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Awareness and Utilization of Search Engines for Information Retrieval by Students of National Open University of Nigeria in Enugu Study Centre Library

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Abstract

This study dwelt on awareness and utilization of search engines for information retrieval by students of National Open University of Nigeria (NOUN) Enugu Study centre. Descriptive survey research was adopted for the study. Two research questions were drawn from the two purposes that guided the study. The population consists of 5855 undergraduate students of NOUN Enugu Study Centre. A sample size of 293 students was used as 5% of the entire population. A questionnaire was used as an instrument for data collection. These research questions were analyzed using mean and standard deviation scores. The findings showed that the level of awareness of search engines for information retrieval among the students of NOUN in Enugu study centre is to a low extent. The result of the findings also indicated low utilization of search engines for information retrieval. The findings also show that the students use only yahoo search, Google, Bing, Ask.com as their most preferred search engines. Base on the findings, it was recommended among others that use of search engines be included in the course content of information literacy and library orientation as part of general studies in institution to enhance awareness and acquisition skills required for the utilization of search engines for information retrieval. List of search engines can be marketed to these students through various ways like posters, flyers, library website, social media and word of mouth for effective awareness and adequate utilization of search engines for information retrieval.

Key Word: Awareness, Utilization, Search Engine, Information Retrieval, National Open University of Nigeria

Introduction

The need for quick and easy access to information necessitates the use of Information and Communication Technology (ICT) in sourcing, providing, processing, storing and dissemination of information to users. The introduction of ICT in information processing and storage gave rise to the use of this technology in information access and retrieval through the use of search engines. According to Louis in Daniel and Oghale (2015), search engines are a software of a computer that has the capability 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.

The internet and various search engines aid information retrieval which means that there is large scale, rapid and spectacular expansion of information that is retrieved. Internet is the global system of interconnected computer networks that use the required protocol suite like transmission control protocol/internet protocol (TCP/IP) to link devices worldwide. It connects millions of computers globally. Anyira (2013) noted that the internet has changed the format of information storage and retrieval. It has transformed the jobs and functions of all and sundry. The use of internet has necessitated qualitative searches for easy and efficient information retrieval. Stressing the effect of the internet, Daniel and Oghale (2015) also opined that internet is the network of interconnected networks, which has websites that contain files; searches are done on the internet using search engines for adequate, efficient, easy access and retrieval of information for the users. So for users to retrieve information from the internet, they must use search engines. The search engines are Yahoo search, Bing, Google, Dogpile, Ask.com, DuckDuckgo, Msn search, Alta Vista and Lycos.

Awareness of search engines in this context is the ability to know or have knowledge of the existence of search engines for the library user and how they can utilize these search engines in retrieving information resources to satisfy their information needs. Information retrieval is the activity of obtaining information from a collection of information resources to attain a particular information need. It is also the science of searching for information in a document, searching for metadata that describes data, and for databases of texts, images or sounds. Eze and Aja (2014) noted that utilization is the use of something to achieve a particular goal.

Information retrieval is a process of extracting, bringing out useful knowledge from data stored in documents, database, and web page to satisfy your information need for present and future use. Magdy (2012) also referred to information retrieval as the process of finding documents relevant to users information need as expressed by query while minimizing the number of returning non-relevant documents.

National Open University education is a distance learning institution involved in open education which according to Kpolovie and Obilor (2014) are attractive because of its flexibility. Flexibility in the sense that their students study at their pace decides when to learn, what to learn want and where they want to learn. The students of NOUN are distance learners who are not always physically present at the campus. Distance learning is a form of instruction by a mode other than the face-to-face method, where there is physical separation between the teacher and the learner, and instruction takes place through a variety of media including print and modern ICT. Adu, Eze, Salako and Nyangechi (2013) opined that distance learning is a field of education that focuses on teaching methods and technology to deliver teaching, often on an individual basis, to learners who are not physically present in a traditional educational setting such as a classroom. It has been described as a process to create and provide access to learning when the source of information and the learner are separated by time and distance, or both.

Purpose of the Study

The purpose of this work is to determine the awareness and utilization in the context of search engines by students of NOUN Enugu Study Centre. The specific objectives, therefore, are to:

1. Establish the extent of awareness of search engines by students of NOUN Enugu study centre
2. Determine the extent of utilization of search engines for information retrieval among NOUN students Enugu study centre.

Research Questions

This research will be guided by the following research questions based on the specified objectives:

1. What is the extent to which students of NOUN Enugu Study centre are aware of search engines for information retrieval?
2. To what extent do students of NOUN Enugu Study Centre utilize search engines for information retrieval?

Literature Review

Awareness of Search Engines by Students for Information Retrieval

Awareness in the context of library resources is the process of knowing about the existence of library resources and how they can be effectively utilized to satisfy the information needs of the users. These library resources include prints, electronic journals, electronic book, and online databases in varied digital format where the users can make searches and retrieve relevant information online. Moreover, Gwazah in Agboola (2017) stressed that electronic sources of information have introduced changes to the services and retrieval of information. Azubuike (2016) noted that awareness is an act of knowing about the experience of something. However, awareness according to Ani in Akpojotor (2016) is knowledge about something that exists or understanding of a situation or subject at present based on information or experience. Therefore

awareness in general perspective is knowing of the existence of a particular situation which is based on information or experience.

More so, the availability of library resources in libraries and their use to retrieve valuable information has given room for a paradigm shift in the role of library services to the users. However, there is a need to create awareness of these electronic resources to achieve the aim of its provision. Therefore, it is the responsibility of the libraries to acquire these resources and create awareness of these resources to their clientele for effective utilization. It is also worthy of note that these electronic resources cannot be accessed without the use of search engines. Kiran (2013) stated that search engines help users to retrieve appropriate information from the vast information available on the websites. So awareness of these search engines is very necessary as it has its root in information retrieval (Anthammetten 2012).

According to research carried out by Akparobere & Oghale (2015) on awareness, use and impediments of search engines by undergraduate students in Delta State University Abaraka, Nigeria, there is poor awareness of search engines. The study discovered that undergraduate students of Delta State University Abaraka are only aware and use Google and Yahoo search engines for their information retrieval. A similar research Imeniwe (2018) on Awareness and use of search engines by undergraduate students in Delta State University, Abaraka Nigeria indicated poor awareness of search engines for information retrieval. The result shows that undergraduate students of Delta State University Abaraka have poor awareness of the available search engines for online information retrieval. It also indicated that the said students are familiar with Google search engines and they use it frequently. These results are in line with the result of the research findings by Msurshima (2010) on awareness and use of search engines by undergraduate students of University of Agriculture, Makurdi, Benue State which also indicated poor awareness of search for Information retrieval. The result shows that the students are mostly aware of Google and Yahoo for their information retrieval

Utilization of Search Engines by Students for Information Retrieval

Utilization can be seen as a process of using something for a particular purpose. Therefore, the utilization of search engines in the context of access to information is the use of search engines for effective information retrieval. Some empirical studies carried by Msurshima (2014), Echezona (2012), Akparobore & Oghale (2015) on awareness and utilization of search engines for information retrieval indicated that the utilization of search engines in the library and information centres is an effective way of increasing access and convenience in library utilization. Jagboro in Nwokedi and Nwokedi (2017) stressed that some lecturer exhibit ignorance on how to use various search engines and this affect their access and retrieval of information from the internet. They also stressed on the main search engines used by lecturers are Google, AltaVista, Lycos, Ask Jeeves, MSN, Netscape, Dogpile, Yahoo and Excite. Furthermore, Imoniwe (2018) in research titled awareness and use of search engines by undergraduates in Delta State University revealed that out of the major listed search engines namely Google, Yahoo, Google Scholar, Ask.com, Bing, Blekko, Web crawler that Google is the

frequently used search engine followed by Google scholar. The research showed that other search engines listed were never used as indicated by the respondents. Also, Sivasubramanian, Gomathi & Sivasubramanian (2019) in their research on Awareness and usage of search engines amongst the students Srirnakrishna College of Arts and Science Coimbatore, indicated that Google is the most utilized search engines for their information retrieval.

Research Methodology

The descriptive research design was adopted for this study. The population of the study is 5855 undergraduates of National Open University Enugu study centre (Retrieved from National Open University of Nigeria Enugu Study Centre documentation record book). A sample simple size of 5% of the population was used for the population of the study. As suggested by Boll & Gall suggestion in Uzoagulu (2011), that in determining the sample size of a population for a study a population up to 1000, use 20%; for 5000 use 10%; for above 5000 use 5%. Therefore, 293 undergraduates represent 5% of the 5855 undergraduates for the entire population of the study. Copies of the questionnaire were distributed to the library users in the study centre during course registration, Tutor marked Assignment and examination period when these students were regular to ensure spot filling of the questionnaire to avoid delays, misplacement and enhance quick return. However, a total of two hundred and ninety-three (293) copies of questionnaire were administered to the study subject selected thought random sampling to ensure an adequate representation of the different elements of the study population. However, only two hundred and seventy-six (276) were validly completed and useful for this study. This gave a questionnaire return of 94% which was considered statistically adequate for our analysis. The data were organized in a table according to research questions. Standard deviation (SD) and mean (x) scores and the statistical analysis were used in analyzing the data generated from the questionnaire. The mean was interpreted in line with the four (4) points scale ranging from four (4) highest to one (1) the lowest. For decision making, the lowest limit of high degree response category of 2.50 was used as the cutoff point. Any item with a mean response of 2.50 and above was accepted as an influencing factor.

Results of the Findings

Distribution of Questionnaires

A total of 293 copies of the questionnaires were distributed randomly to the student of National Open University of Nigeria Enugu Study Centre. An analysis of how the questionnaire was distributed is shown below.

Table 4.1: Distribution of Questionnaires

Questionnaire Distributed		Questionnaire returned		Questionnaire not returned	
Frequency	%	Frequency	%	Frequency	%
293	100	276	94	17	6

A total of two hundred and ninety-three (293) copies of questionnaire were administered to the study subject selected thought random sampling to ensure an adequate representation of the different elements of the study population. However, only two hundred and seventy-six (276) were validly completed and useful for this study. This gave a questionnaire return of 94% which was considered statistically adequate for our analysis

Data Presentation and Analysis based on the Research Questions

Research Question 1: What is the extent to which students of NOUN Enugu Study centre are aware of search engines for information retrieval?

Table 1: Mean and standard deviation scores on the extent of awareness of NOUN Enugu Study centre Student to search engines

S/No	Item	NA	FA	A	VA	\bar{X}	SD	Decision
1.	Yahoo Search	29	26	37	184	3.36	1.03	High Extent
2.	Bing	45	66	78	87	2.75	1.07	High Extent
3.	Google search	3	16	42	215	3.70	0.63	Very High Extent
4.	Dog pile	114	92	52	18	1.91	0.93	Low Extent
5.	Ask.com	71	42	60	0	2.71	1.21	High Extent
6.	DuckDuckgo	154	72	38	12	1.67	0.87	Not Aware
7.	Msn search	93	63	57	63	2.33	1.16	Low Extent
8.	Alta vista	139	62	42	33	1.89	1.06	Low Extent
9.	Lycos	150	72	36	18	1.72	0.93	Low Extent
10.	Infoseek	134	67	41	34	1.91	1.06	Low Extent
11.	Yandex.com	141	55	39	41	1.93	1.12	Low Extent
12.	ScrubTheWeb	127	64	51	34	1.97	1.07	Low Extent
13.	Entireweb	126	77	33	40	1.95	1.08	Low Extent
14.	Blekkio	154	72	28	22	1.70	0.95	Low Extent
15.	Gigablast	159	46	53	18	1.75	0.98	Low Extent
16.	AOL search	121	63	33	59	2.11	1.19	Low Extent
17.	Wow	142	42	46	46	1.99	1.16	Low Extent
18.	WebCrawler	99	68	71	38	2.17	1.07	Low Extent
19.	MyWeb Search	99	80	30	67	2.24	1.18	Low Extent
20.	Infospace	150	69	29	28	1.76	1.00	Low Extent
21.	Yippy	150	40	52	34	1.89	1.10	Low Extent
22.	Hot Bot	155	64	19	38	1.78	1.07	Low Extent
23.	Wolfram Alpha	172	51	32	21	1.64	0.96	Low Extent
24.	Ixquick	175	64	19	18	1.57	0.88	Low Extent
25.	Blucora	181	55	22	18	1.55	0.90	Low Extent
Overall		123.32	59.52	41.60	47.44	2.08	1.03	Low Extent

Key: – NA – Not Applicable, LE – Low Extent, HE - High Extent, VHE – Very High Extent,

Table 2 shows the extent to which students of NOUN Enugu Study centre are aware of search engines for information retrieval. Results showed items 1, 2, and 5 had the total mean ratings of 3.36, 2.75, 3.70 and 2.71 respectively. The mean ratings are within the range of 2.50 -3.49 set as a criterion for “high extent”. The highest mean score of 3.70 is for the extent of awareness on the use of Google search for information retrieval by the students of NOUN Enugu Study centre. Items 6 – 25 have mean ratings within the range of 1.50 -2.49 set as a criterion for ‘low extent’. These search engines include Dogpile, DuckDuckgo, Msn search, Alta Vista, Lycos, Infoseek, Yandex.com, ScrubTheWeb, Entireweb, Blekko; Gigablast; AOL search, Wow, WebCrawler; My Web Search, Infospace; Yippy and HotBot. The lowest-ranked means score is 1.55, followed by 1.57 and 1.64 which are for Blucora, Wolfram Alpha and Ixquick respectively. The overall mean rating of 2.08 with a standard deviation of 1.03 derived from the responses of students of NOUN Enugu Study centre indicated that to a low extent the students are aware of search engines for information retrieval.

Research Question 2: To what extent do students of NOUN Enugu Study Centre utilize search engines for information retrieval?

Table 3: Mean and standard deviation scores on the extent to which Student of NOUN Enugu Study centre utilize search engines.

S/No	Item	NA	LE	HE	VHE	\bar{X}	SD	Decision
1.	Yahoo Search	21	30	53	172	3.36	0.95	High Extent
2.	Bing	64	67	58	87	2.61	1.16	High Extent
3.	Google search	27	29	27	193	3.40	1.02	High Extent
4.	Dog pile	140	88	45	3	1.68	0.78	Low Extent
5.	Ask.com	75	71	77	53	2.39	1.08	High Extent
6.	DuckDuckgo	155	75	23	23	1.69	0.94	Low Extent
7.	Msn search	134	66	37	39	1.93	1.09	Low Extent
8.	Alta vista	133	89	35	19	1.78	0.92	Low Extent
9.	Lycos	149	105	19	3	1.55	0.67	Low Extent
10.	Infoseek	143	88	22	23	1.73	0.93	Low Extent
11.	Yandex.com	127	98	22	29	1.83	0.97	Low Extent
12.	ScrubTheWeb	133	92	28	23	1.79	0.94	Low Extent
13.	Entireweb	120	118	16	22	1.78	0.88	Low Extent
14.	Blekko	159	82	28	7	1.58	0.78	Low Extent
15.	Gigablast	127	108	32	9	1.72	0.79	Low Extent
16.	AOL search	123	103	40	10	1.77	0.83	Low Extent
17.	Wow	133	98	19	26	1.78	0.94	Low Extent
18.	WebCrawler	128	97	26	25	1.81	0.94	Low Extent
19.	MyWeb Search	114	83	43	36	2.00	1.05	Low Extent
20.	Infospace	143	72	35	26	1.80	0.99	Low Extent

21	Yippy	133	105	25	13	1.70	0.82	Low Extent
22	Hot Bot	158	79	12	27	1.67	0.95	Low Extent
23	Wol fram Alpha	147	81	42	6	1.66	0.81	Low Extent
24	Ixquick	156	88	29	3	1.56	0.72	Low Extent
25	Blucora	152	85	29	10	1.63	0.82	Low Extent
	Overall	123.76	83.88	32.88	35.48	1.93	0.91	Low Extent

Key: NA- Not Applicable, LE- Low Extent, HE- High Extent, VHE- Very High Extent. \bar{X} - Mean and SD* - Standard Deviation

Table 3 shows the rating of the extent to which students of NOUN Enugu Study centre utilizes search engines. The frequently used search engines with their mean scores for information retrieval are Yahoo Search (3.36), Bing (2.61), Google search (3.40) and Ask.com (2.39). The search engines which are utilized to a low extent include Dogpile (1.68), DuckDuckgo (1.69), Msn search (1.93), Alta Vista (1.78), Lycos (1.55), Infoseek (1.73), Yandex.com (1.83), ScrubTheWeb (1.79), Entireweb (1.78), Blekko (1.58), GigBlast (1.72), AOL search (1.77), Wow (1.78), WebCrawler (1.81), My Web Search (2.00), Infospace (1.80), Yippy (1.70), Hot Bot (1.67) Wolfram Alpha (1.66), Ixquick (1.56) and Blucora (1.63). The overall mean of 1.93 with a standard deviation of 0.91 is below 2.50, indicating that the extent of utilisation of various search engines by Student of NOUN Enugu Study centre for information retrieval is low.

Discussion and Findings

1. The result on the extent to which students of NOUN Enugu Study centre are aware of search engines for information retrieval indicated that the students to a low extent are aware of search engines for information retrieval. Also the search engines most of these students are aware and use in information retrieval are yahoo search, Bing, Google search and Ask.com. The findings agree with the findings expressed by Akparobere & Oghale (2015) and Imeniwe (2018) that undergraduate students of Delta State University Abaraka are only aware and use Google and Yahoo search engines for their information retrieval.
2. The result presented in table 3 above on the extent to which student of NOUN Enugu Study centre utilize the various search engines shows that Students of NOUN Enugu study centre use only yahoo search, Bing, Google search and ask.com for their information retrieval. This result is in line with the result of the research conducted by Akparobore & Oghale (2015) on awareness, use and impediments of search engines by undergraduate students in Delta state university, Abraka Nigeria which shows that the students utilize Google search and yahoo search regularly for their information retrieval.
3. The finding also indicated that highest search engine used by these students is Google search the result is in agreement with similar researches carried out by Akparobere & Oghale (2015), Imeniwe (2018) on the undergraduate of Delta State University Abaraka and Msurshima (2010) on awareness and use search engines by undergraduates of University of Agriculture, Makurdi, Benue State which revealed that these undergraduate are similar with Google search and use it frequently for information retrieval.

Conclusion

The uses of search engines in the retrieval of information help in keeping students abreast of current information from the internet for study and research. The results of this study have vital educational implications on research and study being carried out by these undergraduates. It implies that these undergraduates may not be aware of current information existing in their area of study. So there is an urgent need to include digital information literacy content into the curriculum for all the students, faculties and researchers. The librarians should create awareness on the use and skills needed for the use of search engines in information retrieval using different channels such as posters, library websites, library orientation and library week. The university authority should provide internet facilities to their students to ensure awareness and utilisation of search engines by undergraduates.

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