

Electronic Database Resources and Digital Literacy Skills as Determinants of Nigerian Undergraduates' Library Use

Azeez Adebamgbola ADEOYE

Lead City University, Ibadan, Oyo state

Adeoyeazeez144076@gmail.com

and

Basirat Jumoke ADERIBIGBE

Department of Library and Information Science,

Tai Solarin University of Education, Ijagun, Ijebu-Ode, Ogun state

basirataderibigbe@gmail.com

Abstract

The university is the birthplace of life changing ideas which are further concretized to benefit the rest of the universe. Prominent member of the university community are undergraduates who are saddled with numerous course works relating to their disciplines. The heavy workload makes them search for information in electronic database resources in the university libraries. To benefit from their search, they require digital literacy skills. This prompted the study on the availability of electronic database resources and digital literacy skills as determinants of library use by undergraduates of Federal Universities in Southwest, Nigeria. The research design employed for this study was the descriptive survey design. The population for this study was constituted by 60,997 undergraduate students of Obafemi Awolowo University, University of Ibadan and University of Lagos. However, multiple stage sampling technique was used to arrive at 595 sample size for the study. The instrument used was a questionnaire. The data was analyzed using frequency distribution tables; percentage, mean scores and standard deviation on Statistical Package for the Social Sciences (SPSS). The result of multiple regression indicates that the availability of electronic database resources and digital literacy skills of undergraduates have joint influence on library use, $R^2 = .882$, $F(1.949E3)$, $p < 0.05$. The result also indicates that 40.2% variance of library use among undergraduate students is accounted for by level of digital literacy skills and availability of electronic database resources. The study concluded that institutions should make efforts to improve access to the Internet and continue to provide constant electricity supply within the school premises and greater publicity should be given on the credibility of information from electronic database resources in the university libraries so that more undergraduates

become aware and make use of them, likewise, trained personnel should be on ground to assist students and educate them on library base electronic resources usage and library services within the university, especially computer laboratory and library, thus increasing student's library use and level of digital literacy skills.

Keywords: Electronic Database Resources (EDR), Digital Literacy Skills, Library Use, Undergraduates.

Introduction

In an academic arrangement, both education and library are inseparable concepts, working for the promotion and evolution of teaching, learning and research for greater usefulness of the academia. A library is a repository of resources and an integral part of the educational system whose primary function is to serve the information needs of users (students, researchers, and staff).

The preference of the electronic resources by undergraduates may be attributed to what Salaam (2008) observes about the much greater flexibility they afford during searches than their paper-based counterparts, and that they can be accessed remotely at anytime. The emergence of electronic resources has removed the barrier to valuable information resources that until now were difficult to access. This attitude has affected the use of library collection and students' perception of the library. Undergraduates acquire skills and knowledge subject to many factors, such as level of digital literacy skills, academic status and ranks, ages, access (hardware and location) to electronic database resources and training.

In the light of the rapid and continual development of digital technology, undergraduate students are required to use a growing variety of technical, cognitive, and sociological skills in order to perform tasks and solve problems in digital environments. These skills are referred to in literature as "digital literacy" (Pool, 1997: 55, 6-11). Digital literacy gives undergraduates the ability to take advantage of the wealth of new and emerging opportunities associated with digital technologies whilst also remaining alert to the various challenges technology can present. In short, digital literacy is the 'savvyness' that allows students to participate meaningfully and safely as digital technology becomes ever more pervasive in society. To further understand the meaning of digital literacy, Erstad

(2006); expresses that digital literacy can be viewed as skills, knowledge and attitudes in using digital media to be able to master the challenges in the learning society.

In developing countries, digital literacy skill could be best acquired in libraries where socio-economic factors are not a heavy restriction to library use especially in federal university libraries. But, undergraduates do not use the opportunity optimally as a result of their lack of digital literacy skills in the use of library electronic database resources.

Statement of problem

Undergraduates are saddled with numerous course work relating to their disciplines. The heavy workload makes them search for information to bridge their knowledge gap. The university library is the most authentic source of information where print, non-print and electronic information resources can be accessed. Studies have revealed that undergraduate students prefer electronic resources to printed materials.

To encourage library use, university libraries have been responding to the undergraduate students' preference for electronic databases by increasing their electronic database collections in order to make electronic sources of information accessible. However, findings from studies indicate that many electronic database resources are not being utilized by undergraduate students for many reasons, the most prominent is lack of digital literacy skills. They are unable to evaluate and retrieve authentic information from electronic database resources subscribed to by the university libraries. Therefore, this study investigated electronic database resources and digital literacy skills as determinants of the undergraduates' library use.

Hypotheses

The following null hypotheses were tested in this study:

H₀₁: There is no significant relationship between the undergraduates' digital literacy skills and availability of electronic database resources.

- Ho2: There is no significant relationship between undergraduates' digital literacy skills and purpose of library use of EDR.
- Ho3: Availability of electronic database resources and digital literacy skills of undergraduates will have no joint influence on purpose of library use of EDR.

Literature Review

Traditionally, library collections consisted of books, manuscripts, journals and other forms of recorded information. (ARL Bimonthly Report 2002). Ingutia-Oyieke and Dick (2010) opine that access to e-resources is constant and the most popular form of Information Communication Technology (ICT) available today is the Internet and it has made the maximum effect on access for library users worldwide. With the development of the Internet and the wealth of e-resources now available, large portions of library collections are no longer available on shelves in the library, but electronically on CD-ROM (Compact Disc, Read Only Memory), DVD (Digital Video Disc) or the Internet (Madhusudhan, 2008).

Availability of Electronic Database Resources in University Libraries

Aina, Mutula and Tiamiyu (2008) recorded that electronic resources are information resources that are available in forms that can be processed by the computer. Examples of electronic resources databases subscribed to by Kenneth Dike library, University of Ibadan include: OARE, Academic Journal, AJOL, BOOKBOON, Dissertation and Theses, HINARI, EBSCOHOST, SAGE, Science direct, etc. This is the trend in other federal universities in Nigeria, including University of Lagos (Egberongbe, 2011) and Obafemi Awolowo University (Oyedapo and Ojo, (2013).

Benefits of Electronic Database Resources to Undergraduate Students

Scotti (2010) found that among end users of information, three value considerations stood out: staying current, saving time and saving money.

Salaam (2007) observes about its flexibility in searching than their paper-based counterpart, and that they can be accessed remotely at anytime.

Digital literacy skills and library use of undergraduate students

ALA Digital Literacy Taskforce (2011) opines that digital literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills. Kari (2004) explains that the skills required to use electronic database resources are higher than the ones required for searching printed sources and that students need to master certain skills to exploit and use the growing range of e-resources. Undergraduates therefore need skills such as, informational literacy skills, ICT literacy and media literacy skills for speedy retrieval of the exact information needed from electronic resources.

Conceptual Model

This model proposes the linkages between the independent variables (digital literacy skills and availability of e-database resources) and dependent variable which is the undergraduates' library use.

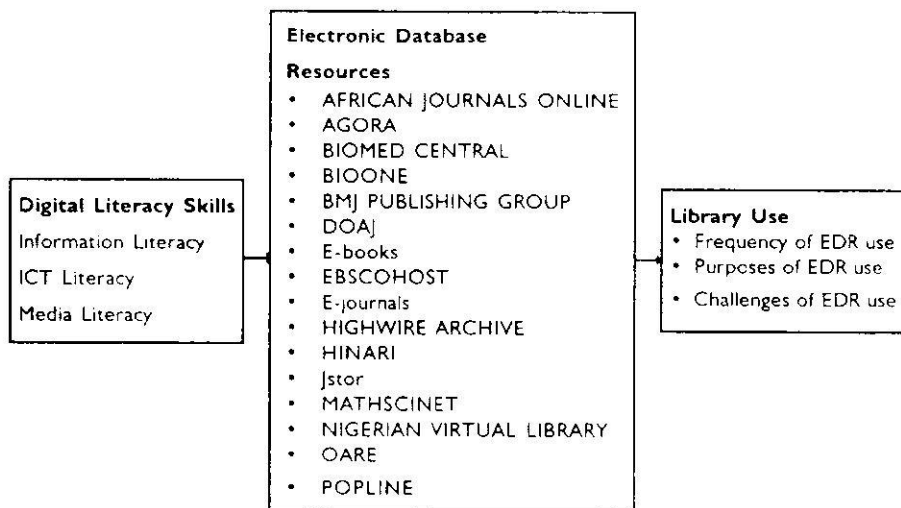


Fig 1. Conceptual Model for Digital Literacy Skills, Availability of Electronic Database Resources and Library Use by Undergraduate Students.

Electronic Database Resources, Digital Literacy Skills and Library Use Model

Digital literacy skill is a composite term that comprises information literacy skills, ICT skills and media skills. These are essential skills for survival in the 21st century. No university student can succeed academically without fluency in these skills.

Information literacy skill entails the ability to recognize a need for information, locate it, evaluate it, and effectively use the needed information (American Library Association, 1989). The advent of ICT has changed the process of teaching, learning and research activities in our universities. Students need to adjust to this new trend to be able to perform excellently in the technology driven environment of today's citadels of learning. Likewise, ICT skill is the technical knowledge skill on how to use the ICT devices.

It should be noted that mere ability to use the computer system does not translate to having digital literacy skills. Media literacy refers to the ability to access, enjoy, interpret, analyze, produce, and evaluate messages in all varieties of media. It is to critically read and creatively produce academic and professional communication in a range of media. New media such as camera, iPod, podcast, tablets, etc, are devices that can be used to capture, create, process, disseminate and use information. Therefore, it is important for the 21st century students to acquire the skills for the use of the media to support learning and research. The combination of these skills is paramount for undergraduates to function effectively in the academic environment and beyond.

Electronic database resources in university libraries are provided to enhance teaching, learning and research work. These resources are accessible through the library portal or through a wireless network within the library premises. With this, users will use the library via their access to the electronic database resources available in the library.

Research Methodology

The research design employed for this study is the descriptive survey design. And the population for this study consists of undergraduate students of Obafemi Awolowo University, Ile-Ife, Osun state, the University of Ibadan, Ibadan, Oyo State, and University of Lagos, Akoka, Lagos State.

Table 1: Distribution of the population of the study

S/N	OBAFEMI AWOLOWO UNIVERSITY			UNIVERSITY OF IBADAN			UNIVERSITY OF LAGOS		
	FACULTY	No. of Dept.	NO. OF STUDENTS	FACULTY	No. of Dept.	NO. OF STUDENTS	FACULTY	No. of Dept.	NO. OF STUDENTS
1	Administration	4	2,891	Agriculture and Forestry	8	1,368	Arts	6	2,107
2	Agriculture	6	1,416	Arts	13	1,695	Social Sciences	7	3,109
3	Arts	9	2,495	Basic Sciences	3	521	Engineering	9	2,465
4	Basic Med. Science	8	715	Clinical Sciences	3	1,161	Basic Medical Sciences	3	609
5	Clinical sciences	10	475	Dentistry	1	190	Law	1	1,196
6	Dentistry	4	176	Education	7	1,613	Education	6	3,621
7	Education (Arts)	5	1,232	Law	1	707	Clinical Sciences	4	1,740
8	Education science	2	546	Pharmacy	1	421	Business Administration	6	3,417
9	EDM	6	1,671	Public Health	1	142	Pharmacy	1	463
10	La	1	1,659	Science	12	2,098	Environmental Science	5	1,707
11	Library	1	648	Technology	7	1,340	Dental Sciences	1	392
12	Science	10	2,966	The Social Sciences	5	1,452	Science	13	3,769
13	Sciences	6	2,835	Veterinary Medicine	1	445	-----	-----	-----
14	Technology	8	3,018	-----	-----	-----	-----	-----	-----
Total			22,749	Total		13,153	Total		25,095

Source: Academic Planning Unit of the Universities, 2015

Sampling Technique and Sample Size

Multiple stage sampling technique was used for the study. The first stage involved the selection of three similar faculties in these institutions: the University of Ibadan, Ibadan, Oyo State. University of Lagos, Akoka, Lagos State and Obafemi Awolowo University, Ile-Ife, Osun State. The selected faculties include: Faculty of the Social Sciences, Faculty of Arts or Humanities and Faculty of Sciences. The second stage was selection of two departments from the previously selected faculties (faculty of Arts, Technology and The Social Sciences) using balloting system. The last stage involved the selection of the sample size from the faculties by using 10% sampling fraction. Gay and Airasian (2003) in educational research: competencies for analysis and application averred that one rule of thumb for determining an adequate sample size for descriptive research is that it should consist of 10% to 20% of the population under study. In that regards, the sample size for this study is five hundred and ninety-five (595). The summary of the population size is presented in the Table 3.2.

Data Collection Instrument

The data collection instrument used for the conduct of this study is a questionnaire. The questionnaire was used to survey undergraduate students of the three universities: University of Ibadan, University of Lagos, and Obafemi Awolowo University. The questionnaire was self-constructed.

Section A: Demographic Data: this consists six questions about the demographic data of the respondents such as name of university, faculty, department, sex, age and level of study.

Section B: Digital Literacy Skill Scale: there are about 37 questions in this section which contain questions about their digital skill level. The responses were in four categories which are: very confident, quite confident, confident and not confident.

Methods of Data Analysis

The analysis of data was done using the descriptive statistics of frequency count, percentage, mean, standard deviation and also, the Statistical Package for the Social Sciences (SPSS) was used for the analysis. The analyzed data was presented in tables. Also, the hypotheses were tested using correlation co-efficient and multiple Regressions at 0.05 level of significance.

Data Interpretation

A total of five hundred and ninety-five (595) copies of the questionnaire were distributed but five hundred and twenty-five copies were retrieved making 88.23% response rate.

Demographic Information of Respondents

The demographic information of the respondents with respect to institution, facilities, sex, age and level of study are presented in table 3

Hypotheses

Hypothesis one: There is no significant relationship between the undergraduates' digital literacy skills and availability of electronic database resources.

Table 4 revealed the result that there was significant weak positive relation between undergraduate's digital literacy skills and availability of electronic database resources in federal universities, southwest Nigeria ($r = 0.171$, $p < 0.05$). This indicates that as the availability of electronic database increases, the undergraduate digital literacy skills will increase. The hypothesis is therefore rejected.

Table 3: Distribution of demographic information of the respondents

S/No	Name	Frequency	Percentage
1	ObafemiAwolowo	224	42.7
2	Universityof Ibadan	112	21.3
3	University of Lagos	189	36.0
	Total	525	100.0

S/No	Faculty	Frequency	Percentage
1	Arts	38	26.3
2	Social Sciences	231	44.0
3	Technology	56	29.7
4	Total	525	100.0

S/No	Sex	Frequency	Percentage
1	Female	259	49.3
2	Male	266	50.7
	Total	525	100.0

S/No	Age Range	Frequency	Percentage
1	16-20	237	45.1
2	21-25	214	40.8
3	26-30	74	14.1
	Total	525	100.0

S/No	Level	Frequency	Percentage
	100	113	21.5
	200	115	21.9
	300	157	29.9
	400	116	22.1
	500	6	1.1
	600	18	3.4
	Total	525	100.0

Source: Field Surveyed, 2015

Table 4: Distribution of Pearson correlation between digital literacy skills of undergraduates and availability of electronic database resources in federal university libraries

	Mean	SD	N	R	P
Digital literacy Skills	1.3466E2	23.08466	525	.171**	.000
Electronic Database Resources	34.2629	14.61332	525		

Source: Field Surveyed, 2015

Hypothesis two: there is no significant relationship between undergraduates' digital literacy skills and library use.

Table 5 indicated the result that there was a positive, linear relationship between digital literacy skills and library use of undergraduate student of southwest, Nigeria ($r=0.241$, $p<0.05$). therefore, as undergraduate digital literacy skills increase so also their library use will increase. The hypothesis is therefore, rejected.

Table 5: Distribution of Pearson correlation between digital literacy skills and library use of undergraduate students

	Mean	SD	N	R	P
Digital literacy Skills	1.3466E2	23.08466	525	.241**	.000
Library use	53.6667	18.40141	525		

Source: Field Surveyed, 2015

Hypothesis three: availability of electronic database resources and digital literacy skills of undergraduates will have no joint influence on library use.

From table 6 below indicates in the result that availability of electronic database resources and digital literacy skills of undergraduates have joint influence on library use, $R^2=.882$, $F(1.949E3)$, $p<0.05$. The result also indicates that 40.2% variance of library use among undergraduate students is accounted for by level of digital literacy skills and availability of electronic database resources. The hypothesis is therefore rejected.

Table 6 shows summary of Multiple Regression of availability of electronic database resources and digital literacy skills of undergraduates on library use

	Beta	t.	Sig.	R	R ²	F
Electronic database resources	.921	60.350	.000	.939 ^a	.882	1.949E3
Digital literacy	.083	5.422	.000			

a. Predictors: (Constant), DLS, EDR

b. Dependent Variable: LU

Source: Field Surveyed, 2015

Discussion of Findings

The result of Pearson correlation between the undergraduates' digital literacy skills level and availability of electronic database resources in federal universities in south-western Nigeria was significant positive relation ($r = 0.171$, $p < 0.05$). This indicates that as the availability of electronic database increase, the level of digital literacy skills of the undergraduate also increases, albeit slowly.

The result of Pearson correlation on relationship between digital literacy skills and library use of undergraduate students in southwestern Nigeria ($r = 0.241$, $p < 0.05$) indicates that there was a positive, linear relationship. Therefore, as the undergraduates' digital literacy skills increase so also their library use increases.

The result of multiple regression indicates that the availability of electronic database resources and digital literacy skills of undergraduates have joint influence on library use, $R^2 = .882$, $F(1.949E3)$, $p < 0.05$. The result also indicates that 40.2% variance of library use among undergraduate students is accounted for by their level of digital literacy skills and availability of electronic database resources.

Summary of the findings

1. There was a significant and positive relationship between digital literacy skills and the availability of electronic database resources.
2. There was a significant relationship between digital literacy skills and library use.

3. There was a joint influence on the availability of electronic database resources and digital literacy skills of undergraduates and their library use.

Conclusion

The geometrical progression in the preference of electronic information resources by undergraduate students assists in teaching, learning and research. This has influenced the way academic libraries operate today. It was clear from the study that undergraduate students in southwestern Nigeria have a confident level of digital literacy skills but these did not correlate with effective utilization of library-based electronic database resources thus influence their library use. However, the few that used the library-based electronic information resources do so for assignment and self-development purposes. It was also observed that many factors have been seen as challenges to the use of library-based electronic database resources by undergraduate students. One of such is poor internet connectivity. This is a serious obstacle to the optimal use of available electronic database resources in the libraries for teaching, learning and research.

Recommendations

The following recommendations were made based on the findings of the study:

1. The institution should make adequate efforts to improve access to the Internet and ensure constant electricity supply within the school premises.
2. Trained personnel should be on ground to assist students and educate them on library based electronic resources usage and library services within the universities, especially in computer laboratories and libraries.
3. Electronic database resources relevant to each discipline should be provided and adequate publicity on the authenticity should be ensured.

4. Training should be organised for students on how to raise their level of digital literacy skills.
5. The study also recommended the introduction of information competency across the curriculum and introduction of a one-unit course to be taught at all levels, and the provision of personal computers on campus.

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