FEDERAL UNIVERSITY GUSAU (FUGUS), ZAMFARA STATE, NIGERIA
FUGUS INTERNATIONAL JOURNAL OF LIBRARY AND INFORMATION SCIENCE (FIJLIS) VOL. 2, NO. 1, (JULY) 2025: DOI: https://doi.org/10.57233/fijlis.v2i1.10 ISSN PRINT:1595-3432
A Publication of the University Library.

INFLUENCE OF DIGITAL LITERACY SKILLS IN PREDICTING INFORMATION RETRIVAL AMONG STUDENTS OF CHUKWUEMEKA ODUMEGWU OJUKWU UNIVERSITY, IGBARIAM, ANAMBRA STATE

Dr. Ifeyinwa N. Okonkwo
Department of Library and Information Science,
Nnamdi Azikiwe University, Awka, Nigeria.
in.okonkwo@unizik.edu.ng

Dr. Uju E. Nwafor-Orizu
Medical Library,
College of Medicine,
Nnamdi Azikiwe University, Awka, Nigeria.
hovoa2001@yahoo.com

Desiree C. Azubike
Department of Library and Information Science,
Nnamdi Azikiwe University, Awka, Nigeria.
desiree.nech@gmail.com

Receivedon:14th March, 2025 **RevisedandAcceptedon:**25th July, 2025 **Publishedon:**20th July, 2025

ABSTRACT

The study examined the perceived influence of digital literacy skills on information retrieval by students of Chukwuemeka Odumegwu Ojukwu University, Igbariam. The research design chosen for the study was descriptive survey research design. The population of the study comprised of over 14,500 registered students of Chukwuemeka Odumegwu Ojukwu University Library, Igbariam. Stage Sampling Method was used to draw 10% from the population given 1,450 as sample population. Out of 1,450 questionnaires distributed, 1,390 (95%) were used for the study. A self-designed questionnaire and checklist were the major instrument for data collection. The instrument was validated by three experts from the Educational Foundation and Library and Information Science Departments in the Faculty of Education, Nnamdi Azikiwe University Awka. The instrument yielded a Cronbach-Alpha coefficient value of 0.71. The data collected were analysed using descriptive statistics such as mean. The findings revealed that digital literacy skills have a positive impact on the student's ability to retrieve information. The level of awareness on digital literacy skills by students was low. However, further findings showed that students who possess these skills may not have fully understood the concept of digital literacy. The obstacles that hinder students from effective retrieval of information are inability to evaluate the credibility of online resources, and lack of necessary guidance and support from librarians, among others. It was concluded that digital literacy skills significantly influence information retrieval for students in university. Although, the students under study possess a good number of necessary digital literacy skills, their level of awareness is very poor. The study recommended that the university management should integrate digital literacy skill programme into their curriculum to help students understand elaborately the concept of digital literacy skills.

Keywords: Digital literacy skills, Information literacy skills, Undergraduates

Introduction

The library stands as a cornerstone of every institution, serving as a repository of knowledge and providing access to information and resources for people of all ages and backgrounds. Students heavily rely on the library to access diverse materials that support their coursework, enhance research endeavors, and broaden their understanding of various subjects. With the advent of the digital era and the introduction of digital resources, such as e-books, online databases, and streaming video and audio, the library has revolutionized its' activities to serve its' clientele better. The prowess of students in digital literacy becomes

paramount for optimising the utility of the library. Students equipped with digital literacy skills can harness the full potential of the library, extracting required information with more precision and accuracy.

Digital literacy is a term that traditionally describes the extent to which a person is able to use interactive digital devices for living and working, such as computers and smart phones, as well as services delivered through these devices. UNESCO (2018) proposed a neutral definition stating that digital literacy is the ability to use digital technologies to efficiently and appropriately access, manage, interpret, integrate, communicate, evaluate and generate information for employment, decent work, and entrepreneurship. It comprises skills that are often referred to as media literacy, information literacy, computer literacy, and other terms. Digital literacy skills cut across accessing, analyzing, evaluating, creating, communicating, reflecting, and taking action. As academic institutions increasingly integrate digital platforms and resources, a students' proficiency in digital literacy skills seems to influence their capacity to access and retrieve information. In other words, Ben-Youssef, DahmaniandRagni (2022) stressed this fact stating that proficiency in digital literacy skill increases students' academic performance and is indispensable in the digital era. The importance of these skills is seen in the benefits enjoyed by students who possess these skills in the ease of information retrieval.

Furthermore, Lai and Widmar (2021) outlines these benefits noting that students with strong digital literacy skills seems to be better in accessing and use of resources and information. It also helps them to complete assignments and projects on time and to a high standard, communicate and collaborate with others effectively. They are also more likely to be hired by employers who are looking for employees who can use digital tools and platforms to solve problems. Additionally, Emiri (2015) argued that students with digital literacy skills have increased lifelong learning opportunities, as they can use digital resources and tools to access information, take online courses, and connect with other learners. These skills can help students to become more informed and responsible digital citizens by helping them to understand the potential risks and benefits of using digital technologies and to make informed decisions about how to use them safely and responsibly. Therefore, digital literacy skills can be perceived as essentials for success in school and in the workplace, and for full participation in the 21st century.

Perception, according to Goldstein (2019), is the intricate process through which individuals actively interpret and make sense of sensory information obtained from their environment. In the view of Mirza (2020), it showed that digital literacy can influence the communication skills, research skills and the overall confidence of the students. Regrettably, students' perceptions of digital literacy skills can sometimes be characterized by negative attitudes or challenges. Studies has shown that some students find the rapid evolution of digital technologies overwhelming, expressing concerns about adapting and learning new tools. They may also perceive digital literacy negatively due to confusion about intellectual property rights and plagiarism. However, Dimitrova (2022) argued that students may be overwhelmed by the vast amount of information available online, and they may have difficulty evaluating the credibility of sources. This can make them susceptible to misinformation and disinformation. Concurring to this, Healey (2019) also opined that schools are not doing enough to teach students digital literacy skills.

Students' perception may have also been influenced by their difficulty to read and understand complex texts as argued by Jenkins, Green, and Ford (2016) that the spread ability of information in the digital age has led to a new kind of text that is more fragmented and multimodal. Alex-Nmecha and

Ejitagha (2023) added that students need exposure on digital literacy irrespective of their field of study, in contrast to the public opinion which has shown that students view digital literacy skills as being too difficult to learn or irrelevant to their field. These negative perceptions are evident in the poor rate of utilisation of the library's digital resources and research capabilities of students. In view of the above, it becomes imperative to investigate the influence of digital literacy skill on students' ability to retrieve information.

Despite the importance of digital literacy skills for information retrieval, many students lack the necessary skills. It seems that only very few university undergraduates have the digital literacy skills needed to succeed in their academic programmes. Studies have found that students from low-income families and minority groups were less likely to have strong digital literacy skills. Inadequate knowledge of e-resource availability, irregular Internet access, inadequate training on digital literacy, inadequate staff assistance, lack of continuity in resource subscription and paucity of local content in the database has been identified as some problems encountered by students. Understanding how students perceive the impact of their digital literacy skills on information retrieval is crucial for shaping educational strategies as students without these necessary skills will be at a disadvantage in school. This research seeks to address this gap by investigating the perceived influence of digital literacy skills on the information retrieval practices by students of Chukwuemeka OdumegwuOjukwu University, Igbariam.

Research Questions

The following research questions guided the conduct of this study:

1. What are the digital literacy skills possessed by students of Chukwuemeka Odumegwu Ojukwu University, Igbariam?
2. What are the perceived influence these skills have on students' ability to retrieve information?
3. What are the obstacles that hinder students from effective retrieval of information?
4. What are suggestions to address the obstacles that hinder students from effective retrieval of information?

Review of Related Literature

Digital Literacy Skill Possessed by Students

One must possess a variety of skill known as digital literacy skill in order to benefit from the electronic database resources made available by the library. According to Oriogu, Subair, and Oriogu-Ogbuiyi (2017), digital literacy skills helps an individual to carry out activities in a digital environment effectively. Digital literacy refers to the ability to access, locate, evaluate, create, and communicate information using digital technologies and online platforms in a safe, responsible, and ethical manner. Therefore, Emiri (2015) and Martzoukou and Elliott (2016), opines that digital literacy skills can help students access e-books, e-journals, or online novels, newspapers, magazines, and other creative writings for their recreational reading. These skills also make it easier to use electronic information resources in solving academic problems like completing assignments, writing term papers, conducting research, and learning about general happenings on political, healthcare, or other frontiers of society. Students who possess digital literacy skills also have an advantage in the job market because most jobs and employment prospects are now done online, and those who do not have it are likely to find it difficult to fit in (Odu & Omosigho, 2017).

According to Eze (2020) the technical skills of digital literacy possessed by the students include basic computer operation, using essential software (word processing, spreadsheets, presentation tools), navigating the Internet. Adeyemi and Ajayi (2018) listed evaluating the credibility and trustworthiness of online sources, identifying bias and misinformation, understanding copyright and plagiarism as information literacy skills possessed by the students. Communication Skills are another set of digital literacy skills possessed by the students and includes using digital tools for communication and collaboration, creating and sharing content effectively, practicing online etiquette and cyberbullying prevention (Ogunlade & Olorundare, 2017). Another skill set according to Adeyinka and Adetunmbi (2023) is critical thinking and problem-solving. This enables the student to analyze information, identify patterns, make informed decisions, andsolve problems using digital tools. UNESCO (2017) and UNICEF (2022) present digital citizenship as a digital skill possessed understanding online safety and security,

respecting the privacy of others, promoting responsible online behavior, and advocating for ethical technology use.

Perceived Influence of Digital Literacy Skills on Student's Ability to Retrieve Information

Digital literacy skills have become increasingly important for students to effectively retrieve and utilize information. A growing body of research has demonstrated the positive influence of digital literacy skills on student learning. Studies have found that students with strong digital literacy skills are better able to find relevant and reliable information, evaluate the credibility of sources, and synthesize information from multiple sources (Coombs, 2016; Hargis, 2017). In a study conducted by Coiro and Leu (2016), it was found that students with higher digital literacy skills were more likely to use a variety of search strategies, including keyword searching, Boolean operators, and advanced search filters. Concurring to this, Gilster (2015), opined that students with stronger digital literacy skills were better able to use online databases and other electronic resources to find information for research projects. They were also more likely to use online sources to supplement information found in traditional print sources. In view of this, Students with strong digital literacy skills are better able to find, evaluate, and use information to complete research assignments. They are also more likely to be able to identify and avoid plagiarism (Coombs, 2016; Hargis, 2017). Predominantly, digital literate students possess the skills to construct precise and focused search terms, enabling them to narrow down the vast expanse of online information and retrieve relevant and accurate results (Ko, 2018).

Furthermore, the influence of digital literacy skills on student's ability to retrieve information extends to their overall academic performance. Studies have shown that students with higher levels of digital literacy tend to demonstrate improved academic outcomes, including higher grades, increased engagement in learning activities, and enhanced critical thinking skills (Ozaki, 2019). According to Leu Jr., Leu, O'Brien, Kinzer and Coiro (2015), perceived influence of digital literacy skills on students' ability to retrieve information is in its help for students to develop effective information seeking strategies, such as identifying keywords, using appropriate search engines and databases, and evaluating the credibility of information sources. Akinlolu (2019), in his study found that those with higher digital literacy skills were more likely to use a variety of search engines and databases, refine their search queries using relevant keywords, and identify credible sources based on website authority and author qualifications.

On information evaluation skill, digital literacy skills influences students to develop the ability to critically evaluate the information they find online, considering factors such as the author's credentials, the source's reliability, and the currency of the information (Leu Jr., Leu, O'Brien, Kinzer & Coiro, 2015) . In line with this, Ojo (2017) emphasizes the role of source evaluation in a digital space saturated with misinformation. She argues that digital literacy skills equip students to assess the credibility and trustworthiness of online sources by considering factors like author credentials, website domain, and currency of information.

Leu Jr., Leu, O'Brien, Kinzerand Coiro (2015) holds that digital literacy skills influences students effectively organise and manage the information they retrieve, using tools such as file folders, note-taking software, and citation managers. A study of postgraduate students in Nigeria highlighted the positive correlation between digital literacy skills and effective information management. Students with strong digital skills were more proficient in using online citation tools, organising information in folders and databases, and employing note-taking software to synthesize retrieved information. (Eke, Onyeka & Agu, 2016). Akintola (2023) emphasizes the role of digital storytelling in enhancing information creation skills. He suggests that incorporating digital storytelling techniques into classroom activities can influence students effectively communication of their understanding of retrieved information to a broader audience. According to Leu Jr., Leu, O'Brien, Kinzerand Coiro (2015), digital literacy skills can help students create their own information, such as presentations, websites, and videos, which can enhance their understanding of the information they retrieve.

The importance of information communication skills cannot be overemphasized. The inability to effectively communicate information renders the retrieved information useless, thus, Leu Jr., Leu, O'Brien, Kinzerand Coiro (2015) holds that it can help students effectively communicate information to others, using tools such as email, social media, and online forums. This is corroborated by Akinlolu (2019) highlights the importance of digital literacy in utilising online platforms like email, collaborative

documents, and video conferencing for efficient communication and knowledge sharing in academic and professional settings. Overall, research suggests that digital literacy skills can effectively impact information retrieval of students. However, the specific skills that are most important are still being debated. Adeyemo (2020) argued that students with higher levels of digital literacy were more likely to use a variety of search strategies and to critically evaluate the information that they found. In addition, Adeyemi and Oladipo (2021) found that students who were able to effectively use Boolean operators and other search techniques were able to retrieve more relevant information than students who did not use these techniques. The study also found that students who were able to critically evaluate the information that they found were more likely to avoid plagiarism and to use information ethically.

Obstacles hindering Students from Effective Retrieval of Information

Although digital literacy skills enable students to access and utilise the information they need to succeed in their academic endeavours, however, several obstacles can hinder students' ability to effectively retrieve information. One of the primary obstacles to effective information retrieval is information overload. The vast amount of information available online can be overwhelming; making it difficult for students to identify and locate relevant sources (Cox & Cox, 2015). The abundance of low-quality information further complicates the task of finding reliable and accurate sources (Coiro & Dobler, 2017). Critical thinking skills are essential for evaluating the quality and relevance of information. Students with poor critical thinking skills may be more susceptible to misinformation and may struggle to identify biases in information sources (Facione, 2015).

Furthermore, students' lack of adequate search skills can also hinder their ability to retrieve information effectively. Many students struggle with formulating effective search queries, evaluating the credibility of sources, and navigating the complexities of online search engines (Moore, 2022). Also, the use of boolean operators, advanced search techniques, such as proximity searching and truncation, refine search results. Students may not be aware of these techniques or may not know how to use them effectively, leading to irrelevant or insufficient search results (Harzing& van der Werf, 2018). Complex or poorly designed search interfaces can hinder the search process and discourage students from seeking information (Chow & Wang, 2020). In addition, technological barriers can also pose obstacles to effective information retrieval. Limited access to technology, such as computers and the Internet, can restrict students' ability to access online information sources (Onyebinama & Ajuonuma, 2022). Additionally, unfamiliarity with technology tools and software can make it difficult for students to effectively navigate online resources. In view of this, Oseghale (2023) identified inadequate knowledge of e-resource availability, irregular Internet access, inadequate training on digital literacy, inadequate staff assistance, lack of continuity in resource subscription and paucity of local content in the database as some of the obstacles encountered by students.

To address these obstacles, providing students with training and instruction in search skills, library resource navigation, and online source evaluation can significantly improve their ability to retrieve information effectively. Studies by Al-Yemeni (2018), Nguyen and Vu (2016) have demonstrated that structured training programmes can enhance students' search strategies, library resource knowledge, and critical thinking skills and corroborated by Cooper (2015) who found that students who received instruction in search skills were able to find more relevant information and were more likely to use information effectively in their assignments. This means that innovative teaching methods, engaging learning materials, and context-specific curricula would make digital skill education more effective. Furthermore, Eze (2020) advocated collaborative efforts between governments, educational institutions, technology companies, and civil society organisations to bridge the digital divide and provide equitable access to resources.

Methodology

The research design chosen for the study was descriptive survey design. The design is deemed suitable for the study because it will help give a better understanding of the influence of digital literacy on students' information retrieval. The population of the study comprised of over 14,500 registered students of Chukwuemeka OdumegwuOjukwn University Library, Igbariam. Stage Sampling Method was used to

draw 10% from the population given 1,450 as sample population of the study. Out of 1,450 questionnaires distributed, 1,390 were used for the study, giving a return rate of 95%. The research instrument used for this study is a questionnaire with the title "Perceived Influence of digital literacy skills on information retrieval by students of Chukwuemeka Odumegwu Ojukwu University Igbariam Questionnaire". The instrument was validated by three experts from the Educational Foundation and Library and Information Science Departments in the Faculty of Education, Nnamdi Azikiwe University Awka. The instrument yielded a Cronbach-Alpha coefficient value of 0.71. The data collected were analysed using descriptive statistics of mean.

Data Analysis and Results

Results of the study are presented here under the research questions.

RQ 1: What are the digital literacy skills possessed by students of Chukwuemeka OdumegwuOjukwu University, Igbariam?

Table 1: Mean Responses on the Digital Literacy Skills of the Respondents

S/N	Statements	SA	A	D	SD	Mean	Decision
1	I am confident in using search engines like Google to find information.	108	64	24	4	3.38	Accept
2	I can communicate effectively using digital tools like email and online forum e.g Google meet, Microsoft team	100	64	32	4	3.3	Accept
3	I can critically synthesize information from multiple digital sources	44	32	116	8	2.56	Accept
4	I am conscious of online privacy, ethical issues and security practices when using the Internet	44	56	60	40	2.52	Accept
5	I am able to troubleshoot basic technical issues related to information retrieval	96	40	40	24	3.04	Accept
6	I can evaluate the credibility and trustworthiness of online sources of information	68	24	100	8	2.76	Accept
7	I can adapt to new tools like citation management platforms for reference purposes	112	48	24	16	3.28	Accept
8	I can analyze information from different format of digital information (e.g PDF, HTML) and derive results	68	48	72	12	2.86	Accept

Table 1 presented the response on research question of the study which sought to know the digital literacy skills of students of Chukwuemeka Odumegwu Ojukwu University, Igbariam. It shows that all items listed received positive scores because they were rated above 2.50. The highest rated was that

the respondents showed confidence in using search engines like Google to find information has a mean scores of 3.38. While the least rated was, being conscious of online privacy, ethical issues and security practices when using the Internet with a mean score of 2.52.

RQ 2: What are the perceived influence these skills have on students' ability to retrieve information?

Table 2: Perceived Influence of the Skills on Respondents' Information Retrieval Ability

S/N	Statements	SA	A	D	SD	Mean	Decision
1	My digital literacy skills significantly improve my ability to find relevant information for my studies	60	108	32	0	3.14	Accept
2	Evaluating the credibility of online sources help me avoid unreliable information	80	80	32	8	3.16	Accept
3	Using citation management tools makes referencing easier and more accurate	80	92	20	8	3.22	Accept
4	Databases and online journals saves me time and effort in research	60	104	32	4	3.10	Accept
5	Being aware of online privacy and security protects me from information misuse and hacking	84	72	32	12	3.14	Accept
6	Analyzing information from multiple sources helps me develop a deeper understanding of complex topics	76	52	52	20	2.92	Accept
7	My digital literacy skills have helped me to achieve better academic results	64	100	24	12	3.08	Accept
8	Digital literacy skills has helped me make a difference outside school and academics	44	112	32	12	2.94	Accept

Table 2 on the perceived influence of these skills on students' ability to retrieve information revealed that all the items listed were above the cutoff mean of 2.50. The highest rated was using citation management tools makes referencing easier and more accurate with a rating of 3.22, followed by evaluating the credibility of online sources help me avoid unreliable information with a rating of 3.16. The least rated was, analyzing information from multiple sources helps me develop a deeper understanding of complex topics with mean rating of 2.92.

RQ 3: What are the obstacles that hinder students from effective retrieval of information?

Table 3: Responses on Obstacles hindering Students from Information Retrieval

S/N	Challenges	SA	A	D	SD	Mean	Decision
1	Inability to evaluate the credibility of online sources	108	76	4	12	3.4	Accept
2	Unfamiliarity with specific library database or	72	56	28	44	2.78	Accept

	research tools						
3	Lack of confidence in utilising digital tools	56	60	48	36	2.68	Accept
4	Lack of access to reliable Internet or technology	44	52	12	92	2.24	Reject
5	Difficulty finding relevant keywords for search engines	56	116	20	8	3.10	Accept
6	The complexity of some online databases and search engines	52	128	12	8	3.12	Accept
7	I lack the necessary guidance and support from faculty and librarians	124	40	20	16	3.36	Accept
8	Lack of technical skills	64	64	52	20	2.86	Accept
9	Inability to access database and research sources at the library	72	60	52	16	2.94	Accept
10	I have zero knowledge of the digital literacy skills	56	36	16	92	2.28	Reject

Table 3 presents the obstacles that hinder students from effective retrieval of information. The table indicated that out of the 10 items on the list, 8 items were rated above the 2.50 cutoff mark. It shows that the highest rated of the 8 items is, inability to evaluate the credibility of online sources with a mean score of 3.4. The least positive rating was, lack of confidence in utilising digital tools with a mean score of 2.68. However, the two obstacles that hinder students from effective retrieval of information items out of the 10 which received negative scores of less than 2.50 include, lack of access to reliable Internet or technology, 2.24; and, zero knowledge of the digital literacy skills, 2.28.

RQ 4: What are suggestions to address the obstacles that hinder students from effective retrieval of information?

Table 4: Mean Responses on the Suggestions to Address the Obstacles

S/N	Solutions	SA	A	D	SD	Mean	Decision
1	More workshops and training on digital literacy skills	88	100	4	8	3.34	Accept
2	Integration of digital literacy instruction into academic programmes	56	136	8	0	3.24	Accept
3	User-friendly interface and tutorials for library databases and research tools	92	76	28	4	3.28	Accept
4	Librarian's guidance and support on using digital tools for research	96	100	4	0	3.46	Accept
5	Upgrading library facilities and resources	108	76	16	0	3.46	Accept
6	Increasing access to databases and software	84	84	28	4	3.24	Accept

7	Investing in information literacy services and resources at the library	80	108	8	4	3.32	Accept
8	Promoting digital library and skill awareness	68	128	4	0	3.32	Accept

From Table 4, presents the result of the suggestions to address the obstacles. It shows that the respondents all agreed with the items listed asways to address the obstacles that hinder students from effective retrieval of information. The results therefore showed that librarian's guidance and support on using digital tools for research, upgrading library facilities and resources, more workshops and training on digital literacy skills and promoting digital library and skill awareness topped the list of solution to the obstacles that hinder students from effective retrieval of information.

Discussion of the Findings

The study was to investigate the role of digital literacy skills in predicting information retrieval among students of Chukwuemeka Odumegwu Ojukwu University, Igbariam, Anambra State. On the digital literacy skills possessed by the students, the finding revealed that the digital literacy skills that were highly possessed by the undergraduate students were search skills, communication skills, technical skills and adaptability skills. However, this research presents an interesting discrepancy between the initial checklist assessment and the analysis of the first research question. While the checklist indicated subpar digital literacy skills (mean score of 2.29), the analysis of the research question revealed positive results, suggesting students possess these skills. The overall positive results from Table 1 might indicate students can perform the required tasks, but they might not fully understand the underlying digital literacy concepts or principles related to those tasks. This could also suggest that students underestimate their own abilities or lack confidence in using certain skills.This study is related to the findings by Eze (2020), which states that having basic computer operational skill and using essential software (word processing, spreadsheets, presentation tools) can help one navigate the Internet and search for information effectively. These findings also correspond with the results of Ogunlade and Olorundare (2017) opining that using digital tools for communication and collaboration helps students in creating and sharing content effectively.

The results of the study showed that digital literacy skills have significant influence on students' ability to retrieve information for their studies.

These findings also suggest that evaluation and analytical skills are vital skills needed validate information and understand complex topics. Results also shows that use of citation management tools by students helps them make accurate referencing. The findings of this study relates to the work of Coombs (2016) and Hargis (2017) which proves that students with strong digital literacy skills are better able to find relevant and reliable information, evaluate the credibility of sources, and synthesize information from multiple sources. It also correlates with the study from UNESCO (2017) and UNICEF (2022) which confirms that students' understanding of online safety and security, respecting the privacy of others, promoting responsible online behavior, and advocating for ethical technology use will help them avoid information misuse and prevent hacking. This result also affirms the findings of Gilster (2015), which opined that students with stronger digital literacy skills were better able to use online databases and other electronic resources to find information for research projects. Also, it supports the findings that students with higher levels of digital literacy tend to demonstrate improved academic outcomes, including higher grades, increased engagement in learning activities, and enhanced critical thinking skills (Ozaki, 2019).

The results of the study highlight the obstacles that hinder students from effective retrieval of information. As indicated by the analysis, some of the key obstacles encouraged by students in information retrieval process include; inability to evaluate the credibility of online sources, lack of guidance and support from faculty and librarians, unfamiliarity with specific library database or research tools, difficulty finding relevant keywords for search engines, lack of technical skills and low confidence in utilising digital tools. The results of this analysis concurred with the results of the study carried out by Coiro and Dobler (2017) which specified that the abundance of low-quality information further

complicates the task of finding reliable and accurate sources for students. It also supports the findings of Chow and Wang (2020) which stipulates that complex or poorly designed search interfaces can hinder the search process and discourage students from seeking information. Additionally, unfamiliarity with technology tools and software can make it difficult for students to effectively navigate online resources. Also, findings from Onyebinama and Ajuonuma (2022) support the results that limited access to technology, such as computers and the Internet can restrict students' ability to access online information sources.

From this study, the major suggestions to address the obstacles that hinder effective retrieval of information highlighted by students are integration of digital literacy programmes into the school curriculum, designing user-friendly interface and tutorials for library databases, promoting digital library and skill awareness, librarian's guidance in utilising digital tools and investing in information literacy services and resources at the library. Studies by (Al-Yemeni, 2018; Nguyen & Vu, 2016) have demonstrated that structured training programmes can enhance students' search strategies, library resource knowledge, and critical thinking skills.

The results also correlate with the study by Meola, D'Agostino, and Perrone (2018), which suggests that embedded information literacy programmes can effectively foster students' ability to navigate complex information environments. Additionally, a study by Adeli (2020) showed that librarian-led instruction and personalized assistance can significantly enhance students' understanding of information retrieval principles and practices. A study by Klug (2017) also agrees with the result that librarians can help to improve the usability of library websites and search engines by conducting user needs assessments and making changes based on feedback.

Conclusion

The study revealed a positive influence of digital literacy skill on students of Chukwuemeka Odumegwu Ojukwu University. The findings of this study showed that the students possessed search skills, communication skills, basic troubleshooting skills, adaptability skills and evaluation skills. These skills enable students to retrieve information effectively and promptly. It also aids students' assessment of the credibility of information sources, analyse and make derive results.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. The management of Chukwuemeka Odumegwu Ojukwu University should integrate digital literacy skill programmes into their curriculum to help students understand elaborately the scopes of digital literacy skills.
2. The university management should provide personalized tutorials for library databases and research tools especially for complex digital environment.
3. Students should be mandated to attend digital literacy skill workshops and training provided by the school administration to sharpen their skill.
4. The university management should invest in information literacy services through the library to assist students become digital literates.
5. Practical sessions or manual guide should be provided for students to enable them explore their technical skills when required.

REFERENCES

Adeli, S. (2020). The role of academic librarians in promoting information literacy among undergraduate students in Iran: Challenges and opportunities. *International Journal of Information Management*, *52*, 102080.

Adeyemi, A., &Ajayi, A. O. (2019). Digital literacy skills and library services in Nigerian universities: A case study of selected universities in the South-west. *Library Philosophy and Practice* (e-journal), *1*(1), 136-145.

Adeyemi, T. O., & Ajayi, A. O. (2018). Information literacy and the challenges of fake news:

A case study of undergraduate students in a Nigerian university. *Library Philosophy and Practice*, 1(1).

Adeyemo, A. O. (2020). Information literacy skills and information retrieval effectiveness of students in a Nigerian university. *Library Philosophy and Practice (e-journal),* 15(1), 1-16.

Adeyemo, A. O., &Oladipo, M. O. (2021). The impact of digital literacy skills on information retrieval effectiveness of students in selected Nigerian universities. *International Journal of Information Management*, 62, 102417.

Adeyinka, A. A., & Adetunmbi, A. O. (2023). The impact of critical thinking skills on online learning performance of undergraduate students in Nigeria. *Journal of Education and Practice*, *14*(1), 104-114.

Akinlolu, M. A. (2019). Impact of digital literacy skills on information seeking behaviour of secondary school students in Ogun State, Nigeria. *Library Philosophy and Practice (e-journal),* 4(1)

Akintola, B.O. (2023). Digital storytelling as a pedagogical tool for enhancing information literacy and communication skills in Nigerian universities. *International Journal of Educational Technology and Development*, *12*(1), 1-11.

Alex-Nmecha, J. C., & Ejitagha, S. (2023). An evaluation of digital information literacy skills among undergraduate students of library and information science in universities in Nigeria. Mousaion: *South African Journal of Information Studies*. https://doi.org/10.25159/2663-659x/12326

Al-Yemeni, A. (2018). The effectiveness of a structured training programme in enhancing the information literacy skills of undergraduate students in the College of Education at Taiz University, Yemen. *International Journal of Educational Technology.*

American Library Association. (2017). *Framework for information literacy for higher education*. Chicago, IL: American Library Association.

Asif, M., Khan, A. R., & Alzahrani, A. M. (2021). A comprehensive review of fuzzy logic-based stemming methods for information retrieval. *International Journal of Machine Learning and Cybernetics*, *12*(7), 1567-1585.

Awojola, A. O. (2017). Digital literacy and the implication on Nigerian digital library. *International Journal of Library and Information Science Studies*, *3*(2), 13-19.

Ben Youssef, A., Dahmani, M., &Ragni, L. (2022). ICT use, digital skills and students' academic performance: Exploring the digital divide. *Information*, *13*(3), 129.

Chimah, J. N., & Unagha, A. O., & Nwokocha U. (2015). *Information Retrieval in Libraries and Information Centres: Concept, Challenges and Search Strategies.*

Chow, A. N., & Wang, C. C. (2020). The impact of search tool design on information retrieval

performance: A meta-analysis. *Information Processing & Management*, *56*(1), 102212.

Chowdhury, G. G. (2019). *Introduction to Modern Information Retrieval*. (3rd Ed). London: Facet Publishing.

Coiro, J. L., & Dobler, E. (2017). *The role of information Literacy in a digital age*. In T. C. Hasselman (Ed.), The Wiley handbook of learning for life (pp. 399-421). Hoboken, NJ: Wiley.

Coiro, J. L., & Leu, D. J., Jr. (2016). *Literacy for the 21st century: An overview of research and practice.*

In Literacy in the 21st century: Research and practice (pp. 1-19). Springer, Cham.

Coombs, W. D. (2016). Digital literacy and information retrieval teaching: A review of the literature. *Education and Information Technologies*, *21*(4), 967-980.

Cooper, J. (2015). *Teaching Students how to Search: A Guide for Librarians*. Oxford University Press

Council of Europe (2017). *Reference Framework of Competences for Democratic Culture*. Strasbourg: Council of Europe.

Cox, A., & Cox, M. (2015). The nature of student academic information behaviors: A review of the literature. *New Library World, 116*(12), 655-679.

Dempster, A., Laird, P. D., & Leitch, D. (2019). *Search and retrieval*. London: Bloomsbury Academic.

Dimitrova, D. (2022). Information literacy in the age of disinformation. *Journalism & Mass Communication Quarterly*, *99*(2), 365-367.

Eke, C. U., Onyeka, C. N., & Agu, S. C. (2016). Information literacy skills and information management practices of postgraduate students in Nigerian universities. *Nigerian Libraries*, *40*(2), 122-132

Emiri, O. T. (2015). Digital literacy skills among librarians in university libraries in the 21st century in Edo and Delta States, Nigeria. *International Journal of Scientific & Technology Research*, *4*(8).

European Commission (2018). *eLearning: Better eLearning for Europe*. Directorate-General for Education and Culture. Luxembourg, Office for Official Publications of the European Communities.

Eze, H. C. (2020). Developing digital literacy skills for employability among Nigerian university graduates. *Journal of Library and Information Science*, *42*(1), 1-10.

Facione, P. A. (2015). Critical thinking skills: What they are and why they matter. *Education*, 135(2), 205-212.

Fatiloro, O. F., Adesola, O. A., Hameed, B. A., & Adewumi, O. M. (2017). A survey on the reading habits among colleges of education students in the information age. *Journal of Education and Practice*, *8*(8), 106-110.

Gilster, P. (2015). *Digital Literacy*. John Wiley & Sons.

Goldstein, E. B. (2019). *Sensation and Perception*. Cengage Learning.

Green, C., & Petre, M. (2015). Developing digital literacy in schools: A review of the literature. *Education and Information Technologies*, *20*(3), 597-612.

Hague, C. & Williamson, B. (2018). Digital participation, digital literacy and school subjects: A review of the policies literature and evidence. *Future Lab Innovation in Education.*

Hargis, J. G. (2017). The state of digital literacy development in higher education: Challenges and opportunities. *Journal of Asynchronous Learning Networks*, *21*(3), 100-111.

Harzing, A. W., & van der Werf, M. P. (2018). *Advanced Search Techniques for Effective Research*. Sage Publications.

Healey, J. (2019, July 1). *Media Literacy in the Digital Age* (Vol. 448). The Spinney Press.

Igbo, H. U. (2020). Undergraduates' Digital Literacy and Access to Information in Nigerian and use of electronic resources by OlabisiOnabanjo Faculty members. *Journal of Information Engineering and Applications*, 8(4).

Information Literacy Task Force (2015). *Framework for information literacy for higher education.* Association of College and Research Libraries.

Jenkins, H., Green, J., & Ford, S. (2018). *Spreadable media: Creating value and meaning in a networked culture*. New York University Press.

Jones, A. (2015). Digital literacy and young people: A review of the literature (part 1). *Learning, Media and Technology*, *40*(2), 181-200.

Kaur, A., & Goyal, N. (2016). Text stemming and its applications in information retrieval. *International Journal of Computer Science and Information Technologies*, *5*(3), 2502-2507.

Klug, B. (2017). An overview of the system usability scale in library website and system usability testing. *Weave: Journal of Library User Experience*, *1*(6), 1-14.

Ko, Y. Y. (2018). The effect of digital literacy on information retrieval skills and academic performance of

junior high school students in the United States. *Journal of Educational Technology & Society*, *21*(1), 25-36.

Lai, E. R., & Widmar, J. F. (2021). Digital literacy and the digital divide: A review of the literature. *Review of Educational Research*, *91*(3), 523-556

Leu, D. J., Jr., Leu, B. D., O'Brien, D., Kinzer, J. G., & Coiro, J. L. (2015). *The New Literacies: A Comprehensive Survey of Research on Reading and Writing in the Digital Age*. John Wiley & Sons.

Manning, C. D., Prabhakar, R., & Raghavan, V. (2020). *Introduction to information retrieval*. Cambridge University Press.

Martzoukon, K. & Elliott. J. (2016). The development of digital literacy and inclusion skills of public librarians. *Communication in Information Literacy*, *10*(1), 23-29.

Meola, M., D'Agostino, M., & Perrone, A. (2018). Promoting information literacy skills in higher education: An analysis of experiences in Italy and the United States. *Journal of Academic Librarianship*, *44*(2), 226-233.

Mirza, H. S., (2020). Improving university students' English proficiency with digital storytelling. *International Online Journal of Education and Teaching*, *7*(1), 84-94.

Mitra, P., & Chaudhuri, M. M. (2015). Topic-sensitive PageRank for information retrieval. In Proceedings of the 24th ACM *International Conference on Information and Knowledge Management* (pp. 1993-2002). ACM.

Moore, H. T. D. (2022). *Mind the gap! rom traditional and instrumental approaches of source evaluation towards source consciousness.*

Nguyen, T. H. T., & Vu, H. T. (2016). Evaluating the information literacy of university students in Vietnam. *Journal of Academic Librarianship*, *42*(1), 146-152.

Nworgu B. G (2015). *Educational Research Basic Issues and Methodology*. Nsukka: University Trust Publishers.

Nwosu, N. N. (2023). Digital literacy and information literacy: Rethinking the nexus in the emerging digital landscape. *International Journal of Information Literacy*, *4*(1), 1-11.

Odu, O. A., & Omosigho, N. A. (2017). Digital literacy and the implication on Nigerian digital library. *International Journal of Library and Information Science Studies,3*(2), 13-19.

Ogunlade, O. O., & Olorundare, A. O. (2017). The influence of cyberbullying on secondary school students' academic performance in Nigeria. *International Journal of Education and Evaluation*, *3*(1), 1-10.

Ojo, M. O. (2017). The impact of information literacy instruction on the critical thinking skills of undergraduate students in Nigeria. *Library Philosophy and Practice* (e-journal), *1*(1), 1-10.

Onuoha, U. I. (2021). Digital literacy skills in the 21st century: Implications for library and information services in Nigeria. *International Journal of Library and Information Science Studies*, *7*(2), 29-40.

Onyebinama, S. U., & Ajuonuma, C. R. (2022). Challenges of information access in the digital age for students: A case study of federal universities in Nigeria. *Journal of Library and Information Science*, *20*(2), 1-14.

Oriogu, C. D., Subair, R. E., & Oriogu-Ogbuiyi, D. C. (2017). Effect of reading habits on the academic performance of students: A case study of the students of Afe Babalola University, Ado-Ekiti, Ekiti State, *Teacher Education and Curriculum,2*(5), 1-8. DOI: 10.11648/j.tecs.20170205.13

Oseghale, O. (2023). Digital information literacy skills and use of electronic resources by humanities graduate students at Kenneth Dike Library, University of Ibadan, Nigeria. *Digital Library Perspectives*, *39*(2), 181–204.

Ozaki, M. (2019). The relationship between digital literacy and academic achievement of university students in Japan. *International Journal of Information Management*, *49*, 108-114.

Pagani, L., Argentin, G., Gui, M., & Stanca, L. (2016). The impact of digital skills on educational outcomes: Evidence from performance tests. *Educational studies, 42*(2), 137-162.

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

Rashid, H.A. (2020). Information retrieval. *Library & Information Management*. *https://limbd.*

Thongtan, N., & Rungsila, M. (2020). A hybrid recommendation algorithm based on user profiles and document content for selective dissemination of information (SDI) systems. *Information Processing & Management*, *56*(6), 102252.

UNESCO (2017). *Competency Framework for Teachers in the Digital Age*. Paris, France: UNESCO.

UNESCO (2018). A Global Framework of Reference on Digital Literacy Skill for Indicator 4.4.2; *Information Paper No. 51*. UNESCO: Paris, France.

UNESCO (2018). A Global Framework of Reference on Digital Literacy Skill for Indicator 4.4.2; *Information Paper No. 5*1. UNESCO: Paris, France.

UNICEF (2022). *Digital Literacy for Children: 10 Things to Know*. New York: UNICEF.

AUTHORS' PROFILES



Dr. Ifeyinwa Nkechi Okonkwo, CLN, MNLA, is a lecturer in the Department and Library Information Science, Nnamdi Azikiwe University, Awka, Nigeria with BLIS, MLIS and Ph.D. in Library and Information Science. With a passion for knowledge dissemination, she has dedicated her career to educating and inspiring students in the field of librarianship and beyond. Ifeyinwa expertise lies in Information organisation, electronic libraries, electronic resources management, entrepreneurship, research methods, social media, health information, digital literacy, emerging trends in Librarianship, dissemination and engagement. She has published numerous scholarly articles and presented them at national and international conferences.
She is active on all social media platforms. She is a member of NLA, Health Information for All (HIFA), Wikimedia Nigeria, NALISE,Association of Women Librarians in Nigeria (AWLIN), Association of Information Technology (ASIS&T) and many more. She was the former Circulation Librarian, Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus. Former financialsecretary and Secretary Institutional representative, NLA, Anambra State Chapter. She is the Associate Editor, *Unizik Journal of Library and Information Science (UJOLIS)*.
Email: in.okonkwo@unizik.edu.ng,



Dr. Nwofor-Orizu, Obianuju E. Library and Information Science. Health Librarian, Nnamdi Azikiwe University, Awka. Anambra State. Nigeria. Orcid:0000-0003-2084-0747.