

# Assessment on Use of Search Engines by Lecturers in the Faculty of Medical Sciences, University of Jos, Nigeria

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## Abstract

**Purpose:** This research investigated the Internet Search Engine use behaviour of lecturers in the Faculty of Medical Sciences, University of Jos.

**Design/Methodology/Approach:** The study adopted the survey research design. The entire population of 133 academic staff members in the Faculty was adopted for the research. Descriptive survey was the research method used for the study. The instrument used for data collection was questionnaire. Descriptive statistics such as frequency counts and percentages were used to analyze the data.

**Findings:** The findings revealed among others that Google was the most popular search engine amongst the lecturers. However, the academics admitted that they learned how to use the search engines through seminars and workshops organized by the University management. The findings further revealed that only few of the lecturers were aware of the Advanced and Boolean Search Options provided by the engines, the lecturers also indicated that coping with too much information hits was their major problem in using the search engines.

**Implication:** More sensitization is needed for the lecturers.

**Originality/Value:** The University Management through the Directorate of Information and Communication Technology (ICT) Unit in association with the University Library should continue to organize workshops and seminars for the lecturers on how to use the various search engines to effectively access information in the internet.

**Key Words:** Academic Libraries, Assessment, Medical Sciences Use of Search Engines, , Lecturers, University, Jos, Nigeria

**Paper type:** Empirical research

## Introduction

The Internet has broken down barriers of communication access from anywhere in the world. It is fast, reliable and does not have restrictions on content or format; it also has a limitless range of facilities, which assist users to access almost infinite information on the net. It offers the opportunity for access to up-to-date research reports and knowledge globally. It has thus become an important component of electronic services in academic institutions. Hence, the Internet has become an invaluable tool for learning, teaching and research. While, search engine is an Internet facility that assists information seekers to find required information on the ever-growing Internet (Salako and Tiamiyu, 2007).

According to Ojedokun and Owolabi (2003), as new technologies transform accessibility of global knowledge, teachers and researchers must have to adapt to the modern technologies (i.e.

acquire internet skill) if they are to still remain relevant.

The concept of “information Literacy” is usually interpreted in terms of “a set of competencies that an informed society ought to possess to participate intelligently and actively in that society” (Shapiro and Hughes, 1996). The digital information revolution has implications for “information literacy” skills expected of academics. Hence, the critical competency of informed literacy in this digital age is, not surprising, the capability of individuals to use computer systems and the Internet to communicate and search for information from different information sources to solve problems.

In view of this, the University of Jos management built computer laboratories with free Internet services for both staff and students in all the Faculties in the University (including the Faculty of Medical Sciences). Nevertheless, the University has been organizing series of workshops and seminars for the lecturers in the

Faculties on how to use the Internet for teaching. As the Medical Librarian of University of Jos, I had conducted seminars for the lecturers of the Medical Faculty on how to use search engines to find resources in the internet. However, I was surprised to hear some of the lecturers in the Faculty Board Meetings complaining that they hardly find resources in their field of interest in the Internet. This motivated the researcher to examine the way the lecturers source for resources in the internet using the search engines.

### Objectives of the Study

The objectives of this study can be summarized as follows:

- i. To determine if the academics use computer and internet to access information resources;
- ii. To determine the use of internet Search Engines amongst the lecturers;
- iii. Mode of acquisition of the Search Engine skills;
- iv. To find out which Search Engines the lectures use most often to search for information on the Internet and why?
- v. To find out the extent of use of the advanced search options of the
- vi. search engines and Boolean Operators by the lecturers;
- vii. To also examine the major challenges the lecturers encountered in using search engines.

### Research Questions

The following research questions were formulated to guide the focus of the research:

- i. Do the lecturers know how to use computer to source for information in the internet?
- ii. Do the lecturers use internet search engines when sourcing for information in the internet?
- iii. How did the lecturers acquire the search engine skills?
- iv. Which of the search engines do the lecturers use mostly when sourcing for information in the internet? And reason;
- v. What are the level(s) of usage of the advanced search options of search engines

and research activities.

and Boolean operators amongst the lecturers?

- vi. What are the major challenges the lecturers encounter in using search engines?

### Background Information on the Faculty of Medical Sciences

The Faculty of Medical Sciences, University of Jos, started in October, 1977. It has twenty departments. This include: Anatomy, Biochemistry and Human Physiology, Anesthesia, Community Health, Hematology, Medicine, Ophthalmology, Pediatrics, Psychiatry, Surgery, Chemical Pathology, ENT, Medical illustration Technology Unit, Medical Microbiology, Obstetrics and Gynecology, Medical Lab. Sciences, Histopathology, Pathology, Orthopedic, Surgery and Traumatology, and Radiology,. The first three (3) departments are usually called the Pre-clinical departments. While, the remaining seventeen (17) departments are referred to as Clinical departments. The total number of lecturers in the faculty of Medical Sciences, University of Jos was one hundred and thirty-three (133) as at the time of this investigation (University of Jos, Faculty of Medical Sciences, Student's Hand Book, 2010)

The faculty has a library (Medical Library) which is located few kilometers (3km) away from the faculty. However, the main library which the lecturers often preferred to visit has a computer laboratory with 80 desktops all with free internet access for staff and students.

### Literature Review

The Internet is a global collection of many different types of computers and computer networks that are linked together. It enable individuals and institutions to share information across the world. Becker (1998), refers to the Internet as the information superhighway. World Wide Web (WWW), usually called the web is one of the facilities of the Internet and it is regarded as a global collection of documents (information) popularly known as web pages, which are stored on computer(s) connected to the Internet. Ehikhamenor (2002) asserted that one of the most outstanding features of the WWW is that web pages usually contain links to other pages. These links make it easy for users to source for information in the Internet effectively.

So many studies have investigated how the Internet is used among academics at Universities, for activities like information retrieval, learning, teaching and research. For instance, Nwokedi (2007) assessed the impact of Internet use on the research and teaching activities of academic staff of Faculty of Medical Sciences in University of Jos, Nigeria. He discovered that the academics were skilled users of the Internet for research activities. This was essentially in the area of literature search (Note, their ability to use various search engines was not investigated).

Amen (2004) investigated the patterns of usage of Malaysian academic library websites among 823 university academics, and discovered that a majority of the academics agreed that the Internet adds value to library services and speeds up reference searching. Nevertheless, most of the respondents said that the Internet makes reference work more challenging, more fun, more interesting, and more accessible. Ojedokun (2001) investigated access to, and use of the Internet by the academics at the University of Botswana. He found that the academics used the Internet more for e-mail than for browsing and that email was used more for communicating with colleagues and relatives.

Kaur (2000) surveyed the use of Internet facility at the Guru Nanak University, Amritsar. The findings revealed that all respondents used search engines to browse the required information and majority faced the problem of slow Internet connectivity. The result of the study further indicated that more than two-third of the respondents confirmed Internet were time saving, easy to use, more informative and more preferred. Staff and students in academic community enjoy Internet as a result of the facilities it offers as noted by Kumar and Kaur (2005) in Anunobi (2006) to include; e-mailing, audio broadcasting, telex/video conference, World Wide Web browsing, telephoning, news and discussion/chart group facilities, e-books storing. Internet as affirmed by Asemi (2005) is used for information development, enhances easy communication, improves academic performance, used as a researched tool, provides solution to assignments, gives information on entertainment and education, and a source of scholarship.

Salaam and Adegbore (2010) discovered that Internet facilities are available in all private universities studied in Ogun State, Nigeria. No

restriction is placed on students Internet access and use by the university administration as opposed to that of Salaam (2003) who noted from its findings that access were restricted to staff only in Nigerian universities libraries.

Hence, online research has become an essential skill for researchers. What typically took place in libraries, by phone calls or visits to experts in the field is being changed because of the Internet. Experts can sometimes be contacted by email and information, whether it is addresses, phone numbers, or detailed specifics on a certain subject, can be accessed on the World Wide Web. Search Engines have become the most important tools in locating this information, so it is important to know how to use them effectively. Search skills can be developed through practice in using the search engines and by reading the help pages provided by the search engines themselves. Over time, one will learn which search engine is good for pulling up what kind of information.

According to Nwokedi (2007), Search engine can be described as a special programme that takes the information an Internet user entered and search for websites in the Internet that contain that information and retrieve it for the Internet user.

However, Salako and Tiamiyu (2007), described search engines and metasearch engines as Internet facilities that assist information seekers to find required information on the ever-growing Internet. They further claimed that a search engine is a set of computer programmes that search for web pages on the Internet, index the pages in a database, and make the database available for searching by information seekers through an appropriate user interface at its website. While Meta-search engines in turn provide user interfaces at their websites for information seeker to search the databases of many search engines simultaneously.

There are many search engines and internet directories, but familiarization with several major ones will be enough to get ones online research off to a good start. The main search engines included in this research are: Google, Altavista, Lycos, Ask Jeeves, MSN, Netscape, Dogpile, Yahoo and Excite.

Yahoo is actually large directory rather than true search engine. Even these large commercial search engines and directories have been found to search only a small portion of the Web;

however, this is typically enough to help one get to the right webpage that contains the information one is looking for or to a website that contains links to other sites containing information on your subject. Many of the major search engines are also becoming known as "Internet Portals" because they provide a number of popular services for the frequent internet users.

According to Akinjide and Oyeboade (2007), there are so many search engines and meta-search engines. However, the common ones include: Google, Altavista, Lycos, Ask Jeeves, MSN, Netscape, Dogpile and Excite.

Jagboro (2003), submitted that ignorance on how to use the different types of search engines usually affect the ability of information seekers to access information effectively in the Internet. This view was supported by Akporido (2005), who further highlighted the need for researchers in Nigeria to be trained on the use of various search engines.

Salako and Tihamiyu (2007), in their studies titled: "use of search engines for research by postgraduate students of the University of Ibadan, Nigeria", discovered that Google and Yahoo! Were the most popular engines with the students in that order. They further discovered that about 75% of the students learned how to use the search engines through friends or by trial and error. The students relied on search engines mostly for their academic work and for job search. They also discovered that only a third of the students were aware of the advanced and Boolean search options provided by the engines. The findings of this study therefore, confirmed the continuing need for educational planners and administrators in Nigerian Universities to integrate adequate information (technology) literacy content into the curricula for postgraduate and research students in the Universities.

Nevertheless, Salako and Tihamiyu (2007) submitted that the growing amounts of investment that higher institutions in Nigeria have been committing to development of information technology infrastructures mean that the institutions would be keenly interested in studies that investigate how the infrastructure is being used by their staff and students towards assessing the cost benefit of their investment.

Studies on the use of Internet facilities by staff and students to support teaching, learning and research in tertiary educational institutions are presently few and in-depth studies on the use of specific Internet resources such as search engines are rare. Hence, this study is considered important for the management of University of Jos.

## **Methodology**

### ***Research Design***

Survey Research Design was adopted for this study. According to Busher and Harter (1980) survey research design enables specific issues to be investigated through information gathering on people's opinions and beliefs over a wide population. This technique is relevant to this study because it involved sampling of opinions of users (Lecturers in the Faculty of Medical Sciences) on their search engines usage.

### ***Population of Study***

The targeted population for this study comprises all the 153 academic staff of the Faculty of Medical Sciences in the University of Jos. However, 20 of the lecturers were on sabbatical leave. Hence, all the remaining 133 of the lecturers who were on ground as at January, 2011 were adopted for the research. Therefore, ***there was no need for sampling, since the total population [133] was manageable.*** The academic staff that were used in the research were spread over twenty two departments - see table 1

**Table 1: The distribution of the Lecturers into their various Departments.**

S/N	Department	Number of Lecturers
1	Anatomy	5
2	Biochemistry	7
3	Physiology	5
4	Nursing	12
5	Surgery	14
6	Psychiatry	7
7	Paediatrics	16
8	Medical Microbiology	4
9	Anesthesia	3
10	Medical Lab. Sciences	6
11	Medicine	16
12	Community Health	10
13	Obstetrics and Gynecology	18
14	Radiology	3
15	Ophthalmology	3
16	Histopathology	5
17	Hematology	3
18	Chemical Pathology	2
19	ENT	5
20	MITU	1
21	Orthopedic	4
22	Pathology	4
	<b>Total</b>	<b>153</b>

### Research Instrument

The instrument used for data collection was questionnaire. A 43 items structured questionnaire was designed.

The questionnaire was divided into 2 sections. Section 'A' sought for information on personal (Demographic) data of the respondents. Section "B" sought for information on the use of computer and internet to access information materials by the academics; the use of the internet search engine; how the academics acquired their search engine skills; which search engines the lecturers used most and why?; the extent of use of the advanced search options of the search engines and Boolean operators; and the major challenges the lecturers encountered in using the search engines.

### Validation of the Instrument:

A pretest of the study was conducted using ten (10) lecturers from the Faculty of Natural Sciences of University of Jos to test the validity

of the questionnaire. This enabled the researcher to ascertain whether or not the questions asked would generate the required data. However, the results of the validation of the instrument revealed that all the questions in the questionnaire were able to generate required response. Hence, the instrument was able to measure the variables in the study.

### Administration of Questionnaire

Based on the total number (133) of the academics in the Faculty of Medical Sciences, University of Jos, who were on ground as at the time of this investigation, 133 copies of the questionnaire was produced and administered to the lecturers in their offices and collected the next day. The completed copies of the questionnaire were analyzed using simple statistics such as frequency counts and percentages, and tables were provided where necessary.

**Data Analysis and Discussions**

correctly, returned and found usable; this figure gave a response rate of **87.21%**

**Response Rate:** Out of the 133 copies of the questionnaire distributed, 116 were completed

**Table 2: Use of Computer and Internet Services by the Academics**

Options	Frequency	Percentage (%)
Yes	116	100%
No	0	0.00
<b>Total</b>	<b>116</b>	<b>100.00</b>

**Table 3: Use of Internet Search Engines n=116**

Options	Frequency	Percentage (%)
Yes	116	100
No	0	0.00
<b>Total</b>	<b>116</b>	<b>100.00</b>

Tables 2 and 3 examined the lecturers' ability to use the Internet and search engines respectively. This revealed that all the lecturers used in the research could use the Internet and search engines to access information. This observation

is encouraging and not surprising, considering the series of workshops and seminars organized by the university to encourage e-learning (electronic learning) in the Faculties – including Faculty of Medical Sciences.

**Table 4: Mode of Acquisition of Search Engine Skills**

Mode of acquisition of skills	Frequency	Percentage (%)
Through friend(s)	13	11.21
Internet	11	9.48
At a computer school	10	8.62
Read a book	12	10.35
Through seminars/workshops	70	60.34
<b>Total</b>	<b>116</b>	<b>100.00</b>

Table 4 evaluated the mode of acquisition of search engine skills by the lecturers. This revealed that majority 70 (60.34%) of the academics acquired their knowledge of search engines through seminars/workshops. This was followed by 13 (11.21%) of the lecturers that claimed that they acquired their search engines skills through friends. However, 12 (10.35%) of the respondents admitted acquiring the search

engine skills through reading books. Nevertheless, 11 (9.48%) of the academics said that they acquired the search engine skills through internet. Again, this observation is encouraging considering all the efforts the University invested in making sure that e-learning is fully implemented in all aspects of academic activities in the University.

**Table 5: Preferences for Search Engines**

Search engines	Frequency	Percentage (%)
Google	95	81.89
Yahoo	18	15.52
Alta vista	0	0.00
Lycos	0	0.00
Ask jeeves	0	0.00
MSN	0	0.00
Netscape	0	0.00
No response	3	2.59
<b>Total</b>	<b>116</b>	<b>100.00</b>

Table 5 assessed the preferences of search engines by the lecturers in the Faculty of Medical Sciences. This revealed that most 95 (81.89%) of the lecturers preferred using

Google. This was followed by those 18 (15.52%) lecturers that indicated that they preferred yahoo. However, 3 (2.59%) of the academics did not respond to the question. The academics appeared

not to be aware of the existence of the other search engines. Hence, they hardly used them. This finding support the works of Applebee et al (2002); and Salako and Tiamiyu (2007) who on

separate accounts pointed out that most information seekers using the internet usually preferred using Google or yahoo search engines.

**Table 6: Reasons for Search Engine Preferences**

Reasons for preferences	Frequency	Percentage (%)
Quality of item downloaded	48	41.38
User friendly	34	29.31
Just out of habit	2	1.72
Speed of access	23	19.83
Quantity of items retrieved	6	5.17
No response	3	2.59
<b>Total</b>	<b>116</b>	<b>100.00</b>

Table 6 examined the reasons for preference of search engines use by the lecturers. This revealed that a large number 48(41.38%) of the respondents chose quality of items downloaded, as one of their reasons. Others indicated various reasons like user friendly 34 (29.31%), speed of access 23 (19.83%), and quantity of items retrieved 6 (5.17%) respectively. However, 3 (2.59%) of the lecturers did not respond to the question. These reactions observed are because the major problem of searching for information in the Internet is usually the high quantity of information one need to manage. Hence, a large percentage of the lecturers indicated the quality of items downloaded as their reason for search engine preferences. This finding supports the works of Salako and Tamiyu (2007), and Gash (2000).

**Table 7: Use of the Advanced Search Options of Search Engines**

Level of usage	Frequency	Percentage (%)
Always	3	2.59
Sometimes	23	19.83
Rarely	26	22.41
Never	41	35.34
Never heard of it	10	8.62
No response	13	11.21
<b>Total</b>	<b>116</b>	<b>100.00</b>

Table 7 evaluated the use of advanced search options of the search engines by the lecturers. This showed that 41 (35.34%) of the lecturers never used the advanced search options. This was followed by 26 (22.41%) and 23 (19.83%) of the respondents that claimed that they “rarely” and “sometimes” used the advanced search options respectively. However, 10 (8.62%) of the lecturers admitted that they never heard of it. Only 3(2.58%) of the University teachers agreed that they always used the advanced search options of the search engines. While 13

(11.21%) of the lecturers did not respond to the question. This analysis shows that the lecturers most probably used very simple queries, as they were mostly unaware of the advanced search options of Google or yahoo (their most preferred engines). Hence, it is obvious, that the teachers knew very little about the search engines rather than the complete range of information searching functions provided by the search engines. This observation corroborates the works of Salako and Tiamiyu 2007.

**Table 8: Extent of Use of Boolean Operators in Searching**

Level of usage	Frequency	Percentage (%)
Always	1	0.86
Some times	3	2.59
Rarely	26	22.41
Never	8	6.90
Never heard of it	78	67.24
<b>Total</b>	<b>116</b>	<b>100.00</b>

Table 8 illustrates the use of Boolean operators in searching the Internet by the lecturers. The findings showed that majority 78 (67.24%) of the respondents had never heard of it. This was followed by 26 (22.41%) of the lecturers that agreed that they rarely used the Boolean operators in the advance search options. Nevertheless, 8 (6.90%) of the respondents said that they have never used it. While 3 (2.59%) of the university teachers admitted using the

Boolean operators sometimes. However, only 1 (0.86%) of the lecturers indicated that he always used the Boolean operators in searching the net. This investigation shows that the lecturers have minimal knowledge of search engine facilities. This will greatly reduce the quality of their search results. Thereby, denying the lecturers access to important information resources in the internet.

**Table 9: Problems Encountered In Using Search Engines**

Problems encountered	Frequency	Percentage (%)
Coping with too much information	61	52.58
Formulating search terms	27	23.28
Finding relevant information	18	15.52
Out of date links	7	6.03
Inactive/dead links	2	1.73
No problem	1	0.86
<b>Total</b>	<b>131</b>	<b>100.00</b>

The problems the academics encountered in using search engines were also studied (table 9). The findings revealed that the major problem of the lecturers in this regard was coping with too much information retrieved (hits). This finding suggests that the lecturers most often used simple queries, retrieved lots of hits, and also painstakingly browsed through many displayed web pages to get the information they needed. They could have reduced their browsing workload by using sophisticated queries containing Boolean operators in the advanced search options provided by the search engines. This finding agrees with the works of Applebee et al (2000); Salako and Tihamiyu (2007); and Nwokedi (2009).

**Summary of Major Findings**

1. All the lecturers admitted knowing how to use the internet services and search engines;
2. Most of the lecturers became aware of the existence of the search engines through organized seminars/ workshops;
3. Majority of the lecturers preferred using Google search engine for their searches;
4. Most of the lecturers that admitted using Google search engine used it because of the quality of its download;
5. Only 3 (2.59%) of the lecturers admitted using the advance search options of the search engines and it was only 1 (0.86%) lecturer that agreed using it always;

6. The results revealed that the lecturers have minimal knowledge of search engine facilities
7. More than half of the lecturers 61 (52.58%) stated that their major challenge was coping with too much information hits retrieved.

**Conclusion and Recommendations**

This research was designed to investigate the Internet search engine usage behaviour of lecturers in the Faculty of Medical Sciences, University of Jos. The findings of this investigation revealed that the use of search engines to find information on the Internet for academic purposes is an established practice amongst the lecturers of the Faculty of Medical Sciences, University Jos. However, there is clear evidence that the lecturers need help/assistance to improve their knowledge on the use of the search engines and in sourcing for quality information resources in the Internet for academic activities. To achieve this, the following recommendations should be considered for implementation:

1. The findings of the study shows that there is need for the University of Jos management to continue to train the lecturer on how to use the various search engines through organized workshops, seminars and lectures.
2. Since most of the lecturers restricted themselves to using Google, the use of other search engines like Altavista, Lycos,



Ask Jeeves, MSN, Netscape, Dogpile and Excite should be encouraged by displaying the search engines on the library notice boards and all sections of the library, specifying when and how to use them.

3. Since, most of the lecturers stated that the major challenge they faced in using the search engines was coping with too much information retrieved. The use of the advanced search options (Boolean Operators) should be encouraged. Since, it will sharpen the hits of the lecturers, thereby reducing their number of hits. This can be done through library orientations of new staff, during the Faculty Board Meetings and every opportunity that brings the subject Librarians together with the Faculty Members.

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