

Information Retrieval Skills and Scholarly Research Output of Postgraduate Students in Selected Universities in Oyo and Lagos States, Nigeria

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Abstract

The study examined information retrieval skills and scholarly research output of postgraduate students in selected Universities in Oyo and Lagos States. Survey research design method was adopted for the study and questionnaire employed to obtain data from the 369 respondents that constitute the sample size for the study. The data collected were analysed using descriptive statistics, frequency count, percentage, mean and standard deviation. Findings from the study revealed that majority of the postgraduate students know when information is needed and can also determine the nature and extent of the information needed. The study also revealed that information retrieval skills are required by postgraduate students to conduct scholarly research while challenges such as poor articulation of research problem statement, ambiguous research topics and lack of funds to finance quality research work were major constraints to scholarly research in Nigerian universities. The study recommended acquisition of requisite information retrieval skills, continuous mounting of training and retraining programme on information retrieval skills acquisition, and provision of adequate funding for scholarly research, among others.

Keywords: *Information Retrieval Skills, Scholarly Research, Postgraduate Students, Nigerian Universities*

Introduction

A person or an individual is said to be information literate when he/she can identify his/her information needs, locate, evaluate, retrieve and use the information effectively. Therefore, an information literate person knows how to use information in the most effective and ethical way. The growth and development of information society which has led to a knowledge society has given rise to information literacy as the core of lifelong learning (Chanchinmawia and Verma, 2018). Therefore, for postgraduates to stand out academically in this age of information explosion there are some vital information retrieval skills which they must possess. Research and information retrieval skills form a crucial part of learning capabilities, as they contribute to students' writing and critical thinking (Grafstein, 2002; Andrews and Patil 2007). Aina (2004) observed that information literacy is the ability to make efficient and effective use of information sources, and that an information literate person should possess specific online searching skills which include; the ability to select appropriate search terminology, construct a logical search strategy, and evaluate information appropriately. Also, it entails individuals' ability to know when there is need for information, how and where to get the information and the usage of such information effectively to accomplish a specific purpose. Information literacy skills are such like information searching skills; ability to recognise the information needed; skills to search information online; skills to evaluate information appropriately; skills to make use of information resources; skills to construct a logical search strategy; skills to incorporate information into one's knowledge base ; saving and e-resource editing skills; information use skills; skills to ascertain or recognise when information is needed; information dissemination skills; information analysis or gathering skills and information retrieval skills.

Information retrieval skills are subset of information literacy skills and embedded in information literacy skills. But for the purpose of this study, the researchers focus on information retrieval

skills among postgraduate students during the course of conducting scholarly research. Information retrieval (IR) is concerned with the exploration of information and other contents or documents. Information retrieval is concerned with retrieving documents that are likely to be relevant to a user's information need as expressed by his request (Fordjour, Badu and Adjei, 2010).

Scholarly research plays vital roles in academic and research activities, hence Sulo, Kendagor, Kosgei, Tuitoek and Chelangat (2012) asserted that research productivity includes scholarly research publications in professional journals and in conference proceedings, writing a book or chapter, gathering and analysing original evidence, working with postgraduate students on dissertations and class projects, obtaining research grants, carrying out editorial duties, obtaining patents and licenses, writing of monographs, developing experimental designs, producing works of an artistic or creative nature, engaging in public debates and commentaries. Scholarly research is very essential to postgraduate students of any academic institutions, hence postgraduate research in the form of thesis and dissertation are considered as sources of current and concrete undiluted information that can be used to solve real time economic problems.

It is worthy of note that information retrieval skills and scholarly research output of postgraduate students cannot be successful without the help of the libraries, as their responsibility is to provide quality information resources, efficient and timely services to its clientele by making sure that information sources, resources and services are available and are well utilised by users to satisfy their information needs. Thus, information retrieval skills are required for the library users to have access to necessary information, use the library properly and to conduct quality scholarly research. User education prepares individuals to make immediate and lifelong use of information effectively by teaching the concepts and logic of information access, retrieval, evaluation, and also foster information independence and critical thinking. A more holistic programme of user education is referred to as information literacy programme which has information retrieval skill embedded in it.

Literature Review

The possession of information retrieval skills by postgraduate students is very vital in this age of information explosion. Postgraduate students should have enough capabilities that incorporate the skills and knowledge that should be developed beyond discipline-specific content which is traditionally associated with a university education (Barrie, 2007). To be able to carry out meaningful research, the researcher must possess some information retrieval skills which are apparently needed in carrying out research and considered important enough to solve real time national, educational or economic problems. Gui, (2007) is of the view that information retrieval skills include those skills needed to navigate information sources, select appropriate information sources and evaluate the information retrieved. Moreover, postgraduate students should be able to perform literature searches, organise and communicate information retrieved satisfactorily in their research work.

In a study conducted by Sabzwari, Bhatti, and Ahmed (2012) on ICT skills and computer self-efficacy of postgraduate students in Bahauddin Zakariya University, Multan, Pakistan. Findings revealed that in the use of computer applications, the important skills required for successful research are: the knowledge of the use of Microsoft Word, use Microsoft Power Point, Microsoft Access, Microsoft Excel and Microsoft Outlook. The study also found out that respondents were aware and frequently used commands of headings of titles and subtitles, insert table of contents, insert and format tables and they sometimes use commands of insert lists of tables, insert list of figures, use search, replace command and use page break option etc. all of which

are necessary for seasoned researchers. The study also clearly revealed that in the search engine category, a good researcher should know how to search for information using different search engines such as Google, Yahoo, Alta Vista, Safari, Bing, and Mama as well as Google tools such as Google Scholar, Google images, Google Books and Google Videos which are also very vital for gathering information for the purpose of research.

With regards to information searching skills of students, the study of Sabzwari, Bhatti, and Ahmed (2012) found that postgraduate students possess skills to search for information materials using direct title statement and subject headings techniques, use of keywords, basic search, advanced search and phrases, and Boolean operators. In the same vein, Ali, Abu-Hassan, Daud, and Jusoff, (2010) carried out a study on information retrieval skills of engineering students in a Malaysian University. Findings from the study established information retrieval skills possessed by postgraduate students to include; identifying the most efficient search strategy, evaluating internet information and websites as well as using information ethically, use/querying of search engines and computer application usage skills among others.

Moreover, findings from Adeogun (2006) study reported that the purpose of information retrieval (IR) education is to help students to develop critical thinking and analytical skills which are required for transforming information into knowledge that will be useful for solving societal problems. Dadzie (2009) also emphasised the importance of information retrieval skills as one of the most vital sets of skills of the twenty first-century needed by postgraduate students to enable them function adequately as citizens of the community or a country by way of contributing meaningfully to the body of knowledge. In another study conducted by Oware (2010) on graduate students' views on information retrieval skills, findings showed that all the respondents agreed that information retrieval skills are very important particularly in this era of research and knowledge economy. They mentioned that information retrieval skills were very relevant and also very important for everyone considering the amount of information one has to deal with daily in schools, at workplaces and for other purposes such as research. The study recommended that information retrieval skills education should therefore be encouraged in every discipline, workplaces as well and in all aspects of life since we live in a knowledge economy where information is a very important resource for development and achievement of goals. Based on the glaring positive influence of information retrieval skills on every aspect of human endeavour and the positive contributions to research and development, higher institutions of learning are expected to develop strategies and learning resources to help students acquire relevant information retrieval skills (Erich and Popescu, 2010).

Fordjour, Badu and Adjei (2010) in their study of the prospects and challenges of information retrieval by postgraduate university students of the University of Ghana, Legon, found that the use of information retrieval tools and skills to retrieve relevant information are highly beneficial to the students' successful academic career. The study recommended that information retrieval skills training programme should be embedded in the curriculum and undertaken at an appropriate time and supported by academic staff of the University. The study further stated that the University administrators should ensure that students studying subjects without an emphasis on technology receives sufficient training on information retrieval skills and ensure that information retrieval skills training are pitched at a level which is appropriate to the individual needs of the student.

Igwe, Emezie and Uzuegbu, (2014) reported in their study that for postgraduate students to carry out a sound scholarly research, they must possess the information retrieval skills that are required to identify and understand the various processes that are involved in carrying out research. The processes according to the authors include: identification of the problem;

selection of appropriate topic; review of related literature; study design; data collection and analysis; interpretation of findings and publication of research report. It is therefore pertinent that students who want to conduct good scholarly researches must be equipped with the necessary information retrieval skills in order to be able to tackle the difficult task associated with meaningful research.

Higher institutions all over the world place high emphasis on qualitative and quantitative researches to fulfill their mission of teaching, learning, research and cultural development. The measure of value placed on research by any institution of higher learning is determined by the access to right information and level of information retrieval skills of the students and faculties which automatically affect the research output of that institution (Ekong and Ekong, 2018). Research has always been the main approach to solving problems by all categories of professionals (Boaduo and Babitseng 2007). Therefore, for postgraduate students to carry out meaningful researches that will contribute to development in the society there is need for required information retrieval skills. Information retrieval skills helps students to identify, critically interpret and utilise information to contribute something meaningful to the existing body of knowledge by way of research (Salleh, Halim, Yaacob and Yusoff, 2011).

Research Questions

The study provides answers to the following research questions:

1. What are the information retrieval skills possessed by postgraduate students to obtain information for scholarly research in selected universities in Oyo and Lagos States, Nigeria?
2. What are the types of information retrieval skills needed for scholarly research by postgraduate students in selected universities in Oyo and Lagos States, Nigeria?
3. What are the challenges faced by postgraduate students in the process of conducting scholarly research in selected universities in Oyo and Lagos States, Nigeria?

Methodology

The survey research design was adopted for the study. Questionnaire was used as instrument of data collection on information retrieval skills and scholarly research output of postgraduate students. The questionnaire sought information on information retrieval skills that must be possessed by postgraduate students, types of information retrieval skills needed for scholarly research and challenges faced by postgraduate students in the process of conducting scholarly research. Simple random sampling technique was used to select 379 academic staff from University of Lagos, Lagos State and University of Ibadan, Ibadan. Oyo State, Nigeria. A total of 369 copies of questionnaire were returned and completed, representing 97.4% response rate. The results were analysed using descriptive statistics of frequency count, percentage, mean and standard deviation.

Interpretation and Presentation of Results

This presents the result of the analysis of data and interpretation of results.

Table1: Information Retrieval Skills Possessed by Postgraduate Students to Conduct Scholarly Research

S/N	Statements	SA (%)	A (%)	D (%)	SD (%)	X	SD
1	I know when I need information and I can determine the nature and extent of the information I need.	212(57.5)	143(38.8)	10(2.6)	04(1.1)	1.47	0.608
2	I can locate the information I needed effectively and efficiently.	178(48.2)	166(45.0)	21(5.7)	04(1.1)	1.60	0.649
3	I can evaluate information materials in the information-seeking process.	187(50.7)	138(37.4)	37(10.0)	07(1.9)	1.63	0.741
4	I can use information with understanding.	163(44.2)	182(49.3)	17(4.6)	07(1.9)	1.64	0.661
5	I can acknowledge cultural, ethical, economic, legal, and social issues in the use of information.	164(44.4)	149(40.4)	47(12.7)	09(2.4)	1.73	0.774
6	I can properly manage information collected and generated	154(41.7)	165(44.7)	39(10.6)	11(3.0)	1.75	0.762
7	I possess web browsing skills	182(49.3)	160(43.4)	21(5.7)	06(1.6)	1.60	0.673
8	I can copy or download files from the Internet	184(49.9)	152(41.2)	25(6.8)	08(2.2)	1.61	0.710
9	I can effectively make use of OPAC and institutional repositories	121(32.8)	160(43.4)	71(19.2)	17(4.6)	1.96	0.839
10	I can make use	129(35.5)	161(43.4)	68(18.4)	11(3.0)	1.89	0.802

	of the library card catalogue	0)	.6)	4)			
11	I can make use of the Abstract and index	138(37.4)	165(44.7)	49(13.3)	17(4.6)	1.85	0.819
12	I can effectively make use of search engines	155(42.0)	156(42.3)	40(10.8)	18(4.9)	1.79	0.824

Table 1 presents the information retrieval skills possessed by postgraduate students. The results revealed that majority of the postgraduate students 355 (96.3%) knew when they needed information and could also determine the nature and extent of the information needed. In addition, 345 (93.5%) of the respondents used information with understanding, while 344 (93.2%) claimed that they could locate their needed information effectively and efficiently. The implication to be drawn from this result is that postgraduate students in the selected universities possess information retrieval skills required for scholarly research.

Table 2: Types of information retrieval skills needed by postgraduate students for scholarly research

S/N	Types of information retrieval skills	Yes (%)	No (%)	X	SD
1.	Web browsing Skill	313 (84.8)	56 (15.2)	1.15	0.359
2.	Skills to use search engines such as Yahoo, Google, Altas Vista etcetera.	309 (83.7)	60 (16.3)	1.16	0.370
3.	(OPACs) Usage skills	293 (79.4)	76 (20.6)	1.21	0.405
4.	Skills to use truncation when searching online	291 (78.9)	78 (21.1)	1.21	0.409
5.	Skills to access and download files from online databases	281 (76.2)	87 (23.6)	1.24	0.435
6.	Skills to search for needed information effectively and efficiently.	277 (75.1)	92 (24.9)	1.25	0.433
7.	Abstract Usage Skills.	274 (74.3)	95 (25.7)	1.26	0.466
8.	Skills to determine the nature and extent of the information needed.	270 (73.2)	99 (26.8)	1.27	0.444
9.	Skills to recognize the information needed.	252 (68.3)	117 (31.7)	1.32	0.473
10.	Skills to combine two terms to retrieve information	252 (68.3)	117 (31.7)	1.32	0.466
11.	Metadata Usage Skill.	240 (65.0)	129 (35.0)	1.35	0.477
12.	Index Usage Skills.	237 (64.2)	132 (35.8)	1.36	0.480

Table 2 presents results of the analysed data on the types of information retrieval skills needed by postgraduate students for scholarly research as affirmed by the respondents. The result revealed that web browsing skills (313 (84.8%)) topped the list of information retrieval skills needed by postgraduate. This is closely followed by skills to; to use of search engines with response rate of 309 or 83.7%; use truncation when searching online with response rate of 291 (78.9%); access and download files from online databases (281 or 76.2%) and search for needed information effectively and efficiently (277 (75.1%). It can therefore be deduced that postgraduate students in the selected universities possess skills for; web browsing; use of search engines, use of truncation when searching online, accessing and downloading files from online databases and searching for needed information effectively and efficiently.

Table 3: Challenges Faced by Postgraduate Students in Conducting Scholarly Research

S/N	Statements	SA (%)	A (%)	D (%)	SD (%)	X	SD
1	Ambiguous research topics	219(59.3)	124(33.6)	17 (4.6)	09 (2.4)	2.00	1.092
2	Poor articulation of research problem statement.	192(52.0)	157(42.5)	14 (3.8)	06 (1.6)	1.99	0.989
3	Inability to retrieve adequate current information resources for research.	202(54.7)	138(37.4)	14 (3.8)	15 (4.1)	1.77	0.895
4	Lack of free access to information databases.	185(50.1)	155(42.0)	20 (5.4)	09 (2.4)	1.62	0.729
5	Inability to retrieve adequate current and quality literature.	182(49.3)	152(41.2)	25 (6.8)	10 (2.7)	1.57	0.732
6	Lack of funds to finance quality research work.	187(50.7)	156(42.3)	19 (5.1)	07 (1.9)	1.57	0,749
7	Lack of skill to avoid Plagiarism issues.	189(51.2)	145(39.3)	21 (5.7)	14 (3.8)	1.57	0.726
8	Lack of skill to acquire quality information resources online.	178(48.2)	154 (41.7)	21 (5.7)	16 (4.3)	1.65	0.741
9	Lack of funds to finance data gathering, retriever and analysis.	182(49.3)	149 (40.4)	24 (6.5)	14 (3.8)	1.68	0.781
10	Poor implementation of research findings and recommendations in Nigeria.	190(51.5)	153 (41.5)	13 (3.5)	13 (3.5)		1 0.793 . 6 5
11	Heavy academic	180(48.2)	145	27 (7.3)	17 (4.6)		1 0.783

	workload	8)	(39.3)				
							.6
							5
12	Lack of confidence in writing skill	163(44.2)	163 (44.2)	23 (6.2)	20 (5.4)		1 0.809
							.7
							3

Table 3 presents information on the challenges confronting postgraduate students while carrying out scholarly research. The findings revealed poor articulation of research problem statement (349, 94.5%), ambiguous research topics (343; 92.9%) and lack of funds to finance quality research work (343, 92.9%) as topping the list of challenges confronting the postgraduate students as affirmed by the respondents. Other challenges as revealed by the results of the analysed data include; inability to retrieve adequate current information resources for research (343, 92.9%), lack of free access to information databases (340, 92.1%), lack of confidence in writing (326, 88.4%) as well as heavy academic workload (325, 88.1%). contributed challenges to scholarly research activities. The implication to be drawn from the result is that the major challenges confronting postgraduate students in the course of carrying out scholarly research are; poor articulation of research problem statement, ambiguous research topics, lack of funds to finance quality research work, inability to retrieve adequate current information resources for research, lack of free access to information databases, lack of confidence in writing (326, 88.4%) and heavy academic workload.

Discussion of the Findings

The study established that the most of the postgraduate students know when information is needed and can also determine the nature and extent of the information needed just as they possess web browsing skills that enhance their ability to locate needed information and use the information with understanding effectively and efficiently. This finding corroborates Moyo and Mavodza (2015) result which established that postgraduate students easily identify when information is needed and as well determine the nature and extent of the information needed. In addition, Mugwisi (2015) affirmed that the respondents in Zimbabwean and South African universities possess web browsing skills that enhance their ability to locate needed information and use the information effectively. The study also revealed that almost all the information retrieval skills listed are required by postgraduate students to conduct scholarly research. However, web browsing skill is considered the most needed by the postgraduate students. This finding is in line with that of the International Association of University Libraries (2015) which reported that the types of information retrieval skills needed by postgraduate students are web browsing skill and ability to use search engines like Yahoo, Google among others. Similarly, Atanda and Adeyemi (2018) and Tshuma (2018) affirmed that for effective scholarly research, skills to access and download files from online databases, skills to search for needed information and to truncate when searching online are required are major skills require by postgraduate student to carry out quality researches.

Furthermore, findings from the study revealed the challenges confronting postgraduate students in the course of carrying out research to include; poor articulation of research problem statement, ambiguous research topics, lack of funds to finance quality research work, inability to retrieve adequate and current information resources for research, lack of confidence in writing and heavy academic workload. This finding is similar to that of Qasem and Zayid (2019) which established difficulty in deciding the topic for research, lack of good knowledge of the methodology, specialised and related references, lack of interest in research, lack of understanding of the subject matter, lack of time, and poor research guide from supervisors as

challenges faced by postgraduate students in scholarly research activities. Also, Desmennu and Owoaje (2018) found that postgraduate students at the University of Ibadan faced numerous obstacles, such as inappropriate courses, lack of training, poor financial and infrastructural resources, which hinder their ability to successfully conduct scholarly research.

Conclusion and Recommendations

Information retrieval skills is important and key to adequately equipping postgraduate students for scholarly research activities through developing their creative and critical thinking abilities. These skills will enable the postgraduate students to carry out independent researches. The following recommendations were advanced from the findings of the study:

Postgraduate students should strive towards acquiring necessary information retrieval skills that will enhance their scholarly research activities. This could be attained through attendance of training and retraining opportunities available to them.

The Management of university libraries should ensure continuous mounting of information retrieval skills development programmes for the postgraduate students.

Adequate funding should be made available for scholarly research activities from which the postgraduate students can access to carry out scholarly research.

Project supervisors in the universities should encourage and train the postgraduate students under their supervision to acquire more information retrieval skills to improve in their scholarly research activities.

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