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2017

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ADEOYE, Azeez Adebamgbola and ADEOYE, Basirat Jumoke, "Digital Literacy Skills of Undergraduate Students in Nigeria Universities" (2017). *Library Philosophy and Practice (e-journal)*. 1665.

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Digital Literacy Skills of Undergraduate Students in Nigeria Universities

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Abstract

Influence of digital technology in our educational system cannot be overemphasized. Hardly can any undergraduate student survive in tertiary institution without basic skills and knowledge of digital technology. The composite skills require for student to fit into digital environment in achieving his/her academic pursuit is digital literacy skill. This prompted the study on the digital literacy skills of undergraduate students of Federal Universities in Southwest, Nigeria.

Research design employed for this study was the descriptive survey design. The population for this study was 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 sampling size for the study. The instrument used was a questionnaire. Data was analyzed using frequency distribution tables; percentage, mean scores and standard deviation on Statistical Package for the Social Sciences (SPSS).

Finding of the study revealed that majority of the students admitted that they are confident on their level of information Literacy Skills, especially in using other people's work (found online) without committing plagiarism. The students also indicated confidence in their level of Information and Communication Technology literacy skills, significantly when writing online

on a web page for private use. Likewise, a high percentage of respondents were confident on their level of media literacy skill when using media-capture devices, e.g. recording on video.

The study concluded that lecturers should encourage students to engage in academic research using electronic information resources on the web without committing plagiarism. Also, undergraduates ICT skills should be enhanced by encouraging them to open and operate online Blog for public access and lastly, lecturers and other academic staff should use electronic media resources in delivering lectures in order to challenge the confident level of undergraduates in using electronic media.

Key words: Digital Literacy Skills, Information literacy, ICT Literacy, Media literacy Undergraduates.

Introduction

University remains the chief agents of progress in the society and progressive nations are those with flourishing universities. University helps in the development of nations by providing the high as well as the middle level manpower needed for the social, economic and political advancement. This is done through the programme of teaching, learning, research and community services (Okiy, 2003). This places university education at the apex in the ranking of educational system, as it is designed to accommodate knowledge acquisition and production (Anunobi and Nwogwugwu, 2013). According to Merriam Webster Online Dictionary, Universities are institutions of higher learning that provide facilities for teaching and research and are authorized to grant academic degrees such as bachelor, master and doctorate.

Undergraduates are students in the tertiary institutions pursuing their first degree programme in various disciplines (Osunade, Philips and Ojo 2007). Due to their heavy workload, the undergraduates usually search for information in various sources to support their learning activities. Depending on the mode of study, an average undergraduate is expected to spend a minimum of three years and a maximum of six years in the university (Osunade, Philips and Ojo 2007). Academic performance of an undergraduate in this century depends on his/her digital literacy skills to identify the credible information on the internet. Information and Communication Technology has pervaded all sectors of human endeavours.

According to Thomas (2004), the Pew Research Center in 2001 reported that ninety-four percent (94%) of teenagers with access to Internet rely on online information for research tasks

and seventy-one percent (71%) of them used the Internet as the major source for their most recent school projects. Fifty-eight percent (58%) of the students have used websites set up by the school or a class, thirty-four percent (34%) has downloaded a study guide while 17% have created a web page for a school project.

The preference of the electronic resources by undergraduates may be attributed to what Salaam, 2008 observes about its flexibility in searching than their paper-based counterpart, and that they can be accessed remotely at anytime. The emergence of electronic resources has removed the barrier to valuable information resources which until now were difficult to access (Mandinaeh, 2004). This attitude has affected the use of the library's collection and students' perception of library. Undergraduates reacquire skills and knowledge which can be dependent on many factors, such as level of digital literacy skills, academic status and ranks, ages, access (hardware and location) to electronic database resources and training.

Factors motivating use of electronic resources can be level of importance allocated to e-resources, how useful they have found them, and for which purposes they use e-resources (Edewor, 2008). Undergraduates' purpose of using Electronic Database Resources (EDR)/ICT could be for assignment, research report, term paper, seminar, preparing for examination, preparing lecture notes, or/and for self development (Adetinmirin, 2011).

A study conducted in Australia by Deng, (2010) found that there were various purposes for a user to use e-resources including: gathering information on a specific topic, gaining general information, obtaining answers to specific questions, completing assignments, reviewing literature, writing essays and helping decision making. It also found that respondents use e-resources for each of the above purposes. Such an observation reflects the fact that currently users are dependent on the availability of e-resources for meeting many of their academic needs (Dolo Nadlwana, 2013). Therefore, Computers and related electronic database resources have come to play a central role in education (Lang, 2008).

For undergraduates to enjoy the benefit provided by electronic database resources, undergraduates need a composite skill which is referred to as digital literacy skills. This skill will help them to acquire information literacy skill, media literacy skill, and ICT literacy. All these skills will enable them to connecting to library database resources. Digital literacy skill is vital to enhance their confidence in use of electronic databases in the library.

Therefore, Digital literacy skill is necessary for retrieval of relevant and up-to-date information for student's work. Kari (2004) explained that skills required to use electronic database resources are higher than the one required for searching printed sources and that students need to master certain skills to exploit and use the growing range of e-resources (Margaret-Mary Ekenna and Mabawonku Iyabo, 2013). 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.

Okello-Obura and Magara (2008) stated that computer skills of students should be improved for accessibility and utilisation of e-resources. According to Mutshewa (2008), skill is improved through practice and frequent use of information retrieval system such as electronic database resources. Mutshewa pointed out that there is a need for well-defined development programmes that could help people to be competent in the use of information retrieval system. Also, Oliver (1995) stated that users should have appropriate instructions and frequent activity with electronic information system.

In 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 the literature as "digital literacy" (Pool, 1997).

Like any fashionable term, "digital literacy" has enjoyed a broad range of uses in the literature, from reference to technical aspects (e.g., Bruce & Peyton, 1999; Davies, Szabo, & Montgomerie, 2002; Swan, Bangert-Drowns, Moore-Cox, & Dugan, 2002), to cognitive, psychological, or sociological meanings (e.g., Gilster, 1997; Papert, 1996; Tapscott, 1998).

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. It further states that a digital literate person possesses the variety of skills – technical and cognitive – required to find, understand, evaluate, create, and communicate digital information in a wide variety of formats; is able to use diverse technologies appropriately and effectively to retrieve information, interpret results, and judge the quality of that information.

The California ICT Digital Literacy Assessment and Curriculum Framework provides a more detailed definition of digital literacy as the ability to use digital technology and

communications tools, and/or networks to access, manage, integrate, evaluate, create and communicate information in order to function in a knowledge society (California Emerging Technology Fund, 2008).

Jones-Kavalier and Flannigan (2008) state that digital literacy represents a person's ability to perform tasks effectively in a digital environment; digital means information represented in numeric form and primarily use by a computer, and literacy includes the ability to read and interpret media, to reproduce data and images through digital manipulation and to evaluate and apply new knowledge gained from digital environments.

Digital literacy is the ability to understand and use information in multiple formats from wide range of sources when it is presented via computers. A person's ability to perform tasks effectively in a digital environment, Literacy includes the ability to read and interpret media, to reproduce data and images through digital manipulation and to evaluate and apply new knowledge gained from digital environments.

Similarly, digital literacy as used by the European Reference Framework is the confident and critical use of information technology for work, leisure and communication, underpinned by basic skills in ICT: the use of computers to retrieve, assess, store, produce, present, and exchange information, and to communicate and participate in collaborative networks via the Internet (European Communities, 2007).

Aviram and Eshet-Alkalai (2006) describe digital literacy as a combination of technical-procedural, cognitive and emotional-social skills. Sefton-Green, Nixon and Erstad (2009) explained that the concept is used to describe our engagements with digital technologies as they mediate many of our social interactions; they say, however, that the literacy associated with participation in digital practices and cultures are complex.

To be digitally literate is to have access to a broad range of practices and cultural resources that you are able to apply to digital tools. It is the ability to make and share meaning in different modes and formats; to create, collaborate and communicate effectively and to understand how and when digital technologies can best be used to support these processes. Digital literacy is the skills, knowledge and understanding that enable critical, creative, discerning and safe practices when engaging with digital technologies in all areas of life.

Some people associate digital literacy simply with the functional skills of being able to use a computer or particular software package effectively. But digital literacy is about much

more than having access to or being able to use a computer. It is about collaborating, staying safe and communicating effectively. It is about cultural and social awareness and understanding and it is about being creative. Being digitally literate is about knowing when and why digital technologies are appropriate and helpful to the task at hand and when they are not. It's about thinking critically about all the opportunities and challenges digital technologies present.

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.

Similarly, Eshet-Alkali and Amichai-Hamburger (2004) give a broad meaning to the term: they suggested digital literacy is to consist of five major digital skills: photo-visual skills ("reading" instructions from graphical displays), reproduction skills (utilizing digital reproduction to create new, meaningful materials from existing ones), branching skills (constructing knowledge from non-linear, hyper-textual navigation), information skills (evaluating the quality and validity of information), and socio-emotional skills (understanding the "rules" that prevail in cyberspace and applying this understanding in online cyberspace communication).

In addition, one more skill was added to the list: real-time thinking skill (the ability to process and evaluate large volumes of information in real time (Aviram & Eshet- Alkalai, 2006). To this end, digital literacy needs to be seen and understood as a plural phenomenon comprising much digital literacy that should be explored such as information literacy, ICT literacy and media literacy.

In its definition the American Library Association (1989) emphasized that Information literate people are those who have learned how to learn—they know how knowledge is organized, how to find information and how to use information in a way that others can learn from them—they are people prepared for lifelong learning.

Media literacy is the ability to access, enjoy, interpret, analyze, produce, and evaluate messages in all varieties and combinations of print, visual, and digital formats. Media literate individuals can use communications media to solve problems. They have a critical, informed understanding of the way that both individuals and organizations construct media messages. In

addition, they recognize the role of the audience in both processing those messages and creating meaning from them. They are aware of the political, social, cultural, economic, and educational role of the mass media in society including knowledge of how media organizations operate. Through these understandings, media literate individuals are able to assess their own relationship to the media, and assign value, worth and meaning to media use and media messages (National Communication Association, NCA, 1998).

In the case of ICT literacy, digital literacy involves more than the mere ability to use software or operate a digital device; it includes a large variety of complex cognitive, motor, sociological, and emotional skills, which undergraduates need in order to function effectively in digital environments like using the library electronic database resources. In summary, digital literacy appear to be built on three principles: the skills and knowledge to use a variety of digital media software applications and hardware devices; the ability to critically understand digital media content and applications; and the knowledge and capacity to create with digital technology (Media Awareness Network, 2010).

As such, the concept of digital literacy is much broader than computer literacy, and instead represents an umbrella framework for integrating other inter-related literacies and skill-sets such as technology literacy, information literacy and media literacy.

1.3 Objectives of the study

The main objective of this study is to examine digital literacy skills of undergraduate students of Nigeria universities. The specific objectives of the study are to:

- i. determine the information literacy skills that undergraduate students required to exploit electronic database resources;
- ii. ascertain the ICT skills that undergraduate students needed to exploit internet resources;
- iii. examine the media literacy skills that undergraduate students possessed to exploit on-line resources

1.4 Research questions

The research questions derived from the specific objectives are:

- i. what are the information literacy skills that undergraduate students required to exploit electronic database resources;

- ii. what are the ICT skills that undergraduate students needed to browse internet resources;
- iii. what are the media literacy skills that undergraduate students possessed to surf on-line resources Nigeria;

Scope of the study

The study focuses on digital literacy skills of undergraduate students in Nigeria universities. The concept of digital literacy skills to be considered include information literacy, ICT literacy and media literacy. The study covers three federal universities in Southwest, Nigeria namely: University of Ibadan, Oyo State, University of Lagos, Akoka, Lagos State and Obafemi Awolowo University, Ile-Ife, Osun State. The study target groups are undergraduate students who are regular students in these institutions.

Significance of the Study

This study will enable information professionals and information users to have a deep understanding of the relevance of digital literacy skills possessed by undergraduates to enhance their academic pursuit within the academic environment and beyond. Also it will enable information professionals and academia to be aware of the level of digital literacy skills of undergraduates and strategize on innovative ideas on how to develop, use and improve students' digital literacy skills.

There is finite policy and research attention paid to issues related to digital literacy in Nigeria, there is still relatively little information on how the inadequacy of digital literacy skills affects the quality and quantity of knowledge acquired by undergraduate students in universities in Nigeria. This study will be beneficial to lecturers, teachers and school leaders in all facet of education programmes who are interested in creative and critical uses of technology in teaching, learning and research processes.

Also, the finding of this study will help government in enacting educational policies that will encourage inculcation of digital literacy skills in students at early stage. And finally, the finding of this study will also add to existing literature on digital literacy skills for research purpose.

RESEARCH METHODOLOGY

To execute a widely acceptable research, adopting an appropriate research method is important for the realization of the accurate results and it makes the research more meaningful. This section comprises the research design that was used, methods of data collection and the sampling techniques.

Research design

The research design employed for this study is the descriptive survey design. The research design is used because the researcher is interested in collecting original data for describing a population too large to observe directly.

Population of the study

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.

Part of the population of this study is undergraduate students of the Obafemi Awolowo University. According to the data collected from Academic Planning Unit of the institution, there are fourteen (14) Faculties, offering undergraduate programmes within the university with a population of twenty-two thousand seven hundred and forty-nine (22,749) undergraduate students.

As part of the population of this study are students of the University of Ibadan, Oyo state, consist of thirteen (13) Faculties, offering undergraduate programmes within the university with a population of thirteen thousand, one hundred and fifty three (13,153) undergraduates' students. The data is collected from Management Information System (M.I.S), Academic Planning Unit of the institution, University of Ibadan.

The third segment of the population of this study is undergraduate students of the University of Lagos, Lagos state. According to the data collected from Academic Planning Unit, University of Lagos, there are twelve (12) Faculties, offering undergraduate programmes within the university with a population of twenty-five thousand and ninety-five (25,095) undergraduate students. The summary of the population is presented in the table 3.1 below.

Table 3.1 The population of the study

S/N 0	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 STUDENT S
1	Administration	4	2,891	Agriculture and Forestry	8	1368	Arts	6	2, 107
2	Agriculture	6	1,416	Arts	13	1695	Social Sciences	7	3, 109
3	Arts	9	2,495	Basic Medical Sciences	3	521	Engineering	9	2, 465
4	Basic Med. Science	8	715	Clinical Sciences	3	1161	Basic Medical Sciences	3	609
5	Clinical sciences	10	475	Dentistry	1	190	Law	1	1, 196
6	Dentistry	4	176	Education	7	1613	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 Administratio n	6	3, 417
9	EDM	6	1,677	Public Health	1	142	Pharmacy	1	963
10	Law	1	1,659	Science	12	2098	Environmenta l Science	5	1, 707
11	Pharmacy	1	648	Technology	7	1340	Dental Sciences	1	392
12	Science	10	2,966	The Social Sciences	5	1452	Science	13	3, 769
13	Social 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

3.4 Sampling technique and sample size

A sample is a smaller collection of units from a population used to determine truths about that population (Field, 2005). The reasons for sample are: resources (time, money) and workload and likewise, to give results with known accuracy that can be calculated mathematically.

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. Airasan (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 below.

Table 3.2 sample size of the study

Obafemi Awolowo University				University of Ibadan				University of Lagos			
Faculty	Dept	No	Sample Fraction 10%	Faculty	Dept.	No	Sample Fraction 10%	Faculty	Dept.	No	Sample Fraction 10%
Arts	Philosophy	333	33.3	Arts	Classics	101	10.1	Arts	European Languages	296	29.6
	Religion Studies	89	8.9		CLA	210	21.0		Philosophy	353	35.3
The Social Sciences	Social Statistics	417	41.7	The Social Sciences	Economics	288	28.8		Social Sciences	Economics	523
	Economics	690	69.0		Geography	193	19.3	Mass Communication		458	45.8
Technology	Mechanical Engineering	391	39.1	Technology	Agricultural and Environmental Engineering	218	21.8	Engineering	Chemical engineering	354	35.4
	Computer Science & Engineering	635	63.5		Electrical and Electronics	208	20.8		Systems engineering	195	19.5

				Engineering						
Total			255.5			121.8				217.9

$$n_1+n_2+n_3=n$$

$$255.5+121.8+217.9=595.2$$

3.5 Data collection instrument

The data collection instrument used for the conduct of this study is 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 of 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 were about 37 questions in this section which contain questions about their digital skill level. The responses were Likert measuring instrument in four categories: very confident, quite confident, confident and not confident was used to garner their opinion.

3.6 Validity and Reliability of data collection instrument

Validity is the measurement describing to what extent an instrument examines what it is supposed to examine (Krale, 1997). To ensure the face validity of the research instrument, the questionnaire was submitted to a psychologist who read through, corrected and determined its appropriateness. The corrections and editing gave room for necessary amendment in the questionnaire prior to pre-test administration. Then 30 copies of the questionnaire were distributed to target audience who were not part of the study, afterwards, reliability test was done. Cronbach's alpha was used to determine the reliability of the scale in the questionnaire which gave: 0.853 for Digital Library Skills.

Data collection procedure

The researchers personally administered the questionnaire to ensure accuracy and transparency in distribution and that the target population actually filled the questionnaire. Likewise, the duration of the distribution of the questionnaire was ten working days because of the geographical distance among the universities and the largeness of the population.

Methods of data analysis

The analysis of data was done using the Statistical Package for the Social Sciences (SPSS) for the descriptive statistics of frequency count, percentage, mean and standard deviation.

DATA ANALYSIS AND INTERPRETATION

Introduction

This study examined the digital literacy skills of Undergraduate students in Nigeria Universities. This section presents the results of findings, data analysis and interpretations of the study. The results are discussed in various aspects using the research questions in interpreting the data of each variable in accordance with the responses gathered by the researchers. The data were analyzed using frequency count, percentage, mean and standard deviation. A total of five hundred and ninety five (595) copies of questionnaire were distributed but five hundred and twenty five (525) 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 4.1, 4.2, 4.3, 4.4 and 4.5 respectively.

Table 1 below shows the demographic distribution of the respondent in frequency and percentage. By institution: Obafemi Awolowo University has the highest number of respondents 224(42.7%), followed by University of Lagos 189(36%) and the least were respondents from University of Ibadan 112(21.3%). The next segment of the table below shows the frequency and percentage distribution of faculty of respondents. The faculty of social sciences has the highest with 231(44%) of respondents, followed by faculty Technology with 156(29.7%), while faculty of Arts has the least with 138(26.3%) of respondents. Next is the distribution of respondents by sex. Male constituted majority of the respondent 266(50.7) but with insignificant difference with the female 259(49.3).then, the next segment reveals distribution of age range of the respondents. Student of “16-20” were the highest respondents 237(45.1%), followed by age “21-25” of 214(40.8%) and the least age were 26-30 of 74(14.1%). People in this age brackets are referred to as net generations. The last segment of the table 4.1 below reveals the level of study of the respondents. Majority of the residents were 300level students 157(29.9%), followed by 400level

with 116(22.1%). 200level and 100level had close respondents with 115(21.9%) and 113(21.5%) respectively, 600level had 18(3.4%), the least level is 500 with 6(1.1%).

Table 1 Distribution of demographic information of the respondents

S/No	Name	Frequency	Percentage
1	Obafemi Awolowo	224	42.7
2	University of Ibadan	112	21.3
3	University of Lagos	189	36.0
	Total	525	100.0
S/No	Faculty	Frequency	Percentage
1	Arts	138	26.3
2	Social Sciences	231	44.0
3	Technology	156	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, 2016

Research question one: what are the information literacy skills that undergraduate students needed to exploit electronic database resources?

Table 2 revealed the level of Information literacy skills of undergraduate students in southwest, Nigeria. The ability to recognize a need for information resources rated high with (mean $X=3.23$, $SD=0.760$), 209(39.8%) of the undergraduate students were very confident,

243(46.3%) were quite confident, and 57(10.9%) were confident but 16(3.0%) were not confident. Choosing the right tool to find information also rated high with (mean $X=3.22$ $SD=0.899$), 259(49.3%) of the students were very confident, 143(27.2%) were quite confident, 101(19.2%) of the students were confident while just 22(4.2%) were not confident. Mean of $X=3.15$ ($SD=0.866$) of the students has the ability to evaluate information obtained from different sources, 220(41.9%) were very confident, 186(35.4%) were quite confident, while 97(18.5%) were confident but 22(4.2%) were not confident. Keeping a record of the relevant details of information you find online has mean of ($X=3.14$, $SD=0.873$) with 211(40.2%) were very confident, 208(39.6%) were quite confident, then 75(14.5%) were confident but 31(5.9%) were not confident. Using online tools and websites to find information online has mean of ($X=3.13$, $SD=0.863$) with 208(39.6%) were very confident, 206(39.2%) were quite confident, 84(16%) were confident but 27(5.1%) were not confident. Ability to apply and communicate information and Using keywords commonly used in your discipline to search for information online have similar mean of ($X=3.12$) but standard deviation (SD) of ($SD=0.932$ and $SD=0.930$). Ability to locate information resources, choosing the right tool to use information and choosing the right tool to create information have the same mean of ($X=3.10$) but Standard deviation (SD) of ($SD=0.847$, $SD=0.948$, $SD=0.95$) respectively. Ability to construct strategies for locating information and communicating with others online have mean of ($X=3.08$) but standard deviation of ($SD=0.798$ and $SD=0.974$) respectively. Ability to distinguish potential information resources has mean of ($X=3.07$, $SD=0.773$). 163(31.0%) of the students were very confident, 251(47.8%) were quite confident, 97(18.5%) were confident, but 14(2.7%). Ability to distinguish potential information resources has mean value ($X=3.07$, $SD=0.773$), 163(31%) of the students were very confident, 251(47.8%) were quite confident, 97(18.5%) were confident but 14(2.7%) were not confident. Ability to organize information has mean value of ($X=3.06$, $SD=0.846$), 180(34.3%) were very confident, 217(41.3) of undergraduate were quite confident, 105(20.0%) were confident, but 23(4.4) were not confident. Using social networks as a source of information has mean value of ($X=3.03$, $SD=1.000$), 215(41.0%) were very confident, 166(31.6%) were quite confident, 89(17.0%) were confident but 55(10.5%) were not confident. Knowing when to change your search strategy or stop searching and Knowing what information you can find on the web have mean value of ($X=3.02$) but $SD=0.879$ and 0.988 respectively. Scanning /

skimming a web page to get to the key relevant information quickly has mean value of ($\bar{X}=3.01$, $SD=.938$)

Table 2 Distribution of Confident Level of Information Literacy Skills of Undergraduate Students

Key: Very confident (VC), Quite Confident(QC), Confident(C), Not Confident(NC)

S/No	Item	VC		QC		C		NC		Mean	SD
		f	%	f	%	f	%	f	%	X	SD
A	Information literacy										
1	Ability to recognize a need for information resources	209	39.8	243	46.3	57	10.9	16	3.0	3.23	.760
2	Ability to distinguish potential information resources	163	31.0	251	47.8	97	18.5	14	2.7	3.07	.773
3	Ability to construct strategies for locating information	180	34.3	215	41.0	121	23.0	9	1.7	3.08	.798
4	Ability to evaluate information obtained from different sources	220	41.9	186	35.4	97	18.5	22	4.2	3.15	.866
5	Ability to locate information resources	201	38.3	192	36.6	116	22.1	16	3.0	3.10	.847
6	Ability to organize information	180	34.3	217	41.3	105	20.0	23	4.4	3.06	.846
7	Ability to access information resources	143	27.2	256	48.8	112	21.3	14	2.7	3.01	.770
8	Ability to apply and communicate information	234	44.6	147	28.0	116	22.1	28	5.3	3.12	.932
9	Ability to synthesize and build on existing information	147	28.0	216	41.1	125	23.8	37	7.0	2.90	.890
10	Knowing what categories of users you can expect to find online	111	21.1	203	38.7	169	32.2	42	8.0	2.73	.884
11	Explaining what happens to information you put online: your digital footprint	108	20.6	203	38.7	147	28.0	67	12.8	2.67	.943
12	Presenting yourself online: your digital identity	146	27.8	197	37.5	128	24.4	54	10.3	2.83	.952
13	Finding a person online, for example an expert in your discipline, and establishing their contact details	171	32.6	171	32.6	130	24.8	53	10.1	2.88	.982
14	Establishing who owns information and ideas you find online	117	22.3	220	41.9	148	28.2	40	7.6	2.79	.875
15	Using other people's work (found online) without committing plagiarism	132	25.1	165	31.4	123	23.4	105	20.0	2.62	1.068
16	Citing a reference to an online resource (e.g. in an assignment) using the correct format	172	32.8	194	37.0	103	19.6	56	10.7	2.92	.972
17	Keeping a record of the relevant details of information you find online	211	40.2	208	39.6	75	14.3	31	5.9	3.14	.873
18	Establishing what online information you can legally re-use	165	31.4	201	38.3	114	21.7	45	8.6	2.93	.933

19	Knowing what information you can find on the web	172	32.8	225	42.9	93	17.7	35	6.7	3.02	.879
20	Knowing what information you can find in an online Library	184	35.0	152	29.0	138	26.3	51	9.7	2.89	.996
21	Using keywords commonly used in your discipline to search for information online	226	43.0	172	32.8	91	17.3	36	6.9	3.12	.930
22	Using social networks as a source of information	215	41.0	166	31.6	89	17.0	55	10.5	3.03	1.000
23	Knowing when to change your search strategy or stop searching	215	41.0	151	28.8	113	21.5	46	8.8	3.02	.988
24	Filtering large numbers of search results quickly	171	32.6	157	29.9	141	26.9	56	10.7	2.84	.999
25	Sharing files legally with others	159	30.3	229	43.6	87	16.6	50	9.5	2.95	.921
26	Scanning / skimming a web page to get to the key relevant information quickly	191	36.4	190	36.2	102	19.4	42	8.0	3.01	.938

Source: field surveyed, 2016

Research question two: what are the ICT literacy skills that undergraduate students needed to browse internet resources?

Table 3 revealed the level of ICT literacy skills of undergraduate students in southwest, Nigeria. It revealed that using online tools and websites to record information online has mean value of ($X=3.00$, $SD=0.950$), while 192(36.6%) students were very confident, 187 (35.6%) were quite confident, 101(19.2%) were confident but 45(8.6%). Keeping up-to-date with information from organisations by subscribing to E-Mail alerts and using advanced search options to refine your search have same mean value of ($X=2.97$) but $SD=0.976$ and $SD=1.000$ respectively. Sharing files legally with others and Using information in different media, for example, tablets, iPod, camera or videos have similar mean value of ($X=2.95$), but were $SD=0.921$ and $SD=0.986$ respectively. Establishing what online information you can legally re-use has mean value of ($X=2.93$, $SD=0.933$), Citing a reference to an online resource (e.g. in an assignment) using the correct format has mean value of ($X=2.92$, $SD=0.972$). Ability to synthesize and build on existing information has mean value of ($X=2.90$, $SD=0.890$). Knowing what information you can find in an online Library and using bookmarking to organise and share information have similar mean value of ($X=2.89$) but $SD=0.996$ and $SD=0.972$ respectively.

Table 3 Distribution of Confident Level of ICT Literacy Skills of Undergraduate Students

Key: Very confident (VC), Quite Confident(QC), Confident(C), Not Confident(NC)

B	ICT Literacy										
27	Assessing whether an online resource (e.g. web page, blog, wiki, video, podcast, academic journal article) or person is credible and trustworthy	135	25.7	187	35.6	102	19.4	101	19.2	2.68	1.058
28	Writing online on a web page for private use	139	26.5	152	29.0	129	24.6	105	20.0	2.62	1.081
29	Writing online for blog entry for reading by your fellow students	148	28.2	156	29.7	126	24.0	95	18.1	2.68	1.070
30	Writing online for a web page for reading by your tutor	132	25.1	184	35.0	104	19.8	105	20.0	2.65	1.064
31	Writing online for a web page for reading by anyone in the world	119	22.7	174	33.1	149	28.4	83	15.8	2.63	1.003
32	Writing in different media for people to read on-screen	143	27.2	173	33.0	110	21.0	99	18.9	2.69	1.068
33	Communicating with others online	228	43.4	156	29.7	97	18.5	44	8.4	3.08	.974
34	Keeping up-to-date with information from organisations by subscribing to E-Mail alerts	185	35.2	193	36.8	91	17.3	56	10.7	2.97	.976
35	Using advanced search options to refine your search	198	37.7	169	32.2	102	19.4	56	10.7	2.97	1.000
36	Using advanced search options to limit your search	135	25.7	170	32.4	128	24.4	92	17.5	2.66	1.044
37	Adding comments to blogs, forums or web pages, observing netiquette and appropriate social conventions for online communications	170	32.4	185	35.2	118	22.5	52	9.9	2.90	.968
38	Using bookmarking to organise and share information	170	32.4	176	33.5	128	24.4	51	9.7	2.89	.972

Source: field surveyed, 2016

Research question three: examine the Media skills that undergraduate students needed to surf on-line resources Nigeria?

Table 4 revealed the level of Information literacy skills of undergraduate students in southwest, Nigeria. Finding a person online, for example an expert in your discipline, and establishing their contact details has mean value of (X=2.88, SD=0.982). Filtering large numbers of search results quickly has mean value of (X=2.84, SD=.960). Using media-capture devices, e.g. recording on video and Working with others online to create a shared document or presentation have the same mean value of (X=2.83) but SD=0.952 and SD=1.056. Knowing what categories of users you can expect to find online has mean value of (X=2.73, SD=0.884).

Establishing who owns information and ideas you find online has mean value of ($X=2.79$, $SD=0.875$). Writing in different media for people to read on-screen has mean value of ($X=2.69$, $SD=1.068$). Writing online for blog entry for reading by your fellow students has mean value of ($X=2.68$, $SD=1.070$). Explaining what happens to information you put online: your digital footprint has mean value of ($X=2.67$, $SD=0.943$). Using advanced search options to limit your search has mean value of ($X=2.66$, $SD=1.044$). Writing online for a web page for reading by your tutor has mean value of ($X=2.65$, $SD=1.064$). Writing online for a web page for reading by anyone in the world has mean value of ($X= 2.63$, $SD=1.003$). Using other people’s work (found online) without committing plagiarism and Writing online on a web page for private use have similar mean value of ($X=2.62$) but $SD=1.068$ and $SD=1.081$ respectively.

Table 4 Distribution of Confident Level of Media Literacy Skills of Undergraduate Students

Key: Very confident (VC), Quite Confident(QC), Confident(C), Not Confident(NC)

C	Media Literacy										
39	Using information in different media, for example, tablets, iPod, camera or videos	200	38.1	140	26.7	143	27.2	42	8.0	2.95	.986
40	Choosing the right tool to find information	259	49.3	143	27.2	101	19.2	22	4.2	3.22	.899
41	Choosing the right tool to use information	226	43.0	163	31.0	98	18.7	38	7.2	3.10	.948
42	Choosing the right tool to create information	224	42.7	170	32.4	88	16.8	43	8.2	3.10	.956
43	Using online tools and websites to find information online	208	39.6	206	39.2	84	16.0	27	5.1	3.13	.863
44	Using online tools and websites to record information online	192	36.6	187	35.6	101	19.2	45	8.6	3.00	.950
45	Working with others online to create a shared document or presentation	150	28.6	196	37.3	123	23.4	56	10.7	2.84	.960
46	Using media-capture devices, e.g. recording on video	174	33.1	168	32.0	102	19.4	81	15.4	2.83	1.056

Source: field surveyed, 2016

4.4 Discussion of findings

Contrary to most findings on the level of digital literacy of students, the result of this study revealed high level of digital literacy skills among undergraduate students in southwest, Nigeria as the ability to recognize a need for information resources rated high with (mean $X=3.23$, $SD=0.760$), 209(39.8%) of the undergraduate students were very confident, 243(46.3%)

were quite confident, and 57(10.9%) were confident but 16(3.0%) were not confident. Choosing the right tool to find information also rated high with (mean $X=3.22$ $SD=0.899$), 259(49.3%) of the students were very confident, 143(27.2%) were quite confident, 101(19.2%) of the students were confident while just 22(4.2%) were not confident. Mean of $X=3.15$ ($SD=0.866$) of the students have the ability to evaluate information obtained from different sources, 220(41.9%) were very confident, 186(35.4%) were quite confident, while 97(18.5%) were confident but 22(4.2%) were not confident. This study does not support Liomark (2004) who observes that many undergraduate students in the university have been found to lack adequate information and communication skills that will enable them use computers in technologically rich environment. However, Gakibayo, Ikoja-Odongo and Okello-Obura (2013) in Uganda said it well when they opine that where IT resources were lacking and computer skills were low, less use was made of e-resources. Most academics and students surveyed were computer literate to some extent, but they needed to develop their searching skills.

SUMMARY, CONCLUSION AND RECOMMENDATION

This study investigated the digital literacy skills of undergraduate students of federal universities, south west, Nigeria. In order to achieve the objectives of the study, three research questions were formulated. The findings of the study are summarized below and discuss under the following sub-headings: summary, conclusion, recommendation.

Summary of the findings

1. Majority of the students admitted that they are confident on their level of information Literacy Skills and especially in the aspect of using other people's work (found online) without committing plagiarism;
2. The student indicated confident in their level of information and communication technology literacy skills and significantly when writing online on a web page for private use;
3. A high percentage of the respondents were confident on their level of media literacy skill when using media-capture devices, e.g. recording on video.

Conclusion

The geometrical progression in the preference of electronic information resources by undergraduate students enhances teaching, learning and research. It was clear from the study that undergraduate students in southwest, Nigeria have a high confident level of digital literacy skills due to access to information in electronic device. Therefore, lecturers and academia should cease this advantage to package their course materials and mode of presentation in electronic format in order to benefits from various returns that accompany the use of modern technology.

Recommendations

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

1. Lecturers should encourage students to engage in academic research using the available electronic information resources on the web without committing plagiarism.
2. Undergraduates ICT skills should be enhanced by encouraging them to open and operate on line Blog for public access.
3. Lecturers and other academic staff should use electronic media resources in delivery their lecture in order to challenge the confident level of undergraduates in using the media.

Suggestion for further study

This study can be conducted on postgraduate students and the scope of digital literacy skills can include: information literacy, media literacy, ICT literacy, learning literacy, digital identity, corroboration and scholarship skills.

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