Research Article

Malaysian Research Students Encounter with Information Seeking Process for Academic Purposes

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Abstract

This paper investigates the various barriers that university students' encounter in efforts to seek information for academic purposes. It focuses on skills deployed by these students to overcome this lack. University students from four different fields of study are sampled to address their research-information seeking processes and needs in their daily academic life. The needs are matched to strategies applied that suggest coping mechanisms of fulfilling the demands of the course taken. This research analyses these barriers and coping mechanisms as a means of enhancing students' research-information seeking skills. Findings show that the main barrier towards information seeking processes among university students is their inability to seek and evaluate information. They also struggle to locate information needed for academic purposes. The students also claim that they have difficulty in finding online information due to limited network and Internet access. Students need to have access to strong Internet bandwidths to obtain required information, such as the web resources and online databases. This access provided by the library plays an important role in helping them meet their information needs. It is recommended that the library and the librarians should plan an appropriate course of action such as information skill training to overcome the identified barriers by enhancing current services and facilities which guide students to improve their information seeking processes for academic purposes.

Keywords: Information seeking processes, academic, barrier, information skill.

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Introduction

Access to information today has become limitless if not boundless. The manner in which students access information has improved rapidly as information resources move from print to online and digital forms. Today, in various types of educational institutions, the curriculum has been integrated with online learning in order to meet the demands of the information and knowledge age. However, while information seeking skills are considered important, there are certain areas such as in education (Seyedarabi, 2011) as well as in everyday lives (Savolainen, 1995) where the user faces difficulties. In education, generally, and for students particularly, this includes the online information retrieval systems currently available for modern libraries such as online catalogues, library resource sharing network systems, and online search of networked databases. While university libraries are equipped with access to the Internet in support of the teaching and learning process, students even though competent in using computers or technology-based tools, still lack information seeking skills required to accomplish academic goals. Studies have found issues in user competence, environmental instability, security, trust, and privacy using the Internet for information seeking in their learning environment (Aishling, 2008, Sagan & Paul, 2010). According to Savolainen (2015), other problems also include internal barriers (lack of knowledge), external barriers (institutional restriction) and interpersonal barriers (lack of assistance from colleagues) that effect information seeking in an organization. While barriers often seem to have a negative effect on information seeking skills, they are simultaneously able to benefit information seekers by fostering creativity, or developing behavioural changes or other positive effects (Savolainen, 2015). Halder et al (2017), in their findings, indicate that the five personality traits (Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness) are significantly correlated to all dimensions of information seeking of university students. These personality traits help the students in their approach to search for information. Therefore, this paper focuses on the barriers of information seeking processes by university students when seeking information for academic purposes (for example, during courses such as research and the writing of a thesis).

Literature Review

Previous studies have investigated the information seeking processes of professionals such as lawyers, doctors, and engineers (Case, 2012; Tilburt, 2007). Even though studies into information seeking processes among university students have long been conducted as a means of identifying and recognizing appropriate strategies for information gathering, students exposure and access to information today are infinite in which barriers are formed and coping mechanisms are put into action. For example, a recent study by Ali Amour El-Maamiry (2017) suggests that, "The information seeking behaviour, is considered as a human behaviour to search for information in a purposeful way to find the gap." The gap, in this sense, can be considered as the first barrier faced by university students in efforts of applying appropriate information seeking strategies to fill in the gap – lack of knowledge or information, in order to accomplish a required objective/goal or for the completion of a given task. Due to lack of applying appropriate strategies, students do not maximize or fully utilize services provided by the university library due to lack of attitude, confidence or awareness as to the potential of effective information seeking skills. Or, as mentioned by Gunn and Hepburn (2003), students do not use most of the library information resources as they frequently learn how to complete assignments through trial and error. In

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addition, students rely on friends and classmates who often teach them how to locate information on the Internet in different ways compared with those demonstrated by lecturers or librarians. At this stage, it is generally assessed that students face barriers of information seeking due to lack of experience with regards to technical problems, as well as lack of knowledge and awareness of available resources.

Students' poor information seeking process can be singled out as the biggest problem that needs further investigation. It is also a need that must be addressed to overcome students' dependency on unreferenced or plagiarised works, and Calvani et al, (2009) proposes an integral assessment for these new competencies towards information seeking involving the technological, cognitive and ethical aspects of the literacies. This paper is specifically based on one public university in Malaysia in which students are enrolled in a research methodology class and who constantly seek and use information in order to comply with the needs of the course.

Method

This study uses descriptive and quantitative approaches to identify information-seeking processes among university students. Neuman (2006, p. 33) defines exploratory research as, "research in which the primary purpose is to examine a little understood issue or phenomenon to develop preliminary ideas and move toward refined research questions by focusing on the 'what' question." According to Neuman, the main reason for using descriptive research is to "paint a picture" using words or numbers to present a profile, which may include a graph or tables to illustrate the narrative. The current research focuses on three main questions – What are the barriers faced by university students when searching for information for academic purposes? Secondly, what are the information needs among university students and how do they

use library resources? And, what are the possible strategies of overcoming these barriers as a means of enhancing students' information seeking efforts?

The online questionnaire conducted was in the form of a Google Form Survey. It was used to collect responses from four selected faculties in a public Malaysian university. Sections A and B of the questionnaire were designed specifically to ascertain students demographic data and knowledge of the information needs for academic purposes. The questionnaire covered issues that reflected the research questions of the study, including information-seeking processes, information needs and use of library resources, problems and challenges in seeking information, and suggestions from respondents on how to improve information-seeking processes for university students in Section C.

This paper uses the non-probabilistic sampling strategy, which is commonly known as purposive sampling. Based on Neuman's description (2006), purposive sampling is "a valuable kind of sampling for special situations and it is used in exploratory research for the judgment of the selected sample population." Purposive sampling was used in this research because the respondents were selected on the basis that they could provide the best information for answering the research questions (Teddlie & Tashakkori, 2009). As mentioned earlier, the main objective of this research was to identify the main barriers faced by university students when searching for information for academic purposes, and what are the possible strategies of overcoming these barriers. The study is specifically based on one public university in Malaysia in which students are enrolled in a research methodology class and who constantly seek and use information in order to comply with the needs of the course. The research methodology course is a major paper that is taken by all students of a first degree making it an essential need for students to identify appropriate information

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seeking barriers and methods of coping with them. It is imperative for academicians and librarians to address these barriers, as it is critical to ensure that effective information seeking efforts are put in place.

Findings

The finding of this research is quantitative descriptive analyses on what are the barriers faced by university students when searching for information for academic

purposes, their information needs and the use of library resources. It is estimated that 394 university students were enrolled in the research methodology course from four different fields or faculties, however only 346 students took part in this online survey. All of the results were analysed using the Statistical Package for Social Sciences (SPSS), whereby ranges of descriptive analysis were presented using frequencies and graphs to examine the distribution of the responses.
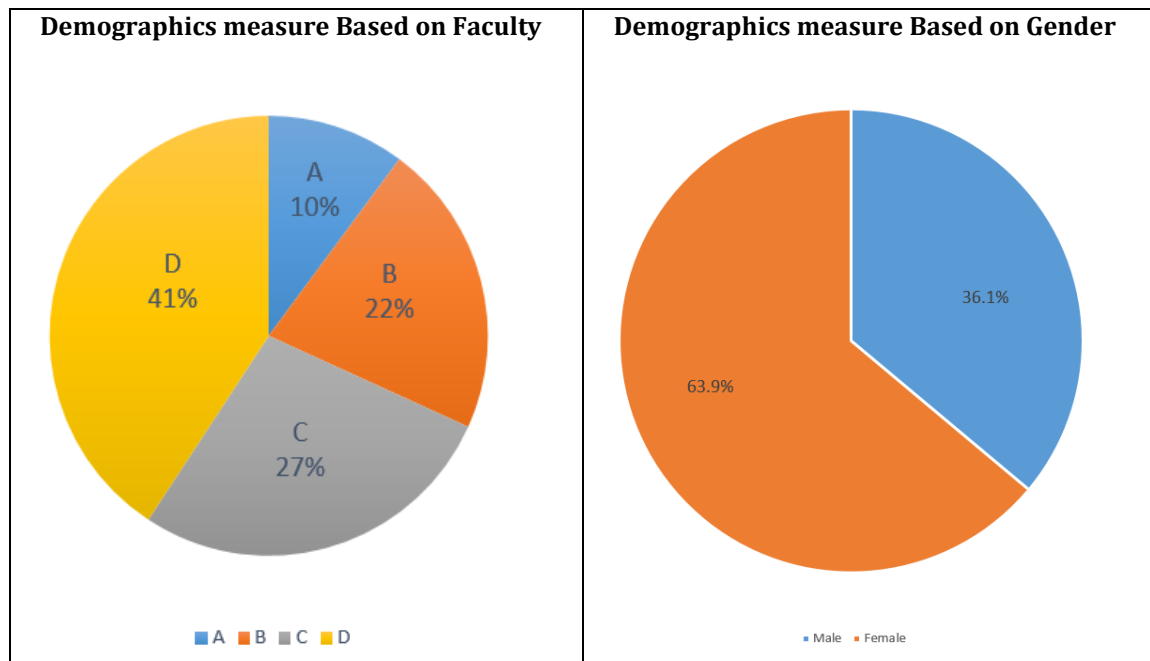
Section A: Demographics

Figure 1: Demographic Data

Figure 1 presents background information about the university students in terms of their faculties and gender. The research is conducted through four faculties and the total number of 346 respondents. The majority of the respondents are from Faculty D, amount of 141 (40.5%), followed by Faculty C with 95 respondents (27.3%), 75 students (21.5%) from Faculty B and the remaining 35 students (10.1%) from Faculty A. Meanwhile, the gender breakdown of the

students involved in this study is 221 female (63.9%) and 125 male (36.1%).

Section B: Information needs and Use of Library Resources

This section explains the main categories of information needs and use of library resources that assist the respondents to meet their information needs. Information needs involve the respondents' desire to obtain information. There are eight items in

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this   section,   and   the   responses   are   explained below.
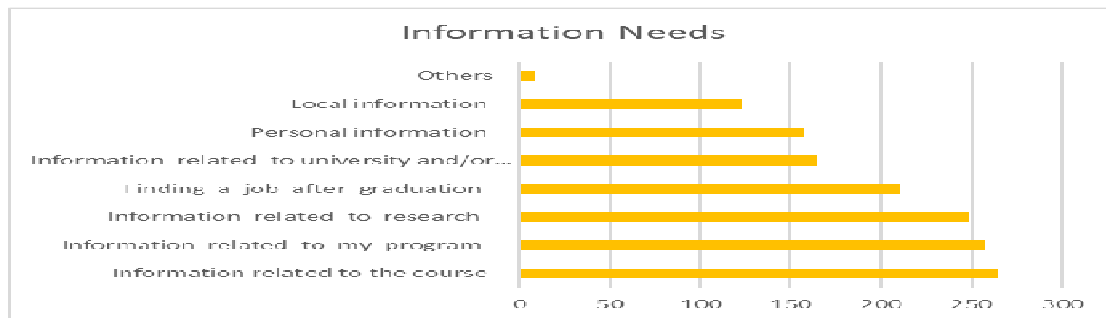

Figure 2: Information Needs

Figure 2 shows the main categories of the information needs. There are eight (8) statements with the highest frequency dominated by Information related to: the course I enrol [in] (e.g. course assignments, project papers) which is (f=265) followed by, Information related to my program of study (f=258), Information related to research (f=249), Finding a job after graduation (f=210), Information related to university and/or faculty (f=165), Personal information (e.g. hobby, favourite activity, etc.) (f=157), Local information (e.g. information about Malaysia.) (f=123) and lastly others (f=9). Further investigation is on the role of the university library to meet their information needs. The responses are analysed based on Likert's five level scale.

The university students agree that they rely on web resources and the library to meet their information needs. Based on the mean as shown in Figure 3, 3.88 (Agree) for the item 'the web resources and online databases provided by the library play an important role in helping students to meet your information needs'. The students also agree (mean = 3.78) that the services and facilities provided by the library play an important role in helping them meet their information needs. They also agree (mean = 3.76) that the materials and collections provided by the library play an important role in helping them meet their information needs. Finally, the students also agree (mean = 3.64), that the librarians and the library staffs assist them to   meet   their   information   needs.
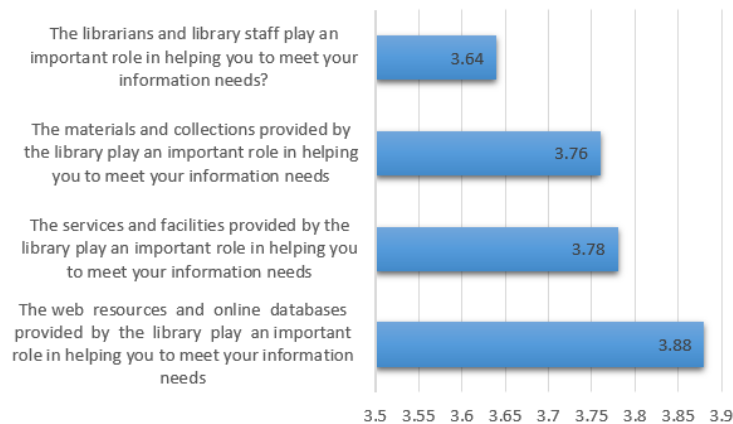

Figure 3: Library Resources Use

Section C: Information Seeking Process Barriers

Based on the analysis (Figure 4), about 322 students claim that the barrier is in the inability to seek, evaluate information and inadequate skills in information seeking process. This is the main barrier extracted through our survey. Next, 281 students responded that the barrier towards information seeking is because of the unfamiliarity with the role academic library and hesitant to approach librarian. About 219 students responded that the barrier towards information seeking is due to limited network and Internet access. Information is vast and fast; therefore, the students need to have strong Internet access to obtain the information, as the web resources and online databases provided by the library play an important role in helping them to meet their information needs. From the findings, it shows that about 148 students have inadequate knowledge about library systems. Only 64 students believe that the barrier towards information seeking is due to inadequate knowledge about using computers. This would be clear as of today, as almost all university students have a computer and would be able to operate it. And the remaining six students chose 'others' without stating the information barrier that they faced.
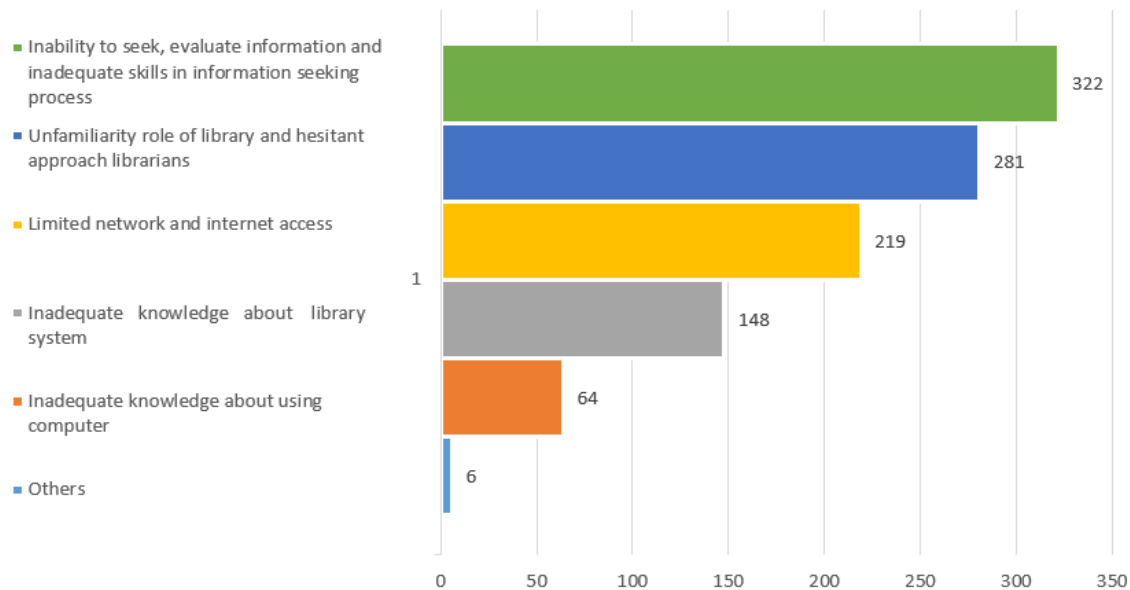

Figure 4: Barriers towards Information Seeking

Discussions and Suggestions

The study provides sufficient information about the barriers faced by the university students in the context of their information seeking behaviour. In this respect, their inability to seek, evaluate and possessing inadequate skills in the information seeking process is perceived as the main barrier among the students. It is the most frequently chosen barrier by a total number of 322 respondents. Despite choosing the web and online database as their main academic resource, students still lack information literacy skills. Students claim, they are unable to seek and evaluate information for academic purposes. This finding is consistent with Shenton's (2008)

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work on the information-seeking problems of English high schoolers, where a majority of English high schoolers have difficulty to locate information due to lack of information seeking skills. Another important fact from the research is that the critical barrier related to the information seeking process is concerned with the students' computer skills, which was selected by a total number of 64 respondents. The result suggests that many university students believe they have sufficiently acquired the computer knowledge and skills, while on the other hand, other barriers that receive greater attention among the students are related to their lack of knowledge and skills in the library system with 148 frequencies. These findings indicate that there is no guarantee for the students who master the computer skills to adequately possess the same amount of information seeking skills. In the same situation as unveiled by El-Maamiry (2017), it is the students' early exposure to the Internet during the elementary stage of study and being extremely confident with their ability in using technology which cause them to have poor information seeking techniques and behaviour. For this reason, there are suggestions made by the respondents that they should attend information literacy classes to be better equipped with information seeking skills and to improve their usage of online databases and the library system. Interestingly, the respondents even think that they should clearly identify their information needs, and plan how the information should be sought from right and credible sources. As Calvani et al (2009) propose the new competencies towards information seeking which include technological, cognitive and ethical aspects, whereby students should explore information through technology in a flexible way using their mental ability (cognitive) to access, select and evaluate information found. In addition, communicating and sharing their knowledge through ICTs in a responsible way is also highlighted.

Another barrier is students' limited network and Internet access with 219 frequencies. The result shows that the university students' dependability on the Internet and online resources is substantial as their use of the web to search for information obtains a mean value of 3.81. Also, in relation to the role of the library, most of the respondents (with a mean value of 3.88), assume that the web resources and online databases provided by the library play an important role in meeting their information needs. This is in line with El-Maamiry (2017), in a study conducted among the students of the University of Dubai, where it was ascertained that electronic resources are the primary resources chosen by 83% of students in helping them in their assignments, academic activities and in the fulfilment of their information needs. Similarly, even at school level, children also chose Internet access as their main resource for seeking information for academic purposes. Therefore, it can be understood how the difficulty in dealing with the Internet and network accessibility becomes a major hindrance that disrupts students' capacity to find, retrieve and use information in support of learning and studying. In the suggestion section, the students put forward their expectations of the library to provide upgraded, high-speed, stable and wide network and Internet access.

Moreover, student's unfamiliarity with the roles of the library and hesitant to approach librarians with 281 frequencies of responses. It suggests that the university students' recognition of having a better familiarity towards the library organization and functions will ease their problem with information seeking. Librarian can help and support their learning processes by guiding students to get the right information and resources. However, there is perception of respondents pertaining to their hesitation to approach the reference desk and professional librarians. It indicates a lesser number of students who have problems in

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dealing with library professionals. El-Maamiry (2017) also cited that only 4% of students indicate the lack of qualified staff as their barriers to information seeking. Nevertheless, despite perceiving it as a lesser crucial barrier among the suggestions made through this research, it is important to focus on the personal traits that the librarians should possess and the way they should be portrayed as a service provider as well as on their delivery of service. Several traits are particularly specified such as that the librarians are expected to be more friendly, approachable, experienced, cooperative and have the ability to explain, assist, teach and provide guidance in the information seeking process. The findings (Table 1) of the study offer essential information based on the perceptions of university students on the barriers of information seeking process. The study is beneficial for the library and librarians that the findings may help them in taking appropriate actions to overcome such barriers to enhance services and facilities and to guide and help students to improve their information seeking process.

Table 1: Suggestions to overcome the barriers to Information Seeking Process

Internet connection and access
- The speed and stability of library network and Internet connection should be upgraded in enhancing students' capability to locate and access information, anytime (24/7), anywhere - Provision of secured and improved Internet access that the unreliable websites should be banned/blocked necessarily
Library technology and facilities
- The facilities and computers in the library should be upgraded and the library databases and systems are centralized and easy to use i.e., consisting of academic journals and local thesis to be aligned with the needs of the courses enrolled by students
Roles and responsibilities of librarians and lecturers
- Students' awareness of the library services should be increased i.e., by providing tutorials and manuals to enhance their accessibility and connection to information - Librarians need to create and maintain a good rapport with the students and become more friendly, approachable and cooperative - Lecturers and librarians play an instructional role by explaining and guiding students to find and utilize the right information from the right sources (information literacy skills)
Students' information needs and seeking skills
- Students must take appropriate initiatives to improve their information seeking process by identifying their needs clearly, and also to plan how to search for the required information using the correct channels, search engines and trusted sources - Attending the information literacy classes provided by the libraries will benefit the students to boost their understanding and skills of the information seeking process, and the use of online databases and library systems
Library resources
- Libraries should offer up-to-date, relevant, authentic and reliable information in support of reference purposes - Acquisition of more books and collections related to academic and non-academic genres

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- Availability and accessibility of a greater number of digital and online library resources

Conclusions

In conclusion, research into the information seeking needs of university students is essential in providing appropriate strategies in order to optimize their information seeking skills. Identification of the barriers faced by these students provide insight to the individual and groups who struggle and exert efforts to complete a given task or to accomplish a certain goal. The findings of the research are essential in identifying behavioral habits or patterns of these university students. It suggests that the mechanisms these students put in place are a coping strategy that does not optimize effective information seeking skills that is required for conducive learning to take place. Nevertheless, the study is beneficial for librarians and library services as the findings indicate methods of enhancing the need for library support that is important in providing a conducive and effective information seeking environment. University students chose lacking of information skills as their main barriers of ISP, followed by the unfamiliarity of the library's role in providing information resources and limited library network and Internet access. Hence, while the Internet may provide borderless knowledge acquisition to education and also to the society, if not utilizing the right strategies, it can become ineffective. As students claim that one of their main barriers is inability to seek, evaluate information and inadequate skills in information seeking process, students should attend information literacy classes to acquire a better understanding and skills of the information seeking process, and the use of online databases and library system. The importance of digital literacy should be emphasized due to the technological advancement as requested by the university students. This digital literacy skill needs to be developed in the students learning process as lecturers expect students to locate information from a variety of sources and as suggested, 21st century learning also requires students to master in content while creating, organizing and evaluating information from a wide variety of subjects and sources with an understanding of and respect for diverse cultures. It allows the lecturers and the librarians to plan an appropriate course of actions such as information skill and library skill training to overcome the identified barriers by enhancing current services and facilities, guiding and helping students to improve their information seeking processes.

Acknowledgments

References

1. Ala-Mutka, K. (2011). *Mapping digital competence: towards a conceptual understanding*. Sevilla: Institutefir Prospective & males.

2. Andrew K. Shenton, (2008). *The information-seeking problems of English high schoolers responding to academic information need*. Library Review, Vol. 57 Issue: 4, pp.276-288

3. Ashling, J. (2008). Were all members of the Google generation. *Information Today*, 253, 22.

4. Calvani, A., Cartelli, A., Fini, A., & Ranieri, M. (2009). *Models and instruments for*

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assing *digital competence at school. Journal of e-Learning and Knowledge Society-English,* 4(3), 183-193.

5. Case, D. O. (2012). *Looking for information: A survey of research on information seeking, needs, and behavior.* Bingley, UK

6. Creswell, J., & Plano C, V. (2007). *Designing and Conducting Mixed Methods Research.* Thousand Oaks, CA

7. El-Maamiry A. A. (2017). The Information-Seeking Behaviour of Students: A Case of University of Dubai. *Global Journal of Computer Science and Technology,* 17(1), 1-7.

8. Fidel, R., Davies, R. K., Douglass, M. H., Holder, J. K., Hopkins, C. J., Kushner, E. J.,Toney, C. D. (1999). A visit to the information mall: Web searching behavior of high school students. *Journal of the American Society for Information Science*, 50(1), 24-37.

9. Gunn, H., & Hepburn, G. (2003). Seeking information for school purposes on the Internet. *Canadian Journal of Learning and Technology/La revue canadienne de l'apprentissage et de la technologie*, *29*(1).

10. Halder, S., Roy, A., & Chakraborty, P. K. (2017). The influence of personality traits on information seeking behaviour of students. *Malaysian Journal of Library & Information Science*, *15*(1), 41-53.

11. Martin, A. (2006). *Literacies for the Digital Age*. In A. Martin & D. Madigan (Eds.), Digital Literacies for Learning. London: Facet. 3-25.

12. Neuman, W.L. (2006). *Social Research Methods: Qualitative and Quantitative Approaches.* Toronto: Pearson

13. Rifon, N. J., LaRose, R., & Choi, S. (2005). Your privacy is sealed: Effects of web privacy seals on trust and personal disclosures. *Journal of Consigner Affairs*, 39(2), 339-362.

14. Sagan, Paul, and Tom Leighton. (2010). The internet & the future of news. *Daedalus* 139(2), 119-125.

15. Savolainen, R. (2015). Cognitive barriers to information seeking: A conceptual analysis. *Journal of Information Science*, *41*(5), 613-623.

16. Seyedarabi, F. (2011). Personalization: An emerging direction for tackling the web searching barriers faced by teachers when searching for educational resources. *Webology*, *8*(2), 1.

17. Teddlie, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences*. Sage.

18. Tilburt, J. C., Goold, S. D., Siddiqui, N., & Mangrulkar, R. S. (2007). How do doctors use information in real-time? A qualitative study of internal medicine resident precepting. *Journal of evaluation in clinical practice*, *13*(5), 772-780.

19. Wildemuth, B. M. (2004). The effects of domain knowledge on search tactic formulation. *Journal of the American Society for Information Science and Technology*, 55(3), 246-25.

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