challenges understanding how to properly cite electronic resources	6 (2.5)	97(37.2)	124 (47.5)	33 (12.8)	2.63	.96
7	Limited training or support is provided for utilizing electronic resources effectively	2 (0.8)	104 (39.9)	124 (47.5)	31 (11.8)	2.30	.67
8	Licensing restrictions hinder my access to certain electronic resources	68 (26)	99 (38.2)	62 (24)	31 (11.8)	2.29	.72
9	The interface of electronic resource platforms is not user-friendly	4 (1.7)	97 (37.2)	126 (48.3)	33 (12.8)	2.27	.70
10	The cost associated with internet subscription is prohibitive	159 (60.9)	102 (39.1)	0	0	3.61	.49
11	There is erratic power supply	151 (57.8)	95 (36.6)	8 (3.1)	6 (2.5)	3.61	.49
12	Limited availability of electronic resources in preferred formats (e.g., PDF, HTML) is a challenge	151 (57.9)	104 (39.9)	5(2.1)	0	3.60	.49
13	Security concerns prevent me from utilizing certain electronic resources	157 (60.1)	102 (39.1)	2 (0.8)	0	3.59	.51
14	The metadata and indexing of electronic resources are inadequate, making it difficult to find relevant information	134 (51.2)	127 (48.8)	0	0	3.49	.50
15	There is a lack of collaboration tools or features within electronic resource platforms	129 (49)	102 (39.3)	30 (11.6)	0	3.37	.68

16	The reliability of electronic resources, such as frequent downtime, is a concern	129(49)	101 (38.6)	32(12.4)	0	3.37	.69
17	Limited mobile accessibility of electronic resources hinders their utilization	151(57.8)	96 (36.6)	8(3.1)	6(2.5)	3.61	.49
18	Insufficient bandwidth or internet connectivity issues affect my ability to access electronic resources	68 (26)	99 (38.2)	63 (24)	30 (11.8)	2.29	.72
19	Lack of adequate digital literacy skills	159 (60.9)	102 (39.1)	0	0	3.61	.49
20	There is a lack of incentives or recognition for utilizing electronic resources effectively	134 (51.2)	127(48.8)	0	0	3.49	.50
	Average Mean					3.17	

Table 4 underscore several critical challenges related to the use of electronic resources with an average mean of (3.17). The result that costs internet subscription, digital literacy skills and erratic power supply (Mean = 3.61, SD = .49) were the most prevailing challenges, followed by limited availability in preferred formats (Mean = 3.60, SD = .49), and security apprehensions (Mean = 3.59, SD = .51). Additionally, metadata and indexing problems (Mean = 3.49, SD = .50) and the absence of collaboration tools (Mean = 3.37, SD = .68). Conversely, aspects such as inadequate training or support (Mean = 2.30, SD = .67), licensing constraints (Mean = 2.29, SD = .72), and interface usability (Mean = 2.27, SD = .70) received lower mean scores, indicating lesser concern. Technical issues like slow loading times (Mean = 2.78, SD = .96) and understanding citation methods for electronic resources (Mean = 2.63, SD = .96) also garnered less attention. These results highlight a mixture of high and low priority challenges in maximizing the effectiveness of electronic resource utilization.

Test of Hypotheses

The hypotheses was tested at 0.05 level of significance.

Hypothesis: There is no significant relationship between digital literacy skills of postgraduate students and their use of electronic resources.

Table 5: Correlation showing relationship between digital literacy of postgraduate students and their use of electronic resources.

Variables	Mean	St.D	N	R	P	Remark
Digital literacy skills	25.88	5.05	260	0.422	0.000	Significant
Use of electronic resources	59.41	10.93				

Table 5 reveals a positive relationship between digital literacy and utilization of electronic resources. This was tested using correlation which value is 0.422 and is significant at $p < 0.05$ with

Mean value of 25.88 and Standard Deviation of 5.05 for the first variable while the second variable has Mean value of 59.41 and Standard Deviation of 10.93. Thus, there is a significant relationship between digital literacy and utilization of electronic resources postgraduate students of National Open University of Nigeria in North-Western State. Therefore, the H_0 is rejected.

Discussion of findings

This section discussed the findings of the study as follows:

On the level of Digital literacy skills among postgraduate students of National Open University of Nigeria in North-Western States. The study found that the level of digital literacy of postgraduate students of National Open University of Nigeria in North-Western States was high. This aligns with findings by Ugwulebo and Okuonghae (2021), indicating that postgraduate students from specific universities displayed level of information literacy skills, emphasizing the ongoing need for skill development in digital competencies.

Furthermore, on the extent of electronic resources utilization by postgraduate students of National Open University of Nigeria in North-Western States. The finding reveals a relatively low extent of electronic resource utilization. This finding aligns with studies by Ogunsola and Aina (2016), who reported low utilization of electronic resources among postgraduate students in Nigerian universities, and Oyewusi and Owolabi (2020), who found moderate usage levels at Covenant University. The results highlight significant variations in electronic resource access and usage patterns across different academic contexts.

In addition, on the types of electronic resources provided by National Open University of Nigeria for postgraduate student in North-Western States. The result indicate that electronic academic journals and e-books are highly utilized by postgraduate students of National Open University of Nigeria in North-Western State. This aligns with findings by Adomi and Kpangban (2019) at Delta State University, emphasizing the popularity of e-journals and databases like JSTOR and ScienceDirect among postgraduates. Ezeani (2021) further supports these trends, noting the preference for e-books among University of Nigeria, Nsukka postgraduates due to convenience and searchability advantages.

Moreso, on the challenges hindering utilization of electronic resources by postgraduate students. the study found that the predominant issues identified include the costs of internet subscriptions, digital literacy skills, and erratic power supply, which emerged as major hurdles. This finding aligns with previous studies by Adeyemi and Oyewusi (2020), who underscored inadequate access to reliable internet connectivity and unstable power supply as substantial barriers impacting students' effective utilization of electronic resources. Additionally, Oduwole and Owolabi (2021) identified limited computer literacy among postgraduate students as exacerbating difficulties in navigating and utilizing electronic resources.

Finally, on the relationship between digital literacy and utilization of electronic resources. The study reveals a significant relationship between digital literacy and utilization of electronic resources postgraduate students of National Open University of Nigeria in North-Western State. This finding is corroborated with the study of Ugwulebo and Okuonghae (2021) investigated the relationship between digital literacy skills and the use of electronic resources among postgraduate students in three Nigerian universities. The study found that students' digital literacy skills significantly impact their utilization of these resources.

Conclusion

The study concludes that digital literacy skills had significant relationship with electronic resource utilization among postgraduate students of National Open University of Nigeria in North-Western States reveals key insights. The findings indicate a high level of digital literacy among the students. However, despite this high literacy, the extent of electronic resource utilization is relatively low, reflecting concerns about underutilization in Nigerian universities. The preference for electronic academic journals and e-books underscores their significance in academic research. Challenges such as internet costs, erratic power supply, and digital literacy gaps persist, impacting resource utilization. Moreover, the significant relationship between digital literacy and resource utilization emphasizes the critical role of digital competencies in maximizing electronic resource usage among postgraduate students.

Recommendations

Based on the above results, the following recommendations were made:

1. The postgraduate student should as a matter of urgency channel their digital literacy skills to use of electronic information resources in order to enhance their level of utilization.
2. The library management should encourage postgraduate student to channel their digital literacy skills to use of electronic information resources in order to enhance their level of utilization.
3. The university management develop solutions to overcome barriers such as inadequate internet connectivity, limited digital literacy, and insufficient institutional support to improve access to and effective use of electronic resources.

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