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EDUCATION LIBRARY**

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**INFORMATION RETRIEVAL SKILLS AND UTILIZATION OF ELECTRONIC
RESOURCES FOR ENHANCED RESEARCH BY POSTGRADUATES IN IGNATIUS
AJURU UNIVERSITY OF EDUCATION LIBRARY**

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Abstract

The study investigated on information retrieval skills and utilization of electronic resources for enhanced research by postgraduates in Ignatius Ajuru University of Education library. The study adopted a descriptive survey design. The population of the study was limited to all postgraduate students in department of library and information science who are registered users of the library. Accidental sampling was used to sample 34 respondents, where PhDs=9, MLS=13 and PGDLs=12 respectively. Questionnaire was used to collect data. Data collected was analyzed using the descriptive statistics of arithmetic mean (\bar{X}) and standard deviation (SD). The hypothesis was tested using Pearson Product-Moment Correlation Coefficient. Information literacy skills, system operational skills and strategic search skills were correlated significantly with postgraduates' utilization of electronic resources for research. The data showed that there is a weak relationship between the variables, due to lack of knowledge of the three (3) skills, postgraduates do not adequately use electronic resources to retrieve information for their research work. Therefore, capacity building for both staff and postgraduate students on

information literacy, system operation and strategic search skills should be regularly maintained in universities for optimal use of e-resources in the library.

Keywords: Information retrieval skills, Use of e-resources, University library, Postgraduates

Introduction

Research is a process and the basic requirement of every student, especially at the postgraduate level in a university system, and the university library is that oracle that facilitates such process. The basic function of a university library is to conserve existing knowledge, to transmit knowledge through teaching and to create new knowledge through research (Daramola, 2016). However, they are devoted to the pursuit of knowledge and the development of manpower through the provision of information resources and services to support learning, teaching and researches within its environment (Ani&Ahiauzu, 2008). As a result of their commitment to knowledge in today's knowledge society, electronic resources now become their major collection. The reason is that electronic resources are now the bedrock of provision of accurate and timely information for better educational outcomes among university postgraduates. They aid in the retrieval of huge amount of information for teaching, learning and research within the academic communities (Adekammbi, 2016). Owing to information explosion and the emergence of new technologies, information needed by postgraduates is now majorly found in electronic format in university libraries. These new technologies have brought an alternative way of facilitating access and retrieval of scholarly information from around the world which enhances learning, especially by postgraduates.

In this era of competitive research and knowledge acquisition, university postgraduates now patronize their university libraries to retrieve accurate and current electronic information resources available in all subjects. Hence, the optimal use of electronic resources by postgraduates may depend on their information retrieval skills to be able to use such resources in the university library (Ekenna&Iyabo, 2013). Information retrieval skill is concerned with the knowledge of exploitation and extraction of information and other contents of documents from different information sources (Echem&Udo-Anyanwu, 2018). These skills are crucial for retrieving information in this technological era that most of the information needed for research can be retrieved from electronic sources. However, postgraduates' efforts to complement their work with electronic resources may be limited if they lack the retrieval skills. Therefore retrieval skills are necessary to selectively retrieve accurate, relevant and up-to-date information stored in electronic documents instead of all the information that may not be relevant for research (Ekenna&Iyabo, 2013).

Postgraduates with the required information retrieval skills should be able to recognize information for learning and research, differentiate between methods of evaluating and locating information stored in electronic resources. Moreover, they should be able to perform literature searches, organize and communicate the information retrieved, satisfactorily in their research work. Also, knowing what to do and when to do it are important in information retrieval for instance, for database search, Aina (2004) suggests that the students can use a single term or a combination of terms but however explained that the combination of terms may be more appropriate. Selecting an appropriate strategy can help reduce the retrieval of unrelated literature. In addition, Adesanya (2002) explains that some search strategies such as, Boolean logic, truncation and proximity features are useful for retrieval of information. Therefore, it is

important to identify the various retrieval skills necessary for accessing and retrieval electronic resources in the library and the essence of this very study.

Statement of the problem

It is widely believed that electronic information resources are major source of scholarly information for teaching, learning and research in academic environment. The provision and use of the electronic information resources have increased over time. Most academic libraries have directed budgets towards the acquisition of electronic information resources such as e-books, e-journals, information databases, etc. The optimal use of these various electronic information resource is greatly dependent on the information retrieval skills (Ekenna&Iyabo, 2013). This is because, information retrieval skills enable one to identify, access, search, and retrieve accurate information related to their information needs. A lot of researches have been conducted by Adekannbi (2016); Echem&Udo-Anyanwu (2018) and others, on how the electronic resources are used in different academic contexts by students but none has addressed or investigated on the skills influencing the retrieval of electronic resources by postgraduates in IAUE library to the best of the researcher's knowledge.

The height of the argument is fueled when compared with a recent personal observation which showed that there is poor usage statistics of electronic resources by postgraduates in the IAUE Library, due to frequent questions on how to retrieve relevant electronic information resource by the postgraduates in the library. The problem of under-utilization of electronic information resources if not solved may likely cause the librarians and the library from meeting their stipulated objectives and that of their parent institution. Therefore, the study sought to investigate the information retrieval skills and how they enhance the use of the electronic

information resources for enhanced research by postgraduates in IAUE Library to close the knowledge gap in literature and proffer possible solutions.

Objectives

1. To identify the relationship between information literacy skills and use of electronic resources by postgraduates for research in IAUE Library.
2. To identify the relationship between systems operational skills and use of electronic resources for research by postgraduates in IAUE Library.
3. To identify the relationship between strategic search skills and utilization of electronic information resources for enhanced research by undergraduates in IAUE Library.

Research Questions

1. What is the relationship between information literacy skills and use of electronic resources by postgraduates for research in IAUE Library?
2. What is the relationship between systems operational skills and use of electronic resources for research by postgraduates in IAUE Library?
3. What is the relationship between strategic search skills and utilization of electronic information resources for enhanced research by undergraduates in IAUE Library?

Hypothesis

Ho₁ There is no significant relationship between retrieval skills (information literacy, system operational and strategic search) and utilization of electronic information resources for enhanced research by postgraduates.

Scope

The study focuses on information retrieval skills and the utilization of electronic information resources for enhanced research by postgraduates in IAUE library, Port Harcourt. However, it is at the researcher's will to limit the study to Library and information science postgraduates in IAUE library only.

Literature review

The branch of the university responsible for acquisition, organization, preservation and dissemination of its information resources to its users is the university library. Electronic information resources formed the important aspect of its resources for the academic community as they enable users to access up-to-date information for research in the right format without wasting much time (Adekamibi, 2016). Abubakar&Adetimirin (2015) defined electronic resources as information sources that are available and can be accessed electronically through such computer networked facilities as online library catalogues, internet and the World Wide Web (WWW) databases. The electronic resources could either be subscribed to or be digitized in-house. Kwaghaetal (2019) categorized e-resources used for research to include e-books, e-journals, online databases such as AGORA (access to global Online research in Agriculture), HINARI (Health internet network Access to research initiative), EBSCO-HOST (e-content–Multi-disciplinary coverage), ARBI on the Environment), TEEAL (the essential Electronic Agriculture Library) and JSTOR (journal storage), Online Compact Disc Read Only Memory (CD-ROM), online public access catalogue (OPAC) as well as internet resources. Kwafoaetal (2014) posited that availability of e-resources does not necessarily illicit utilization. This means that the responsibility of university libraries is not only to provide e-resources but also to provide necessary of skills for their access and retrieval which are demanded for this information age through such programme like use of library and study skills.

Information retrieval is concerned with the process of selecting information from storage devices or carriers. This process is dependent in physical mechanism in library collections and or computers/technologies information system designs (Afebende&Nna-Etuk, 2019).Information retrieval skills is defined as the ability and competence to find information in such a way that non-relevant data are excluded while relevant information is found (Fordjouretal, 2010). Information retrieval skills are crucial for retrieving information because the resources in electronic formats have to be retrieved through electronic devices such as the use of computers, ipad and smart phones which required certain skills. Ekenna&Iyabo (2013) identified the skills to include: Informational, operational, and strategic retrieval skills. The informational skills include those needed to navigate, select the appropriate information, evaluate the information and re-use information. These skills entail being able to handle the changing contents of computer and information sources and knowing where and how to look for the resources. The Operational retrieval skill is the ability to exhibit some level of competence in the use of computers and the network connections is very crucial for information retrieval. Therefore, students are expected to have frequent interactions with the systems' hardware and software to enhance competences required for information retrieval. The Strategic retrieval skill assists in improvement of search skills. To Chu & Law (2008), students' improvement in search skills could speed up the whole information search process and equally contribute to a more effective and comprehensive search.

Adesanya (2002) identified some search and retrieval strategies such as, Boolean logic, truncation and proximity features can also be useful in retrieving information. The Boolean Operators are simple words (AND, OR, NOT or AND NOT) used as conjunctions to combine or exclude keywords in a search, resulting in more focused and productive results. This should save time and effort by eliminating inappropriate hits that must be scanned before discarding. Using

these operators can greatly reduce or expand the amount of records returned. Boolean operators are useful in saving time by focusing searches for more 'on-target' results that are more appropriate to your needs, eliminating unsuitable or inappropriate. Each search engine or database collection uses Boolean operators in a slightly different way or may require the operator be typed in capitals or have special punctuation. The specific phrasing will be found in either the guide to the specific database found in Research Resources or the search engine's help screens. The proximity operators (with, near and others) can also help you in searching s (<http://library.alliant.edu>).

University students have often experienced challenges in searching and retrieving electronic information effectively since information in electronic forms can only be used if students possess the skills to retrieve the exact information needed for their learning and research purposes (Adekannbi, 2016). Moreover, the problem still persist as students who are able to retrieve some information end up getting more information which is not relevant to what they want and at times they do not get the desired information due to information overload (Fordjouretal, 2010). Also, it was revealed that insufficient electricity, technical problems, poor/inadequate orientation of students, poor internet connection, lack of technical-know-how on part of personnel and poor personnel relation are challenges hindering effective utilization of electronic resources by students in Benue state University library (Kwaghgaetal, 2019). Therefore, information environment of today requires basic knowledge and understanding of the basic information retrieval system to facilitate access, retrieval and use of information. Therefore, it has become compelling to equip users with knowledge about tools available to them in order to assist them explore opportunities provided in a new information environment (Afebende&Nna-Etuk, 2019).

Methodology

The study examined information retrieval skills and utilization of electronic resources for enhanced research by postgraduates in Ignatius Ajuru University of Education library. The study adopted a descriptive survey design. The population of the study comprised all postgraduates in department of library and information science who are registered users of the library. Accidental sampling was used to sample 34 respondents, where PhDs=9, MLS=13 and PGDLs=12 respectively. The instrument used was a 4 point Likert-type scale Questionnaire divided into sections A and B. Section A sought demographic information while section B elicit on the research data. Data collected was analyzed using the descriptive statistics of arithmetic mean (X) and standard deviation (SD). The decision rule for the mean was calculated at $4+3+2+1/4 = 2.5$. Therefore, responses from section B question with mean scores above 2.5 were rated positive while those below were rated negative. The hypothesis was tested using Pearson Product-Moment Correlation Coefficient.

Analysis and Discussion of findings

Table 1: Information literacy skills and use of electronic for research

The respondents were asked the relationship between information literacy skills and use of electronic information resources for research in IAUE library.

Information literacy skills and use of e-resources for research	\bar{x}	\pm	Decision
Helps me in locating information in e-resources	3.15	.845	Accept
Helps in understanding terminologies used in e-databases.	3.05	.872	Accept
Helps to identify the required electronic information resource	3.84	.951	Accept

in the library collection.

Helps me to select the required e-resources in library	2.73	.791	Accept
Helps to evaluate needed e-resources for use	3.74	.962	Accept

Table 1 above shows the representation of the relationship between information literacy skills and use of electronic information resources for research by postgraduates in IAUE library. According to the respondents, skills on information literacy helps to identify the required electronic information resources in the library collection (\bar{x} =3.84); evaluate needed e-resources for use (\bar{x} =3.74); locate electronic information resources (\bar{x} =3.15); understanding terminologies used in e-databases (\bar{x} =3.05); and select the required e-resources in library (\bar{x} =2.73). The study Kinengyere (2007) also supported that information literacy skills are very vital in influencing the utilization of e-resources in the library.

Table 2: System operational skills and use of electronic for research

The respondents were asked the relationship between system operational skills and use of electronic information resources for research by Postgraduates in IAUE library.

System operational skills and use of e-resources for research	\bar{x}	\pm	Decision
Knowledge of mouse helps me use e-resources in the library	3.75	.845	Accept
Knowledge of keyboard helps me use e-resources in the library	3.45	.872	Accept
Copying information into storage device such as flash drive and diskette helps me use e-resources	3.24	.951	Accept
Downloading of e-files from online databases helps me use e-resources	2.93	.791	Accept

Knowledge of web navigation helps me use e-resources	3.84	.962	Accept
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Table 2 above shows the relationship between system operational skills and use of electronic information resources for research by Postgraduates in IAUE library. The respondents admitted that skill on the use of mouse helps to use e-resources in the library (\bar{x} =3.75); skill on the use of keyboard helps to use e-resources in the library (\bar{x} =3.45); knowledge of copying information into flash drive and diskette helps to use e-resources (\bar{x} =3.24); knowledge of downloading e-files from online databases helps to use e-resources (\bar{x} =2.93); and the knowledge of web navigation helps to use e-resources (\bar{x} =3.84). This result also corroborated with an earlier study by Ekenna&Iyabo (2013) on information retrieval skills and use of library electronic resources by University students in Nigeria. Therefore, the students should have frequent interactions with the systems' hardware and software to enhance their required competences for information retrieval.

Table 3: Strategic search skills and use of electronic for research

The respondents were asked the relationship between strategic search skills and use of electronic information resources for research by Postgraduates in IAUE library.

Strategic search skills and use of e-resources for research	\bar{x}	\pm	Decision
Knowledge of boolean search operators (OR, AND, NOT) enhance the retrieval & use of e-journals in my library	3.55	.845	Accept
Knowledge of truncation search techniques (\$, *, +) increase the use of e-thesis in my library	3.35	.872	Accept
Knowledge of search engines (Yahoo, Google, Alta Visa & Google scholar etc) enhance the use of e-databases in my library	3.24	.951	Accept
Combination of two-terms search helps me retrieve & use e-	3.03	.791	Accept

resources

Searching by title, author, & subject enhance the use of e- 3.15 .805 Accept
resources in my library

Table 3 shows the relationship between strategic search skills and use of electronic information resources for research by Postgraduates in IAUE library. According to the respondents as represented in the table, knowledge of boolean search operators enhance the retrieval & use of e-journals in the library (\bar{x} =3.55); followed by knowledge of truncation search techniques (\bar{x} =3.35); search engines (\bar{x} =3.24); use of two-terms search combination (\bar{x} =3.03); and Searching by title, author, & subject also enhance the use of e-resources in the library (\bar{x} =3.15). Therefore, it shows that strategic skills enhance the use of e-resources. Ekenna&Iyabo (2013) also posit in their study that the knowledge of these strategic search skills is relevant in the retrieval and use of e-resources for the purpose of research by students in tertiary institutions.

Table 5: Ho₁: There is no significant relationship between retrieval skills (information literacy, system operational and strategic search) and utilization of electronic information resources for enhanced research by postgraduates.

Table 5: Pearson correlation of information literacy, system operational and strategic search skills and Use of electronic resources.

Variable	N	Mean	Std. Dev	r	Df	Sig	Remark
Inf. Literacy. Skills	34	11.07	3.64	0.242	33	0.000*	Significant
Syst. Oper. Skills	34	10.13	3.96	0.214	33	0.000*	Significant
Strat. Search Skills	34	9.08	3.54	0.353	33	0.000*	Significant

*Significant at $p < .05$

It is assumed that there is no significant relationship between retrieval skills and postgraduate's use of electronic resources in IAUE library. The study attempted to find out the strength of the assumption. It was found, as presented in table 5, that there is a relationship between a. Information literacy skills, b. system operational skills, c. Strategic search skills and postgraduates' use of electronic resources in IAUE library. The study found that the relationship between respondents' information literacy skills and use of electronic resources was positive, weak and significant ($r=0.242$; $p<.05$), which means that it did not have a high significance. This implies that if respondents' information literacy skills improve their use of electronic resources in IAUE library will also improve. Hence, 1a is rejected. Therefore, there is significant relationship between information literacy skills and postgraduates' use of electronic resources. System operational skills also, have weak, positive and significant relationship with respondents' use of electronic resources ($r=0.214$; $p<.05$) however, it is not a very strong significance. This means that as system operational skills improve, use of electronic resources also improves. Therefore, the null hypothesis for 1b is rejected because the table indicated that there is significant relationship between system operational skills and postgraduates' use of electronic resources. Furthermore, strategic search skills of respondents have a slightly weak, positive and significant relationship with use of electronic resources ($r=0.353$; $p<.05$). 1c is hereby rejected. This implies that increase in the strategic search skills of respondents would lead to a corresponding increase in their use of electronic resources. This means that there is significant relationship between strategic search skills and postgraduates' use of electronic resources in IAUE library. The null hypothesis is therefore rejected.

The findings of the hypotheses revealed that information literacy skills, system operational skills and strategic search skills had positive, weak and significant relationship with

use of electronic resources. This means that though the three retrieval skills had weak relationship with use of electronic resources, they would still be helpful for the use of e-resources if they are joined together. But, the implication may be that postgraduates lack the knowledge of the three information retrieval skills and their relevance in learning and research.

Conclusion and recommendations

In conclusion, information retrieval skills are very vital for the utilization of e-resources for research among postgraduates in a university library. There are several types of e-resources available for use in the library such as e-books, e-journals, e-thesis, online-database, world-wide-web, proquest, search engines, and WPAC. The three (3) skills required to use the e-resources include: information literacy skills, system operational skills and strategic search skills. But, it is evident that due to lack of the three (3) skills, postgraduates in the IAUE library cannot adequately use the library electronic resources to retrieve information for their work. This is because, if the three (3) skills are joined together in training, there would be a high retrieval of e-resources. Therefore, capacity building for both staff and postgraduate students on information literacy, system operation and strategic search skills should be regularly maintained in universities for optimal use of e-resources in the library.

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