



INFORMATION LITERACY SKILLS AND USE OF ELECTRONIC RESOURCES BY UNDERGRADUATE STUDENTS OF UNIVERSITY OF PORT HARCOURT

Mercy Ekenma *EICHEM*¹, & Mirabel Chisom, *WOKOMA*²

Department of Library and Information Science, Faculty of Education, Rivers State University, Port Harcourt, Nigeria^{1,2}

[.mercy.echem@ust.edu.ng](mailto:mercy.echem@ust.edu.ng)¹, wokomamirabel@gmail.com²

Abstract:

Purpose: The study examined information literacy skills and use of electronic resources by undergraduate students of University of Port Harcourt, Nigeria.

Design/Methodology/Approach: The research design in the study was correlational research design. The population in the study, consists of 630 students of the Department of Library and Information Science, University of Port Harcourt. A sample size of 244 was drawn using Taro Yamane statistical formula. Structured questionnaire was utilized and the hypotheses were tested using Pearson Product Moment Correlation.

Findings: The findings show that electronic resources has significant relationship with information literacy skills. Perception of undergraduate students also have significant relationship with electronic resources usage.

Originality/Value: It was concluded that there is significant relationship between information literacy skills and use of electronic resources by students of University of Port Harcourt. It was therefore recommended amongst others that the university should provide more electronic resources in their libraries and also organize workshops to train students in order to enhance their literacy skills.

Keywords: Information Literacy, Skills, Electronic Resources, Undergraduate, University of Port Harcourt

Introduction

Information literacy is a set of skills that enables a person to identify their information need. Students who lack these skills experience delays and frustrations when attempting to complete course-related work which requires research (Oakleaf & Owen, 2010). Information as 21st century issue, is important and strategic in all era of the society (Macgregor, 2005). Therefore, ability to locate information is necessary for quality research.

According to Okon, Etuk and Akpan (2014), information literacy include the capability of individuals to identify, locate and critically evaluate information for decision making, knowledge creation and problem solving. Ojedekun and Lumande (2005) noted that information literacy has expanded greatly in scope from its antecedents which started as

users' education programme or bibliographic instruction, that emphasized the exploitation of library tools. However, it is worthy to note that information literacy is the basis for life-long learning. Majetic and Pellegrino (2018) opined that information literacy encompasses the ability to discover information, understand how it is produced, valued and used in creating new knowledge and to participate ethically in the learning environment.

Banik and Kumar (2019) asserted that with adequate information literacy skills, undergraduates' academic performance would be improved significantly and this could contribute to the national development. Undergraduate students are expected to be information seekers and users but they cannot play such role effectively without acquiring information literacy skills through their university education.

The digitization of information which is also known as electronic information has brought a new concept in all fields of life. This digitization, brought in the beginning of information era. Thanuskodi (2012) opined that electronic resources are the electronic representation of information. They are available in various forms like e-books, digital libraries, online journal magazine, electronic learning tutors and on-line test. Because of the effective presentation with multimedia tools, these electronic resources have become the source of information. Furthermore, the author agreed that electronic resources deliver the collection of information as full text databases, e-journals, image collections, multimedia in the form of compact disc, tape, internet, web technology, etc. In addition, electronic information source is a wide range of products going from electronic periodicals to CD-ROMs, from mailing list to databases, all of them having a common feature of being used and sometime modified by a computer (Thanuskodi, 2012).

Odede and Nsibirwa (2018), quoting the California University of Information Literacy fact sheet (2000) outlined a curriculum that encompassed the concepts which they referred to as operationalized dimensional construct of information literacy. They explained that the basic information literacy skills that should be possessed by undergraduate students for effective use of electronic resources include: Tool Literacy; Social-Structural Literacy; Research Literacy; Publishing Literacy; Emergent Technology Literacy; and Critical Literacy. These are important literacy skills that an undergraduate student must possess as a literate person.

Commenting on the advantages of electronic resources, Dadzie (2005) noted that electronic resources are invaluable research tools that complement the print – based resources in a traditional library setting. Their advantages, according to her include: access to information that might be restricted to the user due to geographical location or finances, access to more current information, and provision of extensive links to additional resources of related contents. The rapid growth of new technologies has changed the communication process and

reduced the cost of communication for individuals. Electronic information sources can be seen as the most recent development in information technology and are among the most powerful tools ever invented in human history (Adeniran, 2013). Therefore, the importance of electronic resources cannot be underestimated. Bankole, Ajiboye and Otunla (2015) posited that the use of electronic resources has availed researchers and students' access to global information resources particularly the Internet for their scholarly intercourse. As the use of electronic resources continues to soar, users are expected to develop information literacy skills. These skills, as Julien (2002) observed, will enable users to make efficient and effective use of information sources. The author further identified the skill domains that are involved and classified them as cognitive, affective, and physical, i.e., thought, attitude, and operation.

Omosokejimi, Eghworo and Ogo (2015) citing Uzuegbu in his study asserted that for effective utilization of electronic databases, not only are computers and internet connection necessary, creating a usable interface is indispensable. Ani and Ahiauzu (2008) had earlier opined that a computer database interface aids access and retrieval of information. Hence, a Uniform Resource Locator (URL) link is an interface that can help students overcome the problems of obtaining passwords, username, inputting error, among other things when making use of online databases. However, the use of electronic resources in higher learning institutions has become more popular in recent years due to their currency and rich content. Mollel and Mwantimwa (2019) mentioned issues hindering the use of e-resources such as frequent power outage, inadequate bandwidth, lack of training, lack of awareness and limited access to computers.

Omosokejimi, Eghworo and Ogo (2015) are of the view that despite several advantages of electronic information resources and its positive effect on students' academic performance in universities, many university students are yet to harness the opportunities provided by these initiatives due to inadequate facilities or lack of maintenance culture and even where these facilities are in place, the potential users of

these new information sources are not making use of the valuable electronic information resources owing to lack of awareness or lack of skills required to navigate the modern technology. There is also a growing body of scholarly publications on the Internet which many researchers, teachers and students are taking advantage to enhance their learning, teaching, and research activities. Students subscribe to electronic resources to support learning and research in the University community.

However, information literacy skill is progressively more important in the present environment of rapid technological change and increasing information resources. However, the ability to explore digital environment is a prerequisite for academic success. Therefore, students are increasingly being asked to use electronic resources at the university and to take advantage of the growing stock of electronic resources. Students must acquire these skills and learn to apply and use them since electronic resources depend on technology. Therefore, for information search to be achieved by undergraduate students, computer literacy is crucial. It is on this basis that this study examined the importance of information literacy skills and use of electronic resources by undergraduate students of University of Port Harcourt, Nigeria.

Statement of the Problem

The vast information fostered by access to global information network to enhance academic and research purposes provides impetus for growth at all levels of human behaviour. Electronic information resources offer the 21st century student new opportunities that were not available to previous generations, yet large number of students leave universities without necessary skills to cope within the information-based society. It has been observed that undergraduate students often have difficulty in search and use of information effectively. Therefore, lack of information literacy skills seems to be at the root of students search difficulties and poor academic performance. This factor has been influenced by lack of skills, lack of knowledge on how to use electronic resources, lack of time and

awareness, inadequate computers, poor network infrastructure etc.

It is also observed among others, that the effective use of electronic resources in academic institution is hindered by a variety of factors such as lack of information retrieval skills, poor information literacy skills and evaluation skills. Moreover, the undergraduate students who make use of electronic resources are often faced with more resources than they can effectively handle and to address this problem of information overload, skills are required to locate and verify the quality of information obtained from electronic resources.

The disparity in usage of electronic resources shows that there is a challenge. Therefore, this study seeks to investigate students' perception, usage and challenges of electronic information resources in order to bridge the gap. If these challenges are not addressed, the effectiveness of the use of electronic resources in faculty of education will be adversely affected. It is against these backdrops that this study is therefore set to investigate the information literacy skills and use of electronic resources by undergraduate students in faculty of education, University of Port Harcourt, Nigeria.

Research Questions

The following research questions were raised to guide the study:

1. What are the various electronic resources used by undergraduate students in Faculty of Education, University of Port Harcourt?
2. What are the perceptions of undergraduate students on the use of electronic resources in Faculty of Education, University of Port Harcourt?
3. What are the information literacy skills possessed by undergraduate students in Faculty of Education, University of Port Harcourt?
4. What are the challenges faced by undergraduate students on the use of electronic resources in Faculty of Education, University of Port Harcourt?

Hypotheses

Ho₁: There is no significant relationship between electronic resources and literacy skills of undergraduate students in Faculty of Education, University of Port Harcourt.

Ho₂: There is no significant relationship between perception of undergraduate students and the use of electronic resources in Faculty of Education, University of Port Harcourt.

Literature Review

Information literacy is a tool which enables learners to master content and extend their investigations, become more self-directed and assume greater control over their own learning. Information literacy has today, been associated with information and communication technology literacy which is increasingly referred to as the fourth literacy, this is necessary because most information for research is retrieved using information technology.

According to Adekunle, Olla, Olajide, Osunji and Adedoyin (2019), information literacy (IL) is a very fundamental ingredient to students' success in the digital age, particularly in higher education and lifelong learning. It has therefore become a significant issue in many academic communities. An information literate person should be able to identify the extent of information needed, retrieve the needed information effectively and efficiently, analyze information and its sources critically, absorb the information into one's knowledge, put the information to use in order to accomplish a specific purpose, as well as understand the economic, legal, and social issues surrounding the use of information and use information ethically.

Students must show tendency for life-long learning by acquiring information literacy skills to contend with the rapid growth of information in the society and advance themselves. However, students are engaged with research and a lot of assignments with high expectation from their teachers to come up with quality research papers and findings. In recent times, e-resources have been identified as the major source for information dissemination in the universities especially for researcher (Sejane,

2017). Electronic resources are documents that are made available to users in digital formats, through a computer-based information retrieval system (Sejane, 2017). However, Nwachukwu, Abdulsalami and Salami (2014) opined that the use of e-resources is the extent to which users utilize the electronic resources to meet their information needs. Nisha and Ali (2012) indicated that the main aim of e-resources is for retrieving information regarding research, publishing papers, assignments, presentations, seminars and largely to update knowledge. Kenchakkanavar (2014) stated that the digitalization of information in print media has brought a new concept altogether in all fields of human life. They may either be accessed remotely via the internet or locally. The various types of electronic resources includes: E-books, E-Journals, E-Newspapers, E-Magazines, E-Thesis and Dissertation (ETD), E-reference books, CD-ROMS etc.

The perception of undergraduate students about e-resources is of extreme significance on the grounds that to a huge degree, it decides the level of information resource usage in the university. Kumar (2016) asserted that the use of e-resources enhances communication, career developments, teaching and research in addition to providing subject specific and updated information. A study by Omeluzor, Akibu and Akinwoye (2016) revealed four issues relating to perception of students towards the usage of information resources. They found that students strongly perceive e-resources in their study area to be insufficient, the internet sites and other databases are better than the library subscribed e-resources, electronic resources are not well structured and finally searching through the computer system for e-book and e-journal is time consuming. The perception of certain resources in the library depends on users' awareness, packaging, format it is presented in, ease of use, it being result oriented and the role of the tutor (Bamidele, Omeluzor and Amadi, 2003).

For students to contend with the rapid information growth in the information society, they must show tendency for lifelong learning by acquiring information literacy skills. Muhia (2015) noted that abundance of information and technology will not in itself create more

informed citizens without a complimentary understanding of and capacity to use information effectively. Therefore information literacy skill will enable students to make impressive and dynamic use of digital information. Odede and Nsibirwa (2018) stated that the tremendous growth in e-resources has changed the entire scenario of education and information industry. Students need to be information literate as this would guarantee their effective use of electronic information resources. Therefore, students must not only have knowledge about just the technology, but the domain of the application and the skills needed to determine what they need and how they use it.

Despite the numerous impacts or importance of electronic resources, the use is not left without challenges. Electronic information resources help in facilitating access to information we need in an easy and speedy manner and this has become the backbone of many academic institutions of higher learning (Ukachi, 2015). Electronic resources have proved to be invaluable to many academic institutions around the globe due to the changing needs of patrons and information communication and technology tools. Although electronic information resources hold great potential for supporting and augmenting existing educational programs, there are various problems militating against the effective use of electronic information resources (Emwanta and Nwalo, 2013; Okon, Patrick and Omwoyo, 2014; Aina, 2014; Omoike, 2013; Buba, Song and Abdullahi, 2021). Foremost among the problems is the lack of skilled manpower to manage the available systems, inadequate training facilities, irregular power supply and poor Internet connectivity. These factors are not exhaustive but represent the major problems faced in the development

of electronic information resources in Nigeria. If these challenges are not addressed, the effectiveness of electronic information resources will be adversely affected. Without being primed, undergraduate students display a low level of proficiency in identifying the source of information and weighing source credibility (Enite, 2014). Identifying credible information is challenging for young web users because they are less cognitively developed than adults and are at greater risk of falsely accepting a source's self-asserted credibility. However, lack of basic skills to use available e-resources adversely affects the academic performance of students as well as their research output in the information era.

Methodology

The study adopted a correlational design. The population of the study consisted of all the undergraduate students in the Department of Library and Information Science in Faculty of Education, University of Port Harcourt in Rivers State. There are 630 students in the department of library and information science. A sample size of 244 students was used for the study. The sample size was determined mathematically using the Taro Yamene's formula. Simple random sampling technique was used to select the sample size from the study population. Questionnaire was used to gather the data. Out of 244 copies of the instrument that was produced, 235 was distributed, while 220 were found valid for analysis. The study was analysed using frequency table, percentage, mean and Pearson Product Moment Correlation (PPMC). The Pearson Product Moment Correlation Coefficient (PPMCC) statistical method and Statistical Package for Social Science (SPSS) Version 23 were used to analyze the stated hypotheses.

Results

Table 1: Descriptive Statistics on Electronic Resources used by Undergraduate Students in Faculty of Education, University of Port Harcourt

Items	N	Sum	Mean	Std. Deviation	Variance
e-Books.	220	832.00	3.78	0.44	0.19
e-Journals	220	916.00	4.16	3.94	15.55
OPAC	220	840.00	3.82	0.39	0.15
References Sources	220	842.00	3.83	0.40	0.16
Electronic Databases	220	844.00	3.84	0.39	0.16
e-News	220	838.00	3.81	0.42	0.17
Online Magazines	220	834.00	3.79	0.45	0.20
Internet	220	822.00	3.74	0.48	0.23

Table 1 shows results of descriptive analysis using sum, mean, standard deviation and variance for electronic resources used by the undergraduate students. As shown in the table, the entire responses generated high mean scores greater than the minimum acceptable level of 2.50. This means, most of the respondents agreed and strongly agreed to the

questions in the instrument with respect to electronic resources used by undergraduate students. In the result, e-Journals has the highest sum of 916.00 and hence the highest mean score of 4.16. However, e-Journals has the highest standard deviation of 3.94 and variance of 15.55 respectively, which means e-Journals has the most data variations.

Table 2: Descriptive Statistics on the Perception of Undergraduate Students on the Use of Electronic Resources in Faculty of Education, University of Port Harcourt.

Items	N	Sum	Mean	Std. Deviation	Variance
It delivers instructions which support teaching and research activities	220	812.00	3.69	0.46	0.21
The e-resources is insufficient in my study area	220	634.00	2.88	0.71	0.51
It is highly dependent on academic values for research work.	220	792.00	3.60	0.51	0.26
Electronic resources are not well structured	220	794.00	3.61	0.66	0.44
Using ICT facilities enable me acquire more information for my course of study	220	788.00	3.58	0.51	0.26
There are adequate e-resources available for students to access	220	786.00	3.57	0.64	0.41
It delivers instructions which support teaching and research activities	220	756.00	3.44	0.60	0.36
Valid N (listwise)	220				

Table 2 shows results of descriptive analysis using sum, mean, standard deviation and variance for perception of undergraduate students on the use of electronic resources. As shown in the table, the entire responses generated high mean scores greater than the minimum acceptable level of 2.50. This means, most of the respondents agreed and strongly agreed to the questions in the instrument with

respect to electronic resources used by undergraduate students. In the result, “it delivers instructions which support teaching and research activities” has the highest sum of 812.00 and hence the highest mean score of 3.69. Also, “the e-resources is insufficient in my study area” has the highest standard deviation of 0.71 and variance of 0.51 respectively, which means it has the most data variations.

Table 3: Descriptive Statistics on Information Literacy Skills Possessed by Undergraduate Students in Faculty of Education, University of Port Harcourt.

Items	N	Sum	Mean	Std.	
				Deviation	Variance
Ability to recognize the information needed	220	762.00	3.46	0.54	0.29
Skills to make use of information sources	220	712.00	3.24	0.50	0.25
Skills to construct a logical search strategy	220	748.00	3.40	0.58	0.33
Skills to search for information online	220	726.00	3.30	0.50	0.25
Skills to incorporate information into one’s knowledge base	220	760.00	3.45	0.57	0.32
Saving and e-resource editing skills	220	654.00	2.97	0.70	0.48

Table 3 shows results of descriptive analysis using sum, mean, standard deviation and variance for information literacy skills possessed by the undergraduate students. As shown in the table, the entire responses generated high mean scores greater than the minimum acceptable level of 2.50. This means, most of the respondents agreed and strongly agreed to the questions in the instrument with respect to

the information literacy skills possessed by undergraduate students. In the result, “ability to recognize the information needed” has the highest sum of 762.00 and hence the highest mean score of 3.46. However, “saving and e-resource editing skills” has the highest standard deviation of 0.70 and variance of 0.48 respectively, which means it has the most data variations.

Table 4: Descriptive Statistics on the Challenges Faced by Undergraduate Students on the Use of Electronic Resources in Faculty of Education, University of Port Harcourt

Items	N	Sum	Mean	Std.	
				Deviation	Variance
Ineffective communication channels	220	734.00	3.34	0.74	0.55
Excessive academic workload	220	752.00	3.42	0.62	0.39
Lack of training in using e-resources	220	702.00	3.19	0.63	0.39
Difficulty in identifying relevant information to meet my information needs	220	716.00	3.25	0.67	0.45
Lack of awareness to electronic information resources	220	702.00	3.19	0.63	0.39
Financial problem	220	784.00	3.56	0.64	0.41

Table 4 shows results of descriptive analysis using sum, mean, standard deviation and variance for challenges faced by undergraduate students on the use of electronic resources. As shown in the table, the entire responses generated high mean scores greater than the minimum acceptable level of 2.50. This means, most of the respondents agreed and strongly agreed to the questions in the instrument with

respect to electronic resources used by undergraduate students. In the result, “financial problem” has the highest sum of 784.00 and hence the highest mean score of 3.56. However, “ineffective communication channels” has the highest standard deviation of 0.74 and variance of 0.55 respectively, which means it has the most data variations.

Test of Hypotheses

Table 5: Test on the Statistics on the Relationship between Electronic Resources and Literacy Skills of Undergraduate Students in Faculty of Education, University of Port Harcourt.

Correlations		Electronic Resource	Literacy Skills
Electronic Resources	Pearson Correlation	1	.362**
	Sig. (2-tailed)		.000
	N	240	240
Literacy Skills	Pearson Correlation	.362**	1
	Sig. (2-tailed)	.000	
	N	240	240

** . Correlation is significant at the 0.01 level (2-tailed).

The result from Table 5 shows the summary of statistics on the relationship between electronic resources and literacy skills of undergraduate students in University of Port Harcourt. It shows that electronic resources have significant relationship with literacy skills of undergraduate

students of University of Port Harcourt. The R-value of .362 shows a weak relationship between electronic resources and literacy skills but significant ($r= 0.362, p=.000$). The null hypothesis one was therefore rejected at .05 level of significance.

Table 6: Test on the Statistics on the Relationship between Perception and Use of Electronic Resources in Faculty of Education, University of Port Harcourt

Correlations		Perception	Electronic Resources
Perception	Pearson Correlation	1	.416**
	Sig. (2-tailed)		.000
	N	240	240
Electronic Resources	Pearson Correlation	.416**	1
	Sig. (2-tailed)	.000	
	N	240	240

***. Correlation is significant at the 0.01 level (2-tailed).*

The result from Table 6 shows the summary of statistics on the relationship between perception and electronic resources of undergraduate students in Faculty of Education, University of Port Harcourt. It shows that perception has significant relationship with electronic resources of undergraduate students of Faculty of Education, University of Port Harcourt. The R-value of .416 shows a moderately strong relationship between perception and electronic resources ($r= 0.416, p=.000$). The null hypothesis two was therefore rejected at .05 level of significance.

Discussion of Findings

Electronic Resources and Literacy Skills

Analysis of data revealed that there is a weak and positive relationship between electronic resources and literacy skills of undergraduate students in Faculty of Education, University of Port Harcourt. This is indicated by the Pearson Correlation of 0.362 and a probability value of 0.000. In view of this result, the null hypothesis which states that there is no significant relationship between electronic resources and literacy skills of undergraduate students was rejected and the alternate hypothesis accepted. This means, there is a significant relationship between electronic resources and literacy skills of undergraduate students in Faculty of Education. This finding is in line with those of Adebisi and Madukoma (2021), Salihu and Olatokun (2021) and Ukachi (2015), who found significant relationship between information

literacy skills and use of electronic resources by undergraduates. A similar relationship has also been observed by Adeleke and Emeahara (2016) among postgraduate students.

Perception and Electronic Resources

Analysis of data revealed that there is a weak and positive relationship between perception and electronic resources of undergraduate students in Faculty of Education, University of Port Harcourt. This is indicated by the Pearson Correlation of 0.416 and a probability value of 0.000. In view of this result, the null hypothesis which states that there is no significant relationship between perception and electronic resources of undergraduate students was rejected and the alternate hypothesis accepted. This means, there is a significant relationship between perception and electronic resources of undergraduate students in Faculty of Education. This finding corroborates that of Omeluzor, Akibu and Akinwoye (2013), who found that users’ perception influences use of electronic resources in academic libraries.

Information literacy skills and Electronic Resources

Information literacy skills are required for undergraduates to access information in this age of technological advancement. The undergraduates in this study possessed high information literacy skills as their mean scores were greater than the minimum acceptable level. This corroborates the findings of Adebisi and Madukoma (2021) as well as Buba, Song

and Abdullahi (2021), who observed high information literacy skills among undergraduates in their studies. However, our study is not in line with those of Ilogho and Nkiko (2014) as well as Ukachi (2015), who found low information literacy skills among undergraduates in their studies.

Challenges faced by undergraduates on the use of Electronic Resources

Electronic resources are invaluable in academic institutions. However, challenges can be encountered by undergraduates as they make efforts to use these electronic resources. The undergraduates in the present study encountered significant challenges as their mean scores were greater than the minimum acceptable level. These included ineffective communication channels, excessive workload, lack of training in using electronic resources, financial constraints amongst others. Similar challenges have been found by other authors (Omoike, 2013; Omeluzor, Akibu&Akinwoye, 2016).

Conclusion and Recommendations

Information is crucial in the intellectual and social development of the undergraduates. However, the training of undergraduates with the right disposition to information use will to a great extent, determine the quality of the workforce of the future of the country. With the high rate of misinformation and fake news in various channels across the internet, the place of information literacy skills in the heart of teaching and learning environment cannot be overemphasized.

Based on the findings of this study, it is recommended that:

1. The university should provide more electronic resources in their libraries and also organize workshops in order to train the students so it will enhance their literacy skills.
2. The orientations should be done on a regular basis in order to change the perception of the students with regards to literacy skills.

References

Adebiyi, A.A., &Madukoma, E. (2021). Information literacy skills and use of electronic reference

services by undergraduates in selected tertiary institutions in Abeokuta, Ogun State, Nigeria. *International Journal of Academic Research in Education and Review*, 9(4), 181-190. Doi: 10.14662/ijarer2021.140.

Adekunle, A.P, Olla, G.O., Olajide, A. A., Osuji, C.N. & Adedoyin, A.O. (2019). Attitude of undergraduate students to information literacy: Bowen University experience. *Journal of Balkan Libraries Union*, 6(1), 1-11.

Adeleke, D. S. and Emeahara, E. N. (2016). Relationship between information literacy and use of electronic information resources by postgraduate students of the University of Ibadan. *Library Philosophy and Practice (e-journal)*. 1381. <http://digitalcommons.unl.edu/libphilprac/1381>.

Adeniran, P. (2013). Usage of electronic resources by undergraduates at the Redeemer's University, Nigeria. *International Journal of Library and Information Science*, 5(10), 319-324.

Aina, R.F. (2014). Awareness, accessibility and use of electronic databases among academic staff of Babcock University Business School. *Kuwait Chapter of Arabian Journal of Business and Management Review*, 3(6), 40-47.

Ani, O.E. &Ahiauzu, B. (2008). Towards effective development of electronic information resources in Nigerian university libraries. *Library Management*, 29(6/7), 504-514. <https://doi.org/10.1108/01435120810894527>.

Ani, O.E., Ngulube, P., & Onyancha, B. (2014). Effect of accessibility and utilization of electronic information resources on productivity of academic staff in selected Nigerian universities. *Science Research*, 2(6), 166-171. Doi:10.11648/j.sr.20140206.13.

Bamidele, I.A., Omeluzor, S.U. &Amadi, H.U. (2013). Utilization of journal publications by undergraduate students of Babcock University, Nigeria. *Library Philosophy and Practice (e-journal)*. 1006. <https://digitalcommons.unl.edu/libphilprac/1006>.

Banik, P. & Kumar, B. (2019). Impact of information literacy skill on students' academic performance in Bangladesh. *International Journal of European Studies*, 3(1), 27-33. Doi:10.11648/j.ijes.20190301.15.

Bankole, O.M., Ajiboye, B.A., &Otunla, A.O. (2015). Use of electronic information resources by

- undergraduates of Federal University of Agriculture, Abeokuta, Ogun State, Nigeria. *International Journal of Digital Library Services*, 5(4), 1-14.
- Buba, A.A., Song, U.M., & Abdullahi, Z.M. (2021). Information literacy skills and use of e-resources by undergraduate students in Nigeria in relation to Kuhlthau's model of information search process (ISP). *Library Philosophy and Practice (e-journal)*. 4992. <https://digitalcommons.unl.edu/libphilprac/4992>.
- Dadzie, P.S. (2005). Electronic resources: access and usage of Ashesi University College. *Campus-Wide Information Systems*, 22(5), 290-297. <https://doi.org/10.1108/10650740510632208>.
- Emwanta, M.G., & Nwalo, K.I.N. (2013). Influence of computer literacy and subject background on use of electronic resources by undergraduate students in universities in South-Western Nigeria. *International Journal of Library and Information Science*, 5(2), 29-42.
- Enite, A.U. (2004). Issues and challenges in teaching library instruction course in Nigeria universities. *Journal of Education and Leadership Development*, 6(2), 59-71.
- Ilogho, J.E., & Nkiko, C. (2014). Information literacy search skills of students in five selected private universities in Ogun State, Nigeria: A survey. *Library Philosophy and Practice (e-journal)*. 1040. <https://digitalcommons.unl.edu/libphilprac/1040>.
- Julien, H. (2002). Use of information. *Encyclopedia of Communication and Information*. New York, USA: Macmillan Reference, 1051-1056.
- Kenchakkanavar, A.Y. (2014). Types of e-resources and its utilities in library. *International Journal of Information Sources and Services*, 1(2), 97-104.
- Kumar, G.R. (2016). Awareness and use of digital library resources by faculty members of Engineering College libraries in Warangal District, Telangana: A study. *International Journal of Research in Library Science*, 2(2), 188-200.
- Macgregor, G. (2005). The nature of information in the 21st century: conundrums for the informatics community? *Library Review*, 54(1), 10-23. <https://doi.org/10.1108/00242530510574129>.
- Majetic, C., & Pellegrino, C. (2018). Building information literacy skills using science news media: Evidence for a hands-on approach. *Journal of College Science Teaching*, 48(1), 83-91. <https://www.jstor.org/stable/26491350>.
- Mollel, M.M., & Mwantimwa, K. (2019). Users' acceptance of e-resources usage at the Institute of Finance Management, Tanzania. *International Journal of Education and Development using Information and Communication Technology*, 15(4), 5-21.
- Muhia, J.K. (2015). Effectiveness of information literacy program in promoting utilization of electronic information resources by postgraduate students in Kenyatta University post-modern library. MLIS dissertation. Kenyatta University, Nairobi, Kenya. <https://ir-library.ku.ac.ke/handle/123456789/14067>.
- Nisha, F., & Ali, P.M.N. (2012). Use of e-journals by IIT Delhi and Delhi University library users. *International Journal of Digital Library Services*, 2(3), 23-42.
- Nwachukwu, V.N., Abdulsalami, L.T., & Salami, P.F. (2014). Availability, accessibility and use of information resources and services among information seekers of Lafia Public Library in Nasarawa State. *Information and Knowledge Management*, 4(10), 1-11.
- Oakleaf, M. & Owen, P.L. (2010). Closing the 12-13 gap together: School and College librarians supporting 21st century learners. *Teacher Librarian*, 37(4), 52-58.
- Odede, I.R. & Nsibirwa, Z. (2018). Information literacy skills in using electronic information resources. *Library Philosophy and Practice (e-journal)*. 1947. <https://digitalcommons.unl.edu/libphilprac/1947>.
- Ojedokun, A., & Lumande, E. (2005). The integration of information literacy skill into a credit-earning programme at the University of Botswana. *African Journal of Library, Archives and Information Science*, 5(2), 117-124.
- Okon, M.E., Etuk, E.P., & Akpan, U.J. (2014). Information literacy skills and information use by students in two south university libraries in Nigeria. *International Journal of Economics, Commerce and Management*, 2(9), 1-16.
- Omeluzor, S. U., Akibu, A. A., & Akinwoye, O. A. (2016). Students' perception, use and challenges of electronic information resources in Federal University of Petroleum Resources Effurun

- Library in Nigeria. *Library Philosophy and Practice (e-journal)*, 1428. <https://digitalcommons.unl.edu/libphilprac/1428>.
- Omoike, A.D. (2013). Use of electronic resources by distance students in Nigeria: The case of the National Open University, Lagos and Ibadan study centers. *Library Philosophy and Practice (e-journal)*, 915. <https://digitalcommons.unl.edu/libphilprac/915>.
- Omosekejimi, A. F., Eghworo, O.R., & Ogo, E.P. (2015). Usage of electronic information resources (EIRs) by undergraduate students of Federal University of Petroleum Resources Effurun. *Information and Knowledge Management*, 5(4), 94-103.
- Salihu, S.T.&Olatokun, W. (2021). Factors affecting final-year students' use of electronic information resources at the Federal University of Technology Minna, Niger State, Nigeria. *FUDMA International Journal of Library Science and Information Management*, 1(1), 71-83.
- Sejane, L. (2017). Access to and use of electronic information resources in the academic libraries of the Lesotho library consortium. PhD thesis. University of Kwazulu-Natal, Pietermaritzburg, South Africa. https://researchspace.ukzn.ac.za/bitstream/handle/10413/14345/Sejane_Lefuma_2017.pdf?sequence=1&isAllowed=y.
- Thanuskodi, S. (2012). Use of e-resources by the students and researchers of Faculty of Arts, Annamalai University. *International Journal of Library Science*, 1(1), 1-7. <https://doi.org/10.5923/j.library.20120101.01>.
- Ukachi, N.B. (2015). Information literacy of students as a correlate of their use of electronic resources in university libraries in Nigeria. *The Electronic Library*, 33(3), 486-501. <https://doi.org/10.1108/EL-05-2013-0085>.