An Assessment of the Use of Internet Search Engines in an Academic Environment

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ABSTRACT

The internet is often referred to as the information superhighway. Users often utilize the resources available on the internet mostly through search engines. This study therefore evaluated the use of internet search engines amongst students and staff of a Nigerian University.

Questionnaire was used to collect data from the respondents. 290 questionnaires were administered, out of which 230 were completed and returned. The findings show that there is awareness of internet search engines and online resources among students and staff of the University. Information overload, inadequate internet search skills and low internet bandwidth were found to be the major challenges affecting the use of the internet and search engines in the University.
Lastly, from the findings of the study, recommendations were made which include the fact that

libraries and librarians should stop viewing the internet and search engines as threats that have come to take over their jobs. Instead, they should view search engines as complementary to their jobs. So they should organize more indepth search skill trainings for their users. University authorities should work at increasing internet bandwidth among others.

INTRODUCTION

Before the advent of information and communication technology (ICT), and the resultant global information community, the library was the major source of information available to University students, lecturers and researchers. Then, researchers had to go to the library to seek for required information resources. As it were, librarians were the only information gateway, who directed information seekers to the right sources of information. However, the advent of ICT has changed this trend (Vasanthkumar, R, 2017). Today, libraries and librarians are faced with many new challenges

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and multifaceted roles. In addition to the traditional skills acquired by the librarians, they must also be experts in database and web resource management. This is because library users are now migrating to internet and online network systems which they now view as quicker and better sources of information (Ifijeh, 2014).

Obenaus (1994) has characterized the internet as a self-organizing network, which through the interconnectivity it provides between different computer platforms, has attracted the attention of a large number of users. The internet also provides the infrastructure for the publication and distribution of different types of information and information services particularly through the World Wide Web (WWW). The World Wide Web is an interconnection of millions of websites and web pages belonging to different organizations and providing different types of digital information contents and services. It is popularly referred to as 'the web'.

The web has become the first point of call for students, faculty and researchers for finding information, because it is now the single largest information market where the supply of information meets the demand (Ifijeh, 2011). The development and growth of the web was enhanced by revolution and explosion of digital information in the 21st century. There is also a growing array of different internet-based tools for finding, indexing, classifying and retrieving information on the internet such as search engines and meta-search engines. Search engines and meta-search engines are internet facilities that assist information seekers to find required information on the ever growing Web. Search engines are computer programs written and produced by experts to facilitate information search from the web.

The search for information using the internet rather than the library is now the norm among students, faculty and researchers (Jones, 2002). Kamminski, Seel and Cullen (2003) stated that students use open web and search engines for research and are less likely to consult the library and librarian for information. How and where libraries could find relevance in this emerging trend have become a subject of discourse in literature. This study assesses the use of search engines by students and faculty of Crawford University, Nigeria, with a view to finding a place of relevance for academic libraries.

OBJECTIVES OF THE STUDY

The main objective of this study is to investigate the internet search engine usage behavior and experiences of research students and staff in a Nigerian academic setting, using Crawford University as a case study.

Specifically, the objectives of this study will focus on the following:

(a) To identify the kind of search engine the academic community prefers.

(b) To examine the purpose and frequency of use of search engines by staff and students.

(c) To ascertain how users acquire internet search skills.

(d) To identify the challenges they encounter in the process of using the internet and the search engine.

(e) To examine the relevance of the library in internet search skill acquisition

SIGNIFICANCE OF THE STUDY

The result of the study will expose academic librarians to the present information sourcing behavior in the academic community. By so doing, they will be encouraged to work towards improving their services which members of academic community are abandoning for internet services.

However, this study will provide insight into the awareness of online resource and its effectiveness and reliability, and will encourage academic librarians to demonstrate their capacity and ingenuity in the selection and acquisition of both print, online/electronic, and internet resources.

LITERATURE REVIEW

The internet exists and thrives on the activities of people especially young people who are always exploring new avenues to obtain digital resources for education, social interaction and entertainment. Salako, O.A. and Tiamiyu M.A. (2007) noted that the internet is playing an important role in information search, retrieval and delivery in the 21st century. Applebee, et al.(2000) undertook a nationwide study of the use of internet services by Australian academics and found that though many of respondents' purpose of using the internet was for communication and interaction, the use of search engines was an evolving phenomenon.

In the United Kingdom (UK), Armstrong, et al. (2001) surveyed 599 undergraduate and postgraduate students as part of a nationwide study of the use of different electronic information system (EIS) by students, academics and library staff of universities in the UK; they found that students concentrated only on a limited array of electronic information systems particularly web information systems, and that search strategies used by the students were mostly adhoc. The three most regularly used systems for postgraduate students were search engines, email, and OPACs, whereas for the undergraduates, the rank order were email, OPACs and search engines. The study also found that postgraduate students used the systems mostly for assignments while the undergraduate students used the systems mostly for their thesis.

In the USA, a University of Texas (1997) study reported that 73% of over 500 responding students used the internet at least once a week on average, that the average amount of time spent online is eight hours per week , and that the favorite online services (with over 50% endorsement) are: email, the search engines and the library electronic resources. McFadden (1999) analysed the 2310 hits information resident in the cache of computer lab of a major US State University, and found that students' use of computer to visit pornographic and gambling sites was very low, and that nearly half of internet visits (47%) was accounted for by educational and research sites through the use of search engines. Healy (2000) highlighted the findings of the Outsell/ DLF study of the US Academic Information Environment. The study found that the two commonest ways the respondents used to search for information was to use either a search engine (48%) or the library's website (33%), that

undergraduate students utilized search engines more than their graduate counterparts. Another US study by Korgen et. al. (2001), found that students self reported internet use was highest for freshmen, followed by sophomores, seniors, and juniors, in that order.

In the context of developing countries, Aman (2004) investigated the patterns of usage of Malaysian academic library websites among university students. The study revealed that majority of the respondents agreed that the internet search engines were useful information search tools and therefore complimentary to library services. Ojedokun (2001) investigated access to, and use of the internet by students at the university of Botswana. He found that use of search engines was low among the students. Majority of the students preferred to use the internet more for social interactions than for information search.

In the Nigerian context, Ajuwon (2003) surveyed 183 first year medical and nursing students of the University College Hospital, Ibadan, during a library orientation programme, and found that slightly more than two thirds (60.7%) of the students had used the internet before the study, and that e-mail was the most popular internet service (used by 67% of the students). Jagboro (2003) surveyed the internet usage by postgraduate students and found that a higher proportion of the students (70%) used it for e-mail, compared to 'for obtaining research materials' (53%). Akporido (2005) in a questionnaire surveyed 165 actual clients of a cyber café in Abraka, Delta State, Nigeria found that 81% of the respondents were students, and that the purpose mentioned most frequently for internet usage was email (100%) of the respondents, followed by research (87%), search for specific information (60%) and to keep abreast of the latest information/ news (53%). The yahoo search engine was the most popular search engine (100%), followed by Google (68%).

Significantly, all the studies reviewed above as well as most studies of their kinds, are usually implemented on the assumption that higher levels of internet use is a desirable activity in that it is more likely to lead to increased productivity of work, learning, teaching and research (Korgen, et al., 2001). A few other studies have however investigated the potential negative relationship between hours spent by students using the internet and their academic performances or psycho social conditions. A study by the University of Texas (1997) found that (13%) of the students who used the internet weekly also reported significant symptoms of dependency on internet use. Interestingly, the symptoms were similar to those found in drug abuse and gambling such as lack of control over use and withdrawal or tolerance symptoms.

METHODOLOGY

The study adopted a case study approach. Data for the study were collected through a highly structured 27 item questionnaire. The population comprised 2000 students and 300 staff of Crawford University. Random sampling technique was adopted to pick 250 students and 40 staff as sample for the study. 290 copies of the questionnaire were distributed, out of which 230 were recovered and analyzed.

DATA ANALYSIS AND RESULTS

The data for this research was analyzed using statistical computations like percentage, frequencies and charts for an appropriate summary.

Table 1: Courses/Subject Disciplines of Respondents

Courses/Disciplines	Frequency	Percentage
Arts/Humanities	60	26.1
Social Sciences	100	43.5
Natural and Applied Sciences	70	30.4
Total	230	100

Table 1 reveals the subject disciplines of the respondents. Social sciences have the highest number of respondents (43.5%), Natural and Applied Sciences have 30.4% and Arts/humanities have 26.1% .

Figure 1: Preferred Search Engines

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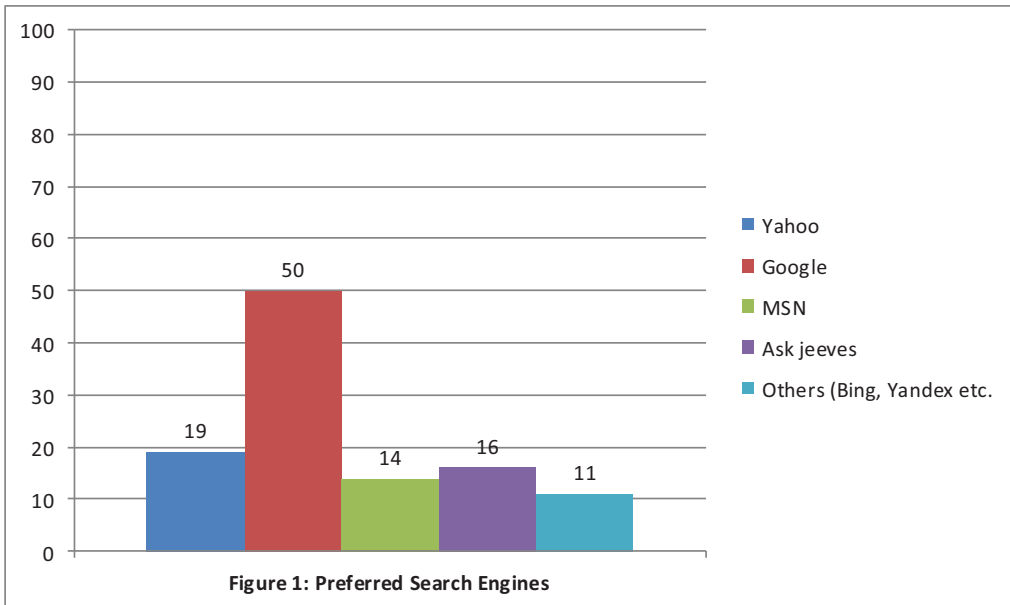
Yahoo 43 (19%)
Google 115 (50%)
MSN 33 (14.0%)   Ask   14 (6.0%)
Others (Bing, Yandex, Mama etc.) 25(11.0%)

Figure 1 reveals that the most preferred search engine among the respondents is google (50%), this is followed by yahoo (19%), MSN (14%), Ask (6%), and Others combined (Bing, Yandex, Mama, etc) 11%

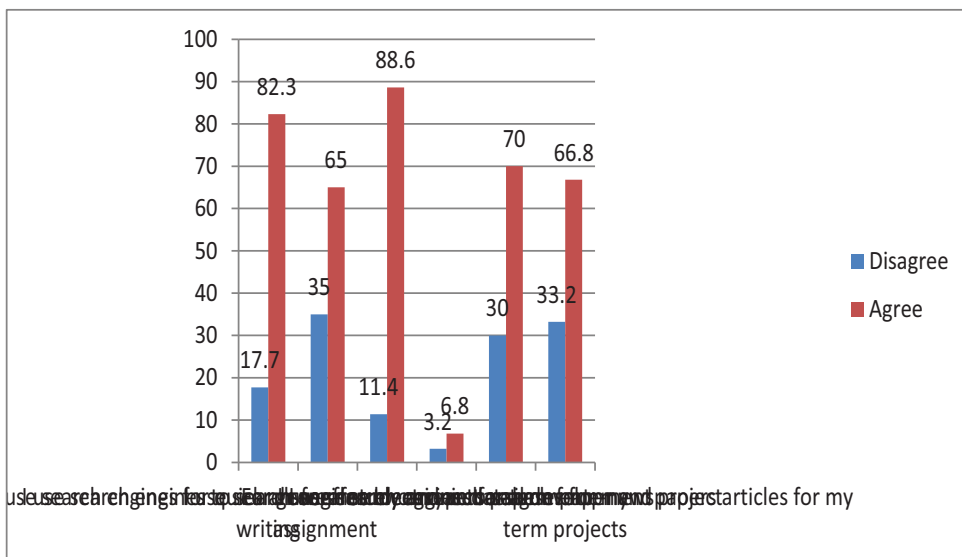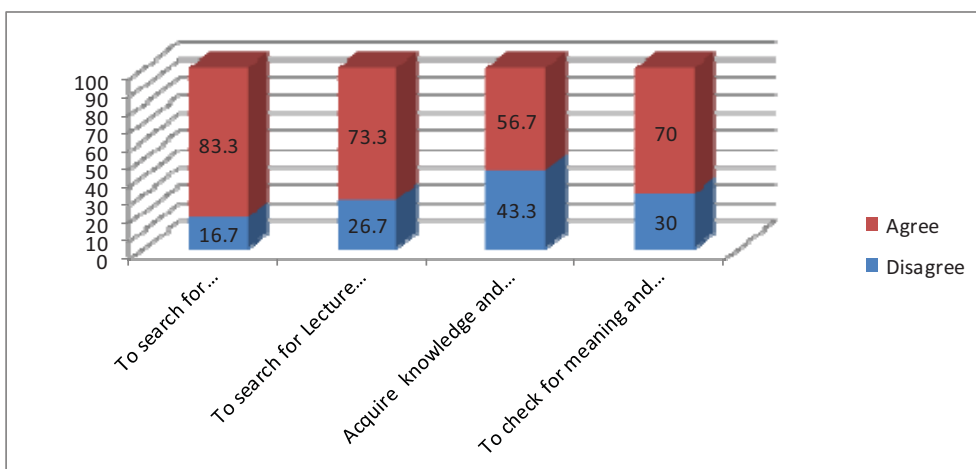**Figure 2a:** Purpose of Students' Use of Search Engines

Figure 2a reveals the purpose for which students used search engines. Most of the students (88.6%) agreed that they used search engines to source for information to do their class assignments. This was followed by 82.3% who agreed that they used search engines for quick answers to research paper writings. 70% agreed that they used search engines to source for materials to write term papers. However, only 6.8% agreed that they used search engines for general and personal development.

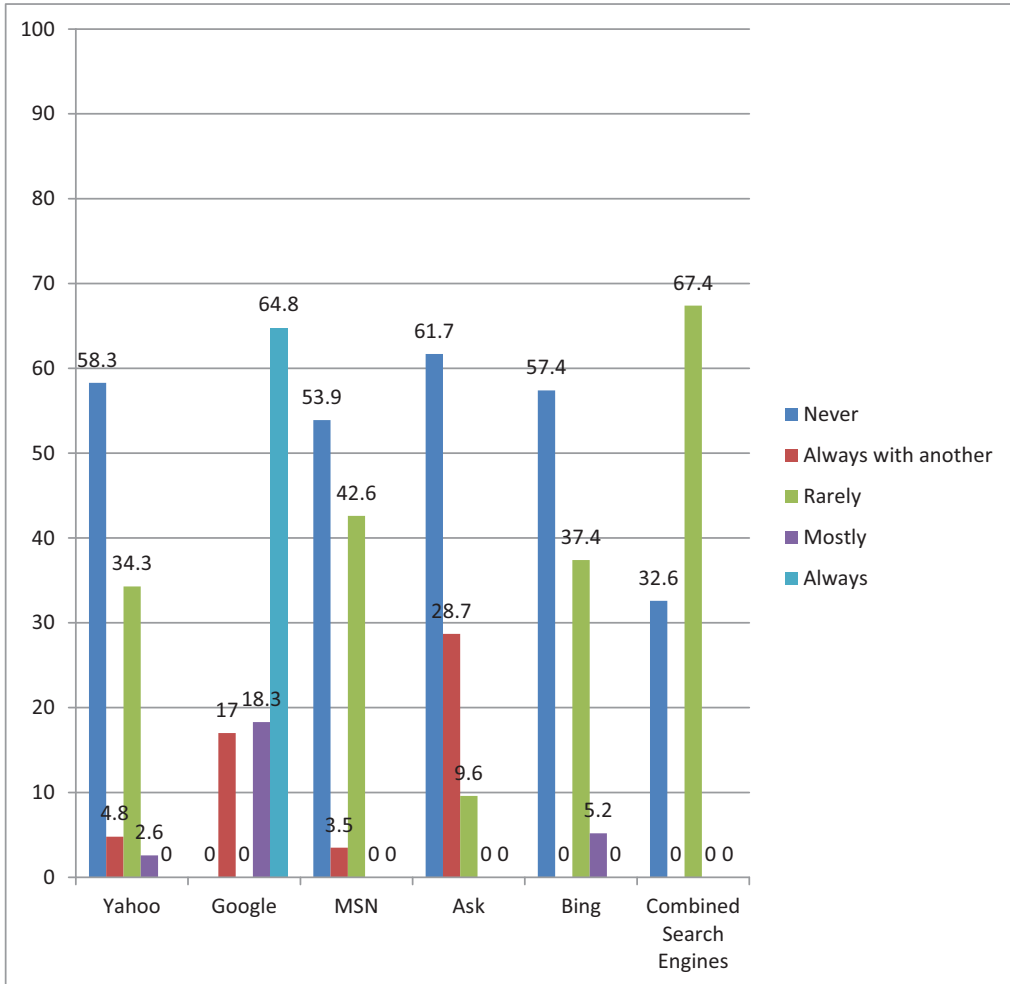**Figure 2b:** Purpose of Lecturers' Use of Search Engines

Figure 2b reveals the purpose of lecturers' use of search engines. 83.3% agreed that they used search engines to source for information resources to do and publish research, 73% agreed that they used search engines to search for lecture materials, 70% to check for definitions and places and 56.7% to acquire knowledge and general information

Figure 3: Frequency of Use of Search Engines by Staff and Students

Figure 3 reveals that google has the highest patronage with 64.8% of the respondents indicating that they use it always. This is followed by Bing with 37.4% using it always and yahoo had 34.3% of the repondents using it always.

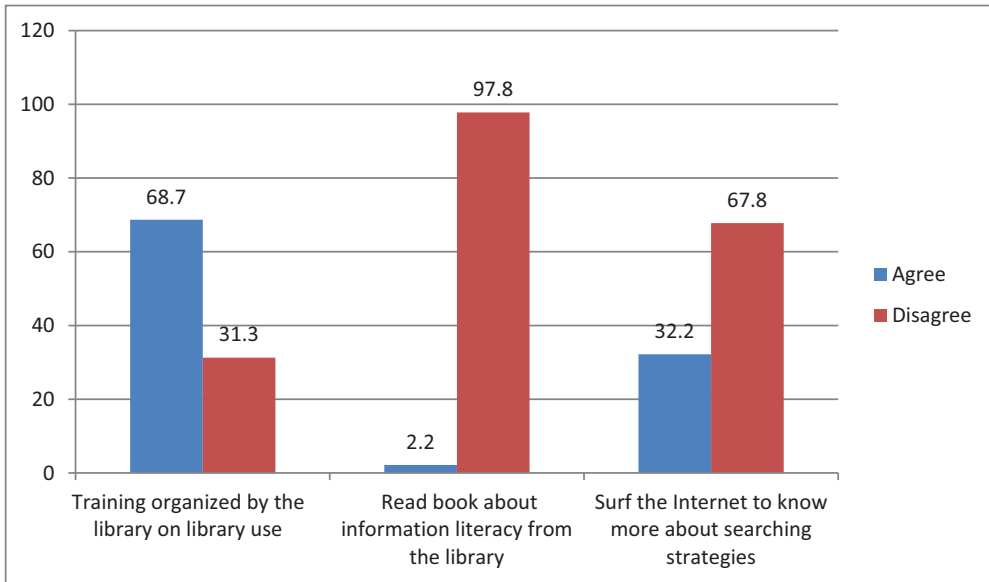**Figure 4:** Acquisition of Internet Search Skills

Figure 4 reveals that majority of the respondents (68.7%) indicated that they acquired internet search skills through trainings organized by the library.
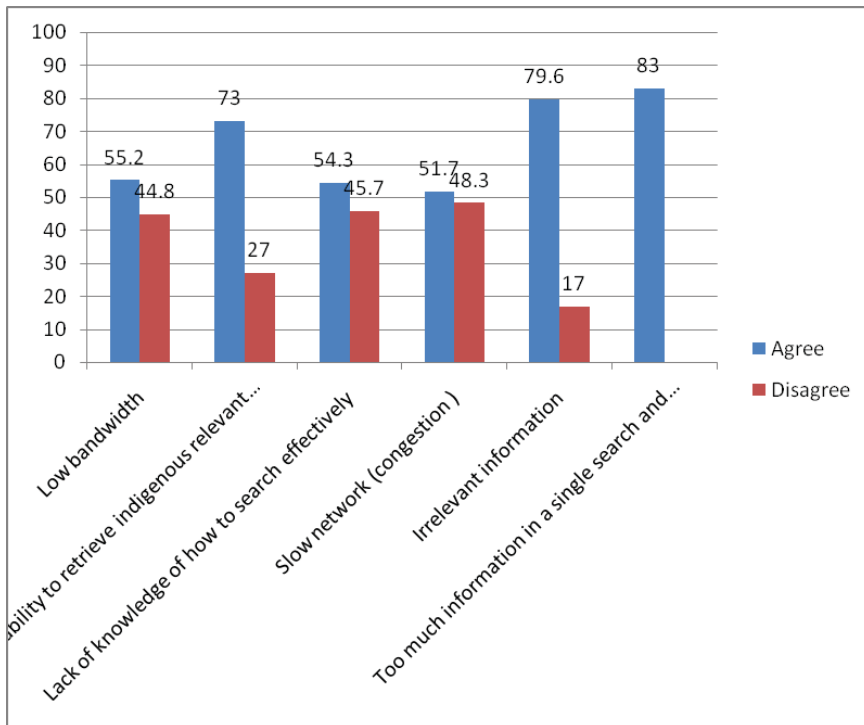
Figure 5: Challenges

Figure 4 enumerates the challenges encountered by respondents in their quest to use the internet. 83% indicated information overload (too much information in a single search) as a major challenge in their use of search engines. 79.6% indicated retrieval of irrelevant information by search engines as a challenge. 55% indicated low bandwidth, 54% indicated lack of internet search skills while 51.7% indicated network congestion as challenges encountered during use of search engines.

Discussion of findings

The study shows that most of the students and faculty were aware of, and are familiar with the internet and search engines. Majority of the respondents overwhelming choose Google, yahoo and MSN as their preferred search engines. This agrees with what Akporido (2005) found of Google and yahoo users among urban cybercafé users in Delta State of Nigeria.

The study also shows that the students and faculty had some levels of internet search skills ; a further probe of the responses from the questionnaires also shows that the respondents most probably used very simple queries, as they were mostly unaware of the advanced search options of Google (their most preferred engines), or the possibility of using Boolean operators to broaden or narrow their searches. Clearly, the respondents' confidence was relative to what they knew about specific search engines (evidently minimal), rather than the complete range of information searching functions provided by each engine. The minimal knowledge of search engine facilities by the students might be due to the mode through which most of them acquired their search engine knowledge and skills, which was mostly through library trainings (Library orientations for users merely introduce the users to simple search methods that will facilitate their studies on campus). Libraries are not able to carry out detailed trainings most times due to the short period of time allotted for library orientations. However, this finding has revealed the important role of information and digital literacy in internet use and the library can up the challenge to carry out this important function. The study further revealed that the students relied heavily on search engines for their academic work, and particularly for project/ thesis work and term papers. Most of them used search engines to search for information on subjects or topics relating only to such academic performances.

Lastly, the study showed that one of the major challenges encountered by the respondents in the use of search engines was information overload – a situation where the information retrieved becomes so much that the user becomes unable to differentiate between relevant and irrelevant information. Scholars refer to this as 'paralysis by analysis'. This is where the role of the librarian comes in. Students and faculty should be advised to seek the librarian's help in resolving such crisis. Another major challenge identified is low bandwidth and slow network. This challenge has been perrenial in most African countries including Nigeria.

Recommendations

The following recommendations are made based on the findings and data gathered from the respondents for further review.

University authorities should work at increasing bandwidth; this will help to boost the speed of the internet browsers and enhance the use of search engines.

Libraries and librarians should stop viewing the internet and search engines as threats that have come to take over their jobs. Instead, they should view search engines as complementary to their jobs. So they should organize more indepth search skill trainings for their users.

Library staff should be encouraged to go for trainings through seminars and workshops on ways to explore the use of the internet and search engines.

CONCLUSION

The findings of this study show clearly that the use of search engines to find information on the internet for academic purposes is an established and growing practice amongst students and staff of Crawford University. Also, there is clear evidence that they need to improve on their knowledge of search engines. In other to enhance their efficiency in using search engines for academic and other activities, they need to acquire information literacy skills which would equip them for better use of search engines and easy retrieval of required information from the internet. The findings of the study confirm the continuing need for educators in African universities to integrate adequate information and digital literacy contents into the curriculum for students, faculties and researchers in the universities.

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