Students' Use of Search Engines for Information Retrieval on the Web: A Case Study of Adeyemi College of Education, Ondo

By

Michael Jato
Jamogha Oresiri
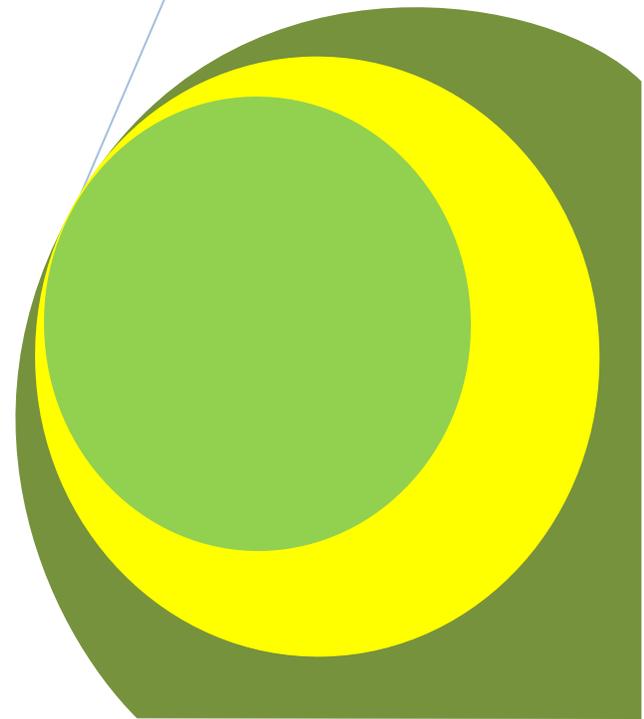
Research Article

Students' Use of Search Engines for Information Retrieval on the Web: A Case Study of Adeyemi College of Education, Ondo

*[1]Michael Jato and [2]Jamogha Oresiri

Adeyemi College of Education, Babs Fafunwa Library, Ondo, Ondo State, Nigeria.
[2] Email: Oresiriakpotor@Yahoo.Com, Tel: 08034131226

*Corresponding Author's Email: mikejato@yahoo.com, Tel: 07032184622.

ABSTRACT

The study examined students' use of search engines for information retrieval on the web in Adeyemi College of Education, Ondo. Research design that was adopted for the study is survey. Data for this research work was obtained with the use of questionnaire instrument. The sampling technique that was used is systematic random technique. Copies of questionnaire instrument were administered on the respondents in the lecture theater and the College Library; and the retrieved data was analysed in percentage (%) with the use of frequency table. The study revealed among others that majority of the respondents (63.12%) had no specific place for their online search; they used their mobile phones / laptop everywhere to search the internet. Only a very few of respondents (3.55%) used virtual library for their online search, many of the respondents (39.01%) used the search engine occasionally and majority of students (71.63%) used just one or two search engines on regular basis. Based on the   findings, the researchers recommend that students should be enlightened on the importance of online resource for their academic success to propel them to use search engines often; and to use a lot of search engines from over 200 search engines available on the net to retrieve vital information. The librarians should embark on a serious publicity via the use of media such as flyers, notice board, face book, bulletins, seminars etc to attract students' patronage to the virtual library.

Keywords: Search engines, information retrieval, web.

INTRODUCTION

Information retrieval (IR) has traditionally been the domain of librarians and information professionals. Thus, for generations, card catalogue was a familiar sight to library users; but the card catalogue has been effectively replaced by online public access catalogue (OPAC) by many libraries. An OPAC is an online bibliography of a library collection that is available to the public (WhatIs.com, 2008). The dictionary.com (2012) observed that Charles Ammi Cutter made the first explicit statement regarding the objectives of a bibliographic system in his rules for a printed dictionary catalogue in 1876. According to Cutter, these objectives were:

- To enable a person to find a book of which either the author, the title, or the subject is known (identifying objective)
- To show what the library has by a given author on a given subject and in a given kind of literature (collocating objective)
- To assist in the choice of a book (evaluating objective), as to its edition (bibliographically and as to its character (topical or literary)

These objectives have been revised and modified over the years. The latest attempt to describe a library catalogue's goals and functions were made in 1998 with Function Requirements for Bibliographic Records (FRBR). FRBR defines four users' tasks as follows:

- To find
- To identify

- To select and
- To obtain (The Dictionary.com 2012)

However, with the growth of World Wide Web (www), students now have access to searching systems that sift through millions of web documents with the aid of search engines on the internet.

Literature review

Search engines provide the best navigational tool on the World Wide Web. To start with, what is World Wide Web (www)? Wikipedia, the free encyclopedia (2012) defines the World Wide Web (abbreviated) as www or w3, commonly known as the web or the "information superhighway" as a system of interlinked hypertext documents accessed via the internet. It states further that with a web browser, one can view web pages that may contain text, images, videos, and other multimedia, and navigate between the hyperlinks. Cambridge Dictionaries Online (2011) describes the World Wide Web as the system of connected documents on the internet, which often contain colour pictures, video and sound, and can be searched for information about a particular subject. Also, American Heritage Dictionary (2009) describes www as a computer net work consisting of a collection of internet sites that offer text and graphics and sound and animation resources through the hypertext protocol. World Wide Web is a complete set of documents residing on all internet services that use the HTTP protocol, accessible to users via a simple point and click system. WWW is a collection of text documents and other resources, linked by hyperlinks and URLs, usually accessed by web browsers from web services. WWW can be thought of as an application "running" on the internet (Wikipedia, the force encyclopedia 2012).

It is also pertinent to cite definitions of a search engine. Britannica Concise Encyclopedia (2012) defines a search engine as a tool for finding information, especially on the internet or World Wide Web. Furthermore, it states that search engines are essentially massive databases that cover wide swaths of the internet. According to Britannica Concise Encyclopedia, search engines mostly consist of the parts at least one program called a spider, or crawler or bot, which craws through the internet gathering information; a database, which stores the gathered information and a search tool, with which users search through the database by typing a keyword describing the information desired.

Barron's Marketing Dictionary (2012) describes a search engine as a computer program that has the capability of searching through large volumes of text or other data for specified key words and then retuning a list of files or documents where the key words were found. It also stated that search engines help users track down online information on a wide variety of topics and are valuable online sources of secondary data. In addition, Gale Encyclopedia of Small Business (2012) asserts that search engines are online services that allow users to scan the contents of the internet to find websites or specific information of interest of the users. It explains that when a user inputs a search term, the search engines attempts to match the term to categories or keywords in its catalogues or World Wide Web sites. The search engine then generates a list of sites that match the search criteria, ranking in order of relevance.

Moreover, Kimmon (2012) defines a search engine as a website that connects and organize contents from all over the internet. He explained further that those wishing to locate something would enter a query about what they like to find and the engine provides links to content that matches what they want.

In the light of these definitions, search engines can be described as users assistant to find and retrieve information. Like any other assistant, the degree to which they are able to help depends on the degree to which the users are able to tell them what they want. Therefore, communicating with search engines is a critical part of the search process.

The knowledge of how to issued search query is a key factor to getting the needed information from the internet. The Spiders Apprentice (2004) identified and explained the followings as ways by which search queries could be issued in order to find needed information on the internet.

- Key word search
- Refining your search
- Relevance ranking
- Meta tags
- Concepts based searching

Key word search: A search for documents containing one or more word that is specified by a user.

Refining your search: Most sites offer two different types of searches – basic and refined or advanced. In a basic search, you just have to enter a key word without sifting through any pull down menus of additional options. Advanced search refining options differ from one search engine to another, but some of the possibilities include the ability to search on more than one word, to give more weight to one search term than you give to another, and to exclude words that might be likely to muddy the results.

Many but not all search engines allow you to sue Boolean operators to refine your search. Boolean operators are the logical terms AND, OR, and NOT. Boolean 'AND' means that all the terms you specify must appear in the document (heart AND attack).

Boolean 'OR' means that at least one of terms you specify must appear in the documents (bronchitis, acute OR chronic).

Boolean 'NOT' means that at least one of the terms you specify must not appear in the documents. Some search engines use the character'+' and '–'instead of Boolean operators to include and exclude terms.

Relevancy ranking: most search engines return results with confidence of relevancy ranking. In other words, they list the hits according to how closely they think the results match the query.

Meta tag: some search engines are now indexing web documents by the Meta tag in the documents' HTML (at the beginning of the document in the head tag). This means that the web page author can have some influence over which keywords are used to index the document, and even in the description of the document that appears when it comes up as a search hit.

Concept- based search: unlike key word search systems, concept based search systems try to determine what you mean, not just what you say. In other words, a concept based search returns hits on documents that are about the subject / theme you are exploring, even if the words in the document do not precisely match the words you enter into the search system.

There are tips that can help search engine users to have better searches. These tips according to Google (2012) are as follows:

•   Keep the search query simple
•   Think how the page you are looking for will be written
•   Describe what you need with as few terms as possible
•   Choose descriptive words

Therefore, to ensure that your searches return the most relevant results, the above mentioned tips should be deployed for searching on the internet.

Objectives of the study

The objectives of the study are to find out:

i.   The students' pattern of search engines use
ii.   Whether the students retrieve the needed information from the net with the use of search engines
iii.   The problems students encounter while using the search engines to retrieve information from the net

Research questions

The research questions for the study are:

i.   What is the pattern of the student's use of search engines?
ii.   Do the students retrieve the needed information with the use of search engines?
iii.   What are the problems the students encounter while using the search engines?

RESEARCH METHODOLOGY

The researchers surveyed an estimated 3,000 returning students of the college. Questionnaire was the instrument used for data collection. The researchers presented the constructed questionnaire to information retrieval expert for face validity. The expert criticized and corrected the questionnaire; and this led to improvement in the instrument. Simple random sampling technique was used to administer 300 copies of questionnaire on the students in the lecture theater and in the college library. 282 copies of the questionnaire were returned and were found to be filled correctly. 8 copies of the questionnaire were not returned, thus 282 copies were valid for analysis and discussion. Simple percentage was used for the analysis of the collected data.

Table 1: The place where the students do their online search.

Place	Frequency	%
Virtual library	10	3.55
Cybercafé	94	33.33
Everywhere with mobile phone / laptop	178	63.12
Total	282	100

Table I reveals that 10(3.55%) of the respondents did their online search in the virtual library; 94(33.33%) respondents used cybercafé; and 178(63.12%) did their online search everywhere with their mobile phones / laptops. Majority of the respondent did not use the virtual library for their online search.

Table II: The number of time students use search engines.

Number of time	F	%
Several times a day	83	29.43
Many times a day	57	20.21
Once a day	32	11.35
Occasionally	110	39.01
Total	282	100

Table II shows that 83(29.43%) respondents used the search engines several times a day, 57(20.21%) used them many times a day, 32(11.35%) used them once a day; and 110(39.01%) used them occasionally. Many of the respondents used the search engines occasionally.

Table III: The number of search engine the students use on regular basis.

Number of search engine	F	%
Just one	107	37.94
Two	95	33.69
Three	30	10.64
More than three	50	17.73
Total	282	100

Table III indicates that 107(37.94%) of the respondents used just one search engine on regular basis, 95(33.69%) used two, and 30(10.64%) of the respondents used three on regular basis. 50(17.73%) of the respondents used more than three search engines on regular basis. Majority of the respondents used one or two search engines on regular basis when there are 200 search engines available for use online (About.com, 2010).

Table IV: The number of times the students get information with the use of search engines.

Number of times information is got with search engine	F	%
All the information	32	11.35
Most of the information	176	62.41
Many of the information	43	15.25
Few of the information	24	8.51
Very few of the information	3	1.06
Not at all	4	1.42
Total	282	100

Table IV shows that 32(11.35%) of the respondents got all their information with the use of search engine, 176(62.41%) got most of the information but 4(1.42%) of the respondents did not get information at all with the use of search engines. Majority of the respondents got their information with the use of search engine.

Table V: Students major challenge to online search.

Major challenge to students online search	F	%
Server is down	50	17.73
Unstable electricity	36	12.77
Slow network	143	50.71
Internet explorers cannot display this web page.	53	18.79

From table V, 143(50.71%) of the respondents indicated that slow network was the major challenges to their online search. 53(18.79%) of the respondents had the problem of inability of the internet explorer to display the web page. Only 36(12.77%) had unstable electricity as their major challenge to online search Electricity is the least challenge confronting the majority of the respondents.

Findings

 The major findings of the study are:

• Majority of the respondents (63.12%) had no specific place for their online search; they used their mobile phones / laptop everywhere to search the internet. The respondents preferred mobile phones/laptops because they possess backup battery that allows the respondents to continue their search whenever the current was off.
• Only a very few of respondents (3.55%) used virtual library for their online search.
• Many of the respondents (39.01%) used the search engine occasionally.
• Majority of students (71.63%) used just one or two search engines on regular basis.
• Many of the respondents (50.71%) experienced slow network while using the search engines.
• Electricity was not a major challenge to the majority of the respondents.

CONCLUSION

The focus of this study was students' use of search engines to retrieve information from the net in Adeyemi College of Education, Ondo. It could be deduced from the findings of this study that many students use one or two search engines occasionally. The students did not use virtual library for their online search; perhaps, this may be due to inadequate publicity. Slow network constituted major challenge to online search in the college.

Recommendations

On the basis of the findings of this study, the following recommendations are made:

•   Students should be enlightened on the importance of online resource for their academic success to propel them to use search engines often; and to use a lot of search engines from over 200 search engines available on the net to retrieve vital information.
•   Librarians should embark on a serious publicity via the use of media such as flyers, notice board, face book, bulletins, seminars etc to attract students' patronage to the virtual library.
•   The bandwidth of the college internet should be increased to prevent the slow network of the internet service being experienced.

REFERENCE

About.com (2010). The search list: Comprehensive list of search engines Retrieved from: http://www.thesearchenginelist.com/

American Heritage Dictionary (2012) .Search engine definition. Retrieved from: http://www.answers.com/topic/search-engine.

Barron's Marketing Dictionary (2012). Search engine definition. Retrieved from: http://www.answers.com/topic/search-engine.

Britannica Concise Encyclopedia (2012). Search engine definition. Retrieved from: http://www.answers.com/topic/serch-engine.

Cambridge Dictionaries Online (2011). The World Wide Web definitions .Retrieved from: http://dictionary.combridge.orgldictionary/british/the-wordl-wide-web.

Dictionary.com (2012). Online public access catalog definition Retrieved from: http://www.reference.com/browse/Online+Public+Access+Catalog.

eHow.tech (2012). How to use a search engine Retrieved from: http://www.ehow.com/how_4778840_use-search-engine.html.

Gale Encyclopedia of Small Business (2012). Search engine definition retrieved from: http://www.answers.com/topic/serch-engine.

Google (2012). Basic search help Retrieved from: http://support.google.com/websearch/bio/anwer.py?hl=en&answer=134479.

Kimmon J (2012). Definition of a search engine Retrieved from: http://realestate.about.com/od/sv/g/defsearcheng.htm.

The Spider's Apprentice (2004). how to use web search engines Retrieved from: http://www.monash.com/spidap4.html

Whatis?com (2008). Online public access catalog (OPAC) definition Retrieved from: http://wwhatis.techtarget.com/definition/o,,,sid9_gci213639,oo.html

Wikipedia, the free encyclopedia (2012). World Wide Web definition. Retrieved from: http://en.wikipeida.org/wiki/world_wide_web