Digital Skills amongst Lecturers of the University of Zambia School of Medicine

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ABSTRACT
Digital literacy is critical in today's teaching; learning and research. In this regard, university lecturers should have the skills that can enable them to interact adequately in the digital environment. Possession of digital skills enables lecturers to retrieve the information they use in teaching and research. This paper aimed to examine the digital literacy levels of lecturers at the School of Medicine at the University of Zambia. Semi-structured questionnaires were used to collect information from a sample of 57 respondents. Data were analysed quantitatively using simple statistics in MS Excel. Findings indicate that respondents rated their Internet search skills as excellent (8, 19.5%) and very good (18, 43.9%). Search techniques most frequently used were searching by keywords (82.9%) and by topic (31.75%). The Internet was used every day (36, 87.8%). Further, the majority used online digital content for their academic purposes and believed this content was reliable. The study recommends that frequent training in digital literacy be implemented for all academic staff.

Keywords: Digital Literacy, Digital Skills, Information Literacy Internet Usage, Social Media, University, University of Zambia, Zambia.

1. INTRODUCTION

Digital Literacy is an important skill in today's world as it enables people to adequately, efficiently, and effectively navigate the online environment using Information and Communication Technologies (ICTs). This digital navigation can be in whatever sector and in whatever spatial location people are. Digital literacy has been defined as the ability to locate and utilise any information found in the digital sphere in an efficient manner (Buckingham, 2022; Cicha et al., 2021; Knobel & Lankshear, 2022; Spante et al., 2018). These are skills that make it possible for a person to comfortably and effectively engage with the online environment critically and intelligently. As defined by the European Commission, digital literacy is "the skills required to achieve digital competence, the confident and critical use of ICT for work, leisure, learning and communication" (European Union Commission, 2008, p. 4). These digital skills are "abilities to use digital devices, communication applications, and networks to access and manage information. They enable people to create and share digital content, communicate and collaborate, and solve problems for effective and creative self-fulfillment in life, learning, work, and social activities at large" (United Nations Educational Scientific and Cultural Organisation, 2018). Digital literacy itself which is close to digital skills is "the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills" (American Library Association, 2013, p. 1). This definition deliberately uses digital skills as these are the associated skills that

are relevant to people in the present day. In the higher education sector, digital skills are quite necessary and essential, and this necessity has further been spurred on by the emergence of the Coronavirus 19 (COVID-19). In 2019, most learning institutions in the world were forced to switch and conduct their activities online, without much preparation. However, in the face of a changing teaching and learning landscape, universities still have to maintain excellence and to do so, the university staff (lecturers and administrative staff) must all be digitally versatile to provide all-around support for students, who must also have similar digital skills. Information literacy programmes must be continuously carried out so that there is maximum utilisation of online information (Kamau & Kanyengo, 2020). Digital literacy has often been argued as a prerequisite for effective learning in a blended learning environment (Tang & Chaw, 2016, p. 54); and a space that consists of both physical and online learning.

1.1 Problem Statement

Knowing the digital skills of academic staff and their Internet search skills, the searching techniques they use when searching the Internet, the frequency with which they use the Internet, and the reasons why they use the Internet is important. However, no such study exists in Zambia, and therefore the need to know the digital skills of lecturers in Medical Schools in Zambia so that future planning and programmes can be evidence-based.

1.2 Objectives of the Study

The main objective of the study was to examine the digital literacy levels of lecturers of the School of Medicine (SOM) at the University of Zambia (UNZA). In doing so, the study sought to:
(i) establish the Internet search skills of lecturers;
(ii) establish the searching techniques used by lecturers;
(iii) determine, the frequency of use of the Internet by lecturers;
(iv) establish reasons for using the Internet by lecturers.

2. REVIEW OF THE LITERATURE

It has been argued that digital skills and competency are critical skills that lecturers in any university requirements in order for them to impart the necessary knowledge to their students. That knowledge must be current and evidence-based. Likewise, by the time they graduate from university, students should possess digital skills for them to be able to compete in the job market; otherwise, if they based their employability on the type, of course, they studied in university only, without necessarily having the digital skills to compete in the job market, they would not be marketable. This is why there is a need for lecturers who are digitally literate; as most universities are moving to hybridisation of operations and services, including pedagogy: face-to-face and online learning (Lubbe, 2016). Most universities, due to COVID 19 were forced to abruptly switch and offer their courses online; with "189 out of the world's top universities [moving] at least a quarter of their teaching online" (Jauk, 2020). However for this abrupt switch to have happened smoothly, both lecturers and students needed to be able to operate in the online environment efficiently; reflecting the importance of all sectors of the university community having the basic digital skills as well as access to online tools and applications that would allow them to interact in the online sphere

and with their students (Bagarukayo & Kalema, 2015; Ghavifekr et al., 2016; ILO & World Bank, 2021). It has already been recognised that:

> *"Universities and other tertiary education providers will play an important role in digital skills training, especially for the higher-order skills for more specialised professions. Given the pace of technological change, universities that partner with providers holding content expertise are well placed to deliver relevant training to their students"* (International Finance Corporation, 2021, p. 15).

Studies on the use of ICTs, the Internet, and other social media digital tools amongst both students and lecturers in Zambia show increased usage (Akakandelwa et al., 2018; Akakandelwa & Walubita, 2018; Chewe & Zulu, 2020; Daka & Kanyengo, 2008; Makunka, 2015; Mkulama et al., 2020; Monde et al., 2020; Muzata, 2020); whilst studies on library staff in Zambia show that there is increased usage (Akakandelwa et al., 2017; Akakandelwa & Walubita, 2018; Chewe et al., 2021; Kakana & Kanyengo, 2009; Kanyengo et al., 2011). In a study on the online search behaviour of students, Google was the most preferred search engine, with familiarity with a topic as the main predictor of search behaviour (Makondo et al., 2018). Another study on information search strategies among Theological Faculty Members in Tamil Nadu found that even if faculty used Google, they still created search strategies they were more comfortable with (Sellan & Sornam, 2018). Similarly, search engines were used for searching the internet but again, they preferred to search directly through other e-resources such as online journals, databases, or academic websites (Monde et al., 2017; Pattanaik & Pattanaik, 2011).

Likewise, Ukech (2014) says that search engines were the most used when searching for information online. Additionally, lecturers at the University of Gulu in Uganda were found to have used the Internet frequently (Ukech, 2014). This was similar to the situation of faculty at the North Orissa University in India, where they used the internet very often (Pattanaik & Pattanaik, 2011, p. 18). Pattanaik and Pattanaik (2011) further argue that faculty at North Orissa University in India used the internet for academic purposes. Equally, Ukech (2014) says the most used search engine was Google scholar. Nwone and Mutula (2018), in a study in Kenya, found that the faculty there used online information from the internet mainly for teaching and research.

3. METHODOLOGY

The study was conducted at the University of Zambia, School of Medicine with a sample of 57 lecturers stratified according to academic rank. A total of 41 respondents responded to the questionnaire, giving a response rate of 72%. Data was collected using questionnaires and analysed quantitatively using Microsoft Excel and presented in figures and tables.

4. RESEARCH FINDINGS

4.1 Internet Search Skills

Eight (19.5%) respondents rated their Internet search skills as excellent and 18 (43.9%) indicated that their Internet search skills were very good. Thirteen (31.8%) said their Internet search skills were good, whilst 1(2.4%) mentioned that their Internet search skills were fair and bad respectively (Fig. 1).
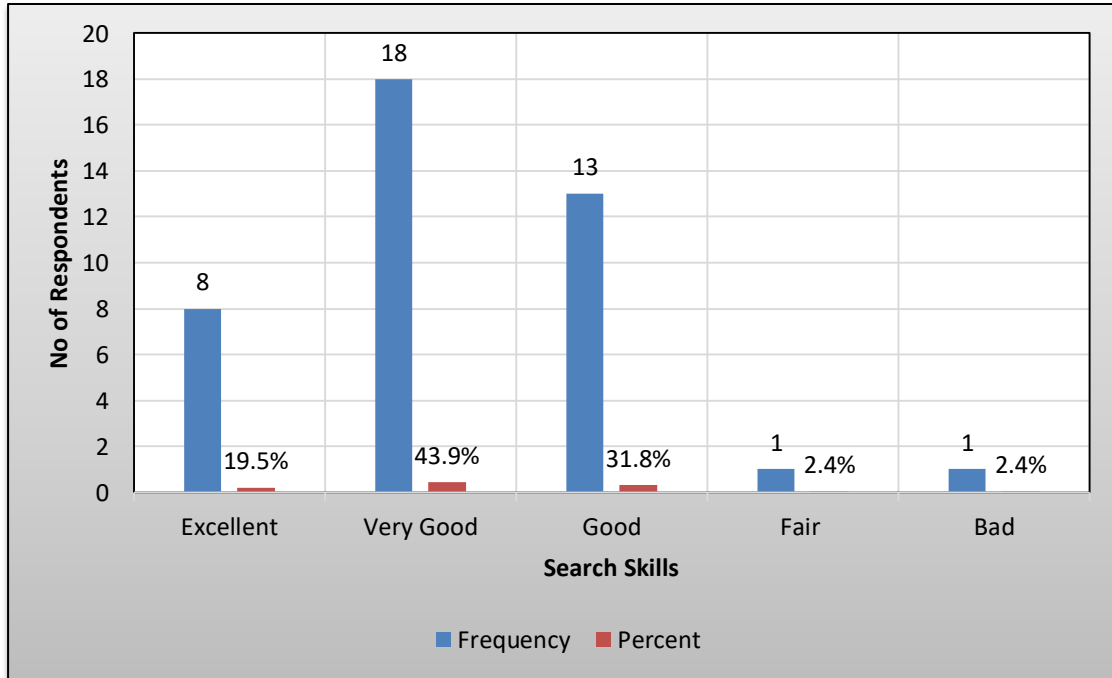
Figure 1: Internet Search Skills

4.2 Searching Techniques Used

Respondents were asked to state the search techniques they used when searching the Internet. The question was such that the respondents could tick as many of the relevant response categories that related to the search techniques they generally used as possible. The results show that the search techniques most frequently used were searching by keywords (82.9%) and by topic (31.75%) as shown in figure 2 below.
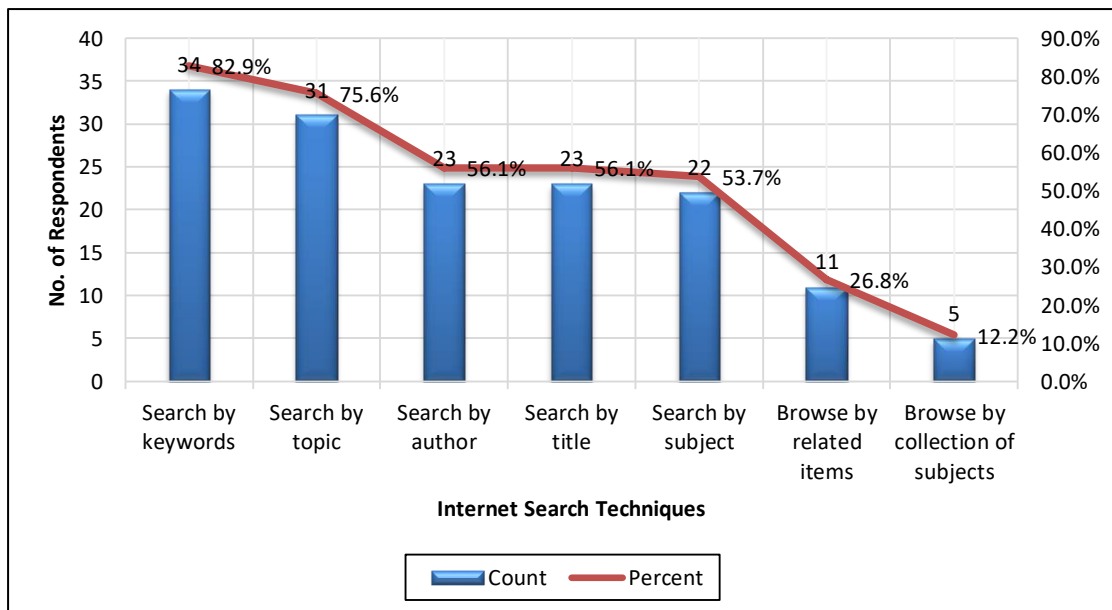

Figure 2: Commonly used Internet Search Techniques

4.3 Frequency of Use of the Internet

The results indicate that there were 36 (87.8%) respondents who used the Internet every day, 2 (4.9%) used the Internet more than once a week, 2 (4.9%) used the Internet once a week, and 1 (2.4%) used the Internet occasionally. See Figure 3. The results, therefore, show that the vast majority of the respondents used the Internet daily.
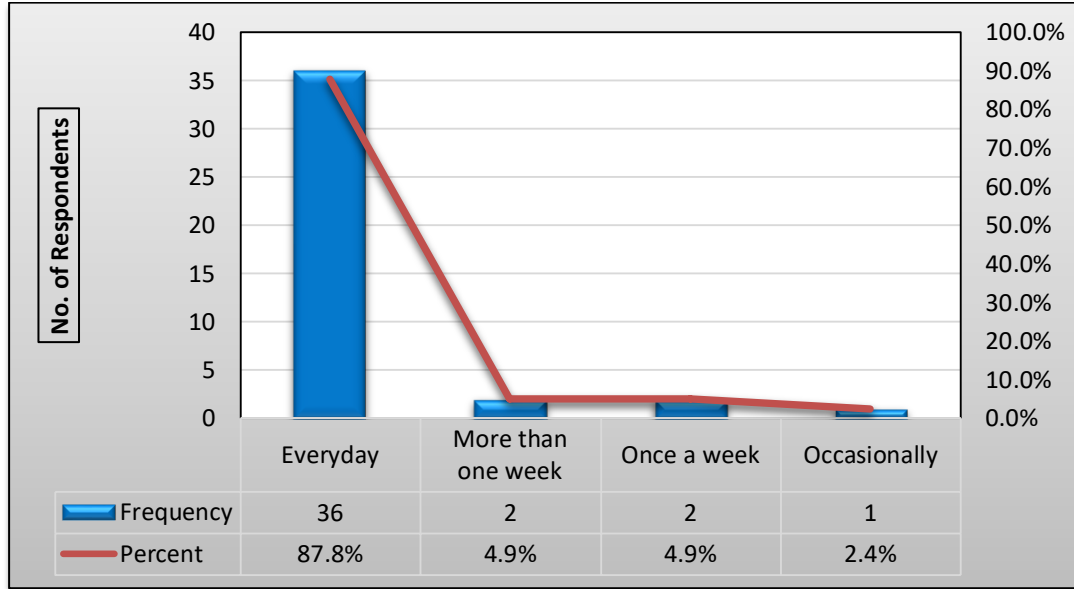

	Everyday	More than one week	Once a week	Occasionally
Frequency	36	2	2	1
Percent	87.8%	4.9%	4.9%	2.4%

Figure 3: Frequency of Internet Use

4.4 Reasons why the Internet was Used

An almost equal number of respondents, respectively 27 (67.5%) and 26 (65%), searched the Internet because it provided the digitised version of the information they wanted and because they deemed Internet (online or digital) resources to be reliable. A smaller proportion, 15 (37.5%), valued the Internet since they could also access digitised versions of historical materials, and finally, 7 (17.5%) indicated that they could find the books they wanted to consult on the Internet. See Table 1. The results of the study show that digitised materials were used frequently and that these digitised materials were considered reliable sources of information.

Table 1: Reasons for Using the Internet

Reasons for using the Internet	Frequency	Percent (%)
Because I find the digitised version of documents that I need…	27	67.5
Because they are reliable sources of information	26	65.0
Because I can access the digitised versions of	15	37.5
Because I want to know where to find books…	7	17.5

5. DISCUSSION OF THE FINDINGS

In today's context, people in academia need to have the relevant digital skills, as this is the link to the information they require to effectively navigate the online

environment; which has information that may be relevant to the learning process in the university. Digital skills are a component of information literacy where having the appropriate information behaviour for the online environment is critical (Johnston & Webber, 2003, p. 336). The study has established that the digital skills of the lecturers at UNZA, Veterinary school were relatively advanced with the majority of them (39, 95.2%) indicating that their skills were good to excellent. Information searching may be different at several levels; from people with very basics skills to those with advanced skills; and it can be surmised therefore that their experiential information searching will be different and vary according to the skills levels along with the context in which that searching is carried out (Choo et al., 2000; Ellis et al., 1993). In a study by Nwosu, Obiamalu, and Udem (2015, p. 102) of Nnamdi Azikiwe University, Awka, in Nigeria, they observed a relationship between a researcher's literacy levels and their work. In that study, they observed the value of the Pearson correlation coefficient of "(σ = 0.633, p = 0.000), which showed a positive correlation" (Nwosu et al., 2015, p. 102). Further, they conclude that "the academic staff with high information literacy skills often find it easier to publish their research work than those with lower skills" (Nwosu et al., 2015, p. 104). The same goes for teaching, lecturers require these skills to deliver lessons online (García-Vandewalle García et al., 2021; Perifanou et al., 2021) .

Others have observed that "awareness and acquaintance with electronic resources, which is a healthy sign towards seeking of information utilising e-resources" (Kumar, 2018, p. 10). However, it has been argued that what is of paramount importance in searching techniques is not knowledge of every database that is available worldwide but rather "the skills to search interface meta-search engines such as Google that can harvest information from other databases and aggregate the results for the user" (Makondo et al., 2018, p. 730). This is because navigating the Internet is a skill that is so relevant in today's electronic age and it is "important to learn the basic process and techniques of searching the exact information over the Internet to improve the search effectiveness of users" (Pattanaik & Pattanaik, 2011, p. 10). Digital skills are important in enhancing a person's work. These are the skills that have been summed up by Azadeh and Ghasemi (2016, p. 29) as information retrieval skills, information valuation skills, information organising skills, and information interchange skills.

To carry out an effective search, one requires skill and familiarity with the online environment as well as knowledge of search techniques. The results show that the search techniques most frequently used by lecturers were searching by keywords (82%) and by topic (75.6%). In India, it was established that academic staff at North Orissa University primarily used search strategies that were keywords based; meant to narrow their search to a specific topic and thereby retrieve search results that were as close to what they were researching as possible (Pattanaik & Pattanaik, 2011, p. 18). Evidence again shows that users when searching, although using keywords, do not follow traditional library search techniques such as those using Boolean logic. They may use Google search engines but usually create search strategies they are comfortable with (Sellan & Sornam, 2018, p. 65). Users always choose search techniques that are easier and more comfortable for them and thus "understanding search behaviour is an important component for libraries, as it establishes the basis upon which they can tailor their information literacy programmes as well as services" (Makondo et al., 2018, p. 730). Makondo, Kanyengo, and Kakana(2018) describe three search techniques that can be used in information seeking namely; formal system

strategies, informal search strategies, and interactive ones involving consulting human connections.

These findings of this study have endorsed the undeniable fact that the Internet has become an integral part of the world and that academic staff is no exception in requiring access to the Internet as part of the core activity of their work within universities. Almost all lecturers indicated using the Internet on the daily basis.
This is in line with many studies carried out on internet use by lecturers and researchers. For example, academic staff at a university in India were found to be frequent users of the Internet, with the surveyed members all accessing the Internet as well as being comfortable navigators of the Internet (Pattanaik & Pattanaik, 2011, p. 18). The frequency of use of the Internet is also a pointer to something that has become part of one's life; a finding that was recognised in Uganda among academic staff and their use of the Internet (Ukech, 2014: 45). Digital skills can be indicated by the use of the internet daily; as the more one uses the internet, the more experienced one becomes (Akakandelwa et al., 2018; Akakandelwa & Walubita, 2018; Chewe & Zulu, 2020; Daka & Kanyengo, 2008; Makunka, 2015; Mkulama et al., 2020; Muzata, 2020). Further, increased use of the internet (Akakandelwa et al., 2017; Akakandelwa & Walubita, 2018; Chewe et al., 2021; Kakana & Kanyengo, 2009; Kanyengo et al., 2011) may indicate a willingness to learn and use the technology.

The study findings established that the Internet as a source of information was utilised more because it provided users with digitised versions of sources that were easily accessible as long as access to the Internet was available. Today most lecturers find the Internet more convenient as a source of information. In Nigeria, academic staff within the professorial ranks used online e-resources primarily for teaching and research purposes (Nwone & Mutula, 2018, p. 25). Teaching and research are core functions of any university, and these two functions are the reasons why universities spend huge financial resources on either recruiting or mentoring the best academic staff. Kumar (2018, p. 10) found that the major reason given for using the Internet by those surveyed was to support their information use in their work. In Uganda, Ukech found that the majority of the academic staff used the Internet primarily for teaching and research information (Ukech, 2014, p. 32). To this end, lecturers in universities use the Internet to access information that will be used in knowledge production activities; teaching, and research. The Internet as a source of information is more readily accessible to lecturers as long as the institutions within which they are located have access to the Internet.

6. CONCLUSION AND RECOMMENDATIONS

The study assessed the respondent's digital skills and the results point to the fact that digital skills of the lecturers were high, meaning they were able to engage comfortably with the online environment. Academic staff needs internet search skills, appropriate enough to excel in a university teaching and research environment and therefore the need for frequent trading in digital skills. This is more because the online environment is constantly changing. This is important because most current information that the lecturers are engaging with, and will in the future utilise is in the online space. Because of the above findings, study recommends that frequent training in digital literacy be implemented for all academic staff

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