

Accessibility and Challenges Associated with Digital Library Resources for Learning Among Undergraduate Students in Universities in Yobe State

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Abstract

The paper investigated the accessibility of digital library resources for learning among undergraduate students in Universities in Yobe State. The paper also aimed at identifying the challenges faced by undergraduate students in accessing digital library resources in the universities. The targeted population comprised of the all the undergraduate students of universities in Yobe state, which is 14143. Questionnaire was used as the instrument for data collection. The data collected was analyzed using descriptive statistics. The findings indicated that there was poor accessibility of digital library resources among the undergraduate students. Likewise, the finding showed that majority of the respondents expressed that the accessibility of digital library resources was limited to e-journals, e-books e-newspapers and online dictionaries. While other important digital library resources like e-databases, e-project, e-theses and dissertations, e-magazines and e-conference proceedings among others were also not accessed. The findings further indicated that low bandwidth, poor internet connectivity and poor enabling environment were among the challenges faced by undergraduate students. Therefore, the study recommended that sensitization on the digital library resources should be conducted to the undergraduate students, and the university libraries should address the challenges faced by the undergraduate students, this include effective network connectivity, high bandwidth among others.

Key words: Accessibility, Challenges, Digital Library Resources (DLRs), Undergraduate students

Introduction

The importance and wide-ranging scope of Digital Library Resources (DLRs) for general communication, information retrieval and instructional delivery to support teaching and research activities digital libraries is acknowledged worldwide. In view of the above, students, scholars, and researchers use their university websites, CD-ROMs, the Internet, vendor databases, and archives to access digital information resources. Alphonse & Mwantimwa (2019) stated that universities around the world are making significant expenditures to guarantee that their

communities have access to digital information resources by demonstrating their importance to users.

Mishra, Das & Ramesh (2019) Muthurasu & Kannan (2019) defined accessibility as “the ease of finding and approaching digital information resources without stress, as well as its openness and convenience”. Access will be as good as the resources which can be afforded with number of computers and existing network systems, the ability to work with tools, and the network infrastructure that supports rapid and convenient connections (Sivasubramaniyan & Batcha, 2012). Also, Sejane (2017) opined that access to digital information resources give the ability to researchers to be more conversant to the work of the scholars globally which enhance research productivity and also incorporates proven facts and knowledge into research. This implies that, digital libraries are important hubs and access point for digital library resources as well as high-quality teaching, learning, and research, they're playing an increasingly vital part in providing better assistance for her users.

However, there are some challenges faced by most of the information seekers especially the undergraduate students. The problem is not limited to African countries alone, it also affect most of the developing countries. For instance in Middle East, Saudi Arabia, Sohail (2017) confirmed some of the problem associated with accessibility and utilization of digital library resources are lack of knowledge on how to effectively use e-journal, lack of facilities, lack of and awareness. He further noted that there is little or no information literacy among most of the science and engineering students across the universities in Saudi Arabia. However, there are some efforts that were made by the management of the universities which include adding basic information literacy in the student’s curriculum. Furthermore, In Jordan, Hamshri (2019) outlined some challenges which include lack of training, awareness and orientation are the main challenges faced by the students. Similarly, Humaidat & Yasin (2019) mentioned that majority of the users were encountering challenges in terms of accessing digital information resources due to inadequate information literacy skills.

In Africa, Namibia, Madondo, Sithole & Chisita, (2017) reported that many digital library resources were not accessed by undergraduate at University of Namibia’s Northern Campus, and the main challenges identified were shortage of computers, poor internet connections, and lack of information literacy skills. Nonetheless, the study further noted that there was lack of awareness on e-journals among students and scholars; lack of adequate funds for subscriptions of online databases among others. In Nigeria, according to Uzoagba (2019) Ankrah & Atuase (2018) Adeleke & Ngozi Nwalo (2017) Daramola (2017) asserted that lack of information literacy skills, searching skills, inadequate library staff and expertise in computer operations, lack of ICT infrastructure, lack of adequate bandwidth (data for internet connectivity), are among the factors that hinders access of digital library resources in Nigeria.

Statement of the Problem

Today, due to emergence of technology, digital Library resources have become valuable resources that reach students, scholars and other information seekers

without barriers of distance and location. University libraries in Yobe state have invested a lot of funds in acquisition of digital library resources as well as subscription to online databases. Information literacy programs were carried out by the libraries in order to enable the student to get access to digital library resources. However, despite the availability of the digital library resources, it was observed by the researcher that the undergraduate students were not accessing the digital library resources. This could be as a result of lack of awareness or challenges in accessing the digital library resources. It is against this background that this study was embarked upon to investigate the challenges affecting accessibility of digital library resources for learning among undergraduate students of universities in Yobe state.

Research Objectives

The study is set:

1. To find out the level of accessibility of digital library resources by the undergraduate students of the universities under the study.
2. To identify the challenges faced by undergraduate students in accessing digital library resources in the universities under the study.

Literature Review

Accessibility is a general term used to state the degree to which resources, services, products are obtainable by as many people as possible. Aladeniyi (2017) opined that accessibility of digital information resources in the context of research is the process of making digital information materials readily available and reachable for a particular researcher so as to effectively utilize them. This entails that, accessibility of digital information resources is the ease of finding, reachable and gain entry to digital library resources, as well as its openness and convenience. Musa, Sahabi, Lawal & Amishe (2017) observed that accessibility of DLRs is a process of making digital information resources readily available and reachable for information users. To this end, digital inclusion and digital library resources are dependent on access, which is hampered by the ongoing digital era.

Many factors influence access to digital information resources including device ownership, Internet connectivity, information resource availability, and digital accessibility; however, geographic location, age and socioeconomic status are also key factor that aid the accessibility of digital information resources (Fairlie,2017; Walker, Hefner, Fareed, Huerta & Mcalarnay 2020). This implies that lack of access to digital library resources or digital instructional materials may adversely affect students' academic success. However, Muthurasu & Kannan (2019) stated that, for users to be able to access and effectively use digital library resources, they must also have adequate skills for searching and retrieving of digital library resources which is information literacy skills.

Saklani (2020) pointed out that accessibility to DLRs can be carried out through the following phases;

1. **Internet Protocol (PI) Based Access to Digital Library Resources:** - This refers to access to DLRs through to subscription to e-resources data bases, the access to such information resources can be done via Internet protocol, students and information seekers can access the DLRs

on all computers, iPod, etc. These electronic devices must be connected to the Internet and browse using the prescribe IP address before accessibility take place (Saklani, 2020).

2. **Remote Access to Digital Library Resources:** - This involves accessibility of the DLRs without necessarily visiting the digital library, accessibility take place when an individual is off campus, at home or abroad, one can access library DLRs (electronic journals, e-books, databases, etc.) via remote access by using a computer (Saklani, 2020).
3. **Mobile Access to Digital Library Resources:** - Most of the library resource providers, such as EBSCO, Ref Works Westlaw, up-to-date, Science Direct, Clinical Key, etc. have mobile apps or mobile sites that can provide more wired users (Saklani, 2020). Accessibility of DLRs also takes place by using Internet services as majority of students, researchers and academics prefer open access resources and databases, which are freely available and have far less financial and legal repercussions than subscription-based resources. Information resources in Open access can be accessed at any time and in a convenient way as noted by (Bala, Bansal & Sharma, 2018; Alphonse & Mwantimwa, 2019). This portrays that most of the DLRs are access through scholarly journal based on subscriptions or licenses.

In developed countries, for example, United State of America (USA) Pew Research Center's Internet / Broadband Fact Sheet (2019) conducted a study which found that about three-quarter of university undergraduates in the United States get access to digital information resources through broadband Internet at home. And students who live in suburban towns whose income are less than \$30,000 a year uses the Internet less than those who live in cities and that earn more. Minorities, low-income earners, and people living in rural areas have the least access to broadband internet (56-63 percent). This indicated that urban areas have more access to digital information resources than suburban areas.

In Africa, Akuffo & Budu (2019) conducted a study focusing on students' access and utilized digital information resources. The study discovered that students have adequate computer skills which facilitate easy access to DLRs for academic purposes. However, there are some constraint that hinders the effective utilization of digital information resources such as poor internet connection and power supply, lack information searching skills as a result of irregular training. These factors grossly affect the student accessibility to digital information resources.

In Nigeria, research revealed that students and academic staff have different access points to digital library resources (such as e-libraries, information centers, smart phones and other devices). For example, a study conducted by Bamidele, Opeyemi, Odunola & Oluwafemi (2018) conducted research on electronic resources as a panacea for research output of academic staff in the context of Nigerian university. The findings revealed that students, academics and researchers access digital library resources at their university campus in their offices, off campus, and libraries as well as computer laboratories. Other findings were that access to these digital information resources are made possible through university libraries which

have subscribed to several digital information resources access point and databases. Moreover, this assertion corroborates with Odunlade (2017) which asserted out that there is high level of accessibility of digital information resources in most of the Nigerian high institution of learning but there is no effective utilization of the resources.

Similarly, Anyim (2018) carried out research with a focus on relevance of digital information resources and improvement of access for effective distance learning and continuing education program. The study found that enhancing access and utilization of digital information resources is based on regular facilitation of information literacy skills training for users; provision of online instruction or user guidelines on how digital information resources could be accessed. the study also found that displaying online resources on the institutional portal and also creation of user-friendly interfaces so as to enable people with less ICT skills to make use of it without hitches enhanced access and utilization of digital information resources as well.

Nevertheless, Song & Song (2017) carried out a study on the accessibility and utilization of digital information resources for research development of postgraduate students at Federal University Dutse. The study revealed that very few respondents rated that they access digital information resources from the e-library and the university e-library network but there is a very high digital information literacy (DIL) skills among the postgraduate students who can easily access the needed information from digital information resources. The study further revealed that digital information resources facilitate faster and easy access to relevant information, increase richness and updated information of work thereby promoting research productivity. The same study also revealed that the relationship between utilization of digital library resources and enhancements of research activities is positive and the study concludes that digital information resources is necessary for postgraduate students' research activities. Similarly, Makinde, Aba & Ugah (2017) carried out a study on accessibility and utilization of digital information resources by fisheries undergraduate students' in university libraries in North-central, Nigeria. The findings of the study revealed that digital library resources were available but level of accessibility and utilization were generally low. Most of the undergraduate students were constrained by inadequate professional digital library staff to facilitate the smooth service delivery to Library users, outdated and irrelevant information resources from their databases and waste of time when searching for relevant information resources.

In total, empirical literatures from within Nigeria and abroad showed that students and other users have access to DLRs from different access points. However, they need information literacy skills to complement effective that utilization. With this, librarians should fill this gap with sensitization training on how users can access DLRs in their academic endeavors.

Methods

Quantitative research method was employed and survey research design was adopted for the study. The targeted population was 14143, which comprised all the undergraduate students of universities in Yobe state; the universities of the study

area include Yobe State University Damaturu, and Federal University Gashua. Proportionate stratified random sampling was employed to guide the study. Questionnaire was used as the instrument for data collection and the data collected was analyzed using descriptive statistics.

Results

A total of 384 questionnaires were distributed by the researcher to the targeted respondents under study. Out of the total number of questionnaires distributed, 324 were duly filled and returned, resulting in a response rate of 82.5% while the remaining 60 with 17.5 % of the questionnaires were not returned.

RQ 1: Level of Accessibility to Digital Library Resources among Undergraduate Students of the Universities under Study

The respondents were asked to indicate the level of accessibility to digital library resources among undergraduate students of the universities under study. Therefore, Table 1 below showed the responses along with the mean scores and standard deviations of the respondents. Level of accessibility of the digital library resources were solicited using the following measurement scale where VIA = very inaccessible 1. I = inaccessible 2. UD = Undecided 3. A = Accessible 4.V = Very Accessible. As shown in Table 4.4.5.

Table 1: Opinions of the Respondents on the level of accessibility to Digital Library Resources among Undergraduate Students of the Universities under Study (N=324)

Items	VIA		IA		UD		A		VA		Mean	SD
	F	%	F	%	F	%	F	%	F	%		
E-journal articles	51	15.7	45	13.9	1	4.6	16	49.0	5	16.0	3.36	1.33
E-books	47	14.5	65	20.1	0	0	13	42.6	7	23.5	3.40	1.41
E-databases	81	25.0	10	3.8	2	8.7	54	16.7	5	16.7	2.58	1.50
E-projects	10	3.8	81	25.0	2	8.7	54	16.7	5	16.7	1.58	1.86
E-theses & Dissertations	54	16.7	21	6.6	0	0	27	8.3	2	8.3	1.67	1.75
E-Newspaper	52	16.0	62	19.1	0	0	16	50.3	4	14.7	3.28	1.36
E-Magazines	13	4.7	16	5.0	0	0	27	8.3	0	0	1.75	1.01
E-conference proceedings	16	5.0	13	4.1	0	0	27	8.3	0	0	1.75	1.01

E-references materials such as												
Online dictionaries	58	17.9	55	17.0	1	6.2	15	46.1	3	12.9	3.18	1.34
Online encyclopaedia	108	33.3	135	41.7	2	8.7	54	16.7	0	0	1.75	1.01
Online maps and atlases	81	25.0	108	33.3	2	8.7	81	25.0	2	8.3	1.58	.95
Online abstracts and indexes	108	33.3	135	41.7	0	0	54	16.7	2	8.3	1.67	1.02
CUMULATIVE MEAN											2.30	

The data presented in Table 1 indicated the twelve (12) items responses of the respondents on the level of accessibility to Digital Library Resources among Undergraduate Students of the Universities in Yobe state on the midpoint of the mean value of 3.0 and above indicated that the accessibility while below 3.0 indicated not accessible and the standard deviation scores for all the items clustering indicated homogeneous in their responses. A journal article was the first item listed in the above table and the data indicated accessibility with a mean of 3.36 and a standard deviation of 1.33. Also, e-books were found to be accessible with a mean of 3.40 and a standard deviation of 1.41. Conversely, e-databases, the result indicated that is not accessible with a mean deviation of 2.58 and a standard of 1.50. Similarly, e-projects and e-theses and dissertation were found inaccessible with a mean deviation of 1.58, 1.67 and standard deviation of 1.86 and 1.75 respectively. For e-newspaper, the data recorded that e-newspaper was accessible with a mean deviation of 3.28 and standard deviation of 1.36. For e-magazines and e-conference proceedings, the data indicated that was not accessible with a mean deviation of 1.75 and standard deviation of 1.01. For online reference materials, online dictionary was the first item listed where the data indicated that was accessible to majority of the respondents with a mean deviation of 3.18 and standard deviation of 1.34. Other online reference materials like online encyclopedia, online maps and atlases and online abstracts and indexes were inaccessible with a mean deviation of 1.75, 1.58 and 1.67 and 1.67 and standard deviations of 1.01, 1.19 and 1.02 respectively. The findings indicated that 2.30 was the grand mean which showed that the information resources were inaccessible.

From the above data, it can be concluded that the accessibility to digital library resources to undergraduate in the university libraries in Yobe state were limited to e-journal articles, e-books, e-newspapers and online dictionaries. However, other important digital library resources like e-databases, e-project, e-theses & dissertations, e-magazines and e-conference proceedings were not

accessible by the students. Others include online maps and atlases, online encyclopedias and online abstracts and indexes were also not accessed. This indicated that only few digital information resources were accessible to the undergraduate student of the university libraries in Yobe state such as e-journals, e-books and among others. In order to achieve an effective accessibility of the digital library resources, the university libraries should embark on awareness and sensitization of the information resources that were not accessible by the undergraduate student.

RQ 2: Challenges faced by Undergraduate Students in Accessing Digital Library Resources in the Universities under the Study

The study asked the challenges faced by undergraduate students in accessing digital library resources in the universities under the study as shown in the Table below.

Table 2: Opinions of the Respondents on the Challenges faced by Undergraduate Students in Accessing Digital Library Resources in the Universities under the Study (N=324)

SD= strongly disagree; D= Disagree; UD= Undecided; A= Agree; SA= strongly agree; STD= Standard deviation, F= Frequency

Items	SD		D		UD		A		SA		Mea n	ST D
	F	%	F	%	F	%	F	%	F	%		
Lack of awareness of digital library resources	27	8.3	54	16.7	27	8.3	135	41.7	81	25.0	3.58	1.26
Poor network connectivity and low bandwidth	54	16.7	81	25.0	0	0	135	41.7	29	16.7	3.17	1.41
Slowness of Network	81	25.0	54	16.7	27	8.3	54	16.7	108	33.3	3.17	1.62
In adequate computer facilities	108	33.3	27	8.3	54	16.7	81	25.0	54	16.7	2.83	1.14
Constant breakdown of digital library facilities	108	33.3	27	8.3	54	16.7	81	25.0	54	16.7	2.83	1.14
Staff indifferent	108	33.3	81	25.0	27	8.3	54	16.7	54	16.7	2.58	1.50

attitude												
Lack of qualified staff	54	16.7	108	33.3	54	16.7	81	25.0	27	8.3	2.75	1.24
Poor enabling environment	81	25.0	81	25.0	81	25.0	81	25.0	81	25.0	3.00	1.58
Lack of workable policy	54	16.7	54	16.7	27	8.3	162	50.0	27	8.3	3.17	1.28
Grand mean											3.00	

The data presented in Table 2 recorded the challenges faced by undergraduate students in accessing digital library resources in the universities under the study on the midpoint of the mean value of 3.0 and above indicated that there were challenges faced by undergraduate students in accessing digital library resources while below 3.0 indicated not challenges. Lack of awareness of digital library resources, poor network connectivity and low bandwidth and slowness of network with means deviation of 3.58 and 3.17 with a clustering standard deviation of 1.26 and 1.24 respectively. However, in adequate computer facilities, constant breakdown of digital library facilities and staff indifferent attitude; majority of the respondents indicated their disagreement with means deviation of 2.83 and 2.58 with clustering standard deviation of 1.14 and 1.50. Also, lack of qualified staff, majority of the respondents disagreed with a mean deviation of 2.58 and a standard deviation of 1.50. Poor enabling environment and lack of workable policy; majority of the respondents indicated their disagreement with means deviation of 3.00 and 3.17 with clustering standard deviation of 1.58 and 1.28. The grand mean for the above table was 3.00 which showed that there were challenges in access and use of digital library resources.

From the data in the table above, it revealed that lack of awareness of digital library resources, poor network connectivity and low bandwidth, slowness of network, poor enabling environment and lack of workable policy were the major challenges affecting the use of digital library resources by the undergraduate students in the study area. However, in adequate computer facilities, constant breakdown of digital library facilities, staff indifferent attitude and lack of qualified staff are not been considered as the challenges affecting the utilization of digital resources by the undergraduate students in the study area. This implied that the challenges delimiting the undergraduate student to use the digital information resources include lack of awareness of digital library resources, poor network connectivity and low bandwidth, slowness of network, poor enabling environment and lack of workable policy. However, the undergraduate students attested that there are adequate computer facilities, no breakdown of digital library facilities, staff indifferent attitude and lack of qualified staff. Base on the above findings, the university libraries under study should provide an effective network connectivity,

high speed bandwidth, good enabling environment in order to achieve an effective utilization of the digital library resources.

Discussion

1. The finding indicated that the accessible digital library resources to undergraduate in the university libraries in Yobe state were limited to e-journal articles, e-books, e-newspapers and online dictionaries. While other important digital library resources like e-databases, e-project, e-theses & dissertations, e-magazines and e-conference proceedings were not accessed by the students. Others include online maps and atlases; online encyclopedia and online abstracts and indexes were also not accessed. Similarly, to the finding of this study, Anyim (2018) also expressed a similar sentiment that postgraduate students accessed electronic books (e-books), electronic journals (e-journal), electronic indexes, digital reference materials, online databases, and other e-collection for satisfy their information needs. The finding implied that the university libraries should create awareness on the information resources that were accessed by the undergraduate students.
2. The finding of the study revealed that lack of awareness of digital library resources, poor network connectivity and low bandwidth, slowness of network, poor enabling environment and lack of workable policy were the major challenges affecting the use of digital library resources by the undergraduate students in the study area. However, in adequate computer facilities, constant breakdown of digital library facilities, staff in-different attitude and lack of qualified staff are not considered as the challenges affecting the utilization of digital resources by the undergraduate students in universities of Yobe state. Similar with the finding of the study, Adeleke and Nwalo (2017) found that ineffective use of digital library resources by postgraduate students at the University of Ibadan occurred due to factors which include interrupted power supply, speed and capacity of computers, non-possession of requisite IT skills and problems accessing the internet. This finding is in agreement with those of Iroeze, James, Ngozi and Opara (2018) who found that online information resources are available but are not accessible due to poor network connections and power outage. Contrary to the finding of this study Joshua & King (2020) found that one of the issues facing academic libraries is the collection development policies of digital library resources which include lack of subscription to the required databases, license management, maintenance and archiving

Conclusion

From the findings of this study, it can be concluded that there is poor accessibility of digital library resources. It can also be concluded that challenges faced by undergraduate students were poor internet connectivity, low bandwidth, poor

enabling environment and lack of workable policy were the major challenges affecting the use of digital library resources by the undergraduate students

Recommendations

Based on the findings of this study, the following recommendations were suggested.

1. The university libraries should sensitized the undergraduate students during orientation programmes on the availability of new digital library resources acquired by the digital libraries or an increase of new databases for users of the library. This will effectively enhance the level of accessibility of the digital library resources.
2. The university management should provide internet connections in their digital libraries. The bandwidth for Internet connectivity should be upgraded so as to improve the speed of accessing information resources from the Internet.

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