

Awareness and Utilization of General Search Engines (GSE) by Students of Federal College of Education Technical Ekiadolor, Benin, Nigeria

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Abstract

The study investigated the awareness and utilization of general search engines (GSE) by students of Federal College of Education Technical Ekiadolor, Benin, Nigeria. The study adopted the descriptive survey research design; and the research population was the 302 students of the College, and total enumeration was used because of the manageable size. The e-questionnaire was the instrument for data collection and collected data were analysed using percentages and mean. The research findings showed that the students' awareness of general search engines is extremely low, with the exception of Google and Yahoo. However, utilization of general search engines is extremely low with the exception of Google, as Google is the only general search engine used by the students. The purposes for which the students use general search engines are for leisure, for business and because of the ease of use. The challenges to use include high cost of subscription and inconstant power supply. The study recommends among others that students be exposed to learning about general search engines through General Studies Course, and be provided with favourable environments, facilities and equipment in order to utilize general search engines for their academic advantage.

Key words: Awareness, Federal College of Education, General search engines, Students, Utilization,

Word count: 191

Introduction

A search engine is a software system intended to carry out web explorations. They search the World Wide Web in an organized way for particular information identified in a textual web search query. According to Lewandowski and Schultheiß (2022), the search results are generally presented in a line of results, often referred to as search engine results pages (SERPs). The information may be a mix of links to web pages, images, videos, infographics, articles, research papers, and other types of files. Some search engines also mine data available in databases or open

directories. Search engines also maintain real time information by running an algorithm on a web crawler. As shown in searchenginehistory.com search engines can be traced to the 1993, where some search engines were first developed, with some of them still active till date. These search engines include: W3Catalog (active), ALIWEB (inactive), JumpStation (inactive), WWW Worm (inactive). The likes of Yahoo came up in 1995 while Google came up in 1998. However, according to W3.org, Google only became popular in the early 2000s when it successfully achieved better results for many searches with an algorithm called PageRank

A general search engine is a multi-purpose system software that is programmed to search for information and retrieve information on the internet superhighway, the world wide web. It is an information retrieval system that is meant to find general information that is stored on the international network of computers. Search engines shape the lives of billions of online users who require them for the search and retrieval of needed information to meet varying needs at different times in their lives. In the words of Abdullahi, Muhammad and Amao (2021), search engines perform two major tasks. They are: "searching through the billions of keywords recorded in the index to find information that match the query sent by the user and ranking retrieved records in order of importance so that the user can choose the most relevant". Lewandowski and Schultheiß (2022) observes that through this second function of ranking retrieved records, users are provided with ranked search outputs from which they usually select only one site to visit or, in some cases, a handful.

Search engines are computer software that have the ability of searching through large volumes of text or other data for specified keywords, and then return a list of files where the keywords are found. Search engine helps users retrieve information on a wide variety of valuable topics. It is a software program that searches a database and gathers reports on information that contains or is related to specified terms. Onuh and Ekwueme (2020) believe that the internet and search engines help in information retrieval which means that there is large scale, rapid and spectacular expansion of information that is retrieved. Search engines are very important to undergraduate students especially those of Library and Information Science, who are future information professionals. These search engines are the channels through which information seekers can access past and present research that will aid undergraduate students in the course of their studies. Search engines are very instrumental in retrieving information when needed. And the popularity of search engines has been as a result of the proliferation of information and communication technologies (ICTs) (Lewandowski and Schultheiß, 2022)

Awareness means having knowledge of something. Thus, lack of awareness results in the lack of use of something. Awareness of general search engines will mean the usage of same for the purposes they are designed for. Awareness of search engines is central their usage, because awareness entails having knowledge about the existence of search engines; and obviously, nobody can make use of what they do not know of its existence. Awareness is enhanced by a lot of factors; "proficiency in the use of ICTs" and "general information literacy" (Lewandowski and Schultheiß, 2022) being two of the many factors. While some of these factors are facilitators, others are hindrances and challenges. There are varying ways and sources through which undergraduates gain awareness of general search engines. Abdullahi, et. al (2021) believes academics gain awareness about these general search engines through courses in the university, workshops/seminars/conferences, friends and colleagues, self-training, and professional training/short course. Thus, through one or a combination of some of these sources, they get to know about general search engines. Without doubt, awareness of general search engines will lead to utilization of these online searches.

Utilization of general search engines is a common place for undergraduate students whose information needs are rather general than specific. They will often than not stop at the barest minimum when seeking information for their semester papers and assignments. The frequently used search engines by students are Google, Yahoo, Ask.com, Bing (Onuh and Ekwueme, 2020); with only Google been the search engine that all students have used at least once (Oni, Eshiemokhai and Momoh, 2021). Thus, search engines are useful to students in meeting the demands of their study programmes and carrying out research assignments given to them by their lecturers as well as in getting general information on topics of interest to them.

For undergraduate students, the purposes for utilizing general search engines cannot be restricted to academics alone. Oni, et. al (2021) averred that students use general search engines for their study/assignments, research works, to keep updated on current happenings and general information, as well as for reading e-books, e-serials and other electronic information sources like online dictionaries. This clearly shows that though students mainly use search engine for school related purposes, they are not restricted to school related purposes alone, as they sometimes use these search engines for personal purposes like leisure, keeping abreast with current information, enlightenment and the likes. Kurniasih, et. al (2018) also noted that students use search engines to find references for college

assignments and thesis writing material. The respondents also use search engines to meet the daily information needs, solve problems, increase knowledge, reduce doubts, clarify things, entertain, fulfill curiosity about others, etc. effective as these search engines appear, they are not without some difficulties in using them.

The challenges to utilizing general search engines by undergraduate students are enormous. While some are the faults of these undergraduate students, others are the fault of society. Ahmed (2022) observed that the challenges that hinder optimum utilization of search engines by students are poor search engine skills, information overload, poor network/bandwidth, poor ICT knowledge, and incessant poor failure. Some undergraduate students may be unable to use search engines properly because they were never taught formally in school, only stumbling on how to use them by trial and error methods (Oni, et. al, 2021). Again, the high cost of data subscription and the poor network signal are major challenges that can hinder the proper utilization of general search engines, as information seekers may become frustrated in searching through these search engines when the network signal is weakness and web pages take several minutes to load.

Statement of the Problem

General search engines are useful in seeking general information in order to satisfy the information needs of those using them. Undergraduate students who are saddled with the responsibility of writing term papers and doing other assignments will surely find general search engines useful in meeting their information needs. When general search engines are used ethically and optimally, they can be veritable tools in the hands of undergraduate students to meeting their information needs for the semester.

However, preliminary investigation, close observation and literature review (Ahmed, 2022; Oni, et. al, 2021; Onuh and Ekueme, 2020; Kurniasih, et. al, 2018) have shown that the optimal use of general search engines is far from being achieved. As a result, undergraduate students plagiarize the intellectual properties of others because they have access to such information; they copy peoples work without acknowledgement, and present same work as their original ideas.

If solution is not proffered, this will greatly affect education and research in general. This is particularly true as these undergraduate students go on to become postgraduate students, educators, researchers and owners of industries. Thus, this research seeks to study how students of Federal College of Education Technical Ekiadolor are aware of and utilize general search engines.

Objectives of the Study

The overall objective of this research is to investigate the awareness and utilization of general search engines by students of Federal College of Education Technical Ekiadolor

To achieve this, specific objectives have been formulated. They are:

- i. To identify the level of awareness of general search engines by students of Federal College of Education Technical Ekiadolor.
- ii. To identify the level of utilization of general search engines by students of Federal College of Education Technical Ekiadolor.
- iii. To identify the purpose of utilization of general search engines by students of Federal College of Education Technical Ekiadolor.
- iv. To identify the challenges to utilization of general search engines by students of Federal College of Education Technical Ekiadolor.

Empirical Review

Adedeji (2023) investigated the use of search engines as predictor of research skills of postgraduate students in Library Schools: A case study of South-West, Nigeria. The descriptive survey research design of the correlational type was adopted for the study. The population was 311 postgraduate students of 4 library schools, and data were collected through the questionnaire and analysed using descriptive and inferential methods. The results showed a high level of research skills of the respondents, and Google is the highest used search engine. The respondents use search engines for basic reference information. There is a significant relationship between search engine use and research skills of the respondents.

Jimoh (2022) conducted a research on an appraisal of the use of search engines by students of Auchi Polytechnic Edo State Nigeria. The research adopted the descriptive survey research method, and the questionnaire was the instrument for data collection, while the study population was 3278 ND2 and HND2 students who registered with the Polytechnic library in the 2019/2020/2021/2022 sessions, with a sample size of 125. The study findings showed that there is a high extent of usage of search engines, and the respondents use search engines for research, examination preparation, current information, and assignment. A major challenge to usage of search engines by the students was information overload; the study recommended the teaching of advanced search choices (Boolean operators).

Abdullahi, et al (2021) studied awareness and use of search engines for information retrieval by lecturers of universities in Bauchi State. The descriptive survey design was adopted for the study and a structured questionnaire was used to collect data, the respondents were 200 lecturers from both universities in the State. Data analysis was through descriptive and inferential statistics. Findings revealed that many lecturers are aware and use search engines daily, Google chrome and Mozilla Firefox are the most used general search engines among the respondents; while the problems of network failure, lack of information retrieval skills, insufficient power and low network bandwidth are among the challenges the respondents encounter when using search engines. The research recommended that lecturers should be provided with updated ICT infrastructure, stable power supply.

In a study by Nyemezue, et al (2021) on empirical study of the awareness and utilization of internet search engines among undergraduate students of Nigerian universities for effective information retrieval on the web, the study adopted the descriptive survey research design, with a study sample of 525, using a structured questionnaire for data collection, and frequency count, percentages, mean and standard deviation for data analysis. The study results revealed that majority of the respondents are highly aware of and utilize Google, while only few are aware of and utilize Yahoo and Bing. Major challenges affecting awareness and utilization of internet search engines among the respondents are erratic power supply, high cost of internet access through data subscription, lack of search skill, slow internet connectivity, amongst others. The study recommended that there should be an awareness of other internet search engines as well as specialized search engines.

Oni, et al (2021) worked on use of search engines by students of Auchi Polytechnic, Auchi, Edo State Nigeria. The study adopted a descriptive survey research method. The questionnaire was the instrument for data collection, and the study population was 7278 students while the sample size was 379. Data analysis was through frequency counts and percentages. The results showed that majority of the students use Google and Yahoo search on a daily basis; the respondents acquire their knowledge of search engines through self-study, frequent use of the internet, trial and error means, online trainings, and through friends/colleagues. The study recommended that the e-library section of the Polytechnic library should be functional with adequate computers and internet connectivity for students to access the internet and familiarize themselves with search engines.

Onuh and Ekueme (2020) conducted a study that dwelt on the awareness and utilization of search engines for information retrieval by students of National Open University of Nigeria in Enugu Study Centre Library. The study adopted the descriptive survey research, and structured questionnaire was employed for data collection from population of 5855 and a sample size of 293. Data collected were analysed using mean and standard deviation. Findings revealed that there is a low level of awareness of search engines for information retrieval among the respondents, the search engines used by the students are Google, Yahoo, Bing and Ask.com. the research recommended that use of search engines be included in the course content of Information Literacy and Library Orientation.

Kurniasih, et al (2018) studied the utilization of search engines by students of the Library and Information Science program at Universitas Padjadjaran. The study adopted the mixed method (quantitative and qualitative) in which data were collected questionnaire, in-depth interview, observations and literature studies. The study population was 120 students of the university studying Library and Information Science. Data were analysed using frequency distribution tables, and descriptions accompanied by interpretations. The results showed that the respondents use search engines for college assignments, these writings, meet daily information needs, solve problems and increase knowledge. the respondents use keywords and Boolean logic for information retrieval from these search engines.

Methodology

The study is empirical, and adopted a survey research. The online questionnaire was used for collecting data because of the ease, anonymity and convenience for the respondents.

The population of the research is the 302 students of the College, and the total enumeration was adopted because of the manageable size of the population.

Table 1: Population of the Study

SN	Schools	Population
1	School of Technical Education	22
2	School of Sciences	125
3	School of Vocational Education	155
	Total	302

Results and Discussions

Table 2: Demographics of Respondents

Schools	Technical Education	17
	Sciences	103
	Vocational Education	132
	Total	252 (83%)
Gender	Female	141 (56%)
	Male	111 (44%)
	Total	252 (100%)

Table two showed that a total of 252 copies of the questionnaire were filled and submitted, giving a response rate of 83%. Among these, 17 were from the School of Technical Education, 103 were from the School of Sciences, and 132 were from the School of Vocational Education. Based on gender, 141 of the respondents are females while 111 are males.

Table 3: Level of awareness of general search engines by students of Federal College of Education Technical, Ekiadolor

VHE – Very high extent; HE – High extent; LE – Low extent; VLE – Very low extent

Level of awareness	VHE	HE	LE	VLE	Mean	Remark
To what extent are you aware of Yippy search as a general search engine?	2 (0.8%)	9 (3.6%)	17 (6.7%)	224 (88.9%)	1.16	Rejected
To what extent are you aware of Naver as a general search engine?	0	0	23 (9.1%)	229 (90.9%)	1.10	Rejected
To what extent are you aware of Baidu as a general search engine?	0	0	23 (9.1%)	229 (90.9%)	1.10	Rejected
To what extent are you aware of Yandex as a general search engine?	0	21 (8.3%)	52 (20.6%)	179 (71.1%)	1.37	Rejected
To what extent are you aware of DuckGuckGo as a general search engine?	8 (3.2%)	13 (5.2%)	49 (19.4%)	182 (72.2%)	1.39	Rejected
To what extent are you aware of Hot Bot as a general search engine?	26 (10.3%)	0	0	226 (89.7%)	1.31	Rejected
To what extent are you aware of Bing as a general search engine?	11 (4.4%)	28 (11.1%)	57 (22.6%)	156 (61.9%)	1.60	Rejected
To what extent are you aware of Ask.com as a general search engine?	8 (3.2%)	13 (5.2%)	49 (19.4%)	182 (72.2%)	1.39	Rejected
To what extent are you aware of Yahoo as a general search engine?	21	179	52	0	2.88	Accepted

	(8.3%)	(71.1%)	(20.6%)			
To what extent are you aware of Google as a general search engine?	201 (79.8%)	51 (20.2%)	0	0	3.80	Accepted

Criterion Mean: 2.5

Table 3 showed that students of Federal College of Education Technical Ekiador are mostly not aware of the common general search engines. The general search engines they are aware of are Google (with a mean score of 3.8 out of a possible 4.0), and Yahoo (with a mean score of 2.88 out of a possible 4.0). This showed a very low level of awareness of general search engines by students of Federal College of Education Technical Ekiador. The implication of these findings is that Google has taken the centre stage in information search and retrieval.

The findings agree with those of Onuh and Ekueme (2020) who reported that the students of Nigeria in Enugu Study Centre Library are highly aware of Google, while the respondents are simply aware of Yahoo, Bing and Ask.com. Then for other search engines, the respondents' awareness is very low. Kurniasih, et al (2018) also reported in their study that students of Library and Information Science program at Universitas Padjadjaran are mostly aware of the following search engines Google, MSN, Bing, Ask, Yahoo, Lycos.

Table 4: Level of utilization of general search engines by students of Federal College of Education Technical Ekiador

D – Daily, W – Weekly, M – Monthly, R - Rarely

Level of utilization	D	W	M	R	Mean	Remark
How often do you use Yippy search as a general search engine?	2 (0.8%)	9 (3.6%)	17 (6.7%)	224 (88.9%)	1.16	Rejected
How often do you use Naver as a general search engine?	0	0	31 (12.3%)	221 (87.7%)	1.12	Rejected
How often do you use Baidu as a general search engine?	0	0	28 (11.1%)	224 (88.9%)	1.11	Rejected
How often do you use Yandex as a general search engine?	0	5 (1.9%)	43 (17.1%)	204 (81%)	1.21	Rejected
How often do you use DuckGuckGo as a general search engine?	7 (2.8%)	9 (3.6%)	49 (19.4%)	187 (74.2%)	1.35	Rejected
How often do you use Hot Bot as a general search engine?	0	0	23 (9.1%)	229 (90.9%)	1.10	Rejected

How often do you use Bing as a general search engine?	0	0	27 (10.7%)	225 (29.3%)	1.11	Rejected
How often do you use Ask.com as a general search engine?	26 (10.3%)	0	0	226 (89.7%)	1.31	Rejected
How often do you use Yahoo as a general search engine?	0	0	24 (9.1%)	228 (90.9%)	1.10	Rejected
How often do you use Google as a general search engine?	252 (100%)	0	0	0	4.00	Accepted

Criterion Mean: 2.5

Table 4 showed that all the students of Federal College of Education Technical Ekiadolor utilize Google search engine on a daily basis, while they rarely utilize Yahoo search engine even if they are aware of Yahoo as a search engine. It is not surprising however that the students do not utilize other general search engines as they are not even aware of the existence of such general search engines in the first place. It is expected that awareness will precede utilization. Thus, the students cannot use what they are not aware of. That is why they majorly use Google in their search for and retrieval of information.

The findings are in tandem with those of Adedeji (2023) who showed in his study that the general search engines mainly used by postgraduate students in Library Schools in South-Western Nigeria are Google (mean of 4.64) followed by Yahoo (mean of 1.56), Bing (mean of 1.16), and Ask.com (mean of 1.12). The findings also agree with Abdullahi, et al (2021) who reported the level of usage of search engines by lecturers in universities in Bauchi State, and the study showed that among the general search engines, they use more Google chrome and Mozilla Firefox.

Table 5: Purpose of utilization of general search engines by students of Federal College of Education Technical Ekiadolor

Purposes of utilization	Yes	No	Mean	Remark
I use general search engines for academics/research	33 (13.1%)	219 (86.9%)	1.13	Rejected
I use general search engines for leisure	226 (86.7%)	26 (10.3%)	1.90	Accepted
I use general search engines for business	211 (83.7%)	41 (16.3%)	1.83	Accepted
I use general search engines because they're easy to use	209 (82.9%)	43 (17.1%)	1.83	Accepted
I use general search engines because they help me get general information on topics/subjects	76 (30.1%)	176 (69.8%)	1.30	Rejected

I use general search engines because I'm unable to use specialized search engines	50 (19.8%)	202 (80.2%)	1.20	Rejected
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Criterion Mean: 1.5

Table 5 showed that the purposes for which students of Federal College of Education Technical Ekiadolor utilize general search engines are because they use general search engines for their leisure, businesses, and because they find them easy to use. The Table showed that the students of Federal College of Education Technical Ekiadolor do not usually utilize general search engines for their academic endeavours. The result findings are in contrast with Jimoh (2022) who reported that students use search engines for research, studying for examination, and to seek current information; but both researches agree on the purposes of usage of general search engines for browsing/leisure. The research findings also negate those of Oni, et al (2021) who reported that the purpose for which students of Auchi Polytechnic use search engines are for study/assignment, research, current/up-to-date information, browsing/leisure.

The variations and negations in these findings could be because students of Federal College of Education Technical Ekiadolor are all new students (NCE 1), as the College is only in its first session of admitting students; and the students are yet to understand the usefulness of general search engines in meeting their educational and information needs.

Table 6: Challenges to utilization of general search engines by students of Federal College of Education Technical Ekiadolor

Challenges to utilization	Yes	No	Mean	Remark
High cost of internet subscription hinders my usage of general search engines	207 (82.1%)	45 (17.9%)	1.82	Accept
Inconstant power supply hinders my usage of general search engines	209 (83%)	43 (17%)	1.82	Accept
High cost of gadgets hinders my usage of general search engines	204 (81%)	48 (19%)	1.81	Accept
Low bandwidth/internet connectivity hinders my usage of general search engines	176 (69.8%)	76 (30.1%)	1.70	Accept
Inability to surf the internet hinders my usage of general search engines	50 (19.8%)	202 (80.2%)	1.20	Reject

Criterion Mean: 1.5

Table 6 revealed the challenges students of Federal College of Education Technical Ekiadolor encounter when they utilize general search engines. The challenges include inconsistent power supply, high cost of internet subscription, high cost of gadgets, and low bandwidth/internet connectivity. The Table however showed that inability to surf the internet was not a challenge to the students of Federal College of Education Technical Ekiadolor. The findings differ from those of Jimoh (2022) who averred that the challenges students face in using search engines include poor search engines skills and information overload; the findings however agree with other findings of Jimoh (2022) on poor network/bandwidth, and incessant power failure. The research findings also agree with Nyemez, et al (2021) who showed that the challenges encountered by undergraduate students of Nigerian universities are erratic electric power supply, high cost of internet access through data subscription, slow internet connectivity; but it disagrees on the item of lack of search skills, as Nyemez, et al (2021) reported that lack of search skills is a challenge to use of search engines.

Conclusion and Recommendations

There is no gainsaying that general search engines are useful to students, both at undergraduate and postgraduate levels. To be able to use these invaluable tools, students ought to be aware of them, and master the art of their usage. Once these are achieved, students will have an almost seamless ride in using these search engines to their academic benefits.

Based on the research findings, the following recommendations are made:

- i. Through General Studies Courses of Use of Library and Information Literacy, students should be exposed to the different types of general search engines available;
- ii. Students should be taught about the different general search engines, their features and usage;
- iii. Students should make conscious efforts to learn how to use general search engines for their academic advantage;
- iv. Students should be provided with favourable environments, facilities and equipment for the easy usage of general search engines.

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