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Information literacy skills as predictor of electronic information resources use by undergraduates of public universities in Southwestern Nigeria

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Abstract

The importance of Electronic Information Resources (EIRs) for academic activities has been widely acknowledged. However, regardless of its overwhelming benefits, findings have shown that undergraduates of public universities in southwestern Nigeria exhibit low use of EIRs which affects their academic performance. This has been attributed to information literacy skills. This study, therefore, was carried out to examine information literacy skills as a predictor of Electronic Information Resources (EIRs) use by undergraduates of public universities in southwestern Nigeria. The survey design of the correlational type was adopted. The multi-stage sampling procedure was used. Five states (Oyo, Ogun, Osun, Ekiti and Lagos) were purposively selected in southwestern Nigeria. The purposive sampling technique was used to select eight public universities with four common academic faculties (science, engineering/technology, arts/humanities and social science) in the selected states. The proportionate to size sampling technique was used to select 1378 undergraduates across the faculties. Data were analysed using descriptive statistics and Pearson product moment correlation. Findings from the study revealed that the level of information literacy skills of the undergraduates in Southwestern Nigeria is fair (overall weighted mean = 2.42). The EIRs were prominently used for classwork/assignment, project writing, knowledge update, group/individual practical works and tutorials. The frequency of use of electronic information resources by undergraduates in universities in Southwestern Nigeria is high (Weighted mean = 3.41). Majority of the undergraduates accessed e-databases, web 2.0, e-books, library website, the internet and e-mail both at home and campus environment. The study also revealed that information literacy skills significantly predicted electronic information resources use by undergraduates in universities in Southwestern Nigeria, ($F=5.869$, $P < .05$). Based on the findings of the study, it was recommended that adequate and periodic training on information literacy of undergraduates will improve the information literacy skills of undergraduates as most of the undergraduates investigated were found to have moderate information literacy skills. There is therefore the need to incorporate information literacy skills and use of library in the curriculum of undergraduate students at all level of studies. This will enable them to adequately possess the requisite skills required for effective utilisation of electronic information resources.

Keywords: Information literacy skills, electronic information resources, undergraduates

Introduction

Universities are academic institutions that offer teaching, learning, research, and community service opportunities. They provide undergraduate and postgraduate programs in form of bachelor's, masters', and doctoral degrees. These universities are divided into three groups based on their ownership structure: federal, state, and private. The line of power, control, and operation that must be followed is referred to as the ownership structure. Federal and state universities fall into two groups when it comes to public universities. Libraries, on the other hand, are established to support teaching, learning, and research activities by providing a variety of information resources, regardless of who owns the university (print, non-print and electronic).

A library is at the centre of all teaching, learning, and research, and a vibrant information community is at the heart of every library. The library offers resources and services to the entire community, including teachers, staff, administration, and students (Todd and Gordon, 2012). University libraries aid universities in carrying out their tasks by gathering all relevant information resources required to maintain learning and research activities at universities. In other words,

university libraries promote teaching, research, and knowledge preservation, assisting universities in attaining their goals.

Information is the pivot around which any society's survival is based. It continues to be a key component in decision-making, lowering the level of ambiguity. Information and its application date back to the dawn of time. There can be no communication without information. It is a necessary component for every student's success at all academic institutions. This is because actual knowledge in a teaching and learning setting is primarily obtained through access to and application of information. In order to support the teaching and learning process, university libraries are known for acquiring, preserving, and disseminating important information resources.

Electronic Information Resources (EIRs) have steadily gained prominence in library collections around the world. Electronic information resources currently make up a large component of many library collections, thanks to the growing popularity of digital libraries. Electronic information resources are becoming increasingly significant to the academic community as new technologies emerge; as a result, awareness of these resources is critical to library growth in the twenty-first century (Velmurugan, 2013; Akpojotor, 2016).Electronic information resources have provided library professionals with new opportunities as well as new obstacles as they endeavor to adopt new strategies and approaches for managing their electronic collections and providing dynamic library services using a variety of new technologies. Users, for their part, try to adapt to changing circumstances by utilizing a variety of electronic information resources, despite the fact that many users remain suspicious of electronic information resources' true capability. Furthermore, the use of e-resources and digital technology has not been uniform throughout the world, and while industrialized countries have made tremendous progress in this area, many developing countries are still lagging behind.

Electronic information resources, such as e-journals, e-books, and full-text databases, have developed as key sources of information since 1990, according to Kwafoa, Imoro, and Afful-Arthur (2014), with the goal of easing information retrieval from any location and time. Electronic information resources, according to the authors, are still valuable resources designed to supplement print-based materials, and have shown to be very useful to both students and lecturers. Electronic Information Resources (EIRs) are materials saved digitally and made available through computer networks, according to Adeniran (2013). EIRs are e-books, e-journals, articles, newspapers, theses, dissertations, databases, and CD-ROMs, to name a few.

Izuagbe, Hamzat and Joseph (2016) noted that electronic information resources include scholarly and academic journals, electronic databases, online library catalogues, grey literature and other relevant scholarly materials in all fields of knowledge that are now accessible on the Internet. They went on to say that the most common feature of these materials is that they are electronic and may be accessed via an online or offline platform. The library's electronic resources could be accessed without having to visit the actual location. In this information-driven 21st Century, the sorts of libraries necessary in Nigerian academic institutions are those that would provide up-to-date information resources in both print and electronic media to support

teaching and learning. Undergraduates should be able to access relevant material in both remote and local databases around the world through electronic libraries, allowing them to engage in in-depth and effective study.

Access to electronic books and journals, as well as databases and search engines, has been made available by the Internet, which is the most well-known of EIRs. Electronic Information Resources encompasses all of these resources (EIRs). Electronic information resources can be accessible over the internet and cover a wide range of topics. According to Gakibayo, Odongo, and Obura (2013), a high percentage of students leave schools without the requisite skills to cope in an information-driven culture, citing Ray and Day (1998). People can search for relevant publications in a subject area using electronic information resources. Electronic journals, online databases (Agora, Jstor, Ebscohost, Ajol, Hinari), electronic books, locally loaded databases, websites, CD-ROM, electronic text, e-abstracting, and indexing databases like MEDLINE, E-news, E-images, and E-music are among the resources available. The majority of these electronic resources are utilized for reading and study. Some electronic resources are password-protected. The institution in question pays an access fee in order for their students to have access to online resources.

The purposes of electronic information resources, according to Owolabi (2016), include academic purposes (course work, complete assignments, research purposes, source for materials for project writing and personal purpose). Clayton (2017) emphasizes the advantages of undergraduates using electronic information resources. Access to a broader range of information, faster access to information, access to current, up-to-date information, easier access to information, and greater academic achievement as a result of quality information are all advantages.

'The frequency of usage of e-resources is the most significant and basic feature connected to the appraisal of the utility of e-resources,' according to Madhusudhan (2010). Madhusudhan (2010) discovered in a study that 62 percent of respondents used electronic information resources daily, 18 percent occasionally, and 16 percent two or three times a week, while just 4% used e-resources once a week, and none of the respondents reported using e-resources at least once a month. The nature of a library's e-collections, organization, maintenance, and services all influence how frequently researchers use e-resources. At the time of the investigation, it was also found that access to scholarly e-journals (intranet only) was free. This provided the respondents with the most up-to-date literature in their respective domains, which is the primary reason for everyday use of e-resources by research scholars.

Electronic information resources make a substantial contribution since they are used by students, academics, and researchers from a wide range of academic disciplines. Undergraduates' use of electronic information resources is influenced by a number of factors, one of which is information literacy skills. Information literacy could be defined as recognition of when and why information is needed, where to find it, how to access and evaluate, use and communicate it in an ethical manner.

According to Boeriswati (2012) information literacy is the ability to identify, understand, interpret, create, communicate, and compute information, using printed and written materials associated with varying

contexts. It is widely recognised as a crucial competency that is necessary for success in education and in lifelong learning, to the extent that it is frequently included as an expected learning outcome at post-secondary institutions and is increasingly being incorporated into institutional mission statements (Weiner, 2014). Chartered Institute of Library and Information Professionals (CILIP,2012) describe information literacy skills as attributes required to be information literate which are understanding of a need for information; the resources available; how to find information; the need to evaluate results; how to work with or exploit results; ethics and responsibility of use; how to communicate or share your finding.

According to Malliari, Togia, Korobili and Nitsos (2014), the information literacy skills involve all kinds of programmes, designed to help university undergraduates in identifying the information needs, selecting appropriate information resources and providing effective means of using such resources in solving problems or meeting information needs. For better results, the instruction should be of relevance to users' lives, learning styles and information requirements. Similarly, Sasikala and Dhanraju (2011) define information literacy skills as new methods of teaching information resources use, combined with problem-solving techniques in order to develop, promote and assess critical and analytical thinking of university undergraduates, based on available information technology in the contemporary environment.

Information literacy skills of undergraduates in universities in Nigeria could be measured in terms of basic information literacy skills (recognisability, seeking strategies); intermediate information literacy skills (accessibility, retrievability, usability, access point/location); and advanced information literacy skills (synthesize, evaluation and ability to communicate effectively with the available information resources).

Despite the benefits of electronic information resources, it has been observed that its usage is not as high as expected among undergraduates in Nigerian universities most especially in public universities. It is against this backdrop that this study investigated information literacy skill as a predictor of electronic information resources use by undergraduates of public universities, in Southwestern Nigeria.

Statement of the problem

Globally, the imperativeness of using electronic information resources for teaching, learning and research has been widely recognised in the academic world. There is a consensus that electronic information resources are invaluable resources with immense advantages (readily available, ability to work from any location, diversity of resources, more convenient and up-to-date). Universities make huge investments in provision of electronic information resources for students to have access to information and enhance their learning and research activities. In Nigeria, just like in other parts of the world, undergraduates at various levels, irrespective of discipline are expected to make use of electronic information resources to enhance their learning and other academic activities.

Literature and observations indicated a low utilisation of electronic information resources by undergraduates in Nigeria. This has diminished the potentials and payback, considering the huge investment on them.

The reasons for low utilisation of electronic information resources by undergraduates is largely attributed to low level of information literacy skills.

Despite the overwhelming need to use electronic information resources due to its numerous benefits, preliminary investigations indicated that undergraduates in public universities in Southwestern Nigeria appear to have seemingly lukewarm attitude towards the use of electronic information resources. It is against this backdrop that this study examined how information literacy skills serves as a predictor to the use of electronic information resources by undergraduates of public universities in Southwestern Nigeria.

Objectives of the study

The main objective of the study was to determine the extent to which information literacy skills predict the use of electronic information resources by undergraduates in universities in Southwestern, Nigeria. The specific objectives of the study were to:

i. Determine the level of information literacy skills of undergraduates in public universities in Southwestern Nigeria;
ii. Determine the purpose of use of electronic information resources by undergraduates of public universities in Southwestern Nigeria;
iii. Ascertain the frequency of use of electronic information resources by undergraduates of public universities in Southwestern Nigeria
iv. Find out the point of access to electronic information resources by the undergraduates in universities in Southwestern Nigeria;
v. Establish the relationship that exist between information literacy skills and use of electronic information resources by the undergraduates of public universities in Southwestern Nigeria;

Research questions

The study provides answers to the following research questions:

1. What is the level of information literacy skills of undergraduates in public universities in Southwestern Nigeria?
2. For what purpose do undergraduates use electronic information resources in public universities in Southwestern Nigeria?
3. What is the frequency of use of electronic information resources by undergraduates of public universities in Southwestern Nigeria?
4. What is the point of access to electronic information resources by the undergraduates of public universities in Southwestern Nigeria?
5. What is the relationship between information literacy skills and use of electronic information resources by the undergraduates of public universities in Southwestern Nigeria?

Research hypothesis

The study tested the following null hypothesis at 0.05 level of significance:

H_0: There is no significant relationship between information literacy skills and use of electronic information resources by undergraduates of public universities in Southwestern Nigeria.

Literature review

In this age of information society, students are expected to know how to use the library and the available tools to retrieve any

required information and to be able to carry out research work with minimal assistance. Unfortunately, this has not been the case as many students lack the requisite skills and knowledge to be able to use the library and the available tools to retrieve information. This is because many students, especially in Nigeria, do not have the information literacy skills needed to carry out a meaningful research.

Information literacy is an essential component of a successful academic career (Oakleaf and Owen, 2010). Students who lack these skills experience delays and frustration when attempting to complete course-related work which requires research. Studies indicate a need to improve information literacy skills early, particularly during the first year where undergraduate students' computer proficiencies do not correlate with their research knowledge (Freeman & Lynd-Balta, 2010; Oakleaf & Owen, 2010). The ability to locate information is necessary for quality research.

University students use the Internet for a variety of personal, social, professional, and academic reasons (Kirkwood, 2008). Web-based resources can partially fulfill academic purposes of university students owing to on-line information seeking behaviour and technology integration in pedagogical design (Kirkwood, 2008). Utilising on-line library resources can benefit hybrid, or on-line learning environments. The United States National Forum on Information Literacy (2014) defines information literacy as "the ability to know when there is a need for information, to be able to identify, locate, evaluate and effectively use that information for the issue or problem at hand."

Frazier (2009) avers that information literacy involves defining the need for information, determining the type and amount of information needed and then accessing, critically evaluating and using information in an ethical way. As the amount of information available to us expands, the ability to search, find, access and evaluate it is a key component of lifelong learning. The Information Literacy Competency Standards for Higher Education (2004) dictate that an information literate person; determines the nature and extent of information needed; accesses the needed information effectively and efficiently; evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system; uses information effectively to accomplish specific purpose; understands many of the economic, legal and social issues surrounding the use of information and accesses and uses information ethically and legally.

Information literacy can no longer be defined without considering technology literacy in order for individuals to function in information – rich, technology-infused world. To become lifelong learners, we need to know not just how to learn, but how to teach ourselves. We must acquire the skills necessary to be independent and self-directed learners. An information literate person should be able to identify information needs and determine the extent of information needed. He must be able to, clearly and concisely, define the questions to be answered, and realise that the question may evolve; locate and retrieve appropriate sources of information and understand the structure of information as to how it is it produced, disseminated, organised, catalogued, stored and retrieved and how these factors vary according to disciplines.

Corroborating ACRL's observation, Boeriswati (2012) states that an information

literate person is one who recognises that accurate and complete information is the basis for intelligent decision making; recognises the need for information; knows how to locate needed information; formulates questions based on information needs; identifies potential sources of information; develops successful search strategies; accesses sources of information including computer based and other technologies; evaluate information no matter what the source; organises information for practical application; integrates new information into an existing body of knowledge; uses information in critical thinking and problem solving; uses information ethically and legally.

Julien (2002) identifies the skill domains that are involved in information literacy and classifies them as cognitive, affective, and physical, that is, thought, attitude, and operation. Information literacy instruction can be formal or informal. Formal instruction can include for-credit courses and both distance and face-to-face. Informal instruction includes tutorials and on-line instruction. To be successful, information literacy depends on collaboration between classroom faculty, academic administrators, librarians and other information professionals.

The library has long been perceived as a building with walls and filled with books for reading. Issa (2003) notes that librarianship as a profession came into existence to preserve and make widely accessible the records of human experience. Therefore, there is need for print, non-print and electronic resources. The term "e-library" refers to information accessed through the Internet. Unlike traditional libraries, e-libraries are not limited by location or time. Libraries have changed with the emergence and application of Information Technology. They have assumed the role of educators, teaching users to find, evaluate, and use information both in the library and over electronic networks. As the use of electronic library continues to soar, users are expected to develop information literacy skills. These skills, as Julien (2002) observes, will enable users to make efficient and effective use of information sources.

Information literacy in universities is increasingly important. Academic libraries have responded by providing instruction in information literacy. Although people no longer need to go to a building for some kinds of information, they need help to locate the information they want. Locating information from the electronic library requires information literacy. There are standards which an information literate person must meet. Franscotti et al. (2007) posits that libraries are trying to re-invest themselves to be more appealing to students by fostering information literacy and services to encourage their clients' visit and use the library. Ukachi (2015) argues that "the benefits that organisations and institutions gain from the investments in information technologies and electronic resources are influenced by the extent to which users possess the required information literacy skills, necessary for utilising them."

Ukachi (2015) further argues that "It is very important that one should be conversant with the use and exploitation of electronic resources by being information literate in order to achieve a quicker and more effective usage." Gaining skills in information literacy multiplies the opportunities for students' self-directed learning, as they become engaged in using a wide variety of information sources to expand their knowledge, ask informed

questions, and sharpen their critical thinking for further self-directed learning (Grassian E.S. 2004). Fourie. I., Fourie H. (2014) states that "Even if information literacy skills are approved as essential lifelong skills in line with many other digital skills, there are limited opportunities for students to refine and truly master the skills, doing a few assignments that might require them to refine and truly master the skills to search for information." Ferdowa and Ahmend (2015) argue that "Universities need to develop a well-defined course curriculum that encompasses all of the skills and competencies that could help undergraduates to be competent in the use of various online resources."

Adeleke and Emeahara (2016) examine the relationship between information literacy and use of electronic information resources for academic purposes by postgraduate students of the University of Ibadan, Nigeria. The study adopted a descriptive survey design with samples of 300 postgraduate students within seven out 13 faculties randomly selected. Their results establish that there was significant relationship between information literacy skills and use of electronic information resources. The authors, however, observed that lack of adequate skills of postgraduate students resulted in the discouragement of the expected research-led enquiry in using electronic information resources (EIRs) in this digital age. They conclude that Information and Communication Technology (ICT) course could be incorporated as part of the curriculum of every postgraduate programme, with emphasis on electronic information literacy. Taphros, Nevermore and Collence, (2017) in their study of adequacy of information literacy skills among undergraduate students of African University, Mutare, Zimbabwe in equipping students to use of electronic information resources, find out that all the 65 undergraduate students responded that they had undergone Information Literacy Skills (ILS) training,

However, different sentiments were revealed on whether the information literacy skills training was adequate in equipping them with skills to fully utilise electronic information resources offered by the Jokomo /Yamada Library. Fifty-eight respondents, representing 89%, responded that the information literacy skills training were adequate in equipping them to fully utilise electronic information resources. However, various suggestions were recommended by the respondents; almost 80% suggested that they need practical and interactive lessons on the use of electronic information resources. They claimed that the information literacy skills training were more theoretical. Some of them were of the notion that information literacy skills training must also be conducted more frequently than just once in the first year. Eleven percent (11%) of the respondents mentioned that the information literacy skill training was inadequate but they shared the same view that they needed more practical lessons.

Methods

The survey design of the correlational type was adopted. The multi-stage sampling procedure was used. Five states (Oyo, Ogun,Osun, Ekiti and Lagos) were purposively selected in southwestern Nigeria. The purposive sampling technique was used to select eight public universities with four common academic faculties (science, engineering/technology, arts/humanities and social science) in the selected states. The proportionate to size

sampling technique was used to select 1378 undergraduates across the faculties.

Results

Research question 1: What is the level of information literacy skills of undergraduates in public universities in Southwestern Nigeria?

In order to provide answer to this research question, respondents were asked to indicate their level of agreement with items relating to information literacy skills on a four point scale. The result is presented Table 1

Table 1: Mean and standard deviation scores showing information literacy skills of the undergraduates

		NT		OT		T		VT			
I	**Basic information literacy skills as a student I feel confident and competent to:**	N	%	N	%	N	%	N	%	Mean	SD
i.	recognise the need for information	198	16.9	345	29.4	324	27.6	306	26.1	2.607	1.090
ii.	use different kinds of print sources (i.e. books, periodicals, encyclopedias, chronologies, etc.)	147	12.6	369	31.5	393	33.5	264	22.5	2.624	1.039
iii.	use electronic information sources	154	13.1	354	30.2	405	34.5	260	22.2	2.643	.997
iv.	locate information sources in the library	128	11.0	462	39.4	379	32.3	204	17.4	2.542	.945
v.	use library catalogue	199	17.0	446	38.0	356	30.3	172	14.7	2.357	1.069
vi.	locate resources in the library using the library catalogue	296	17.8	318	27.1	363	30.9	196	16.7	2.334	1.136
		Weighted mean = 2.518									
II	**Intermediate information literacy skills**										
	As a student I feel confident and competent to:	N	%	N	%	N	%	N	%	Mean	SD
vii.	define the information I need	209	17.8	367	31.3	291	24.8	306	26.1	2.536	1.162
viii.	select information most appropriate to the information need	133	11.3	387	33.0	389	33.2	264	22.5	2.648	.994
ix.	interpret the visual information (i.e. graphs, tables, diagrams)	240	20.4	452	38.5	319	27.2	162	13.8	2.316	1.006
x.	write a research paper/assignment from the information obtained	220	18.7	464	39.6	307	26.2	182	15.5	2.321	1.076
xi.	prepare references for the materials used	209	17.8	447	38.1	309	26.3	208	17.7	2.410	1.036
xii.	create bibliographic records for different kinds of materials (i.e. books, articles, thesis, web pages)	217	18.5	532	45.4	265	22.6	159	13.6	2.225	1.079
xiii.	make citations and use quotations within the text	245	20.9	390	33.2	351	29.9	187	15.9	2.362	1.075
		Weighted mean = 2.403									
III	**Advanced information literacy skills**										
	As a student I feel confident and competent to:	N	%	N	%	N	%	N	%		
i.	synthesise newly gathered information with previous information	285	24.3	390	33.2	308	26.3	190	16.2	2.288	1.113
ii.	determine the content and form	241	20.5	333	28.4	405	34.5	194	16.5	2.425	1.082

	the parts (i.e. introduction, conclusion) of a presentation (written, oral)										
iii.	create bibliographic records and organize the bibliography	267	22.7	360	30.7	363	30.9	183	15.6	2.338	1.103
iv.	criticise the quality of my information seeking process and its products	246	20.9	455	38.8	339	28.9	133	11.3	2.291	.956
v.	learn from my information problem solving experience and improve my information literacy	253	21.6	452	38.5	279	23.8	189	16.1	2.331	1.015
										Weighted mean = 2.335	
										Overall weighted mean = 2.419	

Level of calibration: 1-1.49 = VL (Very Low), 1.5-2.49 = L (Low), 2.5-3.49 = H (High), while 3.5-4 = VH (Very High) the criteria mean =2.50 (i.e 4+3+2+1=10 ÷ 4 = 2.5)

Table 1 presents results on the level of information literacy skills of undergraduates in public universities in Southwestern Nigeria. Information literacy skills were considered under three indicators namely basic information literacy skills, intermediate information literacy skills and advanced information literacy skills.

Overall, Table 1 shows that the level of basic information literacy skills of the undergraduates is good (Weighted average = 2.52); their intermediate information literacy skills is fair (Weighted average = 2.40) and their advanced information literacy skills is fair (Weighted average = 2.34).The overall weighted average of the table is 2.42 which indicated that the level of information literacy skills of the undergraduate students in Southwestern Nigeria is fair.

Research question 2: For what purpose do undergraduates use electronic information resources in public universities in Southwestern Nigeria?

In order to provide answer to this research question, respondents were asked to indicate how true each of the statements on purpose of use of electronic information resources was. The results are presented in Tables 2

Table 2: Mean and standard deviation scores showing undergraduates purpose of use of electronic information resources

Item: I use for:	Internet	E-mail	Web 2.0	Search engines	On-line databases	OPAC	Mean	SD
Classwork/Assignment	812(69.2%)	109(9.3%)	53(4.5%)	106(9.0%)	60(5.1%)	33(2.9%)	1.59	0.876
Group/individual practicals	597(50.9%)	252(21.5%)	155(13.2%)	110(9.4%)	55(4.7%)	4(0.3%)	1.77	0.781
Tutorials	574(48.9%)	133(11.3%)	179(15.2%)	167(14.2%)	101(8.6%)	19(1.6%)	2.16	0.810
Examination preparation	559(47.7%)	170(14.5%)	108(9.1%)	156(13.3%)	106(9.0%)	74(6.3%)	2.10	0.877
Project	624(53.2%)	83(7.1%)	181(15.4%)	187(15.2%	82(7.0%)	16(1.4%)	2.13	1.008
Knowledge update	660(56.3%)	178(15.2%)	76(6.5%)	179(15.3%)	56(4.8%)	24(2.0%)	1.94	0.898
Leisure	561(47.8%)	109(9.3%)	251(21.4%)	200(17.1%)	38(3.2%)	14(1.2%)	2.01	0.788
Personal development	536(45.7%)	147(12.5%)	215(18.3%)	201(17.1%)	43(3.7%)	31(2.6%)	2.04	0.767

Writing term paper	402(34.3%)	288(24.5%)	146(12.4%)	241(20.5%)	85(7.2%)	11(0.9%)	1.59	0.780
Research	560(47.7%)	173(14.7%)	111(9.5%)	216(18.4%)	106(9.0%)	7(0.6%)	2.16	0.899

The result in Table 2 revealed that 812(69.2%) of the respondents used Internet for classwork/assignments, 109(9.3%) used e-mail for the same purpose while only a few 33(2.9%) of the undergraduates used OPAC for classwork/assignment. This means that majority of the undergraduates in the study used the internet for classwork and assignments. Also, the result indicated that 660(56.3%) of the respondents claimed that they used internet for knowledge update, 178(15.2%) used e-mail to update knowledge 179(15.3%) used search engines to update their knowledge. Another purpose for which majority of the respondents used electronic information resources is for research project as indicated by 624(53.2%) who claimed that they used the Internet for project writing, 181(15.4%) claimed they used web 2.0 for project while 187(15.2%) used search engines for their project.

Research question 3: What is the frequency of use of electronic information resources by undergraduates of public universities in Southwestern Nigeria?

Result on the frequency of use of electronic information resources by undergraduates of Public universities in Southwestern Nigeria is presented in table 3 below:

Table 3: Undergraduates' frequency of use of electronic information resources

Item:	**Daily**		**Weekly**		**Bi-monthly**		**Quarterly**		**Never**		**Mean**	**S.D**
I use:	N	%	N	%	N	%	N	%	N	%		
The Internet	881	75.1	154	13.1	120	10.2	10	0.9	8	0.7	4.61	0.783
OPAC	247	21.1	321	27.4	199	17.0	120	10.2	286	24.4	3.04	1.571
E-journals	279	23.8	329	28.0	302	25.7	127	10.8	136	11.6	3.36	1.379
e-mail	521	44.4	352	30.0	183	15.6	58	4.9	59	5.0	4.02	1.168
Library website	363	30.9	276	23.5	193	16.5	152	13.0	189	16.1	3.33	1.563
e-books	364	31.0	285	24.3	293	25.0	103	8.8	128	10.9	3.50	1.415
Web 2.0	241	20.5	233	19.9	287	24.5	190	16.2	222	18.9	2.97	1.528
e-databases	221	18.8	263	22.4	263	22.4	218	18.6	208	17.7	2.99	1.475
e-conference	165	14.1	231	19.7	341	29.1	168	14.4	268	22.8	2.83	1.412
e-group discussion	307	26.2	251	21.4	293	25.0	180	15.4	142	12.1	3.30	1.402
Search engines	449	38.3	248	21.1	228	19.1	160	13.6	88	7.5	3.62	1.441
CD ROM	265	22.6	228	19.4	297	25.3	239	20.4	144	12.3	3.16	1.392
Multimedia resources	394	33.6	339	28.9	219	18.7	119	10.1	102	8.7	3.66	1.337

Table 3 revealed that 881(75, 1%) of the respondents used the internet daily, 154(13.1%) used the internet weekly, 120(10.2%) bi-monthly, 10(0.9%) quarterly and only 8(0.7%) claimed they never used the internet frequently. The mean score recorded for the internet was 4.61 and standard deviation is 0.783. E-mail is the second most frequently used electronic resources with a mean score of 4.02 (SD=1.168). Specifically, 521(44.4%) of the respondents claimed that they used e-mail daily, 352(30.0%) weekly, 183(15.6%) Bi-monthly while 59(5.0%) claimed they never used e-mail. Other types of e-resources frequently used by undergraduates in universities in Southwestern Nigeria are e-books (mean=3.50, SD=1.415), e-journals

(mean=3.36, SD=1.379), library website (mean=3.33, SD=1.563), web 2.0 (mean=2.97, SD= 1.528) among others. The weighted mean is 3.41 whcih, according to the decision rule, is higher than the criteria mean. This means that the frequency of use of electronic information resources by undergraduates in universities in Southwestern Nigeria is high.

Research question 4: What is the point of access to electronic information resources by the undergraduates of public universities in Southwestern Nigeria?

Table 4: Point of accessing electronic information resources by the undergraduates

Item: I use:	Home	Library	Cyber Café	Campus environment	Classroom	Mean
e-databases	245(20.9%)	217(18.5%)	285(24.3%)	395(36.1%)	31(2.6%)	2.41
Web 2.0	384(32.7%)	217(18.5%)	285(24.3%)	256(21.8%)	31(2.6%)	2.31
e-books	329(28.0%)	293(25.0%)	137(11.7%)	388(27.1%)	26(2.2%)	2.30
Library website	238(220.3%)	525(44.8%)	167(14.2%)	224(19.1%)	19(1.6%)	2.18
The Internet	698(59.5%)	177(15.1%)	100(8.5%)	179(15.3%)	19(1.6%)	2.11
E-journals	300(25.6%)	352(30.0%)	188(16.0%)	315(26.9%)	18(1.5%)	2.05
e-mail	468(39.9%)	240(20.5%)	163(13.9%)	285(24.2%)	17(1.4%)	2.00
e-conference	331(28.2%)	312(26.6%)	179(15.3%)	291(24.8%)	60(5.1%)	1.97
OPAC	272(23.2%)	557(47.4%)	133(11.3%)	185(15.8%)	26(2.2%)	1.93
Multimedia resources	420(35.8%)	372(31.7%)	192(16.4%)	172(14.7%)	19(1.6%)	1.93
CD ROM	350(29.8%)	254(21.7%)	274(23.4%)	276(37.0%)	19(1.6%)	1.91
e-group discussion	328(28.0%)	376(32.1%)	156(13.3%)	165(14.1%)	148(12.6%)	1.79

Table 4 shows that undergraduates in Southwestern Nigeria access the following EIRs in the Library: The internet (Mean =2.11), OPAC (Mean = 1.93), E-journal (Mean = 2.05), email (Mean = 2.00), library website (Mean = 2.18), e-book (Mean = 2.30), web 2.0 (Mean = 2.31), e-database (Mean = 2.41), e-conference (Mean = 1.97), e-group discussion (Mean = 1.79), CD ROM (Mean = 1.91) and multimedia resources (Mean = 1.93). This means that majority of the undergraduates in Universities in Southwestern Nigeria accessed e-databases, web 2.0, e-books, library website, the internet and e-mail both at home and campus environment.

Research question 5: What is the relationship between information literacy skills and use of electronic information resources by the undergraduates of public universities in Southwestern Nigeria?

Table 5: Relationship between information literacy skills and use of electronic information resources by the undergraduates of public universities in Southwestern Nigeria

R	R Square	Adjusted R Square	Std. Error of the Estimate
.122[a]	.015	.012	10.213

ANOVA[a]

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1836.462	3	612.154	5.869	.001[b]
Residual	121932.987	1169	104.305		
Total	123769.449	1172			

Table 5 shows the regression analysis of electronic information resources use on information literacy skills. The dependent variable (electronic information resources use) was regressed on the independent (predicting) variable (information literacy skills) to test the H_0. The result showed that information literacy skills significantly predicted electronic information resources use ($F=5.869$, $P<.05$). Also, the $R^2=.015$ depicts that the model accounts for 1.5% change of variance in the dependent variable (electronic information resources use).

Discussion

This section discusses the findings as revealed in the previous sectionbased on the literature. The findings are presented according to the objectivesof the study.

The finding of research question two indicated that the undergraduates in universities in Southwestern Nigeria utilised electronic information resources for classroom/assignment, group/individual practicals, tutorials; preparation for exams, project, knowledge update, leisure, personal development, writing term paper and research. This result is an indication that electronic information resources are very relevant for academic activities of undergraduates in universities in Southwestern Nigeria. This is evident in the various purposes for which the students utilized electronic information resources for their academic activities.

This finding backups the assertion of Byamugisha, (2010), Velmurugan (2013) and Akpojotor (2016) that electronic information resources are becoming more and more important for the academic community and an awareness of these resources is of paramount importance to library development in the 21st century. Also, Dadzie (2010), MawereandSai, (2018) stated that electronic resources are invaluable research tools which complement the print-based resources in a traditional library setting. Similarly, this finding corroborates Mostafa (2013) that an increasing number of users are becoming dependent on e-resources for study and research purposes.

Results of the findings on frequency of use of electronic information resources by undergraduate students in universities in Southwestern Nigeria, revealed that the internet, e-mail, e-book, search engine and multimedia resources were respectively the most frequently used EIR by undergraduates in universities in Southwestern Nigeria, as each of these EIR were used at least on weekly basis. On the other hand, the frequency of use of EIR such as e-group discussion, e-journal, OPAC and CD ROM was low. Frequency of EIR usage is an important measurement to establish where e-

resources are frequently used. The findings on undergraduate students' usage patterns of EIRs suggest that some of the e-resources are more frequently used than others.

The results showed that the frequently used e-resources include e-journals and e-books, e-newspapers and e-reference sources. Results also indicated that some of the electronic information resources are not frequently used by undergraduates' students. These include CD-ROMs, e-tutorials, e-bibliographic databases, online catalogues, e-maps, and online databases. This finding supports the finding of the previous studies by Bankole, Ajiboye and Otunla (2015) that more than 90 percent of the undergraduates in Federal University of Agriculture, Abeokuta, Ogun State, Nigeria were frequent users of electronic information resources. It was also reported that internet search engines, e-lecture notes and e-books as the major e-resources being used for completing class assignments, to obtain course-related materials and to keep abreast of latest development in their field. In addition, the study supports the findings by Mostafa (2013), Owolabi, Idowu, Okocha and Ogundare (2016) that electronic information resources electronic information resources such as hat the Internet services, e-mail services, online databases, electronic databases and cybercafés were often used by the undergraduates in the University of Ibadan.

Results on point of access of electronic information resources showed that most of the undergraduate students in universities in Southwestern Nigeria accessed the electronic information resources such as the internet, OPAC, E-journal, email, library website, e-book, web 2.0, e-database, e-conference, e-group discussion, CD ROM and multimedia resources through the library and campus environment respectively. Only a few accessed EIR at home and a significant few through Cyber café. This finding is in tune with the results of the findings by Kwadzo (2015), Liyi (2011) and Rioux (2014),Quadri, Adetimirin and Idowu (2014),who conducted a study on the availability and utilisation of electronic resources by undergraduates in selected private university libraries in Nigeria. The findings revealed that the Internet was readily available in Babcock (83.5%) and Redeemer's (92.8%) while other e-resources were not readily available. Most of the respondents in Babcock (64.0%) and Redeemer's (89.1%) used the e-resources for assignment and research/project. This finding lends credence to the assertion by Obura and Magara (2008) that that the major objective of the adoption of electronic information resources is the facilitation of access to information resources through the internet, as well as the timely dissemination of both local and international research output.

On the other hand, the study is in contrast with the findings of the study by Bankole, Ajiboye and Otunla (2015) and Jara, Clasing, González, Montenegro et al. (2017) that the access points reported by the study were home/hostels and university e-learning centres. In the same view the study is a sharp contrasts with the Jagboro's (2003) study that students access electronic resources from cybercafés owing to proximity to users.

A positive and significant relationship exists between information literacy skills (basic, intermediate and advanced information skills) and the use of electronic information resources by undergraduates of public universities in Southwestern Nigeria. This finding corroborates Toyo (2017), Xu and Chen

(2016), Adeleke and Emeahara (2016), Issar, Amusan, Olarongbe, Igwe and Oguntayo (2015), Siridevi, Santhiram, Nandyal and Ramu (2015) that Undergraduate students possessed low level of information literacy which affects their ability to utilize required information resources for academic success. Also, the present study affirms the results of the study conducted by Kavi, Anafo, Bugyei, and Ofori (2019) on Information Literacy Skills among undergraduates at the University of Mines and Technology (UMaT), Tarkwa, Ghana, it was found that the majority of the students possessed basic ICT skills but their knowledge of various search strategies was low. Again, there was no course designed to introduce them to the acquisition of information retrieval skills. Various ways of improving information literacy skills among students have also been suggested.

However, the present study disagrees with Brophy (2012) that the skills required to maximise the potential of electronic resources are much greater than those required for searching printed sources. These skills include the knowledge of the structure of the database and the instructions which must be input into the computer by the searcher, as well as the understanding of the ways in which the instructions are linked with one another. Brophy (2012) states that most times students do not appreciate the skills required to search these sources. Furthermore, Baikady and Methol (2013) state that "the ability to find, retrieve, and synthesise information effectively is a transferable skill useful for future life as well as enabling the positive and successful use of the electronic information resources whilst at university. Finally this finding partly agrees with the findings of the study by Ukachi (2013) which confirms that there is a positive relationship between the students' variables (level of information literacy skill, Computer self-efficacy, attitude towards the use of EIRs, and gender) and their use of electronic information resources.

Conclusion

The study revealed that there a significant relationship between information literacy skills and use of Electronic Information Resources by undergraduates in universities in Southwestern Nigeria. It also showed that some of the electronic information resources were more frequently utilised than others by the undergraduates. The study also revealed that undergraduates use electronic information resources for assignment, group/individual practical, tutorials, preparation for exams, project, knowledge update, leisure, personal development, writing term paper as well research purposes.

The study therefore concluded that information literacy skills (basic information literacy skills, intermediate information literacy skills and advanced information literacy skills)has a relative effect on the use of electronic information resources by undergraduates of public universities in Southwestern Nigeria.

Based on the findings of this study, the researcher therefore recommends the following:

1. There should be adequate provision of electronic information resources in the library collection across disciplines such that students of every academic discipline would have the opportunity of accessing and using the resources to meet their diverse information needs. To achieve this, library management should evaluate periodically through the faculty the needs assessment so

as to be able to determine which type of electronic information resources needed by various academic disciplines in the universities.

2. Adequate and periodic training on information literacy of undergraduate students will improve the information literacy skills of undergraduates as most of the undergraduates investigated were found to have moderate information literacy skills. There is therefore, the need to incorporate information literacy skills and use of library in the curriculum of undergraduate students at all level of studies. This will enable them to adequately possess the requisite skills require for effective utilization of electronic information resources.
3. University library managements should introduce new course for enhanced and continuous library user education geared towards empowering students to be sufficiently acquainted with information sources needed for academic enhancement, as well as facilitate mutual collaboration between lecturers and librarians, thereby ensuring integrated mode of lecture delivery and unhindered information access.

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