

PUBLISHING, LIBRARIANSHIP AND SCHOLARLY ECOSYSTEM IN NIGERIA

*A Festschrift in Honour of
Prince Clement Adeniyi Akangbe, Ph.D.*



Editors

Osarobu Emmanuel Igudia, Ph.D.

Sunday Omoniyi Obiyinka, Ph.D.

Olufemi Timothy Ogunyejo

Foreword

Prof. Iyabo M. Mabawonku

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USE OF OPEN EDUCATION RESOURCES BY LIBRARY AND INFORMATION STUDIES STUDENTS IN UNIVERSITIES IN IBADAN, OYO STATE, NIGERIA

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Abstract

The use of open educational resources by Library and Information Science (LIS) undergraduates can enhance their learning and research activities. However, findings from studies have revealed that some of the LIS undergraduates are not taking advantage of these resources. This could be a function of information retrieval skills. Thus, this study examined the use of open educational resources by library and information studies students in two universities in Ibadan, Oyo State, Nigeria. A descriptive survey research design of the correlational type was used for the study. The population consisted of LIS undergraduates in Universities in Ibadan. A simple random sampling technique was used to arrive at a sample size of 143. The questionnaire was the instrument used for data collection. Data was analysed using descriptive statistics. The Statistical Package for the Social Sciences (SPSS) was used to interpret the results. Findings show that challenges affecting the use of open educational resources by most of the respondents include a lack of orientation regarding the availability of open educational resources. The study recommends that lecturers and management of library schools should encourage the use of these resources and provide relevant training for their effective use.

Keywords: Information retrieval skills, Use of open educational resources, LIS undergraduates, Ibadan

Introduction

Before the advent of technology, students, researchers, scholars, etc. used to go into the library to consult printed information materials such as textbooks, magazines, newspapers, reference materials like dictionaries, encyclopedia, etc. but with the advent of technology and digital tools, teaching, learning and research have become more dynamic and easier as there have being a creative

surge to education. This is occasioned by technological advantages which include: use of digital tools (Edmodo, Google Classroom, LMS, etc.), Online Public Access Catalogue (OPAC), computer, Internet, World Wide Web and different search engines like DuckDuckGo, Bing, Google, etc.; library and information studies undergraduates are taking advantage of these available resources.

The contemporary digital age has ushered in a wealth of information, revolutionising the way knowledge is accessed, processed and disseminated. Within the academic realm, the field of library and information science (LIS) plays a pivotal role in equipping students with the essential skills to navigate this vast information landscape. Moreover, the emergence of open educational resources (OER) has introduced new dimensions to learning and knowledge sharing. In an era marked by the digitisation of information and the proliferation of online resources, the ability to efficiently retrieve, evaluate and utilise information is paramount. To retrieve information, there is a need for certain techniques by an information user. This technique can be considered to be "Information retrieval skills". It is referred to as a user's level of competence, a user's ability to access, to recover and to utilise information. It could also be seen as the processes involved in organising, processing and gaining access to information in all kinds and formats. In order to find information – text, graphics, pictures, sound recordings, or videos – that satisfies their individual needs, communication is targeted with an information system or service using an information retrieval system.

A library and information studies student has different skills to be able to access information. These skills include knowing how to use search engines efficiently by using appropriate keywords and operators; understanding how to navigate and search within databases relevant to one's field of interest; assessing the credibility and reliability of sources to ensure the information is trustworthy; compiling and summarising information from various sources to create a comprehensive understanding; choosing relevant keywords that accurately represent one's information needs; using operators like 'and, or and not' to refine search queries for more precise results; recognising influential works and tracing citations to find related and recent research, utilising advanced search features provided by search engines or databases; applying filters to narrow down search results based on criteria such as date, type, or source; and keeping abreast of changes in information sources, databases and search engine algorithms.

The availability and use of educational resources that are available in various formats, including digital, in line with current trends and the adoption

of information technologies, greatly facilitates universities' efforts to achieve their goals and position themselves appropriately as a knowledge hub. These tools provide the supporting elements needed for university students to have a successful educational experience and learning outcome. Observations show that both students and teachers have restricted access to high-quality instructional resources. Students in developing nations like Nigeria, where there is a significant prevalence of poverty, face a greater struggle than other students. This is consistent with the National Bureau of Statistics' (2019) study, which states that 40.1% of Nigerians, or approximately 82.9 million people, are regarded as poor by international standards. It emphasises how important it is for students to have unrestricted access to information and knowledge-based resources while they pursue higher education, a necessity that Open Educational Resources (OER) have successfully addressed.

For an undergraduate to effectively utilise Open educational resources, there are information retrieval skills that come into operation. These include developing effective search queries using keywords relevant to one's topic, familiarise oneself with OER repositories and databases to efficiently locate resources, assessing the credibility, reliability and relevance of OER to ensure their suitability for academic use, grasping the significance of metadata to refine searches and identify pertinent resources and learning to properly cite OER to uphold academic integrity and giving credit to the content creators. Preliminary observation has shown that even though open educational resources are available and students are equipped with a number of information retrieval skills, not many students are making use of the advantages provided by Open Educational Resources. This is due to a number of factors, including insufficient retrieval skills, inadequate awareness of the Open Education Resource, outright lack or unavailability of these resources, slow or erratic internet and lack of specific software. It is based on this background that this study investigated Information Retrieval skills and Use of Open Educational Resources by Library and Information Studies Undergraduate Students in Universities in Ibadan, Oyo State, Nigeria.

The general objective of the study is to investigate information retrieval skills and the use of open educational resources by library and information students in universities in Ibadan, Oyo State, Nigeria. The study is guided by the following research questions, which were derived from the research objectives.

1. What are the types of open educational resources available to library and information studies students in universities in Ibadan, Oyo State?

2. What is the use pattern (purpose, frequency and challenges) of open educational resources by library and information studies students in universities in Ibadan, Oyo State?
3. What is the influence of the use pattern (types, purpose, frequency and challenges) of open educational resources by library and information studies students on information retrieval skills in universities in Ibadan, Oyo State?

The study will be of significance to Library and Information Studies undergraduate students, the student body in general, university libraries and university management and policy makers.

Literature Review

Open educational resources (OER) is a broad topic with multiple facets and different organisations and experts have defined it in different ways. These definitions frequently address issues like the resource's attributes, copyright permissions, structure, source and the reasons for distributing educational information. Although definitions differ, Grodecka and Sliwowski (2014) pointed out that they frequently concur on one thing: the digital nature of the resources. UNESCO was one of the organisations that first adopted the term OERS and defined it as educational materials used for research, teaching and learning. These resources are either made available under particular intellectual property licenses or are freely accessible to the general public. These licenses provide the unrestricted use, alteration and free distribution of resources (UNESCO, 2002). Since then, open educational resources have become increasingly well-known on a global scale. They are defined as digital content that is publicly accessible and can be utilised for teaching, learning and research by educators, students and independent learners.

Open educational resources are digital educational resources that are freely accessible and can be used without requiring the payment of royalties or license costs. These resources are frequently distributed via different digital platforms or on the internet. Commonly used Creative Commons licenses need users and content creators to be aware of their restrictions to allow remixing and sharing (Wright and Reju, 2012). The salient features of OERS are highlighted in these definitions. First and foremost, digital materials for education should be made available for easy sharing and economical repurposing. Furthermore, the resources associated with open educational efforts should be open-source, meaning that anybody can use the source code of the resources without restriction (Geser, 2007).

OERS comprise software, tools and resources that help with the creation, use, modification and sharing of educational information in addition to teaching and learning materials. From a larger angle, it is acknowledged that OERS include learning management systems such as Moodle, resources required for the implementation of these elements, including open licenses and tools for creating learning communities (Jena, 2012). Diverse definitions exist for OERS, but the Commonwealth of Learning (COL) takes a thorough approach. OERS, as defined by the COL, refers to freely available resources that can be used, modified and shared for free in the context of education and development. Beyond the description provided by the COL, Stephen (2009) emphasises that OERS should not need any commitments, fees, subscriptions, tuition, or user registrations. Stephen's perspective broadens the understanding of Open Educational Resources by supporting the elimination of any duties placed on users of instructional materials. Moreover, he emphasises that OERS are composed of three interconnected elements: content, tools and capacity and is not just restricted to open courseware. These elements work to guarantee the resources' efficacy, longevity, usefulness and accessibility.

In order to promote knowledge sharing and improve accessibility to education, the primary goal of the OERs action is to make learning resources widely available for little to no cost, regardless of location (Yuan, MacNeill and Kraan, 2012). A vast array of educational and research materials created for use in teaching, learning and research are included in OERs, according to Butcher (2011). One distinctive feature of OERs are their free accessibility, which implies there are no costs involved in using or gaining access to these resources.

Open education resources users can access educational resources that are primarily in the public sector or that are available under a confidential permit, facilitating learning, teaching and research while allowing unrestricted use for non-commercial purposes. These educational resources are directly usable and modifiable by the user community. OERs are characterised as openly accessible educational resources that allow for unlimited personal reuse, modification and sharing (Downe, 2011). Open Educational Resources (OERs) include lesson plans, tests, syllabi, modules, simulations and other educational materials that are freely accessible for use, modification and sharing by the public at no cost (Wiley, 2008). Various academics have contributed their own unique interpretations of OERs.

According to Downe (2011), OERs are educational resources that are freely used, altered, shared and repurposed. According to the OERs Foundation (2011), these resources are licensed in a way that allows

individuals and organisations to freely alter and customise them to meet their particular needs and preferences. OERs are defined by McGreal (2013) as publicly accessible online learning resources, which expands on these definitions. If these resources are in the public domain or have an open license, you can use and reuse them without paying anything. The openness of OERs unites them, even though various definitions emphasize different facets of openness, like free availability or licensing.

OERs are available for LIS students in many different formats such as text, multimedia, audio, video and a combination of these. They come in various sizes, ranging from short learning modules to entire courses. Scholars like D'Antoni (2007) and Lane (2010) have observed that OERs liberate content from proprietary silos, like institutional virtual learning environments, allowing for greater accessibility and overcoming authorisation barriers. Open education resources OERs are also recognised as a contribution to the body of knowledge that is free of copyright. However, these scholars often criticise OERS for lacking interactive and context-specific elements and for having an implicit learning design as opposed to an explicit one. They may lack meaningful interaction, have a didactic feel and require additional activities and context in order to function effectively.

Open Educational Resources and Materials are those that the public is free to use, modify and share under specific licenses, according to Bell (2017). The provision of substitute or enhanced instructional methods served as the foundation for academics' support of the engineering and development of OERS. The concept of Open Educational Resources and Services (OERS) is a global endeavour to ensure that everyone has equal access to knowledge and educational opportunities across the globe (Bisell, 2009). Arendt and Shelton (2009) found that OERs has a number of benefits from the viewpoint of the students. A few of these advantages include the ease of material access, the availability of free materials, continuous access to resources, the capacity to delve deeply into a subject and the potential for personal growth and enjoyment. Resources for education must be publicly accessible and usable. This facilitates cooperation, enhancement and dissemination of educational materials, increasing their accessibility to a worldwide audience through licensing arrangements like the Creative Commons. OERS's adaptability makes it simple to remix and share content, meeting the various needs of institutions, learners and educators (Koochang and Harman, 2007). Open education resources integration in education makes it possible to better address meeting the unique needs of a range of student demographics, such as those with special needs and those looking for materials in their mother tongues.

The use of open educational resources (OER) in Nigerian universities is hindered by a lack of awareness, despite OER's growing popularity, advantages and potential to improve education in developing nations (Zaid and Alabi, 2020). Lack of proper promotion of OER use by lecturers and librarians among students is one of the main causes of the low awareness and usage of OER among students, according to the researchers. Especially in developing nations, the use of OER may offer a way to address some of the major issues facing tertiary education, such as the high cost of textbooks, the calibre of teachers, the severe teacher shortage, etc.

Methodology

A descriptive survey research design was adopted for the study. The population of the study comprised undergraduate students of Library and Information Science in Oyo State. Only library schools that have full complement of student levels from 100 to 400 levels are selected. Therefore, the University of Ibadan, Ibadan and Lead City University, Ibadan, were selected. The population of Library and Information Studies (LIS) undergraduate students for the 2022/2023 session in the two universities is presented in Table 1.

Table 3.1: Population of the study

Level	University of Ibadan	Lead City University	Total
100	43	15	58
200	50	17	67
300	58	18	76
400	50	35	85
Total	201	85	286

A simple random sampling technique was adopted to select 50 percent of the population from each university. This implies that half of the number of students across the four academic levels in both universities constituted the participants of the study. This is in line with Krejcie and Morgan (1970).

Table 2: Sample size of the study

Level	University of Ibadan	Lead City University	Total
100	22	8	30
200	25	8	33
300	29	9	38

400	25	17	42
Total	101	42	143

The major instrument for the study was a self-designed questionnaire titled "Information Retrieval Skills and Use of Open educational resources by Library and Information Studies (IRSUOERLISS). It employed Likert scale ratings of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) to elicit appropriate responses from the respondents. The questionnaire has four sections i.e. Sections A – D. The demographic information of the respondents was analysed using frequency counts, percentages and charts.

Result and Discussion

One hundred and forty-three (143) copies of the questionnaire were administered and one hundred and thirty-seven (137) copies were filled and returned, making a return rate of 95.8%. The data gathered from 137 respondents were therefore used for the analysis.

Demographic characteristics of the respondents

The demographic characteristics considered in this study were institution, age, academic level and gender of the respondents. The majority of the respondents, 96(70.0%) were from the University of Ibadan, while the remaining 41(30%) were from Lead City University.

Table 3 Demographic information of the respondents

Gender	Frequency	Percent
Male	63	46.0
Female	74	54.0
Total	137	100.0
Age (In years)		
16-20	57	41.6
21-25	37	27.0
26-30	28	20.4
Above 30	15	11.0
Total	137	100.0
Academic level		
100	29	21.1
200	32	23.4

300	37	27.0
400	39	28.5
Total	137	100.0

The results in Table 3 show that out of 137 respondents, 63 (46.0%) were male, while 74 (54.0%) were female. This means that the majority of the respondents were female. On the age distribution of the respondents, the results reveal that the majority of the respondents fall between the age range of 16-20 years, represented by 57 (41.6%). This is followed by the respondents that fall between the age range of 21-25 years represented by 37 (27.0%), 28 (20.4%) were between the age range of 26-30 years, while 39 (28.5%) were between the age range of 30 years. In summary, the majority of the respondents fall within the age range of 16-20 years. Based on the academic level of the respondents, the results show that the majority, at 39 (28.5%), were in the 400 level, while the minority, at 29 (21.1%), were in the 100 level.

Data Analysis

This section of the study analyses the data collected from the field.

Research question 1: What types of open educational resources are available to library and information studies students in universities in Ibadan, Oyo State?

Table 4: Types of open educational resources available to library and information studies students in universities in Ibadan, Oyo State

S/N	Item	SA (%)	A (%)	D (%)	SD (%)	Mean	Std.Dev
1	Open digital course materials	29 (21.2)	75 (54.7)	33 (21.2)	0 (0.0)	2.97	0.67
2	Open educational videos	52 (38.0)	60 (43.8)	21 (15.3)	4 (2.9)	3.17	0.79
3	Open textbooks	80 (58.4)	28 (20.4)	24 (17.6)	5 (3.6)	3.34	0.89
4	Open course modules	61 (44.5)	67 (48.9)	9 (6.6)	0 (0.0)	3.20	0.60
5	Open lecture notes and presentations	61 (44.5)	65 (39.2)	0 (0.0)	0 (0.0)	3.38	0.61
6	Open research articles and papers	38 (27.7)	83 (60.6)	16 (11.7)	0 (0.0)	3.16	0.61
7	Open educational games and Applications	40 (29.2)	64 (46.7)	30 (21.9)	3 (2.2)	3.03	0.78

8	Open interactive simulations	27 (19.7)	56 (40.9)	30 (21.9)	24 (17.4)	2.63	0.70
9	Open quiz and assessment banks	52 (38.0)	81 (20.4)	49 (35.8)	8 (5.8)	2.91	0.98
	Grand Mean					30.64	4.09

SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree

The results in Table 4 reveal the types of open educational resources available to library and information studies students in universities in Ibadan. The results show that out of 137 respondents, majority of the respondents agreed that they used open course modules (93.3%), open research articles and papers (88.3%), open lecture notes and presentations (83.7%), open educational videos (81.8%), open textbooks (78.8%), open digital course materials (75.9%), open educational games and applications (75.7%), open interactive simulations (60.6%) and open quiz and assessment banks (58.4%).

Research question 2: What is the use pattern (purpose, frequency and challenges) of open educational resources by library and information studies students in universities in Ibadan, Oyo State?

Table 5: Purpose of use of open educational resources available to library and information studies students in universities in Ibadan, Oyo State

S/N	Item	SA (%)	A (%)	D (%)	SD (%)	Mean	Std.Dev
1	Complement lecture notes	61 (44.5)	63 (46.0)	9 (6.6)	4 (2.9)	3.32	0.73
2	Do assignments	91 (66.4)	38 (27.8)	8 (5.8)	0 (0.0)	3.61	0.60
3	Prepare for examinations	70 (51.1)	59 (43.1)	8 (5.8)	0 (0.0)	3.45	0.61
4	Write projects	61 (44.5)	67 (48.9)	9 (6.6)	0 (0.0)	3.38	0.72
5	Carry out research	45 (32.9)	88 (64.2)	4 (2.9)	0 (0.0)	3.30	0.52
6	Enhance my knowledge	46 (33.6)	78 (56.9)	13 (9.5)	0 (0.0)	3.24	0.61
7	Provide answers to questions	41 (29.9)	87 (63.5)	9 (6.6)	0 (0.0)	3.23	0.56
8	Acquire new knowledge	92 (67.2)	45 (32.8)	0 (0.0)	0 (0.0)	3.67	0.47
	Grand Mean					30.64	4.09

SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree

Table 5 reveals the frequency distribution of the eight listed purpose of use of open educational resources available to library and information studies students in universities in Ibadan, Oyo State. The results show that 124 (90.5%) respondents agreed to using open educational resources to complement lecture notes while 9(9.5%) disagreed with this statement. The results also reveal that 129(94.2%) agreed to using OERs to doing assignments while 8(5.8%) disagreed. The results further show that 129(94.2%) agreed to using OERs to prepare for examinations while 43(17.2%) disagreed. Also, 133(93.4%) agreed that they used OERs to carry out research while 4(6.6%) disagreed; while 124(93.4%) agreed to using OERs to enhance their knowledge while 13(6.6%) disagreed with this statement. Similarly, 128 (93.4%) of the respondents agreed to using OERs for the purpose of providing answers to questions while 9(6.6%) disagreed with the statement. Finally, the results show that 137(100.0%) agreed that they used OERs to acquire new knowledge while none (0.0%) disagreed with this statement. Majority of the respondents knew the various purposes of using open educational resources that were available to library and information studies students. The result also revealed that all the items yielded high mean scores between 3.30 and 3.67. With these results, we can conclude that the purpose of use of open educational resources available to library and information studies students in universities in Ibadan was high.

Table 6: Frequency of use of open educational resources available to library and information studies students in universities in Ibadan, Oyo State

S/N	Item	D (%)	W (%)	M (%)	N (%)	Mean	Std.Dev
1	I use OERs to complement lecture notes	111 (81.0)	24 (17.5)	2 (1.5)	0 (0.0)	3.80	0.56
2	I use OERs to do assignments	92 (67.2)	44 (32.1)	1 (0.7)	0 (0.0)	3.66	0.69
3	I use OERs to prepare for examinations	94 (68.6)	40 (29.2)	3 (2.2)	0 (0.0)	3.65	0.76
4	I use OERs to write projects	88 (64.2)	44 (32.1)	2 (1.5)	3 (2.2)	3.58	0.72
5	I use OERs to carry out research	82 (59.9)	25 (18.2)	13 (9.5)	17 (12.4)	3.26	1.06
6	I use OERs to enhance my knowledge	80 (54.8)	48 (35.0)	8 (5.8)	1 (0.7)	3.51	0.64
7	I use OERs to provide answers to questions	91 (66.4)	43 (31.4)	3 (2.2)	0 (0.0)	3.64	0.53
8	I use OERs to acquire knowledge	70 (51.0)	59 (43.1)	6 (4.4)	2 (1.5)	3.44	0.65
	Grand Mean					28.55	2.45

Note: D = Daily, W = Weekly, M = Monthly, N = Never

Table 6 reveals the frequency distribution of the eight listed frequency of use of open educational resources available to library and information studies students in universities in Ibadan. The results show that out of 137 respondents, 135(98.5%) used open educational resources daily, 24(17.5%) used it weekly and 2(1.5) used it monthly to complement lecture notes. The results also reveal that 92(67.2%) used OER daily, 44(32.1%) weekly and 1(0.7%) monthly to do assignments, while to prepare for examination, 94(68.6%) used it daily, 40(29.2%) used it weekly and 3(2.2%) used it monthly. In the same vein, 88(64.2%) used it daily, 44(32.1%) used it weekly, 2(1.5%) used it monthly and 3(2.2%) never used it at all to write projects.

Furthermore, the results show that to carry out research, 82 (59.9%) used it daily, 25 (18.2%) used it weekly, 13 (9.5%) used it monthly, while 17 (12.4%) never used it to write projects. To enhance knowledge, 80 respondents, which was (54.8%), used open educational resources daily, 48 (35.0%) used it weekly, 8 (5.8%) used it monthly, and 1 (0.7%) never used it to enhance knowledge. Table 4.4 further reveals that 91 (66.4%) used it daily to answer questions, 43 (31.4%) used it for the same purpose weekly, and 3 (2.2%) used it monthly to provide answers. Finally, the results show that to acquire new knowledge, 70 (51.0%) used it daily, 59 (43.1%) used it weekly, 6 (4.4%) used it monthly, and 2 (1.5%) never used it to acquire new knowledge. All the 8 items yielded high mean scores between 3.26 and 3.80, which implies there was a high frequency of use of open educational resources available to library and information studies students in universities in Ibadan.

Table 7: Challenges of use of open educational resources available to library and information studies students in universities in Ibadan, Oyo State

S/N	Item	SA (%)	A (%)	D (%)	SD (%)	Mean	Std.Dev.
1	Poor quality of OERs	30 (21.9)	45 (32.8)	50 (36.5)	12 (8.8)	2.93	0.25
2	High cost of access	103 (75.2)	33 (24.1)	1 (0.7)	0 (0.0)	3.74	0.49
3	Issues in finding additional relevant OERs on subject related to my course	106 (77.3)	29 (21.2)	2 (1.5)	0 (0.0)	3.76	0.76
4	Time constraints to use OERs effectively	103 (75.2)	29 (21.2)	1 (0.7)	4 (2.9)	3.69	0.72
5	<i>Internet connectivity problem</i>	20 (14.6)	41 (29.9)	24 (17.5)	52 (38.0)	2.21	0.49

6	<i>Insufficient number of people with knowledge of OERs</i>	22 (16.1)	41 (29.9)	17 (12.4)	57 (41.6)	2.20	0.65
7	<i>Frequent power outages</i>	21 (15.3)	44 (32.1)	32 (23.4)	40 (29.2)	2.34	0.81
8	<i>Lack of awareness or orientation regarding the availability of various OERs to learners</i>	108 (78.9)	23 (16.8)	1 (0.7)	5 (3.6)	3.71	0.70
9	<i>Restricted access to materials at OERs centres</i>	7 (5.1)	55 (40.1)	37 (27.0)	38 (27.7)	2.23	0.92
10	<i>Lack of know-how in ICT skills to effectively utilise OERS</i>	99 (72.3)	26 (19.0)	4 (2.9)	8 (5.8)	3.58	0.81
	Grand Mean					31.39	3.61

SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree

Table 7 reveals the distribution of the ten listed challenges of the use of open educational resources available to library and information studies students in universities in Ibadan. The results show that out of 137 respondents, 75(54.7%) agreed that poor quality of OERs was one of the challenges of open educational resources, while 67(45.3%) disagreed with this statement. The results also reveal that 136(99.3%) agreed with the high cost of access, while 1(0.7%) disagreed. On issues in finding additional relevant OERs on subjects related to my course, 135(98.5%) of the respondents agreed while 2(1.5%) disagreed with this statement. On time constraints to use OERs effectively, 132(96.4%) agreed, while 5(3.6%) disagreed.

The results in Table 7 further show that 61(44.5%) agreed that the *Internet connectivity problem* was a challenge to effective use of OERs, while 43(55.5%) disagreed. In the same vein, 65(47.4%) agreed to *frequent power outages*, while 72(52.6%) disagreed with this statement. While 131 (95.7%) agreed the *lack of awareness or orientation regarding the availability of various OERs to learners*, 5(4.3%) disagreed. In the same vein, 62(45.2%) agreed to *restricted access to materials at OERs centres* as a major challenge, while 5(54.8%) disagreed with the statement.

On *lack of know-how in ICT skills to effectively utilise OERS*, the results show that 125(91.3%) agreed while 12(8.7%) disagreed with the statement. In the same vein, all the items yielded high mean scores between 2.23 and 3.76. With these results, it could be deduced that there were a series of challenges inhibiting effective use of open educational resources available to library and information studies students in universities in Ibadan.

Research question 3: Is there a composite influence of the use pattern (types, purpose, frequency and challenges) of open educational resources by

library and information studies students on information retrieval skills in universities in Ibadan, Oyo State?

Table 8: Summary of Regression Analysis of the combined prediction of use pattern (types, purpose, frequency and challenges) on students' information retrieval skills in universities in Ibadan

R	R Square	Adjusted R Square	Std. Error of the Estimate			
0.245	0.060	0.055	3.029			
SUMMARY REGRESSION ANOVA						
	Sum of Square	Df	Mean Square	F	P	Remark
Regression	349.843	4	87.461	21.116	0.000	Sig.
Residual	5469.691	132	4.142			
Total	5819.173	136				

Table 8 shows there was a significant composite effect of four independent variables (types, purpose, frequency and challenges) of open educational resources by library and information studies students on information retrieval skills. That is, students' information retrieval skills correlated positively with the independent variables (types, purpose, frequency and challenges). The table also shows a coefficient of multiple correlations (R) of 0.245 and a multiple R-squared of 0.060. This means that 5.5% ($Adj.R^2=0.055$) of the variance in the students' information retrieval skills is accounted for by the independent variables, when taken together. The significance of the composite influence was tested at $p < 0.05$ using the F-ratio at the degree of freedom ($df = 4/132$). The table also shows that the analysis of variance for the regression yielded a F-ratio of 21.116 (significant at 0.05 level).

Discussion of the Findings

The findings on each research question are discussed in this section.

Types of Open educational resources available to Library and Information Studies students in universities in Ibadan

Findings from the study show that there were various types of open educational resources available to library and information studies students in universities in Ibadan. The results show that these resources were open digital course materials, open educational videos, open textbooks, open course modules, open lecture notes and presentations, open research articles and papers, open educational games and applications, open interactive simulations and open quiz and assessment banks. For this study, open course modules, open research articles and papers and open lecture notes and presentations

were the three most used OERs by Library and Information Studies students in universities in Ibadan, Oyo State; while the three least used were open educational games and applications, open interactive simulations and open quiz and assessment banks.

Electronic resources are defined by Abubakar and Adetimirin (2015) as information sources that are accessible and available electronically through computer networked facilities like online library catalogues, the internet and databases on the World Wide Web (WWW). Kanwar, Kodhandaraman and Umar (2010) identified electronic books, electronic journals and online databases like Access to Global Online Research by in Agriculture (AGORA) as some types of e-resources used in research.

Apart from the open educational resources identified in this study, online resources include Compact Disc Read Only Memory (CD-ROM), Online Public Access Catalogue (OPAC), Health Internetwork Access to Research Initiative (HINARI), e-content-Multi-disciplinary coverage (EBSCO-HOST), ARBI on the Environment, the essential Electronic Agriculture Library (TEEAL) and journal storage (JSTOR). Various types of OERs abound. OERS Commons (2014) classified OERs into three main categories, namely: learning resources and courseware, such as content modules, learning objects, learner support and assessment tools and online learning communities. The second category comprises resources intended to assist teachers, such as tools, support materials, training guides and other educational resources that guarantee the quality of educational practices. The third category pertains to learning content, which includes the storage of learning materials, learning modules, learning objects, collections and journals that together make up a complete learning experience. It is obvious from the literature that there are different types of open educational resources.

The use pattern (types, purpose, frequency and challenges) of Open educational resources by Library and Information Studies students in universities in Ibadan

There are different purposes of using OERs. In this study, OERs was mainly used to complement lecture notes, do assignments, prepare for examinations, write projects, carry out research, enhance knowledge, provide answers to questions and to acquire new knowledge.

The results show that, predominantly, LIS students in universities in Ibadan used OERs to complement lecture notes, write projects and for preparation for examinations. These were the dominant purposes of using OERs. The least purposes were to use it for carrying out research, providing

answers to questions and enhancing my knowledge. Generally, OERs are essential for acquiring knowledge.

According to Bell (2017), Open Educational Resources and Materials are those that the public is free to use, modify and share under specific licenses. The provision of substitute or enhanced instructional methods served as the foundation for academics' support of the engineering and development of OERS (Sanchez, 2013). The concept of Open Educational Resources and Services (OERS) is a global endeavour to ensure that everyone has equal access to knowledge and educational opportunities across the globe (Bisell, 2009). Bissel (2009) offers an alternative definition of Open Educational Resources (OERS) as research, teaching and learning materials that are either in the public domain or made available under intellectual property licenses that allow others to use and modify them without charge. Open educational resources are of tremendous use and purpose to LIS students. Studies show that using OERS instead of traditional textbooks generally results in student outcomes that are on par with or better. Research indicates that students who use open educational resources attain learning gains and grades that are comparable to or greater than those who use traditional textbooks (Hilton, 2016).

On frequency of use of Open educational resources, respondents frequently used OERs daily and monthly to complement lecture notes, do assignments, prepare for examinations, write projects, carry out research, enhance knowledge, provide answers to questions and to acquire new knowledge. However, the daily use of these resources was the most frequent, followed by weekly and monthly. This thus implies that LIS students in universities in Ibadan were used to employing OERs for their various education tasks. Frequent use of OERs enhances academic performance. Research on Houston Community College students' acceptance of open textbooks was done by Hilton and Laman (2012).

Despite the usefulness of OERs, it has its challenges. Finding from this study revealed that there were various challenges to the use of open educational resources available to library and information studies students in universities in Ibadan. The enormous challenges confronting LIS students in using OERs for information retrieval, as identified in the study, were poor quality of OERs, high cost of access, issues in finding additional relevant OERs on subjects related to students' courses, time constraints to use OERs effectively, *Internet connectivity problems, frequent power outages, lack of awareness or orientation regarding the availability of various OERs to*

learners and restricted access to materials at OERs centres. These challenges to the use of open educational resources were commonly experienced by library and information studies students in universities in Ibadan.

Zaid and Alabi (2020) submitted that the use of open educational resources in Nigerian universities has been found to be hindered by a lack of awareness, despite OER's growing popularity, advantages and potential to improve education in developing nations. Lack of proper promotion of OER use by lecturers and librarians among students is one of the main causes of the low awareness and usage of OER among students, according to the researchers. Especially in developing nations, the use of OER may offer a way to address some of the major issues facing tertiary education, such as the high cost of textbooks, the calibre of teachers, the severe teacher shortage, etc.

Influence of the use pattern (types, purpose, frequency and challenges) of open educational resources by library and information studies on students' information retrieval skills in universities in Ibadan

Findings from the study show that there was a significant composite effect of four independent variables, namely: types, purpose, frequency and challenges of open educational resources by library and information studies on students' information retrieval skills. This means that the LIS students' information retrieval skills correlated positively with the independent variables (types, purpose, frequency and challenges).

Studies show that using OERS instead of traditional textbooks generally results in student outcomes that are on par with or better. Research indicates that students who use open educational resources attain learning gains and grades that are comparable to or greater than those who use traditional textbooks (Hilton, 2016). Furthermore, according to Ozdemir and Hendricks (2017), the retention rates of students in courses that use OERS are either better or equal to those of students using traditional textbooks. Furthermore, according to Fischer, *et al.* (2015), students who enroll in courses with OERS are more likely to take more credits each semester, which increases degree completion rates and decreases the time it takes to earn a degree. By improving accessibility and removing obstacles to learning, OERS plays a crucial role in assisting education and promotes greater focus, motivation and engagement among students (Sclater, 2010).

It is clear that OERS accomplishes a number of important goals (Butcher, 2011 and McGreal, 2013). Above all, OERS provides high-quality, publicly accessible content to a larger community of teachers and students, facilitating the exchange of efficient teaching strategies and avoiding

duplication of effort. Additionally, OERs are essential in helping developing countries expand and improve educational opportunities for their citizens, fostering overall development and growth. They also offer adaptable routes for informal and non-formal learning of knowledge and skills, which can lead to formal education. Additionally, OERS provides learning opportunities for irregular learners as well as students who are socially, economically, or geographically excluded. Through the promotion of diverse viewpoints in a range of subject areas and the encouragement of inclusive and open educational practices, OERS can enhance the quality of both traditional and online education. Furthermore, OERS promotes cooperation and the exchange of knowledge by facilitating collaboration across institutions, sectors, disciplines and countries.

Summary of the Findings

From the study, the following findings were derived:

1. The majority of the undergraduate students from the University of Ibadan, as well as those from Lead City University, agreed to the awareness of the types of open educational resources available.
2. The majority of the students of the University of Ibadan and Lead City University knew the purpose of the use of open education resources .
3. The majority of the students of the University of Ibadan and Lead City University used open educational resources on a daily basis, only a few used OERs respectively, weekly basis, on a monthly basis and never.
4. The majority of the students faced challenges when using open educational resources.

Conclusion

It has been established in the study that library and information science undergraduate students access lots of open educational resources available. However, it is worrisome that some of them lack the skills to utilise open educational resources due to the inability of many of them to demonstrate the requisite skills needed to use open educational resources. While some make use of the information retrieval skills to access open educational resources, some, due to a lack of awareness and exposure, did not deem it fit to use the information retrieval skills to access open educational resources. All the library and information science students in Ibadan are equipped with digital skills. Due to this, most of the students prefer to use digital aids to retrieve open educational resources.

Recommendations

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

1. The university, faculty and departmental libraries should endeavour to make known the available types of open educational resources through publicity. Not all students knows of the existence of some of the open educational resources.
2. Undergraduate students should be properly oriented on the purpose which open educational resources can serve in their academic journey.
3. The utilisation of open educational resources is crucial in the day-to-day activities of library and information science student for their academic progress.
4. There should be a concerted effort by the university management and other concerned authorities to provide a constant power supply and strong bandwidth for internet access.

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