Online Information Resources Used by Students of Bill and Melinda Gate College of Health Technology Ningi, Bauchi State

Garba Dahiru (CLN)
Abubakar Tafawa Balewa, University Bauchi.
jikamshi2001@gmail.com
+2348060823826

Abdullahi Abubakar Dewa (CLN)
Abubakar Tatari Ali Polytechnic Library, Bauchi
Abdullahidewa1@gmail.com
+2347035907848

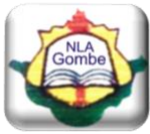Saleh Mubarak Yashi
mubaraksalehyashi@gmail.com
+2348163801235

Abstract:

The study investigated the Online Information Search Skills among Students of Bill and Melinda Gates College of Health Technology Ningi. Three objectives and three research questions were raised to guide the researcher. The study adopted survey research design. The population of the study was One Hundred and Ninety (190) students of the college in which out of the total One Hundred and Twenty-Seven (127) students was used as a sample through the Krejcie and Morgan (1970) recommendation. Twenty-One items of four (4) point scale questionnaire were used as the instrument for data collection. Frequency and percentages were used for data analysis. The study found that most students at Bill and Melinda Gates College of Health Technology in Ningi utilize online information resources, and many face difficulties accessing them. This indicates a need for constant training and seminars by faculty, library, and department staff to effectively teach students how to search for information using online resources. The study recommends that online information searching skills should be incorporated as a core course for all students from 100 level up to 300 level, in addition each department should establish an online information practical room. Finally, professionals should manage these rooms to help students learn the skills and techniques to seek information online. In conclusion the study affirms that the use of online information resources helps the students in so many ways as having access to the resources very quickly without hitches and not cost effective.

Keywords: Online information resources, ICT, Students, Academic Institutions Academic Libraries

Introduction

In recent years, technology has advanced unprecedentedly, resulting in an exponential increase in online information. This abundance of resources has made searching for information a complex task that requires advanced information literacy skills. As a result, many individuals, particularly students, face various challenges when trying to locate information on the Internet. These

challenges include a lack of search skills, confusion due to the sheer amount of information available, limited Internet access, high costs associated with data bundles, and a lack of support from library staff.

Despite these obstacles, online information searching has become a joint learning activity in Universities and Colleges. Students are frequently required to use the Internet for homework and research purposes. However, only some studies have sought to identify and address students' challenges when searching for information online from a theoretical perspective (Asogwu, Ugwu and Idoko 2016; Bardakci, Arslan and Unver, 2017).

This paper explores these challenges, including the explosion of information, information seeking, information searching, online information searching, and information literacy skills. Drawing on Eisenberg and Berkowitz's Big6 theory, we identify strategies for overcoming these challenges and successfully navigating the online information landscape.
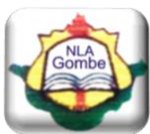
Statement of the Problem

Information acquisition is a vital resource for students to perform well academically. The Internet provides a vast and current pool of information from different fields and parts of the world. Accessing online information resources enhances quality research and provides access to various resources. Education requires studies to uncover how to use technologies optimally to benefit students and researchers. Online information is an essential resource for both staff and students. The Bill and Melinda Gates College of Health Technology management in Ningi, Bauchi State, has invested heavily in ensuring students access to online information resources. The college has deployed Internet access points and hotspots in the library and campus.

However, students' challenges when searching for information online are a cause for concern. Scholars such as Abdulkadir (2011) have noted that students spend long hours searching for online information, which raises questions about their information literacy skills. A shift from print to electronic resources requires information technology skills for practical use. Similarly, Daniel & Badaru (2023) observed that many Nigerian college staff and students need help using the web and other ICT facilities. Ugwu and Orsu (2017) explained that skills to search for and find information are especially necessary because there is often a wide range of possibly relevant documents to make do with.

Information literacy allows users to cope with the information explosion by equipping them with the necessary skills to recognize when they need the information, where to locate it, and how to use it effectively and efficiently (Association of College and Research Libraries, 2016). However, very few studies apply the relevant theoretical framework to investigate the challenges staff and students face when searching for information, especially in developing countries like Nigeria. This study explores the challenges staff and students face in searching for information online using Eisenberg and Berkowitz's Big6 theory.

Objectives of the paper

The objectives of the paper are on Online information resources used by students of Bill and Melinda Gates College of Health Technology Ningi. Specifically:

1. to identify the online information resources used by students of Bill and Melinda Gates College of Health Technology Ningi.

2. to discover the techniques used by students of Bill and Melinda Gates in seeking for information online.

3. to identify the challenges associated with the use of online information resources used by students of Bill and Melinda Gates College of Health Technology Ningi.
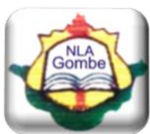
Literature Review:

Online Information Resources:

In the contemporary era, digitization has revolutionized the process of information acquisition, storage, and transfer. The availability of hardware, software, and human resources has facilitated online information services. According to Ihembido & Okwu (2023), online information services offer many benefits, such as reliable and authoritative sources that are updated and archived, combined information and access to the best websites. Online information resources are of great importance to academic communities, including universities, where higher education and research activities are paramount. Despite economic constraints, even in less developed countries, online information services have grown significantly.

Online services have transformed the mode of library operations and information services, widened access and use of information services, and established linkages to facilitate information transmission, transfer, and exchange of files and text. Providing bulletin boards, newsletters, database access, and interactive services has facilitated consolidating and repackaging information for specific needs. Online information services have enabled patrons to access information on job submission and execution, teleconferencing, teleordering, interlibrary loans, creating user profiles, and efficient information resources.

The integration of information technology into teaching has been promoted in educational institutions for decades. Online information searching and processing involves multifaceted cognitive and metacognitive strategies. Tsai (2009) proposed a three-dimensional framework for analyzing search strategies. Metacognitive domain strategies were regarded as the most critical to determining search outcomes. The training for Internet information searching strategies was required for students' ill-structured problem solving (Laxman, 2010). In order to help students utilize online information effectively and critically for learning, educators and information literacy librarians must understand how students search online information, profile students' online information searching strategies, and examine the factors influencing their search strategies.

Despite the numerous advantages of online information resources, some challenges are associated with their use. The present age is characterized by an information glut, which requires electronic means to access and process information. Globalization, digitization, and the information age have

challenged online information resources. Therefore, it is imperative to develop strategies to overcome these challenges and use online information resources best.

Integrating information technology into teaching has been promoted in educational institutions of learning for decades. Searching information on the Web has become a common learning activity in university teaching in all subject domains, online information searching and processing is a complex cognitive process involving multifaceted cognitive and metacognitive strategies.
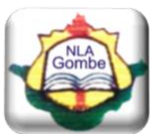
Tsai (2009) therefore proposed a three-dimensional framework for analyzing searching strategies. Following this study, an instrument was developed and metacognitive domain strategies were regarded as the most critical strategies to determine search outcomes. Laxman (2010) also conducted a baseline study for students' information literacy proficiencies. He further observed that searching strategies from a perspective of implicit versus explicit strategies framework. They found reading time and evaluation strategies were important predictors and therefore suggested a further examination on implicit strategies. On the other hand, Laxman (2010) found that training for Internet information searching strategies was required for students' ill-structured problem solving. Topics or contexts of online enquiries could be one of the factors that influence students' use of online information searching strategies. In order to help students utilize effectively and critically online information for learning, educators and information literacy librarians must understand how students search online information, profile students' online information searching strategies and examine the factors influencing their search strategies.

Challenges with the use of Online Information Resources:

Globalization, digitization, information age, etc. are terms used to describe the present age, a period characterized by information glut that requires the use of electronic means in order to access and use relevant information needed that are made available in the Internet. The application of computer has affected every aspect of human life. These include, education, commerce, health, transportation and more importantly science and technology, to mention but a few. The computer is a multipurpose machine that can be used in all the sectors of the economy, because of its easy use and applications. Obiora (2012) indicated that the "computer remains the major means of communication, information transfer, information access and use.

Daniel & Badaru (2023) maintained that "Free websites", though are free, are all individually maintained on the web, which makes it difficult to aggregate searches. Therefore, students must go from one site to another looking for the information they need. Also, free websites usually do not offer substantial archives of information. The consequence is that an article available one week may be gone next week, and the examples of such websites include: www.nytimes.com, edgar.sec.gov and www.cnnfn.com. He further stressed that "Fee-based websites" although have better selection of materials than free websites, they are still limited in focus. These sites charge for information either on a regular access fee or a fee charge each time a user accesses and downloads a document.

A drawback of fee-based websites is that they encourage adhoc purchases of information and researchers must often provide personal credit card for payment. Most of these websites do not encourage payment by purchase order, which is a serious challenge to information literacy, access

and use. Examples of fee-based websites include: www.hooves.com and www.stat.usa.gov. The value-added websites offer simple but powerful tools which enable students to search hundreds of sources, such as current information and archives simultaneously and results can be downloaded, printed or e-mailed. But the challenge is that they charge fees which can be paid with a company purchasing process. The blanket arrangement can provide access to a specified number of users within an organization. The problem remains that, many organizations may find it difficult to subscribe to value-added websites. There are three basic value-added websites and they include: www.dialog.com , www.factiva.com and www.lexisnexis.com . Hence, the inability of users to access and use valuable and relevant information resources online affect users in Bill and Melinda Gates College community.

Theoretical Framework:

This paper delves into the Big 6 Information Skills Model, developed by Michael B. Eisenberg and Robert E. Berkowitz in 1988. It is a systematic approach that combines the skills necessary to access and utilize information, helping individuals solve information issues. The model comprises six steps: task definition, information-seeking strategies, location and access, use of information, synthesis, and evaluation. These steps enable students to focus on their research, solve problems, and make informed decisions.

The Big 6 model is not limited to academic settings; it can be applied across various scenarios. It aims to enhance students' skills and abilities in adequate information problem-solving by providing a framework that aids beginners in constructing a method to tackle a given information task. The model's visual representation of tasks that may seem unrelated or challenging helps students achieve what may appear impossible initially.
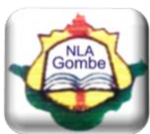
For a visual depiction of the six steps, kindly refer to Figure 1 below.

Figure1: Big 6 Model (Source: Eisenberg & Berkowitz, 1988)

The following text pertains to the Big Six information problem-solving process, a widely recognized model for teaching students how to solve information-related problems effectively. This model consists of six stages: task definition, information-seeking strategies, location and access, use of information, synthesis, and evaluation. The first stage, task definition, involves

helping students understand the nature of the assignment given and narrowing the scope to determine precisely what is required for a successful result. The second stage, information-seeking strategies, enables students to determine the range of possible sources and evaluate them to determine priorities. The third stage, location and access, teaches students how to find and efficiently use the selected sources. The fourth stage, using information, requires students to analyze information in each source critically and determine what is relevant to the problem. The fifth stage, synthesis, involves organizing and presenting information that meets the requirements outlined in the first stage. Finally, the sixth stage, evaluation, can be conducted during or after the completion of the assignment to judge its effectiveness. This model is not linear, and students may move from one stage to another while working on an assignment.

Methodology:

A survey research design was used for this study. The choice of survey research was due to the large nature of the population under study. This method involved collecting data about the target population which is group of people or items that are few considered to be true representative of the entire population under study (Anikweze, 2013). As pointed out by Creswell (2013), Survey research refers to a particular type of research design where the primary method of data collection is by survey. In this study design, surveys were used as a tool by researchers to gain a greater understanding about individual or group perspectives relative to a particular concept or topic of interest.
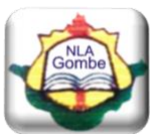
Bell (2014) pointed that "the aim of a survey is to obtain information which can be analyzed and pattern extracted and comparison made and all respondents will be asked the same questions as far as possible under the same circumstances. Information can be collected by means of questionnaire administered by the researcher. It is more appropriate for this study because, survey places emphasis on facts finding (empirical) and the study is on online information searching skills among students of Bill and Melinda Gates College of Health Technology Ningi. Sin-qua-non, the survey design is the most appropriate for the study, which was adopted in this research.

Data Analysis:

This section utilizes descriptive statistics to analyze the collected data. The frequencies and percentages of the data were calculated for this purpose.The research question posed in this study was: "What are the online information resources used by students of the Bill and Melinda Gates College of Health Technology Ningi?" Respondents were provided with a list of online information resources to choose from, and Table 4 presents the results of this survey.

Research Population:

Population is the aggregate or totality of objects or individuals, having one or more characteristics in common, that are of interest to the researcher and where inferences are to be made (Olaofe, 2010). The study was carried out in Bill and Melinda Gates College of Health Technology Ningi, a total of one hundred and ninety (190) students that comprised various programs runs in the college formed the population of this study as presented in Table 1.

Table 1: Population of the Study

S/N	Gender	Total number
1	Male	79
2	Female	111
	Total	**190**

Source: Field Survey (2024).

Table2: Sample Techniques and Sample Size of the Study

S/N	Gender	Population	Proportion	Sample Size
1	Male	79	79 ÷190×127	53
2	Female	111	111÷190×127	74
	Total	**190**		**127**

Field Survey (2024)

For this study, a total of 127 students were selected as a sample from a population of 190. Krejcie and Morgan (1970) developed a standard scale for determining the appropriate sample size for a study from the entire population under study. The sample size of 127 was determined using this scale.

Response Rate of Respondents:

The response rate for this study were given below in Table

Table 3: Response Rate of the Respondents

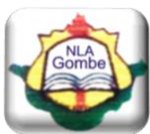| S/N	Gender	Number of Administered Questionnaire	Number of Returned And Usable Questionnaire	% of Returned Questionnaire	Not Returned
1	Males	53	50	41.7	3
2	Females	74	70	58.3	4
	Total	**127**	**120**	**100**	**7**

Questionnaire administered = 127 Questionnaire Returned = 120   Not Returned =7

Table 3 revealed that males have the response rate of 50 (41.7 %) while females have the response rate with 70 representing (58.3%). Therefore, it is clear from the table that female students have highest response rate than the male students.

Result and Findings:

What are the Online Information resources used by Students of Bill and Melinda Gates College of Health Technology Ningi?

This research question was raised to find out online Information resources used by Students of Bill and Melinda Gates College. In order to answer this research question, a list of online information

resources was provided for the respondents to tick as many resources as possible as presented Table 4 below.

Table 4. Respondents on Online Information Resources

S/N	Item	Agree	Disagree	A%	D%	Decision
1	E-journals	58	62	48.3	51.7	Disagreed
2	E-books	59	61	49.2	50.8	Disagreed
3	Electronic theses and dissertations	47	53	47.5	52.5	Disagreed
4	Online Databases	71	49	59.2	40.8	Agreed
5	Web	80	40	66.7	33.3	Agreed
6	OPAC	58	62	48.3	51.7	Disagreed
7	Search Engine	57	63	47.5	52.5	Disagreed
8	Online Indexes and Abstracts	71	49	59.2	40.8	Agreed

Source: Field Survey, 2024

Out of the total respondents, 58 (48.3%) acknowledged the usage of e-journals, while 62 (51.7%) disagreed with this statement. But 59 respondents (49.2%) confirmed the utilization of e-books, while 61 respondents (50.8%) differed.

Having had 53 respondents (47.5%) acknowledged electronic theses and dissertations, while 57 respondents (52.5%) denied their usage. Online databases were favoured by 71 respondents (59.2%), whereas 49 respondents (40.8%) opposed the statement.

Hence, 80 respondents (66.7%) confirmed the web usage, while 40 respondents (33.3%) did not believe in its usage. Online Public Access Catalogue (OPAC) was recognized by 58 respondents (48.3%), while 62 respondents (51.7%) did not support the statement 57 respondents (47.5%) confirmed the usage of search engines, while 63 respondents (52.5%) denied it. 71 respondents (59.2%) acknowledged online indexes and abstracts, while 49 respondents (40.8%) did not acknowledge their usage. Based on the data collected, the most commonly used online information resources by Bill and Melinda Gates College students are online databases and the web.
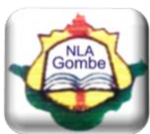
What are the Techniques used by Students of Bill and Melinda Gates College in seeking for information online?

This section was set to find out the techniques used by Students of Bill and Melinda Gates College in seeking for information online by the respondents. Table 5 presented the data collected and analyzed.

Table 5: Respondents on Techniques Used

S/N	Item	Agree	Disagree	TR	A%	D%	Decision
1	Different key word(s) techniques	101	19	120	84.2	15.8	Agreed

2	Boolean operators, truncation, search phrase instead of key words	55	65	120	45.8	54.2	Disagreed
3	Hyperlinks	89	31	120	74.2	25.8	Agreed
4	Author/ Title search	99	21	120	82.5	17.5	Agreed
5	Key words and subject headings	79	41	120	65.8	31.2	Agreed

Source: Field Survey, 2024

According to the results obtained from the survey, 84.2% of the respondents agreed that students of Bill and Melinda Gates College utilize different techniques to search for information online, while 15.8% of the respondents disagreed. Additionally, 45.8% of the respondents agreed that students use advanced methods such as Boolean operators, truncation, and search phrases instead of keywords. However, 54.2% of the respondents disagreed with this statement.

The data suggests that a significant number of students at Bill and Melinda Gates College use various methods to search for information online, including the use of different keywords, hyperlinks, author/title search, keywords, and subject headings. This finding aligns with previous research conducted by Anafo (2009), who reported that 60% of students can identify different keywords for effective searches. Aggrey (2011) also supported this, stating that most students can identify hyperlinks for searching. Furthermore, Boakye (2010) found that most students can formulate subject headings for their searches.

The goal of this section is to highlight the challenges faced by students when accessing online information resources. Table 4.6 presents the collected and analyzed data.
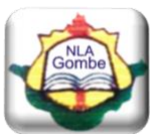
Table 6: Respondents on Challenges

S/N	Item	Agree	Disagree	TR	A%	D%	Decision
1	Information overload	58	62	120	48.3	51.7	Disagreed
2	Network Challenges	95	25	120	79.2	20.8	Agreed
3	Lack of search techniques	65	55	120	66.7	53.3	Agreed
4	Lack of power supply	85	35	120	70.8	29.2	Agreed
5	Lack of basic ICT knowledge and skills	65	55	120	74.2	45.8	Agreed
6	Lack of full installation of ICT	40	80	120	33.3	66.7	Disagreed
7	High cost of data subscription	70	50	120	53	41.7	Agreed

Source: Field Survey, 2024

The data collected on item 2 in Table 6 shows that 95(79.2%) of the respondents agreed that the fluctuation of the Network is a challenge faced by Students of Bill and Melinda Gates College. In contrast, 25 (20.8) of the respondents disagreed. The data collected on item 4 shows that 85 (70.8%) respondents agreed that power supply is another challenge faced by Students of Bill and Melinda Gates College. In comparison, 35 (29.2%) of the respondents disagreed.

Analysis of the data collected on the respondents' opinions on item 6 shows that 40 (33.3%) agreed that the lack of ICT installation is a challenge faced by Students of Bill and Melinda Gates College. In comparison, 80 (66.7%) of the respondents disagreed. Data collected on item 1 shows that 58

(48.3%) agreed that information overload is a challenge faced by Students of Bill and Melinda Gates College, while 62 (51.7%) of the respondents disagreed.

The result, therefore, revealed that fluctuation of the Network, lack of power supply, lack of basic ICT knowledge and high cost of data subscription are challenges faced by Students of Bill and Melinda Gates College. These findings align with Adomi (2010) and Daniel & Badaru (2023) who stated that information literacy challenges are lack of technical workforce, equipment, cost, electricity supply and lack of complete installation of ICT in educational institutions as inhibiting application and use. Also, Achonna (2014) identified that lack of skill in using e-journal resources and power outages limit the access and use of the resources.

Summary of the Major Findings

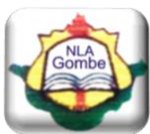The following were the significant findings from the research:

1. Most students of Bill and Melinda Gates College of Health Technology Ningi do not use online information resources.

2. Considerable number of Bill and Melinda Gates College of Health Technology Ningi students. I used keyword (s) and author/title techniques to seek information online.

3. Very negligible number of Bill and Melinda Gates College of Health Technology Ningi students. They faced challenges of network fluctuation and power supply fluctuation while accessing online information resources.

4. Power supply and network fluctuation challenges

Conclusion

From the analysis and the summary of the findings, most students of Bill and Melinda Gates College of Health Technology Ningi do not use online information resources. Many of the Bill and Melinda Gates College of Health Technology Ningi students have developed poor online information searching skills, making them lack information in a rich online information environment. This could be attributed to their inability to properly harness the resources available online by understanding the in-depth areas of their research interest and performing a careful and successful online information search to yield the required results. Similarly, fluctuations in the Network, lack of search techniques, fluctuations in power supply, and high data subscription costs are challenges many of the students of Bill and Melinda Gates College of Health Technology Ningi face while accessing online information resources.

More is needed for the Bill and Melinda Gates College of Health Technology Ningi students. They are in the habit of going directly to search engines when seeking information. However, they also visit information centres and libraries with the hope of verbally interacting with the librarians to help build up good online information-searching skills.
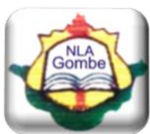
Recommendations

Based on the findings from the study, the following recommendations were made:

1. The study recommends that online information searching skills should be incorporated as a core course for all students from 100 level up to 300 level.
2. In addition, each department should establish an online information practical room and that professionals should manage these rooms to help students learn the skills and techniques to seek information online.
3. The students should as a matter of urgency start using online information resources for their school activities which will foster them academically.
4. More students should adopt the use of keywords and author title techniques in seeking information online. Similarly, more measures should be taken to educate/train students on the need to use online databases, websites and portals for their online information services, especially for academic achievement, study, academic excellence and global competitiveness. If this is done, it will go a long way in helping students of Bill and Melinda Gates College of Health Technology Ningi's quest for information in the online environment.
5. Provision of more funds to be used in installing power solar system to overcome the challenges of power supply in the institution and there should be regular maintenance of network to avoid fluctuations during when the students are making use of the network.

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