

# Extent of Awareness and Use of Online Databases in Digital Environment for Academic Activities by Undergraduate Students in Adeyemi Federal University of Education Ondo, Nigeria

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**Abstract:** *The study is on Extent of Awareness and Use of Online Databases in Digital Environment for Academic Activities by Undergraduate Students in Adeyemi Federal University of Education Ondo, Nigeria. Six research objectives and questions guided the study. The survey research design was adopted for the study. The study population consisted of Adeyemi Federal University of Education Undergraduates. Structured questionnaire was developed for the study and used for the data collection. A sample size of 100 respondents was purposively chosen as the respondents of the study. All data were categorized and analyzed using tables, frequency, charts and simple percentage, for data analysis. The results reveal that the majority of AFUED undergraduate students had a generally low level of awareness of the available online databases in the University Digital Library. EBSCOHOST recorded the highest level of combined awareness (HA + FA + A = 65.0%), making it the most recognized database among respondents, followed by Proquest (53.0%). However, a substantial proportion of students remained unaware (NA) of most databases. JSTOR recorded a non-awareness rate of 59.0%, AGORA 69.0%, African Digital Library 64.0%, HINARI 64.0%, and Indiana University Press had the highest non-awareness rate of 75.0%. This finding suggests that awareness of online databases among AFUED undergraduates is generally low, with most students either unaware or only marginally aware of the digital resources available to them in the Online environment. the challenges confronting AFUED undergraduate students in their use of online databases. The most critical challenge was incessant power failure, with 85.0% of respondents (SA + A) affirming this as a major barrier. This was closely followed by server low bandwidth (80.0%), insufficient computers in the library (80.0%), discouraging subscription costs (70.0%), expensive downloading and printing (68.0%), and insufficient time due to academic pressure (68.0%). The most strongly supported strategies included provision of uninterrupted power supply (SA + A = 88.0%), provision of enough computers in the Digital Library (88.0%), government provision of subsidized laptops to students (88.0%), teaching students advanced database searching skills (88.0%), and giving students orientation and education on online information resources (87.0%).*

**Keywords:** extent of awareness, use of online databases, digital environment, academic activities, undergraduate students, Adeyemi Federal University of Education Ondo, Nigeria

## INTRODUCTION

Awareness is knowledge about something that exists or understanding of a situation or subject at the present time based on information or experience. It can also be seen as knowledge or perception of a situation, fact, consciousness, recognition, realization, grasp and acknowledgement concern about and well-informed interest or familiarity in a particular situation or development (Ani & Ahiauzu, 2008 in Akpojotor 2016) .

Walker and James (1999), Hendsen, (2010), Kwadzo, (2015) in Yusuf & Farouk (2017) stated that E-databases are collections of electronic information resources by publishers from various fields and disciplines which can be accessed online or off-line. Some of these databases are provided free of charge to libraries in developing countries by their publishers or vendors. These e-databases are categorized into Textual, Numerical, Open source, Commercial, Bibliographic, Non Bibliographic, Online and Offline etc. Historically, e-databases were in existence in libraries for a very long period. Computerized database started in the 1960s, and the first databases to go online in the 1970s were bibliographic as well as the introduction of the CD-ROM format in the early 1980s. Since then there has been a tremendous growth in the number and scope of online databases. Worldwide, there are no accurate statistics for the total number of databases in existence. As from 1997, it was possible to identify over 10,000 databases including those on CD-ROM. Electronic databases are valuable tools for study, learning and research. It can provide many advantages over traditional print-based resources: they contain current information because they are updated frequently, they offer advanced search capabilities, they offer flexibility in the storage of the results, and they enable access to information without the restrictions of time and location.

Kwadzo, (2015) in Olalekan & Aziken, (2019) expressed that Online databases have grown to be an important part of the information resources provided by many universities in many countries. In fact, it has become a valuable and up to date source of information for student and researchers; therefore, it is indispensable to learning, teaching and investigating for the university communities. There are various types of these databases such as bibliographic, full-text, directory, numeric and multimedia of which often contain journal articles, or references to such articles, e-books, reference sources, conference papers and reports among others. Upadhyay and Chakraborty, (2008) in Olalekan & Aziken, (2019) upheld that most libraries are now offering dozens, even hundreds, of online databases and many are currently building substantial collections of full text journals and continue to increase access so as to support teaching, research and community development.

Ahmad & Panda, (2013) as stated in Dumebi (2017) described that there are increasing need for information in the academic and research terrains. Researchers and students are more than ever searching for information to enhance their studies while the lecturers and faculty members search for information to enable them impart up-to-date knowledge. Advancement in internet and electronic technology has enhanced information seeking and acquisition.

Tsakomas & Papatheodorou, (2006); Prangya & Rabindra, (2013); Sharma, (2009) in Akpojotor (2016) Awareness of the changes in technology in recent years has dramatically altered how information is accessed, stored and disseminated. Whereas information provision and usage in academic libraries was

previously based upon the collection of physical library materials, it is now increasingly the case that academic libraries are moving into the virtual arena. On the other hand, Postgraduate students in their reaction to such stimuli ought to be aware of the availability of such resources to aid them in their academic pursuit. With advances in technology and e-publishing, online text full text databases, Emerald, Science Direct, Academic Search Premier, Ebscohost, TEEEL, Oare Sciences, Hinari, Virtual Library (NUC), online public access catalogue (OPAC), CD-ROMs (Compact Disc-Read Only Memory), e-books collections, e-journals covering a variety of subjects, and major bibliographic databases like AGORA and MEDLARS etc., access to information on a local, regional, national and international basis has overcome the traditional barriers of time, easy of accessibility and space. Since electronic information resources are systems in which information is stored electronically and made accessible through electronic systems and computer networks.

### **Objectives of the Study**

The following objectives guided the study in other to:

- ascertain the level of awareness of available online databases from Adeyemi Federal University of Education (AFUED) Undergraduate students in University Digital Library.
- to ascertain the sources of awareness of available online databases from Adeyemi Federal University of Education (AFUED) Undergraduate students in University Digital Library.
- to find out the nature of academic work AFUED Undergraduates use Online databases.
- find out the extent of use of online databases for academic work by AFUED Undergraduate students in University Digital Library.
- investigate extents of Database search skill possessed by AFUED Undergraduate students on the use of online databases in University Digital Library.
- identify the challenges AFUED Undergraduate students face in using online databases in University Digital Library.
- proffer solutions to the challenges AFUED Undergraduate students face in using online databases in University Digital Library.

### **Research Questions**

- What is the level of awareness of the existence of Online Databases in the University Digital Library among AFUED Undergraduates for academic work among undergraduate students?
- What is the sources of awareness of available online databases among Adeyemi Federal University of Education (AFUED) Undergraduate students in University Digital Library?
- to find out the nature of academic work AFUED Undergraduates use Online databases.
- What are the extent of Use of Online Databases in the University Digital Library for academic work among AFUED undergraduate students?
- What are the extents of Database search skills possessed by AFUED Undergraduate students on the use of online databases for academic work in University Digital Library?
- What are the challenges AFUED Undergraduate students face in the use online databases for academic work in University Digital Library?
- What are the proffered solutions to the challenges AFUED Undergraduate students face in using online databases in University Digital Library?

The study is guided the following null hypotheses:

### **Hypothesis:**

- i. There is no significant relationship between AFUED Undergraduate students' level of awareness of Online Databases and the use of the resources.
- ii. There is no significant relationship between AFUED undergraduate students Database Search Skills and their usage.

### **LITERATURE REVIEW**

It is an undeniable fact that the use of Information Communication Technologies has brought tremendous changes in the way information is generated and stored. Technological advances and innovations have changed the operations of organizations and institutions including libraries of all types. Thus, the technologies have changed the storage, organizing, retrieving and dissemination of information in libraries. Electronic databases have become a major element of library collections around the globe. They are regarded as essential for learning, teaching and research activities. Samaravickrama and Samaradiwakara (2014) in Larson (2017) opined that their impact on academic libraries and scholars is noteworthy and unprecedented. Liyi & Zhang, (2011) in Larson(2017) expressed that databases are organised digital collections of references to publish literature such as journal articles, newspaper articles, conference proceedings, reports, legal publications, theses, e-books among others. E- Databases are in different types such as bibliographic, full-text, directory, and multimedia. The advantages of these databases as compared to print are many, they include among others; less storage space, large information capacity, strong sharing ability and great potential for collection expansion. In addition, one does not need to go to the library as they can be made available to users anywhere and at anytime. It is therefore convenient to use and accessible.

Accordingly, Hamza,Ahmad,Yunusa and Hamisu (2015) in Larson(2017) are of the view that electronic databases are becoming more popular than traditional print resources due to their many advantages. They therefore have great significance in the research and learning process. Due to the databases importance to teaching and research, university libraries spend substantial amounts of money for purchasing of these resources even when facing shrinking budgets. In this regard those for which the databases are purchased must equally utilise them to justify the financial involvement. Faculty members are therefore expected to use them for effective teaching and research to contribute to academic achievement. In light of this, it is pertinent to understand and find out the utilisation of these important resources among faculty members. Therefore the aim of this study is to find out how the electronic databases are being used by faculty in University of Education, Winneba campus. Further the study also examines the relevance to their information needs; satisfaction as well as challenges on the use of the resources. These are issues worthy of scrutiny.

Awareness of the databases among users in institutions of higher learning is important because the ultimate use of the databases is for users to be aware and utilise them effectively to contribute to academic achievement in academia. In this vein, Kwafoa, Osman, and Afful-Arthur (2014) in Larson (2017) examined the awareness and use of electronic databases among faculty members in University of Cape Coast. The study revealed that 92% of the faculty members were aware of the existence of online databases. Furthermore, the findings of the study revealed that faculty members were familiar with the databases. The least known database was (BIONNE) database. Similarly, Chirra and Madhusudhan (2009) cited in Larson (2017) also undertook a survey on the use of electronic database

by doctoral research scholars of Goa University in India. The outcome of the study was that the entire scholars 100% was aware, familiar and utilise the databases extensively. The findings of the study by Kwadzo (2015) in Larson (2017) was quite interesting, she found from a study she conducted on electronic databases at the University of Ghana, Legon that awareness of the databases was low than usage. The respondents claimed they were not aware of the databases but they utilise the databases. On the contrary, a survey by Dadzie (2005) as stated in Larson (2017), however, turned to be the opposite of this finding. Her study at the Ashesi University College also in Ghana revealed that users were not aware of the databases subscribed by the library on behalf of the college though the general computer usage was high because of the state-of-the-art ICT infrastructure. The study further revealed that patronage of the databases is very low. They attributed the low utilization to lack of awareness about the databases.

The usefulness of databases to the end users is very important. This is because the ultimate goal of the databases is to meet the information needs of users and enhance their scholarly endeavours. Kwafoa et al (2014) found in Larson (2017) that an overwhelming percentage 87% of faculty members admitted that the databases were highly beneficial. In the same vein, Kwadzo (2015) in Larson (2017) also reported in his study that 53.1% indicated that the databases were suitable to their information needs. Other investigations by Hamza et al (2015) in Larson (2017) also brought to light that faculty members of Faculty of Sciences at Umaru Musa Yardua University in Nigeria found the databases useful for the information they provide except few of them who had different views.

Thus, Globalisation through modern information and communication technology (ICT) is revolutionising the conduct of teaching and research in universities all over the world, particularly in developing countries such as Nigeria. One significant impact of globalisation, information and communication technology on teaching and research in developing countries is access to global information resources by researchers and postgraduate students of the universities. The university remains a centre of excellence, a citadel of learning, and more importantly the epitome of research. Electronic databases play significant roles as information sources in today's libraries Akinola, (Shorunke, Ajayi, Odefadehan, & Ibikunle, 2018).

Uzuegbu, Chukwu and Ibegwam (2012) in Akinola, Shorunke, Ajayi, Odefadehan, & Ibikunle, (2018) expressed in a Study about Awareness and use of electronic databases by postgraduates in the University of Ibadan. It was discussed that electronic databases as specialized records of related published information documents which are not available on Google or other common search engines, especially in a full text. Furthermore, BIAD, (1998), Ani and Ahiauzu (2008) stated in Akinola, Shorunke, Ajayi, Odefadehan, & Ibikunle, (2018) that “electronic databases are collection of electronic information sources (e-journals or ebooks) by publishers from various fields or disciplines and that some of these databases are provided free of charge to libraries in developing countries by their publishers or vendors, while others require some fees for subscription” Electronic databases are now very popular among librarians and library users because of several factors like; speed, flexibility, wide range and the currency.

Hourcade, Bederson, Druin, Rose, Farber & Takayama, (2003) as described in Akinola, Shorunke, Ajayi, Odefadehan, & Ibikunle, (2018) Online databases or web-based databases are widely available to library patrons in the entire world, and many patrons can tap into these databases from their own

computers or electronic devices anywhere in the world. The Internet, through electronic databases or digital libraries, has become an important source of academic information for tertiary students.

Okello-Obura and Magara (2008) in Akinola, Shorunke, Ajayi, Odefadehan, & Ibikunle, (2018) honed that Students are increasingly expected to use electronic information resources whilst at the university; to make use of the growing range of electronic resources, students must acquire and practice the skills necessary to exploit them. Ochs (2005), Lawson (2005) posited in in Akinola, Shorunke, Ajayi, Odefadehan, & Ibikunle, (2018) that skills learning is essential in a technology-driven environment but can be enhanced tremendously through the use of innovative learning strategies. In spite of the humongous potential in the use of electronic information sources, there are some hindrances and challenges to its effective use. The following are some of the findings identified as language barrier, inadequate infrastructure (computers, electricity, paper, toner cartridge etc), the high cost of printing of articles and limited access (Library hours)

According to Aina (2014) in Akpojotor(2016) in a study on awareness, accessibility and use of electronic databases among academic staff of Babcock university business school it can be obviously seen that only Academic Journal, Ebscohost, and JSTOR, were fully utilized with 38 (44.7%), 40 (47.1%) and 36 (42.4%) respectively. Finding also depicts that the following electronic databases were not Utilized: SAGE 23 (27.1%), World Bank Open Knowledge Repository 31 (36.8%), International Research Journal and National Virtual Library with 25 (29.4%) each. This is an indication that the rate at which respondents were aware of electronic resources was not the same way these resources were used. Carnegie Proposal Funding (2008/2009) stated in Msagati (2014) that the use of online databases at DUCE has been facilitated by establishment of high technological infrastructure. The University uses 11Mbps Wireless link with its Local 6 Area Network (LAN) spanning three faculties and the university library. Back-up generators are available to ensure continuity of service in case of power outage. Members of academic staff and students can access full-text electronic journals from their offices, the library computer laboratory, faculty computer laboratories, or even from their laptops connected to the internet (LAN) without having to pay for the services.

## **METHODOLOGY**

The survey research design was adopted for the study. The study population consisted of Adeyemi Federal University of Education Undergraduates. Structured questionnaire was developed for the study and used for the data collection. The questionnaires were distributed to undergraduate students in the Various Faculties in the University. The researchers collected the data through face-to-face administration of questionnaire. This involves going to the various department of the Schools to administer the questionnaire and collecting them back at the same time. A sample size of 100 respondents was purposively chosen as the respondents of the study.

### **Analysis and Interpretation of Data**

All data were categorized and analyzed using tables, frequency, charts and simple percentage, for data analysis.

## RESULTS

This section presents the findings of the study on the extent of awareness and use of online databases in the digital environment for academic activities by undergraduate students at Adeyemi Federal University of Education (AFUED), Ondo, Nigeria. A total of 100 undergraduate students drawn from four schools of the university constituted the sample for this study. Data were collected using the Awareness and Use of Database Questionnaire (AUDQ) and are presented in tables according to each research objective.

### Personal Data of Respondents

*Table 1: Distribution of Respondents by Gender and School (N = 100)*

Personal Data	Frequency	Percentage (%)
<b>Gender</b>		
Male	58	58.0
Female	42	42.0
<b>Total</b>	<b>100</b>	<b>100.0</b>
<b>School</b>		
Faculty of Mgt. & Social Sciences	28	28.0
Faculty of Sciences	22	22.0
Faculty of Education	25	25.0
Faculty of Vocational & Technical Education	25	25.0
<b>Total</b>	<b>100</b>	<b>100.0</b>

Table 1 shows that out of the 100 respondents sampled, 58 (58.0%) were male while 42 (42.0%) were female. This indicates a slight male dominance in the sample, consistent with the general enrolment pattern at the institution. With respect to school affiliation, respondents were fairly spread across all four schools: School of Mgt. & Social Sciences (28.0%), School of Sciences (22.0%), School of Education (25.0%), and School of Vocational & Technical Education (25.0%), suggesting a good representation across academic units of the university.

### Research Question 1: Level of Awareness of Online Databases

The first research question sought to determine the level of awareness of available online databases in the University Digital Library among AFUED undergraduate students.

*Table 2: Level of Awareness of Online Databases among AFUED Undergraduates (N = 100)*

Online Databases	HA n(%)	FA n(%)	A n(%)	NA n(%)
EBSCOHOST	12(12.0)	23(23.0)	30(30.0)	35(35.0)
Elsevier Sciencedirect	8(8.0)	20(20.0)	28(28.0)	44(44.0)
JSTOR	5(5.0)	14(14.0)	22(22.0)	59(59.0)
AGORA	3(3.0)	10(10.0)	18(18.0)	69(69.0)
African Digital Library	4(4.0)	12(12.0)	20(20.0)	64(64.0)
HINARI	6(6.0)	11(11.0)	19(19.0)	64(64.0)
Indiana University Press	2(2.0)	8(8.0)	15(15.0)	75(75.0)
Proquest	10(10.0)	18(18.0)	25(25.0)	47(47.0)

Key: HA = Highly Aware; FA = Fairly Aware; A = Aware; NA = Not Aware

The results in Table 2 reveal that the majority of AFUED undergraduate students had a generally low level of awareness of the available online databases in the University Digital Library. EBSCOHOST recorded the highest level of combined awareness (HA + FA + A = 65.0%), making it the most recognized database among respondents, followed by Proquest (53.0%). However, a substantial proportion of students remained unaware (NA) of most databases. JSTOR recorded a non-awareness rate of 59.0%, AGORA 69.0%, African Digital Library 64.0%, HINARI 64.0%, and Indiana University Press had the highest non-awareness rate of 75.0%. This finding suggests that awareness of online databases among AFUED undergraduates is generally low, with most students either unaware or only marginally aware of the digital resources available to them in the Online environment.

### Research Question 2: Sources of Awareness of Online Databases

The second research question sought to determine the sources through which AFUED undergraduate students became aware of available online databases in the University Digital Library.

**Table 3: Sources of Awareness of Online Databases among AFUED Undergraduates (N = 100)**

Sources of Awareness	Frequency	Percentage (%)
Through visiting library website	18	18.0
Through reading University bulletin	12	12.0
Through contact with Librarian/library staff	22	22.0
Through reading notice board	10	10.0
Through the use of search engine	30	30.0
Through workshop, seminar and conference	8	8.0
<b>Total</b>	<b>100</b>	<b>100.0</b>

Data in Table 3 indicate that the most prominent source of awareness of online databases among AFUED undergraduates was through the use of search engines (30.0%), followed by contact with librarians or library staff (22.0%), and visiting the library website (18.0%). Reading the university bulletin (12.0%), and reading the notice board (10.0%) were relatively less utilized sources. Workshops, seminars, and conferences ranked least as a source of awareness (8.0%). This finding suggests that self-directed means, particularly internet-based discovery, play the most significant role in how students become aware of online databases, while formal institutional channels such as bulletins and notice boards remain underutilized.

### Research Question 3: Nature of Academic Work for Which Students Use Online Databases

The third research question sought to determine the nature of academic work for which AFUED undergraduate students use online databases in the University Digital Library.

**Table 4: Nature of Academic Work for Which Undergraduates Use Online Databases (N = 100)**

Nature of Academic Work	Frequency	Percentage (%)
For research work	38	38.0
To write Term Paper	14	14.0
To update subject knowledge	22	22.0
To write Assignments	12	12.0
For updating Classroom Notes	6	6.0
For current awareness in field	5	5.0
For internal and external presentation	3	3.0
<b>Total</b>	<b>100</b>	<b>100.0</b>

The results in Table 4 show that the dominant academic purpose for which AFUED undergraduates accessed online databases was for research work (38.0%), followed by updating subject knowledge (22.0%) and writing term papers (14.0%). Writing assignments (12.0%), updating classroom notes (6.0%), current awareness in their field (5.0%), and internal or external presentations (3.0%) were less common purposes. This suggests that academic research constitutes the primary driver for the use of online databases among the undergraduates, although the utilization remains largely confined to formal academic requirements rather than continuous intellectual development.

#### Research Question 4: Extent of Use of Online Databases

The fourth research question sought to determine the extent of use of online databases for academic work by AFUED undergraduate students in the University Digital Library.

**Table 5: Level of Usage of Online Databases by AFUED Undergraduates (N = 100)**

Online Databases	HU n(%)	FU n(%)	U n(%)	NU n(%)
EBSCOHOST	8(8.0)	20(20.0)	25(25.0)	47(47.0)
Elsevier Sciencedirect	5(5.0)	14(14.0)	20(20.0)	61(61.0)
JSTOR	3(3.0)	10(10.0)	15(15.0)	72(72.0)
AGORA	2(2.0)	7(7.0)	12(12.0)	79(79.0)
African Digital Library	3(3.0)	9(9.0)	14(14.0)	74(74.0)
HINARI	4(4.0)	8(8.0)	13(13.0)	75(75.0)
DOAJ	2(2.0)	6(6.0)	10(10.0)	82(82.0)
Proquest	7(7.0)	15(15.0)	18(18.0)	60(60.0)
DATAD	1(1.0)	5(5.0)	9(9.0)	85(85.0)

*Key: HU = Highly Utilized; FU = Fairly Utilized; U = Utilized; NU = Not Utilized*

Table 5 reveals that the extent of use of online databases among AFUED undergraduates was generally very low across all databases. EBSCOHOST recorded the highest combined usage rate (HU + FU + U = 53.0%), and Proquest followed with 40.0%. In contrast, DATAD had the lowest usage, with 85.0% of respondents indicating they had not utilized it at all. Similarly, DOAJ (82.0% NU), AGORA (79.0% NU), HINARI (75.0% NU), and African Digital Library (74.0% NU) were largely underutilized. These figures indicate that notwithstanding the availability of online databases in the University Digital Library, actual utilization by undergraduate students remains significantly low, which may be attributed to the low awareness levels observed in Table 2.

#### Research Question 5: Database Search Skills Possessed by Students

The fifth research question examined the extent of database search skills possessed by AFUED undergraduate students in the use of online databases.

**Table 6: Database Search Skills Possessed by AFUED Undergraduate Students (N = 100)**

Database Search Skills	VHP n(%)	HP n(%)	P n(%)	NP n(%)
General computer operations skill	30(30.0)	35(35.0)	20(20.0)	15(15.0)
Internet applications skills	22(22.0)	32(32.0)	28(28.0)	18(18.0)
Download of e-Books and e-Journals	18(18.0)	25(25.0)	30(30.0)	27(27.0)
Use of Universal Resource Locator (URL)	15(15.0)	22(22.0)	28(28.0)	35(35.0)
Subject Gateways	8(8.0)	14(14.0)	20(20.0)	58(58.0)
Formulating search queries	12(12.0)	28(28.0)	32(32.0)	28(28.0)
Familiarity with computer application software	20(20.0)	30(30.0)	28(28.0)	22(22.0)

Key: VHP = Very Highly Possessed; HP = Highly Possessed; P = Possessed; NP = Not Possessed

The results in Table 6 show that students demonstrated relatively higher proficiency in general computer operations (VHP + HP = 65.0%) and internet application skills (VHP + HP = 54.0%), and familiarity with computer application software (VHP + HP = 50.0%). However, skills specifically related to online database navigation were notably weaker. Use of Universal Resource Locators (URL) was not possessed by 35.0% of students, knowledge of subject gateways was absent in 58.0% of respondents, and 28.0% were unable to formulate effective search queries. Downloading e-Books and e-Journals was not possessed by 27.0% of respondents. These findings suggest that while students possess basic computer skills, they lack the specialized information literacy competencies required for effective online database retrieval.

### Research Question 6: Challenges to Awareness and Use of Online Databases

The sixth research question identified the challenges faced by AFUED undergraduate students in the use of online databases in the University Digital Library.

**Table 7: Challenges to Availability, Awareness and Use of Online Databases (N = 100)**

Challenges	SA n(%)	A n(%)	D n(%)	SD n(%)
Not aware of existence of online databases	20(20.0)	28(28.0)	32(32.0)	20(20.0)
Incessant power failure	55(55.0)	30(30.0)	10(10.0)	5(5.0)
Insufficient computers in the library	48(48.0)	32(32.0)	12(12.0)	8(8.0)
Server low bandwidth	50(50.0)	30(30.0)	12(12.0)	8(8.0)
Discouraging subscription cost	42(42.0)	28(28.0)	18(18.0)	12(12.0)
Insufficient time due to academic pressure	35(35.0)	33(33.0)	20(20.0)	12(12.0)
Inability to develop search strategy	30(30.0)	32(32.0)	22(22.0)	16(16.0)
Downloading/printing costs too expensive	38(38.0)	30(30.0)	20(20.0)	12(12.0)
Online database resources complicated to use	28(28.0)	35(35.0)	22(22.0)	15(15.0)
Do not know how to browse for information online	22(22.0)	30(30.0)	28(28.0)	20(20.0)

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

Table 7 presents the challenges confronting AFUED undergraduate students in their use of online databases. The most critical challenge was incessant power failure, with 85.0% of respondents (SA + A) affirming this as a major barrier. This was closely followed by server low bandwidth (80.0%), insufficient computers in the library (80.0%), discouraging subscription costs (70.0%), expensive downloading and printing (68.0%), and insufficient time due to academic pressure (68.0%). Furthermore, 62.0% of respondents agreed that online database resources were complicated to use, while 62.0% also acknowledged that they lacked the ability to develop effective search strategies. A total of 52.0% acknowledged not knowing how to browse for information online, and 48.0% admitted a lack of awareness of the existence of online databases in the library. These findings collectively reveal that infrastructural deficiencies, high costs, and inadequate information literacy are the overarching challenges to effective database use at AFUED.

### Research Question 7: Proffered Solutions to the Challenges

The seventh research question elicited the suggested strategies to address the challenges of availability, awareness, and use of online databases in the University Digital Library.

**Table 8: Suggested Strategies for Improving Awareness and Use of Online Databases (N = 100)**

Suggested Strategies	SA n(%)	A n(%)	D n(%)	SD n(%)
Digital Library notices pasted on notice boards	60(60.0)	25(25.0)	10(10.0)	5(5.0)
Orientation/education on online information resources	65(65.0)	22(22.0)	8(8.0)	5(5.0)
Digital Library provided with enough computers	70(70.0)	18(18.0)	8(8.0)	4(4.0)
Uninterrupted power supply in the library	72(72.0)	16(16.0)	8(8.0)	4(4.0)
University websites for faculties and departments	58(58.0)	25(25.0)	12(12.0)	5(5.0)
Upgraded server bandwidth	50(50.0)	32(32.0)	12(12.0)	6(6.0)
Government to provide subsidized laptops to students	68(68.0)	20(20.0)	8(8.0)	4(4.0)
Mandatory National ICT Training by Ministry of Education	62(62.0)	22(22.0)	10(10.0)	6(6.0)
Affordable/free downloading and printing cost	55(55.0)	28(28.0)	12(12.0)	5(5.0)
Adequate library funding for subscription	60(60.0)	25(25.0)	10(10.0)	5(5.0)
Teaching students advanced searching skills	66(66.0)	22(22.0)	8(8.0)	4(4.0)

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

Table 8 shows that respondents strongly endorsed a wide range of remediation strategies. The most strongly supported strategies included provision of uninterrupted power supply (SA + A = 88.0%), provision of enough computers in the Digital Library (88.0%), government provision of subsidized laptops to students (88.0%), teaching students advanced database searching skills (88.0%), and giving students orientation and education on online information resources (87.0%). Mandatory National ICT

Training by the Ministry of Education received 84.0% agreement, while pasting digital library notices on notice boards (85.0%) and university website development for faculties and departments (83.0%) also recorded very high agreement. Adequate library funding for subscription maintenance (85.0%) and affordable downloading and printing costs (83.0%) were equally prioritized. These results indicate a broad consensus among students on the need for infrastructural improvements, policy-level ICT interventions, and capacity building through information literacy training.

### Test of Hypotheses

Two null hypotheses were tested in this study using Chi-Square ( $\chi^2$ ) statistics at a 0.05 level of significance.

*Table 9: Chi-Square Test Results for Hypotheses Testing*

Hypothesis	Chi-Square ( $\chi^2$ )	df	p-value	Decision
H01: No significant relationship between level of awareness and use of online databases	18.42	3	0.001*	Rejected
H02: No significant relationship between database search skills and usage	22.76	3	0.000*	Rejected

\*Significant at  $p < 0.05$

### Hypothesis One (Ho1)

H01 stated that there is no significant relationship between AFUED undergraduate students' level of awareness of online databases and the use of the resources. The Chi-Square analysis returned a value of  $\chi^2(3) = 18.42$ ,  $p = 0.001$ , which is less than the significance level of 0.05. Consequently, H01 was rejected. This finding confirms that a statistically significant positive relationship exists between students' level of awareness of online databases and their utilization of such resources. Students who demonstrated higher levels of awareness were significantly more likely to make use of the available online databases, underscoring the critical role of awareness in driving resource utilization.

### Hypothesis Two (Ho2)

H02 stated that there is no significant relationship between AFUED undergraduate students' database search skills and their usage of online databases. The Chi-Square analysis yielded  $\chi^2(3) = 22.76$ ,  $p = 0.000$ , which is below the 0.05 significance threshold. H02 was therefore rejected. This finding establishes a significant relationship between possession of database search skills and actual usage of online databases. Students who possessed stronger information retrieval competencies, particularly in formulating search queries, using URLs, and navigating e-resources, demonstrated higher rates of database utilization, affirming that information literacy is a significant predictor of online database use among undergraduates.

## DISCUSSION OF FINDINGS

The findings of this study present a holistic picture of a persistent digital information divide within Adeyemi Federal University of Education. Consistent with prior studies (Baro & Endouware, 2013; Omeluzor et al., 2017), the results confirm that while online databases are available through the

University Digital Library, both awareness and utilization remain substantially low across the student population.

The dominance of EBSCOHOST and Proquest in student awareness and usage is likely attributable to the wider promotion of these databases in library orientation sessions and the relative ease of their interfaces. The consistently high non-awareness rates for specialized databases such as Indiana University Press, AGORA, and African Digital Library suggest that the university's library outreach strategies have not effectively penetrated across database varieties, particularly those less prominently displayed in the digital environment.

The finding that search engines were the primary source of database awareness reaffirms a broader trend in which students rely on informal internet discovery rather than formal institutional communication. This calls for a reorientation of library instruction strategies to align with students' digital habits, incorporating social media platforms and web-based library portals as channels for resource promotion.

The overwhelmingly primary purpose of research work for online database access confirms that undergraduate students engage with digital library resources primarily under academic compulsion rather than as an intrinsic habit of lifelong learning. This echoes findings reported by Ani (2010) and Nwachukwu (2014), who noted that Nigerian university students tend to access online resources reactively rather than proactively.

The infrastructural challenges identified, particularly power failure, bandwidth inadequacy, and limited computers, are systemic and recurring in the Nigerian higher education context. These findings corroborate those of Omeluzor et al. (2017) and Popoola (2008), who identified electricity instability and poor internet connectivity as persistent barriers to digital library use in Nigerian universities. The high agreement rates for strategies such as uninterrupted power supply and computer provision reflect students' clear understanding of what is needed to improve the situation.

The rejection of both null hypotheses reinforces the theoretical position that information literacy and resource awareness are interdependent preconditions for effective library resource utilization. A student who is unaware of a resource cannot use it; equally, a student who lacks the skills to navigate a resource is unlikely to persist in using it. Universities must therefore invest simultaneously in both awareness campaigns and structured information literacy training programmes to achieve meaningful improvements in online database utilization.

## **CONCLUSION AND RECOMMENDATIONS**

It is clear and obvious that database bring together related information and knowledge for consumption of students and researchers. The study has justified the academic activities students use the databases for, and the challenges inhibiting the smooth use of these resources have been brought out in the findings. It is therefore recommended that government should create access to free ICT or digital training for undergraduates in Nigeria in order to be able to develop a strong skill for use of Online databases.

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