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2022

## USE OF OPEN ACCESS RESOURCES BY UNDERGRADUATES IN SELECTED PRIVATE UNIVERSITIES IN OYO STATE, NIGERIA.

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Oladele, Ahmed Abass and Aragbaye, Marcus Oladotun, "USE OF OPEN ACCESS RESOURCES BY UNDERGRADUATES IN SELECTED PRIVATE UNIVERSITIES IN OYO STATE, NIGERIA." (2022). *Library Philosophy and Practice (e-journal)*. 7000.

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**USE OF OPEN ACCESS RESOURCES BY UNDERGRADUATES IN SELECTED PRIVATE UNIVERSITIES IN  
OYO STATE, NIGERIA.**

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**ABSTRACT**

This study looks at the use of open access resources in two private universities in Oyo state, Nigeria. The study adopted a descriptive survey design and a self constructed questionnaire was used as a tool for data gathering. The population of study was comprised of the undergraduate students in undergraduates of Ajayi Crowther University, Oyo, and Lead City University, Ibadan. With the total population of 7,160 but in order to determine the sample size, the multi-stage random technique was used and the final sample size was 234. This study was guided by three objectives. Simple descriptive statistical analysis of frequency counts and percentages was used to analyze the data acquired. The study revealed that the most available open access resources in the selected private universities are open access journal, open courseware and free electronic books and most of the undergraduates used the open access resources occasionally. Also, it was revealed that undergraduate students are confronted with mild challenges against the use of open access resources and some of these challenges include; poor internet connectivity, inconsistent/unreliable electricity supplies, insufficient digital literacy skills and low awareness of the importance of the use of open access resources. The study therefore recommended the need for

university library management to sustain the availability and awareness of open access resources and also to provide alternate source of power supply in order for accessibility.

**KEYWORDS: Availability, Use of Open Access Resources, OARs, Academic Libraries, Undergraduates.**

## **INTRODUCTION**

Open access resources (OARs) have been a boon to the academic community all around the world, since they provide multiple benefits and play a significant role in teaching and learning across borders. Until recently, the most popular way of scholarly communication was for academics to publish their findings in books and journals, which were then sold and distributed to academic libraries at a set price by vendors. Due to the cost constraints, this strategy limits the volume of information resources obtained by academic libraries and has an impact on the future use of information resources by the global academic community. Most academic libraries, therefore acquire few information resources due to their dwindling financial resources. Furthermore, commercial publishers' high journal charges have caused academic institutions and libraries to curtail journal subscriptions (Ayeni and Adetoro, 2017). However, the advent of open access resources through ICT has improved the ability of libraries especially academic libraries to provide information resources to their users. Academic libraries now have unhindered access to vast information resources which they do not have before through open access resources. This is because users of open access resources are able to retrieve scholarly materials at no cost because the price of publication has been assumed by another party, usually the author, the author's institution or grant which funded the research.

Open access resources make e-resources available without limits 24 hours a day, seven days a week because they are in the public domain. This platform takes use of the Internet to obtain access to knowledge that was once freely available to anyone. Open access resources include electronic journals, books, Electronic Theses and Dissertations, directories, e-print archives, digital repositories, open education resources, search engines, and blogs, to name a few. These are all academic and research-focused

resources. Open Access Resources include data and datasets, books and papers, especially scientific research papers. The purpose of this study is to discover how undergraduates in two private universities in Oyo State, Nigeria, use open access resources.

## **LITERATURE REVIEW**

In recent times, numerous studies have examined the use of open access resources by undergraduate students with their respective findings. Veena (2016) conducted a study on the awareness and use of open access resources by undergraduate students of Mangalore University, India. The study revealed that majority of the students in Mangalore University are aware of open access resources and they used these resources to support research work/ projects, and for purpose to update knowledge. Eqbal and Khan (2007) have conducted research on the use of electronic journals by research researchers at Aligarh University's Faculty of Science and Faculty of Engineering. They discovered that the majority of research scholars in the Faculty of Science (67.64 percent) and the Faculty of Engineering (69.23 percent) use Open Access journals for research; however, 35.29 percent in the Faculty of Science and 23.70 percent in the Faculty of Engineering use Open Access journals to update their knowledge and study. Similarly, Stanton and Liew (2012) looked into students' knowledge of and use of open access resources. Interviews and a Web-based survey questionnaire were used to gather information. The majority of interview and survey respondents are aware of and use open access materials, according to the findings. The authors believe that awareness and use of open access resources among students can be further promoted by investigating the effectiveness of different communication channels for promoting open access resources.

Gul, Shah, and Baghwan (2010) conducted a survey study among science and social science students of the University of Kashmir, India, to measure their use of, and perceptions toward, open access resources. The respondents were asked to determine their use of open access resources through online databases available on the library website. Findings showed that 49 percent of the participants used subscribed databases, while 42 percent relied heavily on open access resources. The majority of the social science students (63 percent) were found to be more dependent on open access resources than the science students (29 percent). In the same vein, Kaba and Said (2014) conducted a survey on the use of open access resources in Al Ain University of Science & Technology, Al Ain, United Arab Emirates, the study revealed that majority of respondents (91percent) used at least 1 of the 13 open access resources

listed in the survey questionnaire, including the Directory of OA Journals (DOAJ), Educational Resource and Information Center, digital repositories, Google Scholar, Britannica, International Monetary Fund, Bookworm and Wikipedia.

Sandhu and Daviet (2012) carried out similar survey on the usage of open access materials by engineering students in Punjab, India, and found that nearly two-thirds of the respondents were aware of the benefits and drawbacks of using open access resources. Many respondents stated that they explored using open access materials alongside paid resources, while others stated that open access resources are ideally suited to certain research needs. Others stated that they do not use open access resources since some teachers require students to credit only traditional paid sites. Furthermore, according to Korobili, Tilikidou, and Delistarou (2015), the findings of a user survey conducted at the University of Hong Kong library show that 68.8% of respondents prefer open access journals to 31.2 percent who choose printed journals. These investigations confirmed the appeal of open access resources and their widespread use among undergraduate students in India, the United Arab Emirates, Hong Kong, and other regions of the world.

Chowdappa (2021) also looked into how Bangalore University research scientists used open access academic resources. The study used a survey design technique, with a structure Questionnaire as the primary data collection tool. The majority of research researchers (61.85%) used open access publications, according to the findings. In comparison, only 46.39 percent of research researchers used E-books. The study also discovered that 47.42 percent of research researchers used open access resources on a daily basis, while 30.92 percent used them on a weekly basis. According to the findings, the majority of research scholars (67.01%) used open access scholarly materials for research, while 62.88 percent used them to write publications. The survey shows that of the many types of open access scholarly resources, Bangalore University research scientists use open access journals the most.

In a similar line, Bala, Bansal, and Sharma (2018) investigated the use of open access resources (OARs) by Punjab Agricultural University, Ludhiana researchers. A survey study design was employed to obtain data from the researchers, and a structured questionnaire was used to do so. According to the findings, the vast majority of researchers have access to research articles. E-newspapers are used by 50.60 percent of users, and theses are used by 36.14 percent. 25.30 percent and 19.28 percent of respondents, respectively, use e-books and research reports. Also, it was revealed that 46.99% researchers make use of OARs on daily

basis and 36.14% on weekly basis. Nearly 16.87% users rarely use OARs. It is apparent that the use of OARs is becoming more popular among scholars. According to the report, 37.34 percent of respondents had trouble accessing relevant information, and 31.33 percent can't guarantee the quality of these resources. The information gained from these resources is not always verifiable, according to more than 70% of the researchers. Overabundance of information on the internet, as well as sluggish download speeds, are some of the additional problems that make accessing OARs inconvenient for researchers.

A slew of studies has been undertaken in Nigeria to assess undergraduate students' utilization of open access resources. Mohammed (2013) conducted research on open access academic publications awareness and use among students at Ahmadu Bello University Zaria (ABU), Kaduna State, Nigeria. They discovered that the majority of respondents (91 percent) use open access resources to support their thesis and dissertation projects, 60 percent (63.2 percent) use them to study for exams, 58 percent (61.1 percent) use them to write assignments, and 21 percent (22.1 percent) use them to publish their journal articles. Similarly, Afebuameh, Uzezi, and Pius (2017) investigated the awareness and use of open access journals by Ambrose Alli University, Ekpoma, Edo State, Nigeria LIS undergraduates. The majority of respondents use open access journals to conduct searches for relevant material for projects and seminars, download articles, search for research topics/ideas for projects and seminars, and do bibliographic citation/referencing, according to their findings.

According to a study conducted by Ivwighreghweta and Onoriode (2012) on open access journal awareness and use by LIS students at the University of Ibadan in Nigeria, 83 (59 percent) claimed to have downloaded articles from open access journals, 76 (54 percent) claimed to have published their research works in open access journals, 72 (51 percent) claimed to print out open access journal articles for reading, and 68 (49 percent) claimed to refer to open access journal articles. Citing open access journals (49 percent), transferring open access journal articles to flash drives (47 percent), and reading open access journal articles (77 percent) are some of the other ways LIS postgraduate students use open access journals (55 percent). Toyo (2016) looked on the significance and use of open access publications among Library and Information Science undergraduates at Delta State University in Abraka, Nigeria. 74.4 percent of students utilize open access articles for their course work, and 71.1 percent of respondents use open access

publications to update their knowledge, according to the majority of respondents (80.2 percent). Furthermore, more than half of the respondents (58.7%) said they generally get scholarly content from open access sites, and 55.4 percent said they use open access resources to suit their research needs.

In contrast, Christian (2008) found that only 3% of 66 respondents at the University of Lagos were aware of the open access idea, 22.7 percent understood very little about it, and the rest (74 percent) were utterly uninformed of the concept and had never accessed these resources. Similar studies by Ureighe, Oroke and Ekruyota (2006); Ntiamoah-Baidu (2008); Okoye and Ejikeme (2011) found that undergraduate students at Nigerian institutions have limited access to and use of open access resources; variables contributing to this low use include a lack of awareness, adequate skills, and student attitude. Even if open access awareness is acknowledged, undergraduate students' use of it is minimal across Nigeria's universities.

### **Objectives of the study**

- i. Examine the open access resources available for use by undergraduates in private universities in Oyo State, Nigeria.
- ii. Determine the frequency of use of open access resources by undergraduates in the selected private universities in Oyo State, Nigeria.
- iii. Determine the challenges to use of open access resources by undergraduates in the selected private universities in Oyo State, Nigeria.

### **METHODOLOGY**

Descriptive survey research design was used for this study. The population of study was comprised of the undergraduate students in undergraduates of Ajayi Crowther University, Oyo, and Lead City University, Ibadan. Ajayi Crowther University has five faculties; Humanities 542, Social Sciences with 1350 undergraduates, natural sciences, with 1257 undergraduates, management science 1126, and Law with 1044 making a total of 5319 undergraduates. Lead City University consists of four faculties; Science 404, Law 342,

Education/ arts 425 and social and Management Science 670, making a total of 1841 undergraduates. Therefore the total population of this study is 7,160.

In order to determine the sample size, the multi-stage random technique was used. At the first stage, three similar faculties in the two Universities were selected for ease of comparison. They are faculties of Humanities/Arts, Natural sciences/Sciences and Social Sciences/Management. The second stage involved the use of 5% sampling fraction to arrive at a sample size of 234.

### Sample size for the study

Selected Faculties	Ajayi Crowther University		Lead city university		Total sample size
	Number of undergraduates	Sample size (5%)	Number of undergraduates	Sample size (5%)	
Sciences	1257	63	404	20	166
Arts/Humanities	542	27	425	22	97
Social Sciences & Management	1,350	68	670	34	202
<b>TOTAL</b>	3149	<b>158</b>	1499	<b>76</b>	<b>234</b>

The instrument that was used for data collection is a self-developed questionnaire by the researchers and the analysis of data collected was done with the use of simple descriptive statistical analysis of frequency counts and percentages.

## DATA ANALYSIS AND INTERPRETATION

### Demographic characteristics of the respondents

Below presents the demographic characteristics of the respondents as follows:

**Table 2: The demographic characteristics of the respondents**

Variables	Ajayi Crowther University		Lead City University	
	Freq	%	Freq	%
Faculties				



Art/Humanities	25	16.2%	20	27.4%
Sciences	62	40.3%	20	27.4%
Social Science/Mgt	67	43.5%	33	45.2%
<b>Gender</b>				
Male	39	25.3%	19	26.0%
Female	115	74.7%	54	74.0%
<b>Age</b>				
16-20	115	74.7%	55	75.3%
21-25	32	20.8%	15	20.5%
26-30	7	4.5%	3	4.1%
<b>Marital status</b>				
Single	154	100.0%	73	100.0%
<b>Level of study</b>				
100	113	73.4%	58	79.5%
200	10	6.5%	4	5.5%
300	9	5.8%	3	4.1%
400	22	14.3%	8	11.0%

**N = 227**

Results in Table 2 showed that 154(67.8%) of the respondents that participated in the study were undergraduates of Ajayi Crowther university while the remaining 73(32.2%) were from Lead City University. Majority of the respondents 67(43.5% ) in ACU and 33 (45.2%) in LCU were in Social Science/ Management. By their gender, most of the respondents 115 (74.7%) in ACU and 54 (74.0%) in LCU were females. In addition, a significant number of the respondents 115 (74.7%) in ACU and 55 (75.3%) in LCU were between 16 - 20years of age and the least 7 (4.5%) in ACU and 3 (4.1%) in LCU noted that they were between 26-30years of age. Findings also showed that that all the respondents in the two universities 154 (100%) in ACU and 73 (100%) in LCU were single. Most of the undergraduates that participated in the study were 100 level 113 (73.4%) in ACU and 58 (79.5%) in LCU, while the least 9 (5.8%) in ACU and 3 (4.1%) in LCU were in 300 level.

## **Answers to research questions**

### **Research question one: What are the open access resources available for use by undergraduate students in Nigerian private universities?**

Table 3a and b presents results on the open access resources available for use by the respondents in ACU and LCU. Findings showed that in the three faculties in both universities the prominent open access resources available for use are ACU: Open Access journals (mean= 4.20) in Arts/Humanities, (mean=4.21) in sciences and (mean=4.45) in social sciences and management; Open Course ware (mean=3.92) in Arts/Humanities, (mean=4.03) in sciences and (mean=4.18) in social sciences and management; and free electronics books, (mean=3.76) in Arts/Humanities, (mean=3.810 in sciences and (mean=4.060 in social sciences and management.

Furthermore, in LCU, open access journals were the most available across all faculties (mean=4.50) in Arts/Humanities, (mean=4.50) in Sciences and (mean=4.48) in Social sciences and management. The second most prominent open access resources was Open Courseware (mean=4.20) in Arts/Humanities, (mean=4.25) in sciences and (mean=4.18) in social sciences and management. While the third most available open access resources were free electronic books (mean=4.00) in Arts/Humanities, (mean=4.00) in sciences and (mean=4.03) in Social sciences and Management. Thus it can be concluded that the most available open access resources in the two universities are open access journal, open courseware and free electronic books.

### **Research question two: What is the frequency of use of open access resources by undergraduates in selected private universities?**

Table 4a and b presented results on the frequency of use of open access resources by the respondents. Findings revealed that most of the undergraduates used the open access resources at different frequencies. However, most of the respondents in ACU 15 (60%) in Arts and Humanities, 45 (72.0%) in Sciences, 43 (64.2%) in Social Sciences and Management used the open access journals occasionally. Similarly, open access courseware was used occasionally by majority of the respondents 12(48.0%) in Arts and Humanities, 31(50.0%) in Sciences and 37(55.2%) in Social sciences and Management.

The same pattern of result was also discovered in LCU; as the respondents 14 (70%) in Arts and Humanities, 14 (70.0%) in Sciences, 22 (73.0%) in Social Sciences and Management used the open access journals occasionally. Similarly, open access courseware was used occasionally by most of the respondents 11(55.0%) in Arts and Humanities, 11(55.0%) in Sciences and 17(56.7%) in Social sciences and Management. Thus it can be concluded that undergraduates in both universities make use of open access resources occasionally.

### **Research question three: What are the challenges to the use of open access resources by undergraduate students in the selected private universities?**

The challenges associated with the use of open access resources by the respondents in the two universities were presented in table 5a and b. Findings in ACU showed that poor internet connectivity; (mean=3.24) in Arts/Humanities, (mean=3.27) in Sciences and (mean=3.28) in Social Sciences/ Management; and inconsistent power supply (mean=3.12) in Arts/Humanities and (mean=2.97) were the prominent challenges hindering the use of open access resources by the respondents.

Similarly, the same pattern of results was witnessed in LCU as most of the respondents (mean=3.25) in Arts/Humanities, (mean=3.25) in Sciences and (mean=3.21) in Social Sciences/Management affirmed that poor internet connectivity was a challenge. In addition, inconsistent power supply also hindered the use of open access resources by the undergraduates as indicated by (mean=2.90) in Arts/Humanities, (mean=2.90) in Sciences and (mean=2.82) in Social Sciences/Management. Therefore, poor internet connectivity and inconsistent power supply were the most prominent challenges faced by undergraduates in the use of open access resources in the two universities.

### **Discussion of the findings**

#### **Research question one: What are the open access resources available for use by undergraduate students in Nigerian private universities?**

Findings from this study revealed that the most available open access resources are open access journal, open courseware and free electronic books. This might be because those are the most known open access resources that undergraduates are familiar with. This result is corroborated by the findings of Veena (2016) who conducted a study on the awareness and use of open access resources by undergraduate students of Mangalore University, India. The study found that majority of the students in Mangalore University are aware of open access resources and they used these resources to support research work/ projects, and for purpose to update knowledge. Also, the finding of Stanton and Liew (2012) who investigated students' awareness and use of open access resources helped to support the finding of this study. Their findings showed that the majority of interview and survey respondents are aware and use open access resources very well.

**Research question two: What is the frequency of use of open access resources by undergraduates in the selected private universities in Oyo State, Nigeria?**

Most of the undergraduates used the open access resources occasionally. This could be because these students used the resources only when the need arises. This gives assertion to a study carried out by Christian (2008) where it was revealed that only 3 percent of 66 respondents at the University of Lagos were aware of the open access concept, 22.7 percent others knew very little about it and a majority (74 percent) of the respondents were completely unaware of open access and never used these resources. Similar studies by Ureighe, Oroke and Ekruyota (2006); Ntiamoah-Baidu (2008); Okoye and Ejikeme (2011) found that access to and use of open access resources by undergraduate students in Nigerian universities is still low.

**Research question three: What are the challenges to the use of open access resources by undergraduates in the selected private universities?**

Findings from this study further revealed that undergraduate students are confronted with mild (not too serious) challenges against the use of open access resources. Some of these challenges include; poor internet connectivity, inconsistent/unreliable electricity supplies, insufficient digital literacy skills and low awareness of the importance of the use of open access resources. This finding is

supported by the views of Ivwighreghweta and Onoriode (2012), who posited through their findings that the most prevalent constraints to the use of open access resources by undergraduate students include inadequate online scholarly communication skills, lack of awareness of open access resources, and poor internet connectivity. This is similar to the findings of Dulle (2011) who expressed that one of the barriers hindering the use of open access journals is lack of open access awareness and lack of formal training programs targeted at students in the respective universities which will likely contribute to their less effective usage of open access journals. They both maintained that inadequate skills could hinder the effective usage of open access resources by undergraduate students.

## **Conclusion**

Open access resources are key information resources that undergraduates utilize for research and learning. There is no doubt that the use of open access resources is increasing as a result of its easy availability and convenience for users. Given the advantages of open access resources for users and the lack of funding in libraries to buy and subscribe to library resources, it is advised that open access publication be given greater priority. Furthermore, undergraduates should be taught how to get the most out of OARs and how to manage a large amount of information while avoiding plagiarism.

## **Recommendations**

Arising from the conclusion and findings of this study, the following recommendations are made:

1. There is need for the university library management to sustain the availability of open access journals, open courseware and free electronic books through regular subscription to open access resources.
2. In order to sustain the high level of digital literacy skills the university library management should ensure and put in place training and capacity building workshops to expose them to current competencies in the areas of digital literacy skills.

3. The university management should provide for alternate source of power supply like solar inverter, and generator as opposed to the total reliability on the public power supply. In addition, the university management should ensure that the internet service provider is effective so as to enhance the use of open access resources by the students.
4. University administrators should endeavour to come up with measures like plagiarism tests that could ensure strict compliance and check against unethical use of the available open access resources.

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**Table 3(a): Availability of open access resources to undergraduates of Ajayi Crowther University**

Faculties		Arts/Humanities						Sciences						Social Science/Mgt					
S/N	Items	VRA	RA	A	NRA	NA	$\bar{x}$	VRA	RA	A	NRA	NA	$\bar{x}$	VRA	RA	A	NRA	NA	$\bar{x}$
		S.Dev						S.Dev						S.Dev					
1.	Open access journals	12 48.0%	7 28.0%	5 20.0%	1 4.0%	0 0.0%	4.20 .913	32 51.6%	15 24.2%	11 17.7%	4 6.5%	0 0.0%	4.21 .960	43 64.2%	16 23.9%	3 4.5%	5 7.5%	0 0.0%	4.45 .892
2	Open courseware	6 24.0%	11 44.0%	8 32.0%	0 0.0%	0 0.0%	3.92 .759	20 32.3%	27 43.5%	13 21.0%	1 1.6%	1 1.6%	4.03 .868	26 38.8%	27 40.3%	14 20.9%	0 0.0%	0 0.0%	4.18 .752
3	Free electronic books	9 36.0%	7 28.0%	5 20.0%	2 8.0%	2 8.0%	3.76 1.268	22 35.5%	14 22.6%	21 33.9%	2 3.2%	3 4.8%	3.81 1.099	29 43.3%	16 23.9%	19 28.4%	3 4.5%	0 0.0%	4.06 .952
4	Open access image portal	6 24.0%	12 48.0%	2 8.0%	4 16.0%	1 4.0%	3.72 1.137	14 22.6%	28 45.2%	9 14.5%	7 11.3%	4 6.5%	3.81 1.114	15 22.4%	38 56.7%	8 11.9%	6 9.0%	0 0.0%	3.73 1.067
5	Open access databases	6 24.0%	6 24.0%	9 36.0%	4 16.0%	6 24.0%	3.60 1.118	20 32.3%	21 33.9%	11 17.7%	9 14.5%	1 1.6%	3.66 1.144	19 28.4%	23 34.3%	13 19.4%	12 17.9%	0 0.0%	3.72 1.204
6	Open access repositories	6 24.0%	7 28.0%	6 24.0%	4 16.0%	2 8.0%	3.44 1.261	10 16.1%	19 30.6%	15 24.2%	9 14.5%	9 14.5%	3.19 1.291	20 29.9%	20 29.9%	13 19.4%	3 4.5%	11 16.4%	3.52 1.397

**Key: VRA= Very Readily Available; RA=Readily Available; A=Available; NRA=Not Readily Available; NA=Not Available;**



**Table 3(b): Availability of open access resources to undergraduates of Lead City University**

Faculties		Arts/Humanities						Sciences						Social Science/Mgt					
S/N	Items	VRA	RA	A	NRA	NA	$\bar{x}$	VRA	RA	A	NRA	NA	$\bar{x}$	VRA	RA	A	NRA	NA	$\bar{x}$
							S.Dev						S.Dev						S.Dev
1.	Open access journals	13 65.0%	5 25.0%	1 5.0%	1 5.0%	0 0.0%	4.50 .827	13 65.0%	5 25.0%	1 5.0%	1 5.0%	0 0.0%	4.50 .827	21 63.6%	9 27.3%	1 3.0%	2 6.1%	0 0.0%	4.48 .834
2	Open courseware	8 40.0%	8 40.0%	4 20.0%	0 0.0%	0 0.0%	4.20 .768	10 50.0%	8 40.0%	2 10.0%	0 0.0%	0 0.0%	4.25 .768	13 39.4%	13 39.4%	7 21.2%	0 0.0%	0 0.0%	4.18 .769
3	Free electronic books	8 40.0%	5 25.0%	6 30.0%	1 5.0%	0 0.0%	4.00 .973	8 40.0%	5 25.0%	6 30.0%	1 5.0%	0 0.0%	4.00 .973	13 39.4%	9 27.3%	10 30.3%	1 3.0%	0 0.0%	4.03 .918
4	Open access image portal	5 25.0%	11 55.0%	2 10.0%	2 10.0%	0 0.0%	3.80 1.056	5 25.0%	11 55.0%	2 10.0%	2 10.0%	0 0.0%	3.80 1.056	7 21.2%	19 57.6%	3 9.1%	4 12.1%	0 0.0%	3.88 .992
5	Open access databases	6 30.0%	7 35.0%	4 20.0%	3 15.0%	0 0.0%	3.75 1.251	7 35.0%	8 40.0%	3 15.0%	2 10.0%	0 0.0%	3.80 1.222	10 30.3%	13 39.4%	6 18.2%	4 12.1%	0 0.0%	3.67 1.267
6	Open access repositories	6 30.0%	6 30.0%	4 20.0%	1 5.0%	3 15.0%	3.55 1.395	6 30.0%	7 35.0%	3 15.0%	1 5.0%	3 15.0%	3.60 1.385	9 27.3%	11 33.3%	6 18.2%	1 3.0%	6 18.2%	3.48 1.417

**Key: VRA= Very Readily Available; RA=Readily Available; A=Available; NRA=Not Readily Available; NA=Not Available;**

**Table 4(a): Frequency of use of Open access resources by undergraduates in Ajayi Crowther University**

Faculties		Arts/Humanities						Sciences						Social Science/Mgt					
S/N	Items	D	W	O	M	N	$\bar{x}$	D	W	O	M	N	$\bar{x}$	D	W	O	M	N	$\bar{x}$
		S.Dev						S.Dev						S.Dev					
1.	Open access journals	4	2	15	0	4	3.08	8	2	45	0	7	3.06	9	4	43	0	11	3.00
		16.0%	8.0%	60.0%	0.0%	16.0%	1.187	12.9%	3.2%	72.6%	0.0%	11.3%	1.006	13.4%	6.0%	64.2%	0.0%	16.4%	1.128
2	Open courseware	2	4	12	0	7	2.76	10	6	31	2	13	2.97	13	6	37	0	11	3.15
		8.0%	16.0%	48.0%	0.0%	28.0%	1.268	16.1%	9.7%	50.0%	3.2%	21.0%	1.280	19.4%	9.0%	55.2%	0.0%	16.4%	1.234
3	Free electronic books	4	4	10	0	7	2.92	4	16	28	0	14	2.94	4	23	23	0	17	2.96
		16.0%	16.0%	40.0%	0.0%	28.0%	1.412	6.5%	25.8%	45.2%	0.0%	22.6%	1.199	6.0%	34.3%	34.3%	0.0%	25.4%	1.272
4	Open access image portal	3	2	12	1	7	2.72	12	9	22	6	13	3.02	7	11	27	5	17	2.79
		12.0%	8.0%	48.0%	4.0%	28.0%	1.308	19.4%	14.5%	35.5%	9.7%	21.0%	1.373	10.4%	16.4%	40.3%	7.5%	25.4%	1.286
5	Open access databases	6	3	10	1	5	3.16	16	6	27	3	10	3.24	29	4	23	3	8	3.64
		24.0%	12.0%	40.0%	4.0%	20.0%	1.405	25.8%	9.7%	43.5%	4.8%	16.1%	1.339	43.3%	6.0%	34.3%	4.5%	11.9%	1.389
6	Open access repositories	3	4	9	2	7	2.76	11	7	19	4	21	2.73	17	7	20	8	15	3.04
		12.0%	16.0%	36.0%	8.0%	28.0%	1.363	17.7%	11.3%	30.6%	6.5%	33.9%	1.484	25.4%	10.4%	29.9%	11.9%	22.4%	1.471
		<b>N= 25                      Weighted mean = 2.90</b>						<b>N=62                      Weighted mean = 2.99</b>						<b>N=67                      Weighted mean = 3.10</b>					

**Key: D= Daily; W=Weekly; O=Occasionally M; =Monthly; N=Never;**

**Table 4b: Frequency of use of Open access resources by undergraduates in Lead City University**

Faculties		Arts/Humanities						Sciences						Social Science/Mgt					
S/N	Items	D	W	O	M	N	$\bar{x}$	D	W	O	M	N	$\bar{x}$	D	W	O	M	N	$\bar{x}$
		S.Dev						S.Dev						S.Dev					
1.	Open access journals	2 10.0%	1 5.0%	14 70.0%	0 0.0%	3 15.0%	2.95 1.050	2 10.0%	3 15.0%	14 70.0%	0 0.0%	1 5.0%	3.0 1.050	3 10.0%	1 3.3%	22 73.3%	0 0.0%	4 13.3%	2.97 .999
2	Open courseware	4 20.0%	2 10.0%	11 55.0%	0 0.0%	3 15.0%	3.20 1.240	4 20.0%	2 10.0%	11 55.0%	0 0.0%	3 15.0%	3.20 1.240	7 23.3%	2 6.7%	17 56.7%	0 0.0%	4 13.3%	3.27 1.230
3	Free electronic books	1 5.0%	6 30.0%	8 40.0%	0 0.0%	5 25.0%	2.90 1.252	5 25.0%	6 30.0%	8 40.0%	0 0.0%	1 5.0%	2.95 1.252	1 3.3%	10 33.3%	11 36.7%	0 0.0%	8 26.7%	2.87 1.252
4	Open access image portal	2 10.0%	3 15.0%	9 45.0%	1 5.0%	5 25.0%	2.80 1.281	3 15.0%	3 15.0%	9 45.0%	1 5.0%	2 10.0%	2.85 1.281	4 13.3%	4 13.3%	12 40.0%	2 6.7%	8 26.7%	2.80 1.349
5	Open access databases	8 40.0%	1 5.0%	8 40.0%	1 5.0%	2 10.0%	3.60 1.353	8 40.0%	1 5.0%	8 40.0%	1 5.0%	2 10.0%	3.60 1.353	14 46.7%	1 3.3%	11 36.7%	1 3.3%	3 10.0%	3.73 1.363
6	Open access repositories	5 25.0%	2 10.0%	7 35.0%	2 10.0%	4 20.0%	3.10 1.447	5 25.0%	2 10.0%	7 35.0%	2 10.0%	4 20.0%	3.10 1.447	7 23.3%	4 13.3%	9 30.0%	3 10.0%	7 23.3%	3.03 1.474
		N= 20      Weighted mean = 3.09						N=20      Weighted mean = 3.12						N=33      Weighted mean = 3.11					

**Key:D= Daily; W=Weekly; O=Occasionally; M=Monthly; N=Never;**

**Table 5a: Challenges to the use of Open Access Resources by undergraduates in Ajayi Crowther University**

S/N	Items	Arts/Humanities					$\bar{x}$ S.Dev	Sciences					$\bar{x}$ S.Dev	Social Science/Mgt					$\bar{x}$ S.Dev
		SA	A	D	SD	SA		A	D	SD	SA	A		D	SD				
1	Inadequate technical infrastructure to support the use of open access resources in universities	5 20.0%	7 28.0%	11 44.0%	2 8.0%	2.60 .913	17 27.4%	28 45.2%	14 22.6%	3 4.8%	2.95 .838	14 20.9%	11 16.4%	31 46.3%	11 16.4%	2.42 1.002			
2	Insufficient funding to procure modern ICT devices	5 20.0%	8 32.0%	11 44.0%	1 4.0%	2.68 .852	19 30.6%	25 40.3%	17 27.4%	1 1.6%	3.00 .810	15 22.4%	11 16.4%	37 55.2%	4 6.0%	2.55 .909			
3	Insufficient digital literacy skills of the undergraduate student	7 28.0%	9 36.0%	6 24.0%	3 12.0%	2.80 1.000	26 41.9%	20 32.3%	9 14.5%	7 11.3%	3.05 .956	16 23.9%	23 34.3%	18 26.9%	10 14.9%	2.67 1.006			
4	Low awareness of the importance of open access resources among undergraduate students	9 36.0%	6 24.0%	6 24.0%	4 16.0%	2.80 1.118	30 48.4%	16 25.8%	8 12.9%	8 12.9%	3.10 1.067	24 35.8%	13 19.4%	14 20.9%	16 23.9%	2.67 1.198			
5	Limited organisational resources in university	5 20.0%	9 36.0%	10 40.0%	1 4.0%	2.72 .843	27 43.5%	15 24.2%	18 29.0%	2 3.2%	3.08 .929	17 25.4%	3 4.5%	43 64.2%	4 6.0%	2.49 .943			
6	Inadequate knowledge to use websites	3 12.0%	9 36.0%	10 40.0%	3 12.0%	2.48 .872	6 9.7%	20 32.3%	21 33.9%	15 24.2%	2.30 .922	3 4.6%	23 35.4%	26 40.0%	13 20.0%	2.25 .830			
7	Inadequate support of ICT staff in the university	11 44.0%	12 48.0%	2 8.0%	0 0.0%	2.36 .638	7 11.3%	25 40.3%	21 33.9%	9 14.5%	2.48 .882	22 33.8%	30 46.2%	13 20.0%	0 0.0%	2.14 .726			
8	Poor internet connectivity	10 40.0%	11 44.0%	4 16.0%	0 0.0%	3.24 .723	32 51.6%	18 29.0%	9 14.5%	3 4.8%	3.27 .890	28 41.8%	30 44.8%	9 13.4%	0 0.0%	3.28 .692			
9	Cost of accessing web portals in high	4 16.0%	9 36.0%	10 40.0%	2 8.0%	2.60 .866	15 24.2%	30 48.4%	11 17.7%	6 9.7%	2.87 .896	11 16.7%	22 33.3%	25 37.9%	8 12.1%	2.55 .915			
10	Inadequate time	7 28.0%	5 20.0%	10 40.0%	3 12.0%	2.64 1.036	21 33.9%	15 24.2%	15 24.2%	11 17.7%	2.74 1.115	13 19.4%	5 7.5%	34 50.7%	15 22.4%	2.24 1.016			
11	Inconsistent/unreliable electricity supplies	8 32.0%	12 48.0%	5 20.0%	0 0.0%	3.12 .726	19 30.6%	28 45.2%	13 21.0%	2 3.2%	3.03 .809	19 28.4%	27 40.3%	21 31.3%	0 0.0%	2.97 .778			
		<b>N= 25 Weighted mean = 2.73(62.2%)</b>					<b>N=62 Weighted mean = 2.90(67.3%)</b>					<b>N= 67 Weighted mean = 2.57(51.6%)</b>							

**Key: SA=Strongly Agree; A=Agree; D=Disagree; SD=Strongly Disagree**

**Table 5b: Challenges to the use of Open Access Resources by undergraduates in Lead City University**

S/N	Items	Arts/Humanities					Sciences					Social Science/Mgt				
		SA	A	D	SD	$\bar{x}$ S.Dev	SA	A	D	SD	$\bar{x}$ S.Dev	SA	A	D	SD	$\bar{x}$ S.Dev
1	Inadequate technical infrastructure to support the use of open access resources in universities	4 20.0%	3 15.0%	10 50.0%	3 15.0%	2.40 .995	3 15.0%	2 10.0%	12 50.0%	3 15.0%	2.35 .990	6 18.2%	6 18.2%	17 51.5%	4 12.1%	2.42 .936
2	Insufficient funding to procure modern ICT devices	4 20.0%	3 15.0%	12 60.0%	1 5.0%	2.50 .889	4 20.0%	4 20.0%	10 60.0%	2 10.0%	2.45 .889	7 21.2%	5 15.2%	20 60.6%	1 3.0%	2.55 .869
3	Insufficient digital literacy skills of the undergraduate student	4 20.0%	7 35.0%	6 30.0%	3 15.0%	2.60 .995	4 20.0%	6 30.0%	6 30.0%	4 20.0%	2.60 .995	7 21.2%	12 36.4%	9 27.3%	5 15.2%	2.64 .994
4	Low awareness of the importance of open access resources among undergraduate students	7 35.0%	4 20.0%	5 25.0%	4 20.0%	2.70 1.174	8 40.0%	2 10.0%	6 30.0%	4 20.0%	2.70 1.174	12 36.4%	5 15.2%	9 27.3%	7 21.2%	2.67 1.190
5	Limited organisational resources in university	4 20.0%	1 5.0%	14 70.0%	1 5.0%	2.40 .883	3 15.0%	1 5.0%	14 70.0%	1 5.0%	2.40 .883	8 24.2%	1 3.0%	23 69.7%	1 3.0%	2.48 .906
6	Inadequate knowledge to use websites	2 10.0%	7 35.0%	7 35.0%	4 20.0%	2.35 .933	2 10.0%	7 35.0%	7 35.0%	4 20.0%	2.35 .933	1 3.0%	11 33.3%	13 39.4%	8 24.2%	2.15 .834
7	Inadequate support of ICT staff in the university	7 35.0%	9 45.0%	4 20.0%	0 0.0%	2.15 .745	7 35.0%	9 45.0%	4 20.0%	0 0.0%	2.15 .745	10 31.3%	15 46.9%	7 21.9%	0 0.0%	2.09 .734
8	Poor internet connectivity	8 40.0%	9 45.0%	3 15.0%	0 0.0%	3.25 .716	8 40.0%	9 45.0%	3 15.0%	0 0.0%	3.25 .716	13 39.4%	14 42.4%	6 18.2%	0 0.0%	3.21 .740
9	Cost of accessing web portals in high	3 15.0%	7 35.0%	8 40.0%	2 10.0%	2.55 .887	3 15.0%	7 35.0%	8 40.0%	2 10.0%	2.55 .887	4 12.1%	12 36.4%	13 39.4%	4 12.1%	2.48 .870
10	Inadequate time	4 20.0%	1 5.0%	11 55.0%	4 20.0%	2.25 1.020	4 20.0%	1 5.0%	11 55.0%	4 20.0%	2.25 1.020	8 24.2%	2 6.1%	17 51.5%	6 18.2%	2.36 1.055
11	Inconsistent/unreliable electricity supplies	5 25.0%	8 40.0%	7 35.0%	0 0.0%	2.90 .788	5 25.0%	8 40.0%	7 35.0%	0 0.0%	2.90 .788	7 21.2%	13 39.4%	13 39.4%	0 0.0%	2.82 .769
		<b>N= 20 Weighted mean = 2.55(50.5%)</b>					<b>N=20 Weighted mean = 2.54(48.6%)</b>					<b>N= 33 Weighted mean = 2.53(49.3%)</b>				

**Key: SA=Strongly Agree; A=Agree; D=Disagree; SD=Strongly Disagree**