WEB SEARCH SKILLS AND USE OF ONLINE INFORMATION RESOURCES BY LIBRARY AND INFORMATION SCIENCE UNDERGRADUATES OF A NIGERIAN UNIVERSITY OF EDUCATION

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Abstract

The study was designed to investigate web search skills and use of online information resources by library and information science undergraduates in a Nigerian university of education. Descriptive research design of survey type was adopted for the study while simple random sampling technique was used to select 181 undergraduates of TASUED. A questionnaire designed by the researcher was used for the collection of data. One hundred and eight one copies of the questionnaires were administered while 170 copies were returned and used for the analysis. The research questions were answered using descriptive statistics of frequency and percentages while the hypotheses were tested using pearson product moment correlation at 0.05 level of significance. The findings show that online information resources available for use by undergraduate students are electronics forum, wikipedia news, electronic journals, discussion group forum and Google scholar while the level of web search skills possessed by the undergraduates surveyed was found to be high. Findings from the study further revealed online information resources being used by the undergraduates are ONLINE dictionary of LIS, (ODLIS), directpry of open access repositories, Education Resources Information Centre, Google scholar, JSTOR, Library Information Science & Technology Abstract, Directory of Open Access Journals, Library and Information Science, online theses and dissertations, Science research news, electronic journals, discussion group forum, electronic forums and Online tutorials. Hindrances facing the undergraduates in using online information resources include limited access to Internet facility, time constraints, slow Internet speed, erratic power supply as well as insufficient skill to retrieve needed information. The findings also show that there is significant relationship between the web search skills and the use of online information resources by undergraduate. The study therefore recommends that the university management surveyed should provide uninterrupted power supply such as generators, solar to provide alternative power source while computer literacy programme should be organised among the undergraduates of Tai Solarin University of Education (TASUED), Ijagun Ogun State, Nigeria through orientation, seminars etc on the use of online information resource so as to also improve the level of web search skill.

Keywords: Web search skills, Online information resources, Library and information science undergraduates, Tai Solarin University of Education, Nigeria

Introduction

The emergence and advancement of information technology is the most significant factor affecting the scholarly communication. This technological advancement helps to obtain required information quickly and easily. In this technological era, the print

medium is gradually giving way to the electronic form of materials (Sharma, 2009). According to Islam and Rahman, 2014 the transition from print to electronic form of information resources is also providing users with various tools and application that enables users access and retrieve information needed with ease. Currently we live in the digital age in which new information emanates and made public on daily basis or even every seconds and can be accessed by any information seeker on the internet easily. This online information can be useful, and it is important to make teaching and developing learning materials available at all times (Stewart, Stott, and Nuttall, 2011). Encompassing a wide range of information on the internet, including web pages, articles, data, videos, and documents, online information is frequently and widely used in higher education (Lee, Paik, and Joo, 2012). An instructor can also make use of electronic or online information source as an additional materials or to complement the classroom work or use it as an assignment, group or project work, research paper etc. to assist or as supplementary to what the instructor gave in the classroom and to also help the student understand better the concept .

According to Okiki (2013) online information resources refer to print and electronic materials that could be sourced and accessed manually or electronically by users. Specifically, online information resources include materials such as books, journal artiles, theses; dissertations, technical report and all related materials in electronic format that are accessed through the use of Information and Communication Technology (ICT) tools and other related electronic gadgets which stores or provide information worldwide without any geographical barrier. They resources consists of information resources provided in electronic formats such as internet, CDROM databases, e-books e-journals, online database, online public access catalogues, and other computer –based electronic networks (Bitagi and Garba, 2014). They are also described as electronic representation of information which are accessed through World Wide Web, electronic system and the use of computer network such as e-journals, e-books, e-databases, and online search engines; however, it comes under the broader term of electronic resources. (IFLA, 2012). Online information resources are vital research tools that supplement the print-based resources and are becoming more and more important for the academic community, nowadays (Egberongbe, 2011).

Sukula (2010) submit that various types of online information resources used in universities libraries are: online database; e-journal; e-books, e-news; e-image; e-music and sound collection; data/GIS; academic commons; e-reference and subject guides. Online information resources provide access to information that might be restricted to the user because of geographical location and distance (Sabouri, et al 2010). Amori (2003) opines that online information resources such as e-journal, e-book, online databases and web-based resources when effectively utilized constitute an important input in the information services in libraries. They help in providing relevant information required by librarians, which if properly utilized can help in improving research productivity. To make effective use of online information resources, undergraduate students need to have certain skills in which web search skills is one of them

Web search skills have developed into a widely used services and essential tool for finding web based information. Not only have the number of web users who employ search skills for web information seeking increased (Morrissey, 2013), the use of search engines has been found to predominate over all other types of electronic Information retrieval on the cyberspace (Griffiths and Brothy 2013). The ability to search the web and find relevant sources is an essential skill for everyone in the 21st Century. As web content increases, the amount of available information is multiplying exponentially.

Web search skills is a process by which an individual's engage in information retrieval system based website that helps users to retrieve any information from huge internet database and it is a kind of tool that crawls on the web according to user direction and it records everywhere it has been and everything user look for (Capra and Quinones, 2009). Web search skills are skills required for manipulating the internet searching application.

However, it has been observed that despite the massive investment on the procurement and availability of online and electronic resources, its level of utilization is abysmally low. Could this level of use be as a result of their level of skills for searching online or any other.   It is in line with the above that this study tends to investigate the Web Search Skills and the Use of online information resources by Undergraduate of Library and Information Science.

Research Questions
The following questions were raised to guide the study;
i.   What are the types of online information resources available for use by Library and Information Science undergraduates in TASUED, Ijagun, Ogun State   Nigeria?
ii. What is level of web search skills possessed by Library and Information Science undergraduates in TASUED, Ijagun, Ogun State Nigeria?
iii. What is the frequency of use of online information resources by Library and Information Science undergraduates   in TASUED, Ijagun, Ogun State, Nigeria?
iv. What the factors that hinders the use of online information resources by Library and Information Science undergraduates in TASUED, Ijagun, Ogun State Nigeria?

Hypothesis
The following hypothesis was tested in the study at $\alpha = 0.05$ level of significance:
1.   There is no significant relationship between web search skills and the use of online information resources by Library and Information Science undergraduates in TASUED, Ijagun, Ogun State.

Literature review

Web Search Skills of Undergraduates
Web search skills is a process by which an individual's engage in information retrieval system based website that helps users to retrieve any information from huge internet database and it is a kind of tool that crawls on the web according to user direction and it records everywhere it has been and everything user look for (Capra and Quinones,

2009). Web search skills are skills required for manipulating the internet searching application (Tsai and Tsai 2003). Tsai (2009) defined online searching and processing in an open-ended environment as a complex cognitive process involving multifaceted cognitive and meta-cognitive strategies.

In a study of 'Hanlon (2002) on the Internet skills of Fresh men of the Ohio State University. The result of her findings concluded that most of the students possesses a self-reported high skill levels, the self-report and real test scores were not correlated with each other. Further the rate of responses varied by race, class, gender, and educational background. Monoi, O'Hanlon and Diaz (2005) by use of a 12-question list about online search skills found that the scores related to the use of Boolean operators, proximity skill, determining the advantage of browsing over searching, and the use of subject terms suggested by the database increased by at least 2.5 points after training. Mehrad and Rahimi (2009) conducted a study on online search skills of Shiraz University Post Graduate Students: A Survey. One of the objectives of the study was to evaluate the online search skills amongst post graduate students of University of Shiraz. The study revealed that more than 86% of the participants have considered this rate to be high and very high, and only less than 14% have declared that the contribution of these skills on facilitating information retrieval is very low or low.

Nikolopoulou and Gialamas (2011) conducted a study on undergraduate students' information search practices. The results showed that the Web was the primary information system searched in order to find information for university assignments, while the level of database searching was very low. In particular, the search engine Google was used very frequently either for university assignments or for personal purposes. Regarding students' practices in evaluating Web- based information, the top criteria reported were 'relevance of information' and 'easy to understand'. Students' self- efficacy concerning Web- searching was found to be high and positively related to the variables 'frequency of Web use' and 'years of internet use. Omekwu, Eke and Agbo (2014) conducted a study on Internet Search Strategies Employed by Library and Information Science Students of University of Nigeria, For Research. The study revealed that most of the students were using the Internet to search for materials for writing term papers, projects and other assignments in other to enhance their academic work. The study equally revealed that, the Internet search strategies employed by the students includes: use of search engines, sourcing information from the university library database and key word searching. Frequent power outage, slow Internet connections, and lack of training in basic Internet skills were found to be the major problems encountered by LIS students while using the Internet for research. Following these major findings, it was recommended that, stable power supply, and adequate training should be provided. Also, Internet services and Internet Bandwidth should be made available by the school administration.

Najmi, Mahmood and Rehman (2018) conducted a study on Online Information Searching Skills of Business Students. The study investigates the perceived level and sources of learning Online Information Searching (OIS) skills of the students of business studies. A cross-sectional survey research method was used to collect data on

a self-reporting questionnaire. Business students of undergraduate, graduate and postgraduate levels from 24 public and private sector universities of Lahore, Pakistan were selected through convenient sampling technique. the sample of this study was 470 students was used for the study. The study found a satisfactory level of students' searching skills.

Use of Online Information Resources by Undergraduates

Online information resources play vital roles in helping undergraduate in their quest to support their learning process at university level and to provide quality assistance in writing research. Shuling (2007), reveals that online information has gradually become a major resource in every university information needed by library and information science undergraduate for their final year research activities. An online information resource provides easier and wider access to information for undergraduate as it makes coordination and collaboration easier. Online information resources have many functions and benefits which can be of immense use to undergraduate in universities. According to Bamigboye, Owolabi and George (2011) high percentages of Library and Information science undergraduate and faculty members use e-journals and e-books for their studies, research work and teaching, although they still use a variety of online resources including prints collections. Citing Liew, Foo and Chennupati (2013) in another survey, they observed that undergraduate use online resources because of the ability to link additional information and search out current materials. According to Wijetunge (2015) undergraduate claim that resources like CD ROM databases and audio-visual materials have low priority but there is an increasing trend to use web search as an information source.

Namugera (2014) reported in a study carried out that the rate of online information usage of some library services was however rated low, yet usage of library and information services has a direct linkage to users about those services. Citing Roberts, (1995) she posited that the lack of web search skills was caused by poor communication and inadequate interaction between users and the library, coupled with the library's failure to apply strategies to promote its services. However, Amad and Panda (2013) studied that awareness among the users about the availability of online journals was found highly satisfactory in Nigerian institutions. Sejane (2017) indicated that from her findings that most undergraduate are computer literacy and they need to access the internet with knowledge and skills to make use of online information resources. Shukla and Mishra (2011) observed that research scholars prefer to use e-resources to print resources and that e-resource are used frequently on daily or weekly basis. Okiki and Asiru (2011) observed that postgraduate students use e-resources 'monthly' and 'occasionally.' Therefore; the adoption rate of e-resources is seemingly improving due to the level of awareness by users. Libraries need to provide more promotional activities to enhance the access and usage of e-resources. The research findings of Majid and Tan (2002) reported that students consider print resources in the library more useful for their study needs than electronic resources. Kumbar and Lohar (2005) revealed that majority of students use digital resources frequently. It could be deduced

that when users have the ability and enough knowledge on particular information resource, their access to such information resource increases. Therefore, the library needs to create more awareness and provide training of its resources so that the students will improve their use of the library resources and services.

Owolabi, Idowu, Okocha and Ogundare (2016) conducted a study on utilization of electronic information resources by undergraduate students of university of Ibadan: a case study of social sciences and education. The study reveals that internet, e-mail services, cybercafés, electronic databases and electronic journals were the electronic information resources available for use to the undergraduate students. The result also shows that the use of electronic information resources by undergraduate students in University of Ibadan is low. Inadequate power supply inadequate provision of key electronic information resources and facilities in the library were identified as the factors militating against the effective use of electronic information resources. Ugwu (2017) conducted a study on challenges of utilization of online information resources by undergraduate students: implications for information services. The study found out that lack of browsing skills, low internet bandwidth, insufficient ICT infrastructure, lack of motivation were the challenges faced by undergraduate students on the use of online information resources. Lavanya and Santharooban (2018) conducted a study on usage of online resources by the Undergraduates of the Faculty of Agriculture, Eastern University, Sri Lanka. The study revealed that barriers to access online resources are slow Internet connectivity, unavailability of time, lack of awareness and viruses and other malware pop-ups. The study also revealed that majority of the students spent two hours or less per day, on Internet. The study further revealed that the online resource majorly used include online search engines, followed by Wikipedia while the usage of online databases e-books, e-journals, and digitized theses and dissertations are considerably lowly utilized. In a related study of Okello-Obura and Ikoja-Odongo (2010), the study revealed that 63% of the respondents used Internet search engines, while only 13.5%, 11.6% and 7.5% and 5.6% used e-books, CD-ROM, e-journals and scholarly databases respectively. Okore, Asogwa and Okpala (2009) conducted another study on online resources and web research. The study revealed a significant relationship between online resources and web research. The study further revealed that using online resources requires some knowledge of web search to be able to effectively make use of the online resources.

Methodology
The research design used in this study is descriptive research design of survey type. The population of the study comprised of all the one hundred and eighty one (181) library and Information science undergraduate in TASUED, Ijagun, Ogun State. Total enumeration was used to cover all the library and information science undergraduates in TASUED, Ijagun, Ogun State Nigeria, because the population is not too large to be covered by the researchers. Therefore, a total of one hundred and eighty-one (181) undergraduate students was used for this study.

Data Analysis and Discussion of Findings
The results of analysed data and discussion were presented in this section. Table 1 presents the distribution of respondents across levels of study.

Table 1: Distribution of the response rate of the respondents

Department	Questionnaire Distributed	Questionnaire Retrieved	Percentage (%)
100Level	42	40	95.2
200Level	39	36	92.3
300Level	48	46	95.8
400 level	52	48	92.3
Total	181	170	93.9

Table 1 show that 170 (93.9%) questionnaires were completed and returned by the respondents, out of the 181 that were administered. Data analysis revealed that 40 (95.2%) were returned from 100 level, 36 (92.3%) from 200level, 46(95.8%) from 300level and 48(92.3%) from 400level. This indicates that 300level has the highest response rate.

Research Question 1: What are the online information resources available for use by library and information science undergraduate in TASUED, Ijagun, Ogun State Nigeria?

Table 2: Online Information Resources Available for Library and Information Science Undergraduates in TASUED Ijagun, Ogun State Nigeria

Online Information	Frequency	Percentages
Electronics forum	168	98.8%
Wikipedia	167	98.2%
Electronic journals	165	97.0%
Discussion group forum	164	96.4%
Google scholar	157	92.3%
Courseware's/Tutorials	154	90.5%
Directory of open access journals, library and Info science	153	90.0%
Database	153	90.0%
Online tutorials	148	87.0%
Science research news	143	84.1%
Library info science & tech Abstract (LISTA)	131	77.0%
Online dictionary of LIS (ODLIS)	121	71.1%
Online Theses and Dissertations	121	71.1%
Electronics conference	101	58.8%
Direct of open access reposition (OPENDOAR)	79	46.4%
JSTOR	73	42.9%
Education resources info center (ERIC)	58	34.1%

Table 2 shows that the online information resources available for the library and information science undergraduates in TASUED, Ijagun, Ogun State, Nigeria. The result revealed that online information resources that are mostly available to the respondents are Electronics forum 168(98.8%), Wikipedia news 167(98.2%), Electronic journals 165(97.0%), and discussion group forum164(96.4) while the online information resources that are less available to undergraduates are electronics conference 101(58.8%0, Directory of open access repositories (OPENDOAR), 79(46.4%), JSTOR 73(42.9%) and Education resources info center (ERIC) 58(34.1%). This implies that electronic forum, Wikipedia news, electronic journals and discussion forums are the most commonly available electronic information resources for library and information science students in TASUED, Ijagun Ogun State Nigeria.

Research Question 2: What is level of web search skills possessed library and information Science undergraduates in TASUED, Ijagun, Ogun State, Nigeria?

Table 3: Level of Web Search Skills Possessed by Undergraduates

Web Search Skills	VH	H	L	VL	Mean	SD
Ability to use online information on the WWW	67 (40.1%)	89 (53.2%)	6 (3.5%)	5 (2.9%)	3.94	1.21
Ability to copy and paste information from online to my document on the computer	65 (38.9%)	76 (45.5%)	15 (8.9%)	11 (6.5%)	3.64	1.08
Ability to combine two terms to retrieve information	59 (35.3%)	89 (53.2%)	15 (8.9%)	14 (8.3%)	3.42	0.68
Ability to use keywords to search for the information on internet	71 (42.5%)	79 (47.3%)	11 (6.5%)	16 (9.5%)	3.36	1.06
Ability to navigate from one page to another web page	67 (40.1%)	87 (52.0%)	7 (4.1%)	6 (3.5%)	3.36	1.10
Ability select articles with ease	63 (37.7%)	78 (46.7%)	14 (8.3%)	12 (7.1%)	3.36	1.06
Ability to use shelf search for electronic catalogue (OPAC) search	64 (38.3%)	84 (50.2%)	13 (7.7%)	6 (3.5%)	3.27	1.15
Ability to use truncation search techniques	58 (34.7%)	75 (44.9%)	19 (11.3%)	15 (8.9%)	3.12	0.68
Ability to identify quickie and secure file download from online databases	64 (38.3%)	81 (48.5%)	11 (6.5%)	11 (6.5%)	3.12	0.54
Capability to use truncation search techniques to retrieve information	67 (40.1%)	76 (45.5%)	11 (6.5%)	13 (7.7%)	3.03	1.41
Ability to summarize materials in my own words	65 (38.9%)	79 (47.3%)	15 (8.9%)	8 (4.7%)	3.02	0.62
Ability to download an store retrieval information	59 (35.3%)	82 (49.1%)	13 (7.7%)	13 (7.7%)	3.00	0.90
Ability to download files from online databases	67 (40.1%)	76 (45.5%)	13 (7.7%)	11 (6.5%)	2.94	1.04
Ability to access online databases with ease	65 (38.9%)	83 (49.7%)	7 (4.9%)	12 (7.1%)	2.92	0.96
Ability to online reference sources to search for right materials	73 (43.7%)	67 (40.1%)	12 (7.1%)	15 (8.9%)	2.90	0.30
Ability to send and open attachment from an email, using a common email address	67 (40.1%)	81 (48.5%)	9 (5.3%)	10 (5.9%)	2.88	0.23

Ability to use of Boolean operators (OR, AND, NOT).	57 (34.1%)	82 (49.1%)	15 (8.9%)	13 (7.7%)	2.87	0.10
Ability to combine two terms to retrieve online information resources	56 (33.5%)	78 (46.7%)	17 (10.1%)	16 (9.5%)	2.72	1.36
Ability to use truncation search techniques ($, *, +) to retrieve information	73 (43.7%)	67 (40.1%)	15 (8.9%)	12 (7.1%)	2.56	0.98
Ability to use title search for electronic catalogue (OPAC) search	56 (33.5%)	78 (46.7%)	20 (11.9%)	13 (7.7%)	2.55	1.11
Ability to use author search for electronic catalogue (OPAC) search.	59 (35.3%)	79 (47.3%)	14 (8.3%)	15 (8.9%)	2.51	0.87
Grand mean					3.94	1.21

Decision: It has been adjudged that means score of 2.5 and above is significant.
Key: VL=Very High; H=High; L= Low; VL=Very Low

Table 3 shows that the grand mean of 3.94 is greater than the accepted mean of 2.50 indicating that all the items in table 3 have been accepted by the respondents as the level of web search skills possessed by them. The results show a mean and standard deviation score of (χ = 3.94; SD = 1.21) for ability to use online information on the WWW, (χ = 3.64; SD = 1.08) for ability to copy and paste information from online to document on the computer, (χ = 3.42; SD = 0.68) ability to confidently combine two terms to retrieve information. Furthermore, the results showed a mean score (χ = 3.36; SD = 1.06), (χ = 3.36; SD = 1.06), (χ = 3.36; SD = 1.06), (χ = 3.36; SD = 1.06) and (χ = 3.27; SD = 1.15) for respondents ability to use keywords to search for the information on internet, ability to navigate from one page to another web page, ability to select articles with ease, ability to use shelf search for electronic catalogue (OPAC) search respectively.

Overall, the implication to be drawn from the results is that library and information science undergraduates in TASUED possessed high level of web search skills.

Research Question 3: What is the frequency of use of online information resources by library and information science undergraduates in TASUED, Ijagun, Ogun State, Nigeria?

Table 4: Frequency of use of online information resources by library and information science undergraduates in TASUED, Ijagun Ogun State, Nigeria.

Frequency	Always	Often	Rarely	Never
Directory of open access journals, library and Info science	153(90.0%)	11(6.4%)	-	-
Google scholar	152(89.5%)	12(7.0%)	-	-
Science research news	152(89.4%)	14(8.2%)	-	-
Electronics forum	151(88.8%)	9(5.2%)	-	-
Online tutorials	143(84.1%)	21(12.3%)	-	-
Direct of open access reposition (OPENDOAR)	137(80.5%)	22(12.9%)	-	-
Online Theses and Dissertations	132(77.6%)	21(12.3%)	-	-
Online dictionary of LIS (ODLIS)	126(74.1%)	38(22.3%)	-	-
Discussion group forum	123(72.3%)	44(25.8%)	-	-
Education resources Info. center (ERIC)	121(71.1%)	36(21.1%)	-	-
Electronic journals	97(57.1%)	53(31.1%)	-	-
JSTOR	89(52.3%)	53(31.1%)	-	-
Database	48(28.2%)	63(37.0%)	38(22.3%)	-
Library info science & tech Abstract (LISTA)	67(39.4%)	10(5.8%)	58(34.1%)	-
Electronics conference	64(39.6%)	98(57.9%)	-	-
Courseware's/Tutorials	34(20.0%)	89(52.3%)	-	-

Table 4 shows that online information resources that are always used by library and information science undergraduate are ONLINE dictionary of LIS(ODLIS) 126(74.1%), followed by Directory of Open Access Repository 137(80.5%), Education Resources Information Centre 121(71.1%), Google scholar152(89.5%) and JSTOR 89(52.3%) and Library info science & tech abstract 67(39.4%). Also, Directory of Open Access Journals, Library and Information Science 153(90.0%), online theses and dissertations 132(77.6%),Science research news 152(89.4%), electronic journals 97(57.1%), discussion group forum 123(72.3%), electronic forums 151(88.8%) and Online tutorials 143(84.1%) are part of the electronic information resources that are always used by the respondents. On the other hand, electronic conference 98(57.9%) Database 63(37.0%), and , courseware's/Tutorials 89(52.3%).are used by the library and information science undergraduates.

Research Question 4: What are the factors that hinders the use of online information resources by library and information science undergraduates in TASUED, Ijagun Ogun State Nigeria?

Table 5: Factors that hinders the use of online information resources by the library and information science undergraduates

S/N	Hindrance	Yes (%)	No (%)
1	Limited access to internet access point	153(90.0%)	12 (7.05%)
2	Poor network from services provider	153(90.0%)	11(6.47%)
3	Lack of time	145(85.2%)	13(7.6%)
4	Lack of ICT skills	141(82.9%)	11(6.4%)
5	Downloading of PDF files takes time	137(80.5%)	15(8.8%)
6	Slow internet speed	134(78.8%)	21(12.3%)
7	High costs of accessing electronic resources	134(78.8%)	22(12.9%)
8	Some full texts require subscription or payment	132(77.6%)	22(12.9%)
9	The use of e-resources distracts one from doing other works	129(75.8%)	13(7.6%)
10	Internet service fluctuation	129(75.8%)	23(13.5%)
11	Frequent breakdown of the system	163(75.8%)	2(1.1%)
12	Time consuming and waste a lot of time	121(71.1%)	23 (13.5%)
13	Erratic power supply	110(64.7%)	32(18.8%)
14	Insufficient skill to retrieve needed information	102(60.0%)	34(20.0%)
15	Unaware of where to locate needed information	99(58.2%)	24(14.1%)
16	Non availability of resources relevant to my research work	98(57.6%)	23(13.5%)
17	Difficulty in finding relevant information	88(51.7%)	24(14.1%)
18	Information overload	87(51.1%)	11(6.4%)
19	Poor information literacy skill	86(80.5%)	25(14.7%)
20	Social factors	79(46.5.8%)	34(20.0%)

Table 5 shows the result of factors that hinders the library and information science undergraduates surveyed from the use of online information resources. The result revealed frequent breakdown of the system, limited access to internet access point, poor network from service provider, lack of time and lack of ICT skills with response rates 163 (75.8%), 153(90.0%), 145 (85.2%) and 141 (82.9%) as topping the list of factors that hinders the use of online information resources by undergraduates surveyed. Other factors hindering the use of online information resources include downloading of PDF files takes time 137 (80.5%), slow internet speed 134(78.8%), high cost of accessing electronic resources 134(78.8%) and some full texts require subscription or payment respectively. The implication to be drawn from this result is that frequent breakdown of the system, limited access to internet access point, poor network from services provider, lack of time, lack of ICT skills with response rates, downloading of PDF files takes time, slow internet speed, high cost of accessing electronic resources respectively are major factors that hinders library and information science undergraduates in TASUED, Ijagun, Ogun State, Nigeria.

Hypothesis

1.   There is no significant relationship between Web Search Skills and the Use of online Information Resources by library and information science undergraduates of TASUED, Ijagun Ogun State

Table 6: Relationship between Web Search Skills and the Use of online Information Resources by library and information science undergraduates of TASUED, Ijagun Ogun State

		Web search skills	Research activities
Web search skills	Pearson Correlation	1	.786**
	Sig. (2-tailed)		.000
	N	170	170
Research Activities	Pearson Correlation	.786**	1
	Sig. (2-tailed)	.000	
	N	170	170
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 6 shows the correlation coefficient for the relationship between Web Search Skills and the use of online Information resources by library and information science undergraduate. of TASUED Ijagun. The Result reveal that there is a significant positive relationship (r = 0.786) between web search skills and use of online information resources by library and information science undergraduates in TASUED Ijagun Ogun State. The finding shows that, there is significant relationship between web search skills and the use of online Information resources for research activities by undergraduate. This finding is line with the finding of Olofinsawe and Oyeniyi, (2010), the growth in ICT is changing people attitude towards the adoption of more current information resources to meet their information need. University libraries need to have strong collection development of information resources in print and non-print format to meet knowledge requirements of both local and remote users of libraries This suggests that since the university library's aim is to assist the parent university to achieve its objectives; its collection development policy should be able to support the teaching, learning and research programme of the university. The academic library has a duty to ensure that adequate information resources are provided to help postgraduate students to conduct and facilitate their research work. Therefore, this would also encourage users to have positive attitude towards the use of libraries resources

Discussion of the Findings

The finding shows that the online information resources that are mostly available to the undergraduates are Electronics forum, Wikipedia news, Electronic journals, while the online information resources that are less available to undergraduates are Electronics conference, Direct of open access reposition (OPENDOAR). This was supported by Bamigboye, Owolabi and George (2011) whose results shows that high percentages of

Library and Information science undergraduate and faculty members use e-journals and e-books for their studies, research work and teaching, although they still use a variety of online resources including prints collections. The result was also corroborated by Owolabi, Idowu, Okocha and Ogundare (2016), their study reveals that internet, e-mail services, cybercafés, electronic databases and electronic journals were the electronic information resources available for use to the undergraduate student

The finding shows that the level of web search skills possessed by library and information science undergraduate of Tai Solarin University of Education is high. The result of the study was supported by Najmi, Mahmood and Rehman (2018), they found a satisfactory level of students' searching skills. In contrast Nikolopoulou and Gialamas (2011) revealed that the level of database searching was very low. The finding shows that the most frequently utilized online resources by undergraduate of Tai Solarin University of Education are Electronics forum, Online tutorials and Directory of open access journals, library and Info science. This result is supported by Shukla and Mishra (2011), they observed that research scholars prefer to use e-resources to print resources and that e-resource are used frequently on daily or weekly basis. Also, Kumbar and Lohar (2005) revealed that majority of students use digital resources frequently.

Finally, findings shows the various factors hinders the use of online information resources for research activities by Undergraduate are limited access to internet access point, time consuming and waste a lot of time, slow internet speed, erratic power supply, insufficient skill to retrieve needed information, non-availability of resources relevant to my research work, Poor network from services provider, High costs of accessing electronic resources and Frequent breakdown of the system. The result is supported by Owolabi, Idowu, Okocha and Ogundare (2016), their study shows that inadequate power supply, inadequate provision of key electronic information resources and facilities in the library were part of the factors militating against the effective use of electronic information resources. Ugwu (2017) also supported the findings of this study, they found out that lack of browsing skills, low internet bandwidth, insufficient ICT infrastructure, lack of motivation were the challenges faced by undergraduate students on the use of online information resources.

Conclusion
The study was designed to investigate Web Search Skills and the Use of online Information Resources by undergraduate students of Library and Information Science in Tai Solarin University of Education. It was observed that web search skills influences undergraduate use of online information resources.

Recommendations
Based on the study, the following recommendations were made;
1. The university management should provide uninterrupted power supply such as generators, solar/inverter system etc.

2. Computer literacy programme should be organized among undergraduates of TASUED through, orientation, seminars programme, workshops and training sessions for the sensitization on the use of student's online information resource so as to also improve the level of web search skill and the knowledge of vibrant and useful information from the internet.

3. The university management should recruit an IT personnel in the library to help manage the internet and network facilities in the library so as to encourage undergraduate to visit library and use the online resources for research activities.

4. Research workshops, symposia, conferences and seminars should be organized by the departments, library and the university management to inspire, sensitize and inform the undergraduates on the need to always access the various online information resources for genuine research activities.

5. Provision and improvement of ICT facilities should be made by the institution and the library management to curb the hindrances to online information resources accessibilities by undergraduate through improved budgetary allocation to the library by the management .

References

Amad, M. S. & Panda, L. O. (2013). Utilization of Information Resources and Services of the Master School of Management Library: A Study Available at: https://www.researchgate.net/publication/

Amori, M. O (2003). Information resources and services of national science library India, New Delhi: A user study. *International Journal of Library and Information Science* . 1(2) 017-021.

Bamigboye, O.B., Owolabi, K.A. & George, A.E. (2011). Use of electronic resources by staff and students of University of Agriculture, Abeokuta, Nigeria. *Tin-City Journal of Library, Archival and Information Science*. 2 (1). 14-19

Bitagi, K. D. & Garba, S. U. (2014). Access to and use of electronic information resources in the academic libraries of the lesotho library consortium . Philosophy in the Information Studies Programme, School of Social Sciences, College of Humanities, University of KwaZulu-Natal, Pietermaritzburg, South Africa.

Capra, N. R. & Quinones, S. T. (2009). The use of cybercafé at Delta State University. Abraka, Nigeria. *Library Hi Tech,* 22 (4), 383-388.

Egberongbe, H.S. (2011) The use and impact of electronic resources at the University of Lagos, *Library Philosophy and Practice* [online]*,* 2011(December). URL: http://unllib.unl.edu/LPP/egberongbe.htm [accessed 24.2.15].

Eke, H. N., Omekwu, C. O. & Agbo, J. (2014). Internet search strategies employed by library and information science students of University of Nigeria, Nsukka. *Library Philosophy and Practice* (e-journal).Paper 1194.http://digitalcommons. unl.edu/libphilprac/1194

Griffiths, E. I. & Brothy, N. D. (2013). More than computers: Information technology in library and information science education. Ibadan: NALISE, 50-59.

Islam, T., Rahman, S., Malib, S., Uddin, K., & Bashir, G. (2014). Design and Implementation of Web Based Collaborative Learning Model for ICT Course of

College Student [sic] in Bangladesh. International Journal of Computer Science and Mobile Computing, 3, 393-400. www.ijcsmc.com

Kumbar & Lohar (2005). Needle in a hyperstack: Searching for information on the World Wide Web. *Journal of Research on Technology in Education*, 34, 475-486.

Lavanya L & Santharooban. S (2018) Usage of Online Resources by the Undergraduates Attached to the Faculty of Agriculture, Eastern University, Sri Lanka. Journal of the University Librarians Association of Sri Lanka 21(2):89

Lee, P. J. (2012) Information resource selection of undergraduate students in academic search tasks. *Information Research 17(1)*

Liew, D. L. & Chennupati, B. I. (2013). Awareness and use of electronic information resources by the faculty members of Indian institutes in Dubai International Academic city (DIAC): A survey. *International Research, Journal of Computer Science and Information Systems* (IRJCSCIS) Vol. 2 No 1 pp.8-17.

Majid, A. T. & Tan, L. G. (2002). 'Uses and perceptions of the World Wide Web in an information-seeking environments' *Journal of Library and Information Science* Vol. 32. No 3 pp.104-116.

Mehrad and Rahimi (2009) Online Search skills of Shiraz University Post Graduate Students. *International Journal of information Science and management 10(2)*

Moahi, O. L. (2009). 'Information seeking behavior: a study of Punjub University, India. *Library Philosophy and Practice* (*e-journals*) (March): 1-6.

Monoi, S., O'hanlon, N., & Diaz, K. R. (2005). Online searching skills: Development of an inventory to assess self-efficacy. The Journal of Academic Librarianship, 31(2), 98-105.

Morrissey, A. R. (2013). The Influence of electronic resources use on students' reading culture in Nigerian Universities: a case study of Adeleke University, Ede,   Osun State. *Library Philosophy and Practice (e-journal).*

Najmi, Mahmood & Rehman (2018) Online Information searching skill of Business students. *Pakistan Journal of Information Management and Libraries. 20(1)*

Namugera, A. I. (2014). Towards effective development of electronic information resources in Nigerian University Libraries. *Library Management 29* (6/7): 504 – 514.

Nikolopoulou, K., & Gialamas, V. (2013). Barriers to the integration of computers in early childhood settings: Teachers' perceptions. *Education and Information Technologies,*. doi:10.1007/s10639-013-9281-9.

O'Hanlon, M. F. (2002). Medical Faculty's Use of Print and Electronic Journals: Changes over Time and in Comparison with Scientists. *Journal of the Medical Library Association 92*:233 – 241.

Okello-Obura, C. (2010). Electronic Information Access and Utilization by Makerere University Students in Uganda. *Evidence Based Library and Information Practice*, 3(3).

Okiki, A. F. (2013). The Use and Impact of Electronic Resources at the University of Lagos. *Library Philosophy and Practice (e journal).* Retrieved 3rd May 2016 from http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1490&context= libphilprac Freeman, E. & Lynd-Balta, E. (2010).

Okiki, A. F. and Asiru, S. H. (2011). Use of Electronic Resources by Distance   Students in Nigeria: The Case of the National Open University, Lagos and   I b a d a n Study Centers. *Library Philosophy and Practice (e-journal).* Retrieved 3rd May 2016.

Okiki, D. Y. (2011). Use of electronic journals by faculty at Istanbul University, Turkey: the results of a survey. *The Journal of Academic Librarianship 34*: 239 -247.

Owolabi, S., Idowu, O. A., Okocha, F., & Ogundare, A. O. (2016). Utilization of electronic information resources by undergraduate students of University of Ibadan: A case study of Social Science and Education. Journal of Education and Practice, 7(13), 30-36

Roberts, S. T. (1995). Closing the 12-13 Gap together: School and College Librarians supporting 21st Century Learners. *Teacher Librarian 37* (4): 52 - 58.

Sabouri, et al (2010).   Usage of Electronic Information Resources (EIRs) by Undergraduate Students of Federal University of Petroleum Resources, Effurun. *Information and Knowledge Management 5* (4): 94 – 103

Sejane, M. I. (2017). Use of electronic resources by users in the faculty of Agriculture, Islamic Azad University. *Middle-East Journal of Scientific Research 6* (5): 490 –   499. September, P. E. (1993). Promoting information literacy in developing countries: The case of South Africa. *Africa Journal of Libraries, Archives, and Information Science 3* (1): 11– 22.

Sharma (2009) Job Satisfaction of University teachers. Journal of Service Research. 9(2)

Shukla, K. O & Mishra, V. B. (2011). Usage of electronic resources by undergraduates at the Redeemer? s University, Nigeria. International *Journal of Library and Information Science*. 5(10), 319-324.

Shukla, P. & Mishra, R. (2010). Use of e-resources by research scholars of institute of technology, Banaras Hindu University, India. *International Refereed Research J o u r n a l , 2 (2) , 1 8 4 - 1 9 4 . R e t r i e v e d f r o m :* http://digitalcommons.unl.edu/cgi/viewcontent

Shuling, W. (2007). Investigation and Analysis of Current Use of Electronic Resources in University Libraries. Library *Management* 28.(1): 72-88..

Tenopir, L.O. (2013). Electronic Information access and utilization by Makerere University   in Uganda" Retrieved June 5, 2015.

Tsai and Tsai (2003). Information Searching Strategies in web based science learning. The role of internet self efficacy. *Innovations in Education and teaching International*, 40(1) 43-50

Ugwu, C. I and Orsu, E.N.(2017). Challenges of utilisation of online information resources by undergraduate students: implications for information services. *Library Philosophy and Practice* (e- journal, ISSN 1522- 0222)

Wejetunge, S.Y (2015). Use of electronic information resources by the students of Faculty of Science, University of Karachi. *International Journal of Digital Library Services*, 4.3