Web Information Seeking Behaviour of Undergraduate Students of Library and Information Studies at the University of Zululand

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Abstract

Background: In the 21st century, higher institutions of learning have completely transformed their teaching and learning by adopting the web and it related technologies due to the change of scenery in terms of information searching. Notably

the new generation of students is highly dependent on the internet for their academic and personal activities. However, the internet contains a vast array of information, some of this information is not suitable for scholarly use. Thus it is crucial for new undergraduates to have necessary competences that will allow them to efficiently search and retrieve information online. Therefore, this transformation encouraged the examination of Web Information Seeking Behaviour of Undergraduate Students of Library and Information Studies at the University of Zululand. This research project aimed to enlighten curriculum designers about the importance of including more IT related modules on the first year students' curriculum, furthermore it aimed at assisting academic libraries to realise challenges facing undergrads regarding using their services on the web.

Methodology: The study employed a quantitative research approach using close-ended questionnaire as a data collection tools.

Results/findings: The study found that the web is the major source of information amongst library and information studies undergraduates' students. The study also found that the web is used by students for academic purposes like: assignment completion, research and study purposes. Further findings indicate that the Google search engine was found to be the most used tool for information searching.

Keywords: web, information seeking, information behaviour, undergraduate students, university, digital era, information

Introduction and background

In recent years, higher institutions of learning have adopted the use of the web and it related technologies for teaching and learning. This transformation is caused by the tremendous growth of technological innovations, environmental factors such as current trends, COVID19 and information digitisation, thus necessitating university students to rely heavily on the internet for their information seeking behaviours. According to (Pezi, 2015:47), Information seeking is stimulated by one's information need, this can be explained as an unclear dissatisfaction or a gap. The author further

states that, these information needs may be triggered by tasks such as: seekers' professional tasks, educational behaviours, research activities, leisure activities.

Information-seeking behaviour is initiated when one recognises the presence of an information gab or dissatisfaction and ends when the information uncertainty is cleared (Micheals, 2015:680). The seeker goes through formal and informal information sources and is finally happy or unhappy with the end results (Micheals, 2015). Information behaviour cannot be measured due to the fact that it exists insides in one's mind making it intangible.

Skills related to searching and locating information on the web are essential because there are many relevant and potential information sources to choose from on the web (Almarabeh, et al., 2016). The University of Zululand is one amongst other universities in South Africa who are striving to ensure excellence in teaching and learning by adopting quality technological infrastructure (unizulu handbook, 2018). Technological modifications play a crucial role on the education sector with the www has offered endless possibilities such as online databases, library web portals which also enables inter-library sharing systems, OPAC etc. (Nkomo, Ocholla & Jacobs, 2016).

Okoh & Ijiekhuamhen, (2015:10) noted that the assessment of information behaviour by undergraduate students is crucial in assisting them to locate and utilize information resources to satisfy their necessitated information needs. According (Okoh &Ijiekhuamhen, 2015:10) information professionals have always tried to invent strategies to meet their user's information behaviours in order to provide them with quality services and designing of information systems. Furthermore, there have also been long discussions with regards to the impact of digital media competences on learning outcomes in higher education. Using the WWW requires one to understand search engines and library databases and have necessary skills to search evaluate and synthesise information for specific research purposes (Cheng and Tsai, 2016:30). However, it may be difficult for undergraduate students to understand these know-hows because they might lack the competency to analytically process and assess academic literature and therefore fail to successfully retrieve information (Ismail & Kareem, 2015:17).

Research problem

The WWW has become the centre for teaching and learning in academic institutions, thus is regarded as the efficient tool for information retrieval. Academia has shifted from the primary methods of teaching physical classes to students and teaching them how to search and locate information on their own. Cheng and Tsai (2016:60) stated "that skills related to web searching are important since the internet contains large volumes of information sources. According to Ogbuiyi, Ogbuiyi & Oriogu, (2015:06) the advancement of information resources on the WWW have established a demand for computer and online searching skills to increase the use academic materials in academic institutions for more productivity. The competences to use the web to search and retrieve information has become compulsory for undergraduate student's future academic life as almost the entire learning has shifted online (Majid, 2017:34).

The overarching problem that prompted this study was that, as the world is in lockdown because of COVID-19 pandemic happening and students all over South Africa are obliged to do online learning. As so many undergraduate students are still computer illiterate such problem might present several challenges to student online learning. The researcher also queried how undergraduate students at the department of information studies are adapting to web related information seeking, their existing information seeking behaviours, why and how is information sought on the web. The study aimed to assist the researcher in understanding the nature of undergraduate students' information seeking purposes, the strategies used to accomplish them, their needs' motive online, and the type of competences that one requires in order to successfully retrieve the right information on the web.

The study aimed to investigate web information seeking behaviour of LIS undergraduate students at the University of Zululand.

The study used the following objectives:

1. To examine how student's, seek information using the web
2. To identify platforms used when searching the web for information.
3. To find the challenges of web information seeking behaviour.

Literature review

Web Information Needs of Students in Institutions of Higher Learning.

Coetzee (2017:36) defines information needs as arrays followed by the user in an endeavour to respond to a need or information gap. Information needs are extremely subjective to the seeker and vary on the education level of the seeker, the capacity to articulate requirements, the preparedness to learn, and most importantly ability to use the information.

Several authors noted that tertiary students highly rely on the information from www to accomplish and excel on various academic activities (Chawinga, 2019:6; Ifinedo, 2017:13). According to Barclay (2017:11) because of the digital technology, today's university students and staff have full access to a vast array of information online that was difficult to locate before the 21st century. Some of this information is accessible freely to the public, while some is accessible at a price and purchased by institutions for use by their populace of scholars (Barclay, 2017:11). This statement was further agreed by Tezer and Soyka (2017:17) who noted that simplicity of information access compared to conducting pile of books on the shelves is one of the main motives students go to the web for information seeking.

According to Makondo, et al., (2018:67) student's information needs on the World Wide Web vary from scholarly activities, communication and entertainment. This corresponds to the early study by Nkomo (2010:120) who categorised these information needs into three major groups and further mentioned that the internet can be used as the channel of business, staying informed, socialise, relaxing and leisure. Fagohun, and Itsekor (2015:69) ascertain that students use the web for chances related employment opportunities, updating their level of awareness on common matters, read on topics related assignments, to perform research tasks, self-development. According to Weber, et al., (2018:659) common findings on studies related to web information seeking behaviour reveal that undergraduates frequently utilize common search engines such as Google search engine and hardly choose advanced search options. As mentioned above Students are motivated to search for information for various academic purpose which make information their need, however one cannot satisfy their information need if they lack skills to search for their required information in the right place.

Kurbanoglu (2017:23) argues that students' understanding and use of academic journals naturally grows as they gradually grow academically. Thus, information-seeking behaviour of freshman students may still remain below the requirements of teaching staff. Hence both undergraduate and even postgraduate students consider themselves as skilled users of the web although lower-level Web search strategies still remain the foremost form.

Platforms Used by students to Search for Information on the web

According to Nkomo et al., (2015:9) the most popular channel by a long way in the students' case was search engines, followed by email and general Websites. He et al. (2015) agrees that students thought of online academic search engines such as Google and CiteSeers as more important resources than university subscribed databases such as EBSCO, Emerald, Pubmed and JSTOR. In addition, depending on their tasks, they would prefer a particular resource to another. Similarly, Cothran (2018:27) found that graduate students used Google Scholar a lot because they found it easy to learn; easy to use; and easy to navigate. The study by Owolabi et. al., (2016:32) affirmed most university library offers electronic journals and OPAC respectively to their students. Khalid & Mahmood (2016) discovered that, Library administrations may be faced with the responsibility to invest in discovery tools with interfaces that are similar to Google because students tend to be intimidated by the complicated and sometimes over crowded interfaces of some of the e-resource databases. Moreover, the author reasoned that students need to be shown the advantages of using electronic resource databases, as the organisation and various search capabilities of e-resource databases allow users to search for and retrieve focussed and more relevant results.

As much as the WWW gains momentum as the centre of activities, however in most institutions the governance and control of access to the web has limited activities to only academic related activities (Nkomo, et al., 2015). Institutions filter information I order to limit students/users online surfing to ensure that they only access scholarly related content (EpieBawack & KalaKamdjoug, 2020). In most universities, popular websites and programmes such as: twitter, Facebook, Google chats and Skype are blocked to students. Authors such as Liebenburg (2017) & Molotech (2015) are against the idea of social media restrictions at the institutions as they reason that, the use of social media is crucial in terms of communicating with students and for

assistance in distance learning. The study that was conducted by Beverly (2017) on the trends of digital age, states that the internet revolution in-line with electronic publishing is relatively transforming the way students and scholars communicate and search for information.

Mugwisi and Ocholla (2016) concluded that some of the channels like subject portals remain unknown to students and this is mainly because of poor marketing by the libraries at the respective institutions. Low use was recorded for channels that have to be paid for or specialized services (e.g. document delivery services). Okocha and Owolabi (2020:268) found that undergrad students in private universities and state universities considered blogs relevant, current, accessible, accurate and authoritative. Another channel that was found to be at the disposal of undergraduate students concerns electronic databases. Databases are also one of the channels that are at the disposal of students however there is still an issue of awareness, usage, relevance, access, preference, orientations and training, and evaluation. It is found in the literature that there are sometimes a gap between awareness and usage of digital resources. Either users are aware of the resources and use them, users are aware and do not use them, or users they are unaware of them and therefore do not use them (Kwadzo, 2015:5). Moyo (2017) explains that a scholarly database is an academic database that stores books, journals, encyclopaedias and other academic publications. In comparison with search engines, most academic journals in scholarly database go through rigorous peer review process, which makes the authority of these information sources guaranteed. The study by Okocha and Owolabi (2020) found that undergraduate students consider scholarly databases authoritative but they find it difficult to use them, only few students possess required skills to access these databases

Challenges of Web Information Seeking Behaviour

In African countries web search by undergraduate students is encumbered with several challenges because of insufficiency of amenities and other facilities that should aid ease of accessing web based resources. The study by Klomsri & Tendre (2016:18)) reveals that in Africa most students only get a chance to own their first personal computer when they first register at the university. This literally means that the majority of first year undergraduate students have less computer skills or rather less computer literate even though they own laptops. Christian and Volentine (2015)

noted that new students learn computer skills through an introductory course in basic computer skills. The students who did not attend similar courses learn through practice and their peers. Azadeh and Ghasemi (2015:14) discovered that the supply of electricity is a major constraint to web search of information. Low exposure through lack of training on information literacy has also been identified as a major challenge to web search by undergraduate students. This study collaborate that of Tlakula & Fombad (2017:33) who discovered that there is a need for libraries to advocate for the inclusion of information literacy skills course in the university curriculum and also consider the potential of effective search strategies and the particular needs of students in the use of the web. Maamiry (2017:65) and De Groote, Shultz and Blecic, 2015) argues that when Students search for information particularly on the web, they face problems such as lack of quality of retrieved information, which might be due to poor search strategies, search terms (phrases), clear subject knowledge and using search engines rather than academic databases. Inability of students to properly evaluate information sources has been has been reported in several literatures. The study by Okocha (2019:15) found that at least half of students had used e-books only once and majority showed preference to search engines due to low level of information literacy, it has further been identified that some information sources exaggerate contents presented to users because they are uploaded by marketers introducing products and services. Okwonko (2019:98) stated that Even if students like to use electronic resources and visit the library frequently to improve their performances, but they only access the databases recommended by their instructors particularly. According to Gorman O and MacIntosh (2015:34), Challenges related to: phrase search, or Boolean logic are the most issues that remains problematic with regards to web information seeking for tertiary students. University computer laboratories have limited number of computers while there are ballooning students' population, very low internet connection speed as well as restrictive opening hours (Azadeh & Ghasemi, 2015).

Theoretical perspectives

This study is largely anchored by Urquhart and Rowley Model (2007) which represents the Information Seeking Behaviour of students while accessing electronic resources of information. According to Urquhart and Rowley model (2007) student information seeking behaviour is influenced by macro and micro

factors. According to Urquhart and Rowley (2007), the micro factors are the factors that are related to the personality of student which includes search strategy, information literacy, pedagogy, discipline etc. The macro factors include information resource design, information learning technology infrastructure, organizational knowledge and culture, policies and funding etc. (Urquhart and Rowley, 2007). This model was seen to be appropriate to the current study because it analyse factors that influence student information seeking behaviour online. It also demonstrates issues such information resource design, information literacy, search strategy, support and training and pedagogy

Research methodology

The study adopted positivist paradigm to gain better understanding of web information seeking behaviour of undergraduate students through observing and reasoning of reality facts that were collected through close-ended questionnaires. The questioners were distributed using the online social media platform WhatsApp on in October 2020. The study adopted a quantitative approach with the aim of covering a large population size Thus, survey research design was applied in the study to show the characteristics of the large group of target population and understand the present conditions. The study targeted 298 undergraduate students of information studies at the University of Zululand South Africa.

The research project applied systematic random sampling which than zoomed to a sample size of 169. A form of quantitative data collection instrument which are close ended questioners were used together with Microsoft excel computer program to analyse the data and the findings were presented through graphs and charts. On the total of 169 questioners sent, only 102 questioners were returned. The demographic information of the respondents is illustrated in figure 1.

Figure 1: Demographic information of LIS undergraduate students at university of Zululand

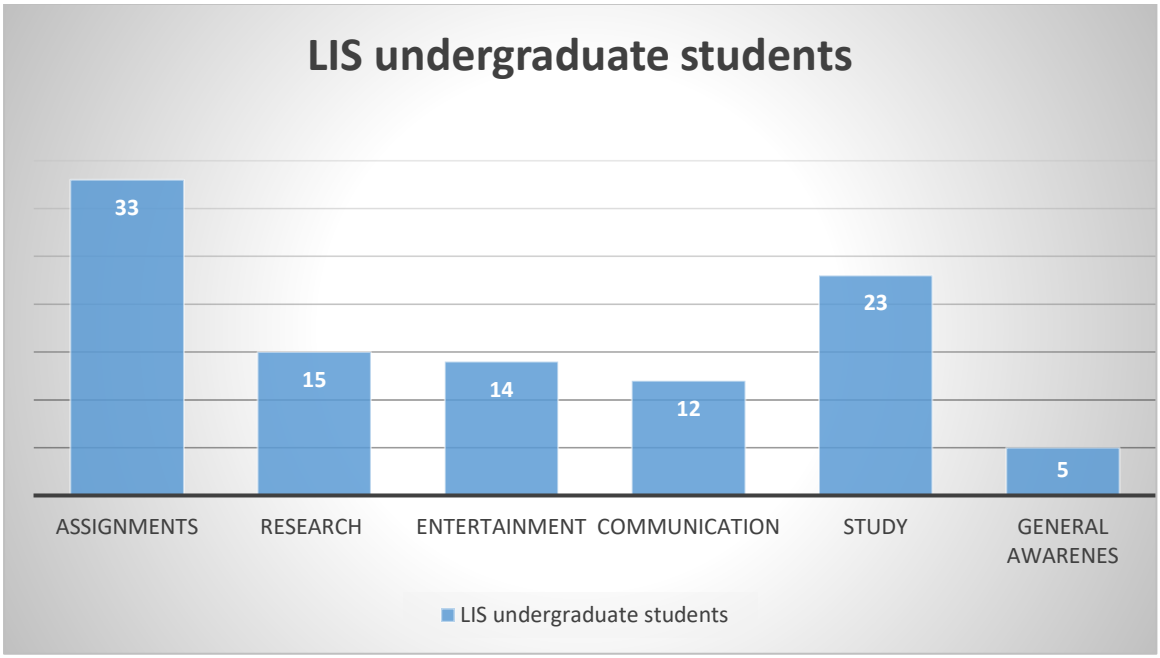
Gander	**Number per gender**	**%**
Males	42	41
Females	60	59
Total	102	100
Age		

17-25	45	27
26-30	51	34
30 and above	6	4
Total	102	100
Level of study		
Level one	51	30
Level two	52	31
Level three	45	27
Level four	21	12
Total	169	100

Result and discussions

WEB INFORMATION NEEDS OF STUDENTS IN INSTITUTIONS OF HIGHER LEARNING

Figure 2: Web information needs of LIS undergraduate students



The above graph project the tasks that prompt web information need of students. The graph reveals that 33 undergraduate students in the LIS department rely on the www for accomplishing their assignments with the percentage of 20%. Research was indicated by 15 (8%) students most of them were finalists. A portion of the selected population of 14 (8%) indicated that the use the www for entertainment like to download music and play games. While 12 respondents which is (7%) preferred to use the web for communication. The other part of 22 (13%) respondents said they preferred to search the web for studying purposes. The last task that was indicated to

be an influencer of web information need to undergrad students was general awareness selected by 5 respondents which was 3% of the population.

Respondents were also asked what determines their choice of an information source in their level of study out of 169 responded see table below:

Table 2: Determinant of information sources

Determinant of Choice of info source	Population no	percentage
Accuracy	14	24%
Reliability	18	11%
Relevance	20	12%
Accessibility	27	16%
Speed	23	14%

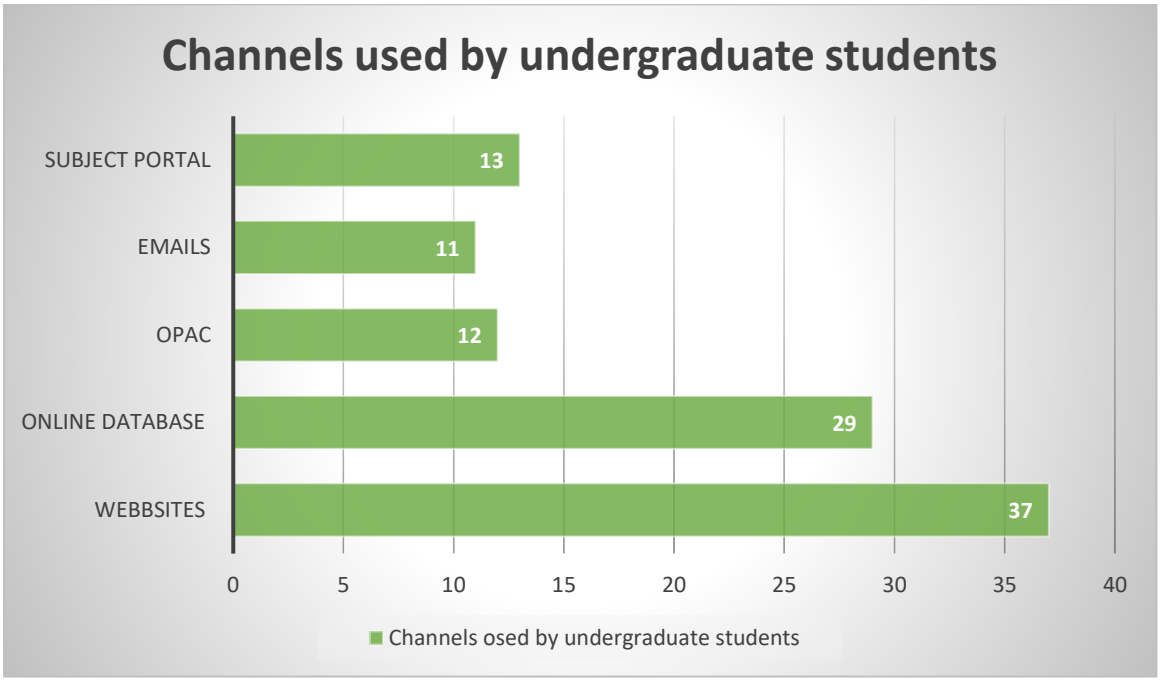
From the above table out of 169 respondents only 16 percent of the population choose their information source based on information accuracy which is 24%. Only 18 respondents indicated that the chose their information source based on Reliability which is 18% of the population, others preferred relevance which is 12%, accessibility which is 16% and speed which is 14%,

The respondents were also asked what kind of content do they search for on the web. Out of 169 respondents, 38 of the respondents which is 22% indicated electronic databases as their chosen content. 10 of the population indicated videos which makes 6% on the other hand 7 of the population of which is 4% indicated images. Only 17 selected audios 10% and 30 of the respondents which is 18% indicated that they search for documents on the web.

PLATFORMS USED WHEN SEARCHING THE WEB FOR INFORMATION

The purpose of this section was to get an overview of the channels that are used by LIS undergraduate students at the University of Zululand. The respondents were asked which of the following channels of information they relied on when seeking for information.

Figure 3: Channels used by undergraduate students



The above figure reveals that the larger group of the population of 37 which is 22% used website for information searching because of it user friendliness, it is fast and effective. The other portion of students of 29 which makes 17% of the population indicated that they used online databases. The online public access catalogue (OPAC) was considered by 12 (16%) respondents. The population of 11 respondents which makes 7% of the population selected emails because they are effective channel for communication information with students and lectures. The last channel that was selected are subject portals which was selected by 13 (7%) respondents.

The following question on this section concerned the time spent on the above channels. The largest group of respondents which was 89 making the percentage of 48% indicated that they spent two to four hours. Then they were followed by the population of 78 respondents making the percentage of 42% who indicated that they spent one hour-two hours. The last group of respondents (20) making up 11% of the population indicated that they spent more than four hours on the web. Other time frames that were listed did not get ticked.

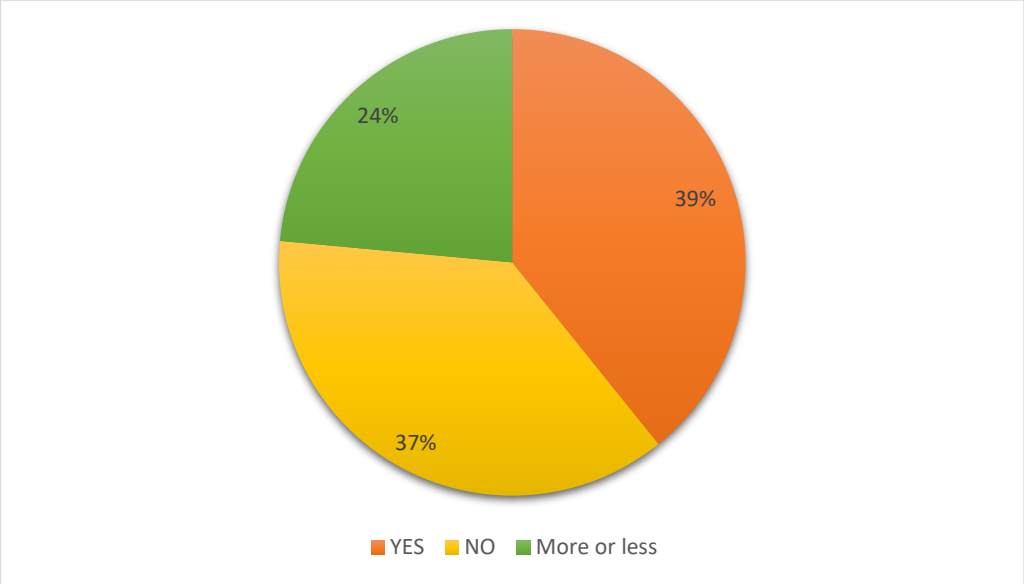
The respondents were asked if the web provided efficiently according to their need. Out of 169 student who responded, 50 (30%) respondents indicated strong agree. While 40 respondents making up 23% of the population stated agree. The last group of respondents of 12 (7) indicated neutral.

The last question concerned ease of use of electronic resources that are retrievable on the web. The respondents were asked “do electronic sources make it easier or more difficult to gather and use information” the first group of respondents of 49 (30%) indicated that it is much easier and gives them more time for other tasks. 20 (12%) respondents said about the same time: “I spend about the same amount of time on information gathering with or without electronic sources”. The last group of 33 (20%) respondents indicated that it is difficult “It takes more time to gather and sort through information”.

CHALLENGES OF WEB INFORMATION SEEKING BEHAVIOUR

This chapter examines the challenges that are faced by LIS undergraduate students when they search for information on the Web. The section also aims to identify the causes of these challenges. The question was submitted to students asking if they thought they possess the necessary skills to use the World Wide Web

Figure 4: Challenges of web information seeking behaviour



The above figure illustrate that out of 169 respondents who participated; 40 respondents which makes (39%) indicated yes while the other group of 38 (37%) respondents indicated NO. the least number of the respondents which is 24 which makes 24% indicated themselves as in the middle/more or less.

The challenges of web information seeking behaviour are:

- Poor internet/ WI-FI connection
- Limited library/Computer laboratory hours

- ❖ Shortage of computer desktops in the lab
- ❖ Do not have computer laptop to access the internet
- ❖ Lack of experience
- ❖ Limited access hours at the library and computer laboratories.

CONCLUSIONS AND RECOMMENDATIONS

This section outlines the recommendations to the results found in this study.

WEB INFORMATION NEEDS OF LIS UNDERGRADUATES STUDENTS

In line with web information needs of undergraduate students at the University of Zululand the study recommended that:

a) The institution should provide comprehensive training programme that will be conducted as a full training programme that will enforce information literacy/Web literacy to undergraduates.
b) There is a need for the university to invest in ICT infrastructure such as developing more computer laboratories so that there will be enough computers to facilitate information searching online.
c) The new innovative technologies that facilitate connectivity and mobility such as wireless technology are needed to extend connection to residential areas of the university.
d) Librarians should find online means like using social media to market their services to students so that they will be aware of online services offered by the library like Electronic resources that will allow students to search for relevant information for their studies.

PLATFORMS USED WHEN SEARCHING THE WEB FOR INFORMATION

a) There is a need for the university library to library disseminate information about various channels of information such as electronic databases. Because library pays a lot of money for electronic resources while students are unaware of.
b) The use of search engines for information searching is so popular. However not all information on the web is relevant for academic purposes students need to take an initiative to teach themselves skills to evaluate information, one way to enforce self-learning can be when lectures sect assignments that will require students to use official online channels like online databases, institutional repositories. Library websites.

c) Online workshops would be conducted on regular intervals for undergraduate students by librarians a well as their respective lectures to train undergraduate students to locate information channels and strategies to effectively use them, because some of the undergraduates do not even know that they exist.
d) It world prove effective if libraries can make bigger marketing and education students about the importance of OPACs and how it will benefits students.

CHALLENGES OF WEB INFORMATION SEEKING BEHAVIOUR

a) Bandwidth should be increased for efficient internet speed.
b) The library and computer laboratories are argued to extend their operating hours so that students can get enough time to do their academic tasks.
c) The computer laboratory need to allow the use of the web for entertainment at certain hours to allow students to relax.

Final conclusion

The study has achieved its purpose of investigating the Web information seeking behaviour of library and information studies undergraduate students at the University of Zululand. The web. The study reveals that some of the students are not aware of the online databases has become the main source of information in academia especially because students are learning from home as a result of COVID19. However necessary skills are needed that are related to web searching in order for students to successfully use the internet for academic reasons and excel in their tasks.

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