Information seeking behaviour of first-generation students at the University of Johannesburg

by

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submitted in compliance with the requirements

for the degree of

DOCTOR OF LITERATURE AND PHILOSOPHY

In the subject

INFORMATION SCIENCE

at the

UNIVERSITY OF SOUTH AFRICA, PRETORIA

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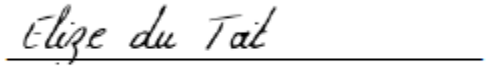
JANUARY 2021

DECLARATION

I, Gertruida Elizabeth du Toit, declare that “Information seeking Behaviour of First-generation Students at the University of Johannesburg” is my own work and that all sources that I have used or quoted have been indicated and acknowledged by means of complete references.



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Date 15 April 2021

ABSTRACT

This study is an investigation into the information seeking behaviour of first-year first generation (FG) students. The qualitative phenomenological approach was applied to sought understanding of factors influencing this groups' information seeking behaviour.

It endeavoured to determine the students' information literacy abilities and benchmark these against the library's current information literacy training course. A purposive convenience sample was drawn from FG students enrolled in the extended programme of the Mastering Academic and Professional Skills (MAPS) in the Humanities at the University of Johannesburg (UJ) who completed the library's information literacy course. Seventeen students participated. A literature review indicated that FG students' socioeconomic situations in their homes leave them academically unprepared for higher education, with inadequate cognitive skills to solve information problems and carry out academic tasks, which in an academic context require information literacy skills. The empirical findings confirmed this. The literature revealed interplay between the academic context and the study group's everyday life context giving rise to the group's information needs and triggering information seeking activities. Situations in the students' everyday life context and academic context influenced their information seeking behaviour. Interconnectedness between contextual components and their personal experiences was evident in their information seeking behaviour, which reflected an inability to find information to support their information needs. The intervention of the library's information literacy training course improved the respondents' information literacy skills and enabled them to find the required information. The findings enabled the development of a conceptual model graphically illustrating FG students' information seeking behaviour. Furthermore, the library's information literacy training course could be reviewed and improved by exploring a more blended learning approach; making the online component of the course more user-friendly; training MAPS mentors in information literacy so that they can fully assist the FG students; educating librarians on FG students' information seeking behaviour. This study yielded understanding of the influence of two different contexts influencing information seeking behaviour and facilitated employment of an adapted information literacy training course to equip FG students to function successfully in an academic context.

Keywords: academic context; everyday life context; first-generation students; information literacy skills; information needs; information seeking behaviour; personal dimension; University of Johannesburg

Ukuziphatha kwesizukulwane sokuqala sabafundi okuhlose ukuthola ulwazi eNyuvesi yaseGoli (*Information seeking behaviour of first-generation students at the University of Johannesburg*)

Ngamafuphi

Lolu cwaningo luwuphenyo olumayelana nokuziphatha kwesizukulwane sokuqala sabafundi okuhlose ukuthola ulwazi. Indlela ebizwa nge-*qualitative phenomenological approach* isetshenzisiwe ukuzwisisa ulwazi lwemithelela enomthelela phezu kwesenzo sokuziphatha kweqembu elifuna ulwazi.

Izimisele ukuthola amakhono emfundo yolwazi lwabafundi futhi iluqhathanise noqeqesho lwesifundo semfundo yolwazi sethala lezincwadi samanje. Kuye kwakhishwa ngenhloso isampuli efanele evela kubafundi be-FG ababhalisele uhlelo olubanzi lwe-*Mastering Academic and Professional Skills (MAPS)* kumkhakha wezabantu obizwa nge-*Humanities* eNyuvesi yaseGoli i-*University of Johannesburg (UJ)* abaphothule isifundo solwazi lwemfundo yaseLayibhrari. Ngabantu abayishumi nesikhombisa abadlale indima kulolu cwaningo. Ukubuyekezwa kombhalo wobuciko kukhombise ukuthi izimo zabafundi be FG zenhlalakahle yezomnotho zemakhaya abo zibashiya bengazimisele ukubhekana nezinga lezemfundo eliphakeme, libashiya bengenamakhono emfundo eyanele yokuxazulula izinkinga ezimayelana nolwazi futhi baqhubeke nokwenza imisebenzi yabo yezemfundo, kanti ngokwesimo semfundo ifuna amakhono okusebenzisa ulwazi lwemfundo. Ulwazi oluphathekayo olutholakele likuqinisekisile lokhu. Umbhalo wobuciko uveze ukusebenzisana okuphakathi kwesimo sezemfundo kanye nesimo sempilo yansuku zonke yeqembu lezocwaningo, lokhu okukhozelela isidingo solwazi lweqembu futhi kuphembelele imisebenzi yokufuna ulwazi. Isimo sempilo yomfundi yansuku zonke kanye nesimo sezemfundo kunomthelela phezu kwesenzo sokufuna ulwazi. Ukusebenzisana kwangaphakathi kwezigaba okuphakathi kwezigaba zesimo kanye nolwazi lomuntu ngamunye kubonakele kwizenzo zabo zokufuna ulwazi, okuvele kwisenzo sokungakwazi ukuthola ulwazi ukuxhasa izidingo zabo zolwazi. Ukungenelela kwesifundo soqeqesho lwemfundo yolwazi lwelayibhrari luthuthukise amakhono abadlalindima emfundo yolwazi lwabo futhi yabanceda ukuthola ulwazi olufunekayo. Ulwazi olutholakeke lusize ukuthuthukiswa komfanekiso wegilafu modeli yomqondo wegama lukhombisa izenzo zabafundi be-FG zokufuna ulwazi. Ngaphezu kwalokho, isifundo sokuqeqeshelwa ulwazi lwelayibhrari singabuyekezwa futhi sithuthukiswe ngokuhlola indlela yokufunda ehlangene;singenza uhlelo lwesigaba se-inthanethi sesifundo sisebenziseke kalula kakhulu; singaqeqesha abeluleki be-

MAPS ngemfundo yolwazi ukuze bakwazi ukunceda ngokuphelele abafundi be-FG, FUTHI BAFUNDISE osolayibhrari mayelana nabafundi be-FG ngesenzo sokufuna ulwazi. Lesi sifundo socwaningo sidale ukuzwisisa umthelela wezimo ezimbili ezahlukahlukene ezithinta izenzo zokufuna ulwazi futhi zincede ukusetshenziswa kohlelo olushiqilelwe lwesifundo sokuqeqeshelwa ulwazi lwelayibhrari ukuhlomisa abafundi be-FG ukuba basebenze ngempumelelo ngaphansi kwesimo sezemfundo.

Amagama asemqoka isimo/isizinda sezemfundo; isimo sempilo yangempela yansuku zonke; abafundi besizukulwane sokuqala; amakhono emfundo yolwazi;izidingo zolwazi; ukuziphatha ngendlela/izenzo zokufuna ulwazi; ngokwesigaba somuntu ngamunye; iNyuvesi yaseGoli (*University of Johannesburg*)

Northern Sotho Abstract

Nyakišišo ye ya ponagalo ya khwalithethifi e be e nyaka go kwešiša mabaka ao a huetšago maitshwaro a go nyaka tshedimošo a baithuti ba moloko wa mathomo ba ngwaga wa mathomo. E lekile go laetša bokgoni bja baithuti bja go ba le tsebo ya tshedimošo le go e lekanetša kgahlanong le thuto ya tlhahlo ya tsebo ya tshedimošo ya bjale ya bokgobapuku bja Yunibesithi ya Johannesburg. Baithuti ba 17 ba go tšwa lenaneong le le katološitšwego la Kwešišo ya Bokgoni bja Thuto le Mošomo ka Mafapheng a Bomotho Yunibesithing ya Johannesburg ba kgathile tema. Tshekatsheko ya dingwalo e laeditše gore maemo a sošioikonomi a baithuti ba moloko wa mathomo ka magaeng a bona a ba tlogela ba se ba itokišetša dithuto tša thuto ya godimo, le tlhaelelo ya bokgoni bja go kwešiša go rarolla mathata a tshedimošo le go dira mešongwana ya thuto, yeo mo seemong sa thuto e nyakago bokgoni bja tsebo ya tshedimošo. Dikutullo tša go lemogwa di tiišeditše se. Dingwalo di utulotše tswalano gare ga dikarolo tša seemo le bogolo bja motho bja motho yo a šupšago yeo e dirago gore go be le nyakego ya tshedimošo bathong le go hlohleletša ditiro tša go nyaka tshedimošo. Maemo ka gare ga maphelo a ka mehla a baithuti le maemo a thuto a hueditše maitshwaro a bona a go nyaka tshedimošo. Bokgokagano gare ga dikarolo tša seemo le maitemogelo a bona ka noši go bonagetše ka maitshwarong a bona a go nyaka tshedimošo, ao a laeditšego go hloka bokgoni bja go hwetša tshedimošo go thekga dinyakwa tša bona tša tshedimošo. Tsenogare ya thuto ya tlhahlo ya tsebo ya tshedimošo ya bokgobapuku e kaonafaditše bokgoni bja tsebo ya tshedimošo ya bafetodi gape e ba kgontšhitše go hwetša tshedimošo ye e nyakegang. Dikutullo di kgontšhitše tlhabollo ya mmotlolo wa tlhompho ya dikgopolo woo laetšago ka botlalo maitshwaro a go nyaka tshedimošo a baithuti ba moloko wa mathomo. Gape, thuto ya tlhahlo ya tsebo ya tshedimošo ya bokgobapuku e ka sekasekwa le go kaonafatšwa. Nyakišišo ye e tšweleditše kwešišo ya khuetšo ya maemo a mebedi a go fapana ka ga maitshwaro a go nyaka tshedimošo le go diragatša tšhomišo ya thuto ya tlhahlo ya tsebo ya tshedimošo go tlabakela baithuti gore ba šome ka katlego ka gare ga seemo sa thuto.

Mantšu a bohlokwa: seemo sa thuto; seemo sa bophelo bja ka mehla; baithuti ba moloko wa mathomo; mabokgoni a tsebo ya tshedimošo; dinyakwa tša tshedimošo; maitshwaro a go nyaka tshedimošo; bogolo bja motho; Yunibesithi ya Johannesburg

ACKNOWLEDGEMENTS

Undertaking a PhD has been a life-changing experience for me and it would not have been possible to do without the support and guidance I received from many people. Firstly, I would like to express my sincere gratitude to my supervisor, Dr Madely du Preez, and joint supervisor, Prof Hester Meyer. Their continuous support and guidance, motivation and immense knowledge carried me through this journey. Your insightful and continuous feedback brought my work to a higher level and your expertise was invaluable. Thank you for spending hours on end (often long hours into the night) with me to provide guidance and a sounding board when required.

I wish to extend my special thanks to my family, in particular my brother, Andre Olivier, and cousin, Henriette Stuart, for their prayers, sympathetic ear and encouragement to carry on. It would also not have been able to complete my thesis without the support, interest and encouragement of my colleagues in the library at the University of Johannesburg, Nomoya Mahlangu and Prof Maria Frahm-Arp.

I would like to thank the Department of Mastering Academic and Professional Skills in the Humanities for their interest, encouragement and the help they provided.

I would like to express my sincere gratitude and appreciation to the 17 Mastering Academic and Professional Skills in the Humanities students who willingly gave up their precious time to participate in this study. This study would not have been possible without their willingness and enthusiasm.

My sincere gratitude to my editor, Barbara Bradley, for her meticulous editing of my thesis.

Lastly, I would not have been able to complete this study without faith in and the guidance of my Almighty God.

LIST OF ABBREVIATIONS AND ACRONYMS

ALA	American Library Association
FG	First-generation Student
ICT	Information Communication Technology
ICTs	Information Communication Technologies
MAPS	Mastering Academic and Professional Skills
SAQA	South African Qualifications Authority
SCONUL	Society of College, National and University Libraries
UJ	University of Johannesburg

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CHAPTER 1: GENERAL INTRODUCTION

1 INTRODUCTION

To enable academic library services to provide an effective and efficient service to their users, it is of the utmost importance to understand the users' information seeking behaviour. Understandably many different aspects of students' information behaviour and student groups are being investigated (Case 2006:6; Ortoll-Espinet, González-Teruel & Gilabert-Ros 2009:4; Rubinić 2014:107). For example, Ortoll-Espinet et al. (2009:4), explored the reasons that motivate Spanish students' information seeking behaviour to determine their information problems and their use of information in an academic context. Rubinić's (2014:107) literature review indicates that information seeking in different disciplines have different outcomes, for example students in the medicine disciplines require more problem-solving and independent information seeking due to their need for up-to-date information. Case (2006:6) contends that information seeking behaviour moved away from a system-orientated approach to person centred approach by looking at the person as an information seeker, information inventor and information user. Wilson (In press:49-50) emphasises that information behaviour is not just about information seeking but about human interaction with information, as well as the factors which influence information seeking behaviour.

Wilson's (1999:256) 1996 model of information behaviour suggests that there are intervening variables (barriers) that influence information seeking behaviour, such as psychological, demographic and environmental factors, source characteristics, as well as role-related or interpersonal variables and information processing and use. These variables can encourage or restrict information use. The intervening variables of Wilson's (1999:256) 1996 model of information behaviour can relate to factors that influence students' information seeking behaviour.

In the recent past an increase in student diversity at universities has been noted. Heymann and Carolissen (2011:1378) reported that universities had developed numerous programmes to address inequality in higher education in South Africa. Among the diversity of undergraduate students are first-generation (FG) students. Van Zyl (2016a) defines FG students as the first in the family that goes to university. Being an FG student is not a new concept, but the challenges FG students face have only recently been acknowledged by universities in South Africa. FG

students are characterised as ‘previously disadvantaged’ or ‘minority students’ by the Department of Higher Education in South Africa (Heymann & Carolissen 2011:1379).

Students attempting to achieve academic success and trying to advance to the next level of their studies need to access information from a variety of information retrieval platforms, interpret the information and apply it to different subjects. Somi and De Jager (2005:259) argue that with the rapid increase in the production of information, as well as the many different formats in which information is available, students find it difficult to search and find relevant information.

Librarians play a pivotal role in guiding students in the best practices of information seeking and information transfer. It is therefore crucial that librarians understand their library users’ information needs. This also entails librarians using information literacy training to enhance students’ academic experience. The American Association of School Librarians (1988:15) argues that with the information explosion, students find it difficult to find, process, use and manage information. This problem requires librarians to act as “information intermediaries” to help students make sense of this vast information world by applying the necessary skills to explore all channels possible to retrieve relevant information. Rader (1997:47) suggests that the role of the librarian has changed from providing teaching, learning and research support to taking on a teaching role to ensure that students reach their full academic potential.

In order to address users’ information needs, librarians have to connect users with relevant information and show users how to access information by using a variety of technologies (Grover, Greer, Achleitner & Visnak 2015:45). Students’ competencies in information communication technology (ICT) may influence their information seeking behaviour negatively when they are not properly orientated in the use of technology. According to Bell (2013:1), many academic libraries focus on special communities within the academic institution, such as international students or first-year students, but tend to overlook FG students.

The purpose of this study is to gain better understanding of first-year FG students’ circumstances in which they seek information and to apply the insights obtained to their information seeking behaviour in such a way that these students are able to transform their information seeking behaviour to their advantage. The background information will elucidate the current status of the research problem and the context of the problem.

1.2 BACKGROUND AND CONTEXT OF THE PROBLEM

The University of Johannesburg (UJ) has more than 50 000 students, with an annual intake of approximately 10 000 students. These students enrol for a variety of degrees, extended degrees, diplomas and extended diplomas (Higher Education Data Analyzer Portal 2016). A study profile conducted by the UJ (2007-2016) indicated that 62,5% of first-year students studying at the university are FG students (Van Zyl 2016a).

At UJ, English is the main language of instruction. A student profile analysis showed that 60% of first-year students studying at UJ indicated that English was not their first language, which caused them to find complex academic material challenging (Van Zyl 2016a). Regarding first-year students' home literacy environment, the profile analysis also showed that almost 42% of students indicated that there were 10 or fewer books in the house where they grew up and almost 63% of students had only read five or fewer books in the year prior to the study being conducted (Van Zyl 2016a). These issues might have a direct relationship with FG students' information seeking behaviour. Factors such as information literacy skills, demographic and socio-economic factors might all contribute to how FG students perceive information.

Darling and Smith (2007:204) describe FG students as follows:

- They tend to come from low-income families;
- They tend to be members of racial or ethnic minority groups;
- They tend to be less prepared academically for university; and
- They are perceived to lack support from those at home, including family and friends.

Furthermore, Darling and Smith (2007:205) claim that these characteristics cause daily challenges for FG students. Bryan and Simmons (2009:398) found that due to parents' lack of knowledge about higher education, FG students do not receive sufficient support from their parents to help them prepare for higher education.

1.2.1 University of Johannesburg library information literacy instructions

UJ has libraries on each of its four campuses, serving eight faculties: Art Design and Architecture, College of Business Economics, Education, Engineering and the Built Environment, Health Sciences, Humanities, Law and Science. The library's information literacy programme is offered by way of face-to-face contact sessions, as well as online. The

programme offering is consistent with the information literacy competency standards for higher education set by the Association of College and Research Libraries, a division of the American Library Association (ALA 2000). These sessions are available to all undergraduate students and are offered at all four libraries. The face-to-face contact sessions are voluntary, and a monthly training schedule of training themes offered are published on the students' teaching and learning community, as well as in the library. Students receive instruction in

- how to identify a need for information;
- how to strategise to fulfil their information needs;
- how to critique information;
- how to apply information effectively to their coursework; and
- understanding the legal and ethical use of information.

To integrate the library's services with electronic services, the library saw an opportunity to offer information literacy training to students through online learning as well, by developing and implementing an online information literacy course. The current course content comprises eight units, which are divided into segments corresponding with the face-to-face information literacy offering.

The online course is developed in the library's LibGuide, a content management and publishing system created by SpringShare, with which libraries can create subject guides and course guides. The library LibGuide is also an open web-based system that is integrated with Blackboard, the university's learning management system. Each unit contains a set of interactive tutorials (multimedia) activities (blogs, wikis, journals) and an assessment. These activities and assessments link to Blackboard, where they are completed. The online information literacy course was tested in 2016 on first-year students as a pilot study by means of a pre- and post-test to determine the first-year students' information literacy capabilities at the university, and whether the level of the online information literacy course was appropriate for first-year students.

1.2.2 Mastering Academic and Professional Skills in the Humanities

The UJ's Unit for Learning Development offers a credit-bearing programme known as Mastering Academic and Professional Skills (MAPS). It is a year-long programme, structured around a series of themes that faculties have identified as relevant to their students (Unit for Learning Development, University of Johannesburg 2018). Management and Administration Learning

staff coordinate the MAPS programme for the faculties of Financial and Economic Sciences, Humanities and Education. The programme is a bridging course, aimed at first-year students who did not qualify to enrol for degree programmes. After completing the MAPS programme successfully, the students are enrolled in the degree programme.

The Faculty of Humanities' librarians have collaborated with the Unit for Learning Development since the early 1990s as course instructors to teach the MAPS in the Humanities students information literacy skills. The information literacy course was mandatory and comprised face-to-face instruction, similar to the library's information literacy content offering. At the beginning of the 2018 academic year, the Teaching and Learning Librarian and the librarians for the Faculty of Humanities approached MAPS in the Humanities and proposed that the then current traditional information literacy course be adjusted to an electronic learning environment. It was approved by the head of MAPS and the course was made compulsory for Humanities first-year students.

This researcher, in her capacity as Teaching and Learning Librarian at UJ, learned that most students attending the information literacy instruction sessions complied with the definition of FG students. During the librarian's contact with the students, she learned that, prior to university, these first-generation students were unfamiliar with a library environment. Many of these students did not have technology and internet access at home either.

Since 62,5% of first-year students studying at the UJ are FG students (Van Zyl 2016a) the focus of this research is on studying first-generation MAPS in the Humanities students in their first year of study at the UJ, to understand their information seeking behaviour better.

1.3 RESEARCH PROBLEM

From the background discussion, it became apparent that the problem under discussion is two-fold and can indirectly affect FG students' academic progress at UJ. Thus, the following summary relates to factors that could affect the students' information seeking behaviour:

Firstly, personal observations made it clear that the students are not familiar with a conventional academic library. In addition, many of the students do not possess the technology required to access information electronically, nor do they have internet at home. Ilett's (2019) literature review on FG students, indicate that they are unwilling library users due to their unfamiliarity

with library practices and a lack of understanding of the purpose and services of a library. Naidoo and Raju (2012:34) point out that due to the socioeconomic conditions of many South African students, the students are only exposed to computers for the first time when they enter university; causing their computer skills to be inadequate.

Secondly, it seems that factors in the socioeconomic environment (context) from which FG students come are not conducive to developing the information seeking skills required in an academic environment. FG students' lack of support from parents and other family members, contribute to their inefficient information seeking skills (Brinkman, Gibson & Presnell 2013:643).

In order to gain insight into the information seeking behaviour of FG students, the focus of the research problem that will be discussed is on FG students' information seeking behaviour, information literacy competencies, the current library training programme course aimed at FG students, and the aspects of FG students' demographical background that might influence their information seeking behaviour.

From the background discussion it seems that the circumstances from which FG students come and how they seek and apply their insights are not conducive to academic purposes. Therefore, the core research question is: What are the typical factors that influence FG students' information seeking behaviour?

1.3.1 Objectives of the study

The specific objectives of the study are to

a) establish the information needs of FG students;
b) gain better understanding of the factors affecting FG students' information seeking behaviour;
c) re-evaluate the effectiveness of the current information literacy course for MAPS FG students; and
d) develop a theoretical framework to support this study and to understand the information needs of FG students.

1.3.2 Subsidiary research questions

In order to investigate the factors influencing FG students' information seeking behaviour, it will be necessary to address the following subordinate research questions as well:

1. What are the information needs of FG students?
2. What difficulties do FG students encounter with regard their information seeking activities?
3. What are FG students' information literacy capabilities?
4. How effective is the existing information literacy course in enhancing FG students' information literacy skills?

1.4 DEFINITIONS OF KEY CONCEPTS

The definitions of key concepts in the scope of this study are:

1.4.1 Context

Because of its complexity, various researchers have adopted different approaches to define and explain context. Dervin (1997:13) defines context as attributes of people, culture, situations, structures and behaviour; each context by definition is different. Talja, Keso and Pietiläinen (1999:752) refer to context as any element that might influence individuals' information seeking behaviour. Cool and Spink (2002:606) describe context as the information environment within which information seeking behaviour takes place. For the purpose of this study, context can be defined as the information environment in which individuals' function; different contexts exist in different situations unique to that specific context.

1.4.2 First-generation student

Torres, Reiser, LePeau, Davis and Ruder (2006:65) define the term 'first-generation student' as a student whose parent(s) did not go to university or who is the first in the family that attends university. Tsai (2012) regards FG students as students whose parents did not graduate from college or university. For the purpose of this study, Van Zyl's (2016b:5) definition of FG students as "the first in their families to attend university", applies to the FG students at the UJ.

1.4.3 Information literacy

The ALA (2000:2) defines 'information literacy' as a person's ability to understand that there is a need for information; being able to strategise in order to find, evaluate and apply the required information, and to discard irrelevant information. Johnston and Webber (2003:335) link information behaviour with information literacy, which is the adaptation of information behaviour to satisfy specific information needs through the utilisation of various information platforms, combined with critical reflection on information. Johnston and Webber's definition applies to

students, since in an academic environment students are required to understand why they need information, to know how to apply relevant skills to retrieve information and how to use information legally and economically. For the purpose of this study, information literacy can be defined as individuals' realisation that they need information to bridge their knowledge gap and their efforts to bridge that knowledge gap by following specific strategies to find, retrieve, evaluate and apply relevant information effectively.

1.4.4 Information needs

Researchers have different viewpoints on the meaning of information needs. Cole's (2011:1217) definition of 'information needs' can be divided into three parts, namely information needs initiating information behaviour, needs produced by users in the context within which they find themselves and needs that are fundamental to the human condition. The third part of this information needs definition reflects a holistic approach to information needs. In turn, Belkin, Oddy and Brooks (1982:630) define 'information needs' as a means of satisfying some goal and in the situation of information science, to find a resolution to a problem. Lastly, Case (2006:333) understands 'information needs' as individuals finding themselves in problem-solving situations, in which they have to use their knowledge structures to solve the information problem and intervening variable such as their environment; cognition and beliefs fail to guide them to satisfy their goals. For the purpose of this study, information needs will be defined as an awareness that arises when information users recognise that there is a gap in their knowledge, which they cannot bridge without seeking and finding relevant information.

1.4.5 Information seeking behaviour

Wilson (2000:49) defines 'information seeking behaviour' as seeking information with the intent to satisfy an information need or achieve a goal. Ajiboye and Tella (2007:42) view 'information seeking behaviour' as an information activity process where individuals strategise to find, process, use and manage information to increase their knowledge and personal development. For the purpose of this study, information seeking behaviour can be defined as the way information users respond to information needs when seeking, searching, using and transferring information through a variety of channels.

1.4.6 Information seeking

Wilson (2000:49) defines information seeking as goal-orientated seeking with the intention to bridge an information gap. Savolainen (2016b:1157) describes information seeking as humans'

interaction with information in various forms. For the purposes of this study, information seeking can be defined as the application of certain actions to find and retrieve information through the employment of information retrieval systems, which can be electronic or human.

1.4.7 Information searching

Savolainen (2016a) describes information searching as purposive actions involved in interacting with information search systems. For the purpose of this study, information searching can be defined as a sub-set of information seeking activities where individuals apply specific strategies to find relevant information by using information retrieval systems.

1.4.8 Information transfer

Information transfer can be defined as the delivery of information through various pathways from a sender to a receiver (Grover, Greer, Achleitner & Visnak 2015:45). Belkin (1984:111) views 'information transfer' as a dynamic process in which information users interact with information sources by using different information platforms. This definition can be applied to the information science disciplines and studies of information seeking behaviour of students. For the purposes of this study, information transfer can be defined as the sharing and delivery of information from a sender to a receiver via a range of information communication channels.

1.4.9 Information use

Kari (2008:2) views 'information use' as a process of finding information through various channels and applying information for specific purposes. Meyer (2016) regards information use as an activity where information users create, collect and apply information. For the purposes of this study, information use can be defined as individuals understanding information in such a way that they can apply the information for its intended purpose to reach the desired outcomes.

1.4.10 Personal dimension

Various researchers use different terminology to refer to the personal dimension in information behaviour. Nahl (1997:13) describes the personal dimension in information behaviour as behavioural acts where people's intentions lead to thoughts about solutions that evolve into actions. She divides the personal dimension into cognitive, affective and sensorimotor acts. She also refers to the personal dimension in information behaviour as the 'personal domain'. Meyer (2016) refers to the personal dimension as a personal component and views the personal component in information seeking behaviour as individuals' mental structures; each mental

structure has unique features. This study uses the term ‘personal dimension’. For the purposes of this study, the personal dimension in information behaviour is defined as individuals’ cognitive and affective experiences when processing information underpinned by their social and cultural values and beliefs.

1. 5 LITERATURE REVIEW

The literature review aims at providing an account of what has been reported on the information seeking behaviour of FG students at tertiary education institutions in terms of the factors that influence their information behaviour, such as

- former experience of seeking information for assignments;
- information literacy levels of FG students;
- socio-economic background;
- knowledge and skills to apply ICTs to access information; and
- contextual and personal influences in FG students’ information seeking behaviour.

The literature review consists of four chapters. Information on FG undergraduate students was collected through electronic searches of bibliographic databases (various conference proceedings, university institutional repositories, open access scholarly peer-reviewed journals, the internet and manual scanning). Table of contents alerts were set up for all journals related to library and information science to ensure that the researcher was kept informed of the latest research in the field of information seeking behaviour. The searches linked the term ‘information*’* with ‘activities’, ‘seeking’, ‘searching’ ‘needs’ ‘processing’ ‘uses’ ‘first generation’ and ‘literacy’.

1.6 IMPORTANCE OF THE STUDY

The expected contribution of this research is that by understanding FG students’ information seeking behaviour and how this may influence their information literacy competencies, recommendations can be made on how the library can review current information literacy services and develop new services to address this user group’s information needs and information literacy capacity.

1.6.1 Theoretical contributions

As reported in the literature, a considerable cluster of knowledge exists on FG students in the field of education. The development of a conceptual model that highlights a relatively small

section of the topic of information seeking behaviour of FG students, in an area in which a large quantity of knowledge exists, can contribute to better understanding of this user group's information seeking behaviour. The conceptual models discussed in chapter 5 also served to review current knowledge on the topic and contribute to scholarly literature that examines FG students' information seeking behaviour. According to Järvelin and Wilson (2003), conceptual models provide an operational strategy to guide research towards definite sets of research questions and a methodological tool for formulating hypotheses and theories.

The conceptual model for this study is based on models of information behaviour drawing from a variety of fields and was developed as this study evolved. The inductive theoretical and methodological approaches are based on understanding the information needs and behaviour of FG students and addressing practical problems, as well as guiding the research. This includes the important factors that influence them, as well as providing guidance for improving information provision to FG students at UJ. The research results will contribute to strengthening the theoretical level of the research.

1.6.2 Practical contribution

The theory was used to guide practice in developing a new information literacy framework and library instruction guidelines that could be used to provide appropriate support to FG students in South Africa, which can ultimately contribute to enhancing their academic experience. The findings from this study could be used to guide other academic libraries to develop similar frameworks to support their FG students. The development of such a framework and guidelines would support Torres, Reiser, LePeau, Davis, and Ruder's (2006:68) recommendations that advisors should have a clear understanding of this unique student population's needs and recognise the unique way FG students seek information.

1.7 METHODOLOGY

The intent of this study was to examine the information seeking behaviour of first-year FG students. This phenomenon has been observed in South African universities and requires a phenomenological research method. According to Given (2008:614), the main characteristic of the phenomenological tradition is that it is the study of how individuals experience real-world situations from their perspective. Phenomenological research attempts to describe and interpret meanings in the ways that they transpire and are formed by psychological, social and mental responses (Given 2008:614). The qualitative research approach, an approach in the

phenomenological research paradigm, allowed this researcher to study the issues of information seeking behaviour of FG students in depth. Wilson (2000:666), in his research on user studies, recommends that qualitative research be considered to examine a wider, holistic view of the information user.

1.8 DELIMINATION OF THE STUDY

This study is focused on first-year FG students at UJ. The reason for focusing only on first-year FG students is that their information literacy skills are not sufficiently developed for academic purposes and the dropout rate at UJ is highest among first-year students (Van Zyl 2016b:12). The focus on only first-year FG MAPS in the Humanities students is also to keep the project manageable. Because of the target population boundaries, the findings might not be generalisable to a larger population of first-year students in general.

1.9 ETHICAL CONSIDERATIONS

With reference to the University of South Africa's (2016:14-17) policy on research ethics, the following documents were obtained:

- To ensure that the respondents would not be put at risk and to respect their privacy, they were requested to sign an informed consent form prior to the interviews. A copy of the consent form appears in Appendix A.
- The semi-structured interview schedule is attached as Appendix B.
- Ethical clearance from the University of South Africa. A copy of the ethical clearance certificate appears as Appendix C.
- Ethical clearance from UJ's department of Research and Innovation. A copy of the ethical clearance certificate appears in Appendix D.

1.10 REPORTING RESEARCH FINDINGS

The research findings were documented as a thesis, which will further result in articles being published on the research topic in collaboration with the researcher's supervisors.

1.11 CHAPTER LAYOUT

Chapter 1: General introduction

The general introduction comprises the background and description of the research problem, including the importance and extent of the research study.

Chapter 2: Conceptual framework: Information seeking behaviour - a literature review
This chapter maps out and synthesises the literature that explains the research problem, as well as how the different variables of information seeking behaviour connect with one another.

Chapter 3: Personal and contextual influences in FG students' information seeking behaviour in the everyday life context

This chapter focuses on how FG students' everyday life environment (situation) influences their information needs and seeking, as well as the social and cultural influences and barriers that play a role in their information needs and seeking. This chapter also examines personal cognitive and affective factors that might influence their information seeking behaviour.

Chapter 4: Personal and contextual influences in FG students' information seeking behaviour in the academic context
This chapter focuses on the contextual and personal influences in FG students' academic environment and how these influences affect the students' information literacy competencies.

Chapter: 5: Information seeking behaviour models
This chapter discusses different information behaviour and information seeking behaviour models, which might be applicable to examine FG students' information seeking behaviour.

Chapter 6: Research methodology
This chapter discusses the research design, population, data-collecting, sampling, data analysis methods and reliability and validity applicable to this study.

Chapter 7 Research findings of the study
The research findings in terms of the criteria determined and supported by the research problem are discussed in detail. The research findings are discussed according to the criteria as set out by Du Plooy (2001:358) to determine

- whether the findings of this study can relate to findings reported in the literature;
- whether the findings support and answer the research questions, as well as accomplish its objectives; and
- the social and practical implications of the findings.

Chapter 8: Evolvement in FG students' information seeking behaviour

This chapter describes any deductions and assumptions relating to the research problem and discusses the findings in terms of

- the factors that influenced the information seeking-behaviour of first-year FG students at UJ; and
- the implications of the students' information seeking behaviour for the library.

Chapter 9: Conclusion, limitations, recommendations

This chapter provides conclusions to the research problem and research questions. Based on the findings, the chapter also discusses the limitations of the study and offers recommendations, as well as suggestions for future research.

CHAPTER 2: CONCEPTUAL FRAMEWORK OF INFORMATION SEEKING BEHAVIOUR

2.1 INTRODUCTION

Important concepts relevant to information seeking behaviour and their underlying relationships will be analysed in this chapter. These include

- the complexity of context and contextual influences on users' information seeking behaviour;
- information activities in which users may engage, such as information seeking, searching, information transfer and sharing and information use;
- personal experiences in terms of cognitive and affective influences; and
- information needs.

Furthermore, the concept of information literacy and its relationship to information seeking behaviour will be outlined, as for this study it is extremely important to understand the FG students' level of information literacy when entering the academic environment.

2.2 BACKGROUND

In this study, the focus is on FG students at UJ and their information seeking behaviour. It is therefore important to understand how FG students' information seeking behaviour is reflected within the scope of information behaviour. Personal influence in information seeking behaviour is of significance, as this involves human interaction with information. Case (2006:5); Bates (2009:2381) and Fisher and Julien (2009:1) link information behaviour with people, by defining information behaviour as the way in which people interact with information. To Case and Given (2016:6), information behaviour consists of the integration of information seeking, and as a whole, other intentional and unintentional, as well as active and passive information behaviour, which will not always lead to information seeking. Case and Given's (2016:6) view that information behaviour includes behavioural influences, such as personal and contextual elements, is noteworthy for examining FG students' information seeking behaviour.

According to Inman and Mayes (1999:3), studies about FG students have shown that in general, they come from a unique socioeconomic background. Their study provides a glimpse of FG students' information behaviour. They argue that FG students are motivated by a different set of goals and that they are constrained by a different set of limitations than students whose parents are university-educated. In South Africa, FG students come from unique socioeconomic

backgrounds where they do not have access to close family members who are able to provide them with appropriate academic and/or social support (Van Zyl 2016b:8). In order to explore and understand FG students' information seeking behaviour, an in-depth analysis is needed of what constitutes information behaviour. Therefore, the different concepts relevant to information seeking behaviour and the relationship between them are examined next.

2.3 CONCEPTS RELEVANT TO INFORMATION SEEKING BEHAVIOUR

The concept of information behaviour underpins information needs and activities, such as seeking and use (Wilson 2000:49). Savolainen (2007:109) also refers to the importance of information activities when he argues that the concept of information behaviour can be categorised as ways in which people need, seek, manage, transfer and use information. Yu (2011:11) conceptualises information seeking behaviour as 'information practices'. He argues that information seeking behaviour is an ever-changing process that conveys how individuals develop their cognition in relation to information.

The concepts deemed important to investigate FG students' information seeking behaviour are information users and their personal experiences of information, context, information needs and information activities such as information searching, information-sharing and transfer, and information use. Context plays a core role in individuals' information behaviour and has an interactive relationship with other core aspects of information behaviour, such as personal experiences of information users, their information needs and information activities. Therefore, context will be discussed next.

2.3.1 Context

Context is a complex concept and various researchers have attempted to interpret the many layers of this concept within the information behaviour phenomenon. That is why different researchers identified different characteristics of context. Researchers also draw on different definitions of 'context' in an attempt to understand this concept. Agarwal (2018:1) is one such researcher. According to him, context plays an important role in information seeking behaviour, since people's information choices, actions, information processing and channels they use to process information are all based on specific contextual influences.

Some researchers understand the concept of 'context' as the environment in which information behaviour takes place, such as Cool and Spink (2002:605), who view 'context' as an information

environment, consisting of situations and circumstances in which information behaviour occurs. Byström and Hansen (2005:1052) understand context as the environment in which information activities occur. They divide the environment into an abstract environment and a concrete environment. According to them, an abstract environment relates to individuals' current norms, values and beliefs according to which they act in the environment in which they function, and a concrete environment refers to the available resources and information sources in that environment. Robson and Robinson (2013:184-185) maintain that environment is one of the contextual influences in information behaviour and includes social and cultural influences.

According to Agarwal, Xu and Poo (2009:1), the concept of 'context' within the information behaviour phenomenon cannot be clearly defined, as there are too many factors that lead to information seeking behaviour. The intricate meaning of 'context' is illustrated by *Collins online English dictionary* (2018) which provides various definitions of 'context'. Firstly, 'context' is defined as a situation that relates to an idea or event, to help understand that idea or event. Secondly, 'context' is defined as the conditions and circumstances that are relevant to an event or fact. Thirdly, 'context' is defined as the whole situation, background, or environment relevant to a particular event, personality or creation.

Sonnenwald (1999:177) argues that the characterisation of context is complicated by its diverse entities. She defines context as the understanding of a set of past, present and future situations. In turn, Dervin (1997:14) describes 'context' as a 'container' within which a phenomenon resides. She defines 'context' as the attributes of a person, culture, situation, behaviour, organisation or structure. To illustrate this complex concept, Dervin (1997:14) uses examples. When a researcher focuses on the meaning of texts, the perspectives of sources or receivers or channels will become the context. Should the researcher focus on relationships between people, the factors describing the situation will become the context.

Case and Given (2016:14) point out that when context is considered from an information behaviour perspective, issues such as individual situations, the motivation for seeking information, specific activities and individuals' environments should be considered.

Kari and Savolainen (2007:47) simply define context as any background for information phenomena and argue that without context, information phenomena lose their meaning. Gaston

(2017:2) claims that ‘context’ forms the background in which individuals’ thoughts and behaviour are embedded.

It is also important to view context from the user’s point of view. Therefore, the following section describes the ontological status of context.

2.3.1.1 Ontological status of context

In information behaviour, the ontological status of context implies that ‘context’ is the situation in which information users find themselves, such as a working environment or social need perspective, where a person’s physiological, affective and cognitive needs are interrelated (Allen & Kim 2001:1).

In a task-linked or goal-related situation, contextual elements such as cognitive and social factors play a role in the person’s intention to seek information (Cool & Spink 2002:605). Savolainen (2009:196) links ‘context’ with the interpretation and judgement of information and states that humans process information in the context of choice-making and decision-making. Jansen and Rieh (2010:1522) argue that context forms an integral part of the concept of information and from a physical perspective, information can be regarded as having a cognitive and affective aspect. These aspects are dependent on the situations in which information users find themselves (Jansen & Rieh 2010:1522).

In information behaviour, certain contextual elements such as boundaries and different situations in which users find themselves influence their information seeking behaviour.

2.3.1.2 Boundaries

In context, boundaries mean having certain restrictions on contextual elements (Meyer 2009). Meyer (2009) explains that these can be restrictions regarding the flow and use of information, or the extent of the interaction that is allowed between the context and the outside world.

Some researchers regard contextual boundaries as demographics (Taylor 1991:217), human activities that take place in a closed setting (Nardi & O’Day 1999:75) or constraints in a context (Agarwal et al. 2009:3). Sonnenwald (1999:177) uses the examples of academia, family life, citizenship and clubs, which have contextual boundaries, constraints and privileges that can be perceived by participants and outsiders. She adds that place, time, goals, tasks, systems,

processes and types of participants are all attributes of context, which can be considered contextual boundaries. From a personal context, Williamson (1998:35) states that boundaries can be socioeconomic circumstances, values, lifestyles and physical environments.

Boundaries can also be widened or narrowed down, depending on users' information need and environmental and information requirements (Courtright 2007:277). Fulton (2005:81) provides examples of when in a small group setting, users might not cross the boundaries of their inner circle to seek information, or users will cross information boundaries only to the extent that certain conditions are met, such as the relevance of the information or the critical perception of the information.

From the cognitive-contextual perspective, Kuhlthau (1991:362) claims that there are usually no boundaries between information seeking activities, for example moving from problem-solving activities to sense-making. Taylor (1991:217) suggests that there is a shared connection between information-seekers and their environment, as people who share an environment are also bound by a shared context. For example, the academic environment students share will most likely influence their information seeking behaviour as a 'shared context' as they share common activities, tasks and roles. Thus, it seems evident that people's environments can shape their information seeking behaviour.

Sonnenwald (1999:178) argues that the difficulty with describing context is that sometimes it does not have separate entities. According to Sonnenwald (1999:178), a challenge then arises when the individual has to try to satisfy constraints (boundaries) of different contexts concurrently.

Agarwal et al. (2009:10) state that context is also shaped through the environment and the way information-seekers perceive their environment. Research has shown that FG students' environment has certain restrictions, such as the fact that they come from lower socioeconomic backgrounds, enter university less academically prepared and are more likely to report feelings of being 'outsiders' on campus (Brinkman et al. 2013:643).

2.3.1.3 Situations

According to Johnson (2003:739), 'situation' is rooted in the environment within which users seek information. Cool (2001:8) suggests that context forms the structure of meaning and

situation is the active environment within which information is processed. Savolainen (2006:113) refers to the concept of 'situation' as a blend of people, places and events. In turn, Sonnenwald (1999:178) characterises situations as a series of interrelated activities in time-space. Similarly, Savolainen (2006:113) and Case and Given (2016:375) regard situation as time-space instances, as perceived by an information user. Brèzillon and Saker (1998:480) add to the various interpretations of context by describing 'context' as a situation or situations that occur within a phenomenon. For example, within cognitive science, context can be examined from an interaction and situational perspective. From an engineering viewpoint, context can be examined from knowledge and reasoning perspectives (Brèzillon & Saker 1998:480). Brézillon and Saker's viewpoint endorses Dervin's (1997:14) view that 'context' is dynamic, in that context can be virtually anything, depending on the specific situation.

Allen and Kim (2001:2) point out that different situations also occur in different contexts. This is dependent on the nature of the context. Allen and Kim (2001:2) provide the example of an academic context in which a specific task will occur in a course-related situation and in a medical context a task might occur in a diagnostic situation. Thus, the task will represent the context within which information seeking behaviour occurs. The complexity of 'task performance' as context is pointed out by Savolainen (2012); the information need is viewed as a result of the requirements set by the scheduled task. Meyer (2016) argues that in a context, different elements exist, and these elements have different characteristics. All of these have different demands pertaining to a specific task or type of information needed. For Meyer (2016) the characteristics of these elements determine the type of information needed.

According to Sonnenwald (1999:178), a flow of situations arises within each context. For example, students can have different roles in an academic environment, such as student and tutor. Consequently, being a student or a tutor are two different situations. Therefore, as Sonnenwald (1999:178) explains, context is larger than a situation and may entail a variety of situations; different contexts may relate to different possible types of situations. McCreadie and Rice (1999:58) support Sonnenwald's (1999:178) view that context can be construed as the bigger picture within which a situation exists. McCreadie and Rice (1999:58) describe a 'situation' as the particular set of circumstances from which a need arises.

Sonnenwald (1999:178) suggests that situations can be described by certain actions or behaviour within a situation. Furthermore, individuals might describe the same situation

differently, depending on how they perceive the actions based on their own experiences and knowledge of similar situations (Sonnenwald 1999:179).

A dimension in an information seeking context is that specific and individual situations define users' information needs and guide their information seeking (Starasts 2015:155). Consequently, users' information seeking activities aim to meet their specific information needs. Kari and Savolainen (2003:160) argue that to understand a situation, it is important to explore what the situation is like and how specific actions affect the outcomes of the situation.

In a situational context, boundaries such as tasks, time-spaces, small worlds and networks exist that determine the type of information required for a specific purpose.

a) Tasks

In a situational context, tasks can be situation-bound. Ingwersen and Järvelin (2005:73) define tasks as an "abstract, objective sequence of actions". The context in which people work or function (environment) has a direct influence on the tasks they carry out and the information seeking decisions they make (Fidel & Pejtersen 2004).

According to Allen and Kim (2001:2), tasks that are performed in certain settings, such as work or organisational settings, may influence individuals' information behaviour. Allen and Kim (2001:2) use the example that when a person has to produce a term paper or write an article, the situation is course-related in an academic context. As such, the tasks can be found in and represent the context in which the information seeking behaviour occurs (Allen & Kim 2001:2). Algon (1997:205) states that the way in which people in specific situations, such as work-group situations, address their tasks or task assignments might provide insight into their information-related behaviour.

b) Time-space

Time is one of the main contextual factors of information seeking (Savolainen 2006:110). Within situations, time-space is a context associated with interactions between users and information sources during the information seeking process (Dervin 1996:17; Agarwal 2018:71).

According to Gaston (2017:9), a context-laden situation is bound in time-space. Savolainen (2006:110) views time as a fundamental attribute of situation or the context of information

seeking, a qualifier of access to information and an indicator of the information seeking process. Savolainen (2006:123) explains that on the most abstract level, time qualifies situations and contexts of information seeking by making them dynamic, fluid and subject to continuous change. Kari and Savolainen (2003:160) conceptualise the 'time-space context' as "a perceived totality of time-space qualifiers and visualised as a spatially and temporally limited reality in which acts, and events take place". They furthermore provide an example of users, in a time-space context, only becoming aware of a situation when actions no longer work efficiently. Thus change, interest, maintenance and problems are situation types in a time-space context (Kari & Savolainen 2003:160). Vakkari (1999:826) also connects tasks with space, in the sense that the structuredness of a task determines users' decisions to act upon that task and the structure of the conceptual space depends on users' prior knowledge of the dimensions of a task.

Dervin (1997:17) suggests that 'reality' is irregular, unpredictable and changeable across time-space. With this in mind, Dervin (1997:17) further suggests that reality is only accessible in the context of specific moments in time-space. Savolainen (2006:113) supports Dervin's (1997:17) suggestion to add that the context of information seeking is something that changes over time owing to human involvement, activities and events. Time and space are among the various contextual situational elements on which researchers draw to study sense-making (Dervin 1999:27). In a sense-making situation, Dervin (1999:27) links time and space with gap-bridging, claiming that each new moment in time-space requires another gap-bridging step, regardless of whether the step is invented or planned. According to Dervin (1999:27) gap-bridging can change across time-space. Dervin (1999:27) explains that as a person moves from time-space moment to time-space moment, gap-bridging is seen as potentially responsive and resistant to changing conditions. This implies that sense-making has the potential to change across time-space (Dervin 1999:28).

Ingwersen and Järvelin (2005:60) also view time-space as a situational factor where individuals attempt to bridge their knowledge gaps by moving through time and space to make sense of a situation. In the sense-making process, time and space are seen as a continuous process of sense-making steps. Ingwersen and Järvelin (2005:60) explain that the sense-making steps are interrupted when a gap is encountered, and information is then required to bridge that gap.

According to Savolainen (2006:123), contextual time-based factors can be approached in terms of time affordance; that is, availability of time permits people to access and use information to

some extent. It also means that the availability of time can then constrain information seeking (Savolainen 2006:123). Savolainen (2006:123) concludes that the dimensions of past, present and future (which represent time) are embedded in the experiences and perceptions of information needs and seeking.

c) Information worlds

In information seeking behaviour, an 'information world' can be viewed as a space linking individuals with information sources (Yu 2011:3). The space can be physical, digital, virtual or worldly (Yu 2011:3). Chatman (1991:439) links information worlds with social environments. She proposes that people's information worlds are socially determined; within their information world 'small worlds' exist, where people share the same social norms, and their information needs and seeking are concentrated in this small world. Chatman (1991:440) further proposes that the information worlds of lower-class groups have a more interpersonal nature, where information is exchanged between family and friends.

Building on Chatman's theory that information worlds are socially bounded, Burnett (2015:9) contends that the theory of information worlds adds a concept of boundaries, where different worlds connect with one another and individuals in these information worlds have their own preconceived criteria according to which they assess information and add value to the information, based on their specific information world.

d) Small worlds

Small worlds are worlds within which people function, sharing the same social norms, values and beliefs, for example, a group sharing the same socioeconomic characteristics (Chatman 1999:176). According to Chatman (1999:176), activities in a small world are centred on everyday life activities with which the members of that small world are comfortable and used to and that are easily recognisable to them. The significance of Chatman's 'small world' theory, applied to FG students, is that they share the same small world, such as coming from families with a low income and education. Chatman (1999:438) proposes that members from the same social group (low income and education) might have a more restricted view of the world and might also have lower expectations of succeeding in unfamiliar environments, as well as tending to seek information from people sharing their own socioeconomic circumstances.

e) Information horizons

To a certain extent Chatman's small world relates to the concept of information horizons coined by Sonnenwald (1999:176). She studied information behaviour in relation to context, situations and social networks, and using these concepts, she developed a theoretical framework called "information horizons". Her information horizons framework suggests that each context or situation consists of 'information horizons' that are socially and individually influenced. These 'information horizons' can comprise a variety of information resources, which she conceptualises as 'solution spaces'. She further theorises that within these information horizons, humans act and operate to come up with the best ways to solve information retrieval problems.

Based on Sonnenwald's (1999:176) information horizons framework, Sonnenwald, Wildemuth and Harmon (2001:2), as well as Tsai (2012:19), reason that information users create information horizons according to their personal situations and mental constructs, which are context-bound. Sonnenwald et al. (2001:2) explain that an individual's opinion about an information resource can be influenced by the value and opinion held by that individual's peers, thus placing that specific information resource within the individual's information horizon. They further explain that when an individual interacts with other individuals, that individual becomes aware of the others' opinions, which can cause changes in the individual's information horizon.

f) Social spaces and networks

As described in chapter 2, section 2.3.2, the context within which a person seeks information consist of cognitive, social and other factors related to a person's tasks, goals and intentions (Cool & Spink 2002:605). A social space can be considered a solution space (Sonnenwald 1999:176). Sonnenwald (1999:176) explains that within this solution space the most efficient path to the best solution for an information problem is determined. She adds that within a social space, social networks occur and are formed.

Sonnenwald (1999:179) describes social networks as communication among individuals and the connections and interactions between them. She argues that social networks help construct situations and context and provides the example that when individuals are members of a social network, not all the members will participate in a situation. For example, in a class session, not all the members will attend the class (Sonnenwald 1999:179). Fisher, Landry and Naumer (2007:2) use the concept of 'information grounds' to explain social spaces. They pointed out that 'information grounds' are social spaces or settings people go to for a particular reason, such as

a university campus, and they end up sharing information with one another within this campus space.

2.3.1.4 Changing context

Changing context refers to an interactive view of context where context is seen as dynamic, implying that information users are shaped by context and in return users shape context (Courtright 2007:290). In this case, there are two parts of the environment: one in which context is formed through practices of generating information and the other through social practices in which individuals share and seek information (Courtright 2007:281). This statement might have implications for the context of FG students who are exposed to two types of context, namely their socioeconomic background and the academic environment (for them a new context).

From a contextual perspective, Bates (2009:2381) regards information behaviour as the interrelationship between information and information users' environment (context), which leaves a lasting impression on them. Bates (2009:2381) explains that the impressions information users may have of this interrelationship between information and their environment can either change their knowledge store or add to it. Bates (2009:2381) further explains that changes can be emotional changes or more complex changes that can lead to a new understanding of information.

The above discussion indicated that context is situation-bound and different elements, which influence individuals' information needs, exist in each context.

Users' understanding of information and the perceptions they form of information relate to personal influence in information seeking behaviour. Therefore, the influence of personal experiences in information behaviour will be discussed.

2.3.2 Influence of the personal dimension in information behaviour

Different researchers, such as Wilson (1981:8), Nahl (2001), Bates (2009:2385), Case and Given (2016:5) and Meyer (2016), have found that similar to the different contextual elements that influence individuals' information seeking behaviour, the personal dimension in information behaviour, consisting of personal experiences, cognitive and affective elements, also influences individuals' information behaviour.

According to Meyer (2016), the personal dimension in information behaviour plays a prominent role in the information behaviour process. Various researchers have brought to light their understanding of personal experience in information behaviour and in the process illuminated different properties of personal experiences that can influence information behaviour. Wilson (1981:8) and Nahl (2001) underline the fact that humans interact with information in certain ways and how they experience this interaction is manifested in feelings, thoughts and meanings they form about information. The personal dimension also relates to information use, affecting the way in which users acquire and apply information through information seeking (Case & Given 2016:5). Bates (2009:2385) explains that when people deal with information, they have certain reactions to different kinds of interactions with information. According to Bates (2009:2385), these reactions to different interactions influence their information behaviour. Allen (1996:61) introduces experience as a personal dimension when he argues that no one has precisely the same set of experiences because people's knowledge structures are based on past experiences. Allen (1996:61) adds that these past experiences will influence people's information seeking behaviour. Hepworth, Grunewald and Walton (2014:1041) refer to the personal dimension in information behaviour as people's own interpretations of their individual information experiences. According to Hepworth et al. (2014:1044), the manner in which humans experience their own lives and how they construct meaning will influence how they deal with information; nobody can appreciate another person's experience.

Meyer (2016), accepting Nahl's (2001) taxonomic approach to information behaviour, refers to personal involvement in information behaviour as the 'interplay' between cognitive and affective structures in the human mind. Meyer (2016) explains that each of these structures has different attributes, which interact with one another, based on the individual perceptions. Kari (2007) also shows awareness of the personal influence when he argues that people connect with information in two ways: on a mental level, where they attempt to make sense of the information, and on a physical level, which involves the activities and outcomes of using information. This viewpoint is similar to that of Nahl (1997:14), who indicates that human behaviour always involves cognitive and affective behaviour.

Savolainen (2009:202) suggests that the process of information use is influenced by various cognitive elements, such as the interpretation of information, sense-making, choice-making and decision-making. In the case of students, Nahl (1997:14) describes the cognitive and affective aspects of information behaviour as students interacting with information for study purposes on

a mental and active basis. An example is their motivation to pass their examinations (affective) while learning and processing information (cognitive) through actions such as listening, reading and note-taking (sensorimotor action). To Savolainen (2009:189), information is tied by personal and situational constructs, which are connected by cognitive and affective elements. Wilson (1997:557) explains that psychological characteristics, such as cognitive dissonance, cognitive avoidance, self-efficacy, selective exposure and emotional factors, influence how people seek information. Saracevic (1997:313) also acknowledges that people's use of information relates to cognitive, affective and situational applications. From a personal perspective, the cognitive application involves the users' knowledge structures to interact with information. Affective application involves the intent of the user and situational application involves using information for specific tasks in a given situation or environment (Saracevic 1997:314).

Although some researchers have different approaches to personal experience in information behaviour, there is consensus that personal experiences may be both cognitive and affective. With this in mind, the cognitive characteristics of information behaviour will be discussed next.

2.3.2.1 Cognitive aspects of the personal dimension

There seems to be a strong connection between cognitive psychology and information behaviour. Psychologists view cognitive behaviour as internal processes involved in making sense of the environment and deciding what actions might be appropriate (Eysenck & Keane 2005:1). These internal processes include thoughts, attention, perception, learning, memory, language, problem-solving, reasoning and thinking (Eysenck & Keane 2005:2).
From a clinical psychological perspective, Eich and Schooler (2000:4) consider cognitive psychology as:

> when people group objects together to form categories on the basis of the structural or perceptual similarity of the objects; their common use in facilitating a goal; or their conformity to a common theory of mental representation.

Nahl (1997:13) also connects information behaviour with cognitive psychology, in the sense that cognitive behavioural acts relate to understanding of information. Wilson (1984:197) views cognitive behaviour as generating meaning and from an information behaviour perspective explains that 'meaning' entails how people create, transfer and use information. Wilson (1984:197) adds that different people attach different meanings to information. For example, some will derive meaning from research as an everyday activity and others will derive meaning

from research for academic purposes or the practice of a profession (Wilson 1984:197). Wilson (1984:197) concludes that the cognitive approach to information behaviour draws attention to the need to bridge the gap between how individuals generate meaning in their everyday life and the relevant information they need.

Belkin (1980:133) refers to cognitive information behaviour as users considering information use from their anomalous state of knowledge. According to Belkin (1980:133), in an anomalous state of knowledge, when users use their state of knowledge, they may come to realise that there is a gap in their knowledge concerning the problem they face. Adding to Belkin's (1980:133) anomalous state of knowledge theory, Choo (2006:46) argues that individuals' cognitive styles and references influence how information is sought, processed and utilised. Choo (2006:43) further states that information behaviour is "mediated by cognitive states of knowledge about users themselves and about the entities that the users are interacting with." He adds that the entities can be information systems or other people.

In the field of information counselling, Nahl (1997:13) describes cognitive behavioural acts as acts that relate to knowledge, comprehension, problem-solving and critical interpretation. Certain cognitive elements of information behaviour, such as information processing and sense-making, provide insight into cognitive information seeking behaviour.

a) Information processing

Eysenck and Keane (2005:1) are two clinical psychologists who adopted an information processing approach to study cognitive concept-forming and made the following assumptions:

- Information made available by the environment is processed by a series of [mental] systems, such as attention and perception.
- These processing systems transform or alter the information in various systematic ways.

According to Ingwersen (1982:168), people process information based on their knowledge structures ('world view' [how they make sense]). Ingwersen (1984:87) adds that these knowledge structures provide the basis for decision-making in the information seeking process. Meyer (2016) also regards the processing of information as mental acts that involve reasoning through which a person is able to judge information and recognise when information is needed for use and/or reject information that is not needed.

To Tanni and Sormunen (2008:895), the cognitive processing of information is also linked to tasks, more specifically cognitive task activities such as when someone achieves specific learning outcomes by active information processing and interaction with information resources. Savolainen (2009:192) states that part of information processing is information use and explains that information use incorporates elements of interpretation, knowledge creation and information design. The information processing approach is also viewed from a sense-making point of view, by way of how information users interpret, assemble and modify information (Savolainen 2009:201). As such, information use is of critical importance in studies focusing on information literacy.

The successful outcomes of information processing and use involve elements of information literacy (Fosnacht 2020:272). Consequently, skills such as the ability to retrieve, evaluate, and apply information appropriately are required (Grafstein 2017:30). In an academic environment, information literacy competencies are a requisite for students to progress successfully in their studies. Grafstein (2017:3) contends that in higher education, information-literate students are expected to be able to apply certain scholarly practices. According to her, these scholarly practices involve various methods of information seeking applicable to specific subject disciplines.

b) Sense-making

Sense-making can be regarded as ‘finding meaning’ (Kuhlthau 1991:361). Sense-making fits in with cognitive information behaviour when a person is actively involved in finding meaning (Kuhlthau 1991:361). For Case and Given (2016:374), the focus of sense-making is on how individuals make sense of a situation. Savolainen (2009:194) states that the cognitive approach to sense-making is adopted when individuals attach personal meaning to information. Dervin (1983:3) describes ‘sense-making’ behaviour as communication behaviour that is both internal (cognitive) and external (procedural). Dervin (1983:6) explains that sense-making focuses on how individuals use the observations of others in addition to their own to construct pictures of reality and use these pictures to guide behaviour. She views information seeking and use as central to sense-making. Dervin (1983:9) also argues that sense-making is situational: as situations change, responses will also change.

Sense-making is also viewed in terms of gap-bridging, which is connected to problem-solving (Dervin 1983:4; Kuhlthau 1993:347; Savolainen 2009:190). In the sense-making process,

Dervin (1983:9) describes a gap as an information need that requires bridging; bridging gaps is what sense-making is all about. Nahl (1997:13) maintains that behavioural acts of problem-solving relate to cognition and sense-making.

Since it seems evident that there is a close relationship between affective and cognitive elements of information behaviour (Zajonc 1980:151), the following section examines the characteristics of the affective structure that can influence information seeking behaviour.

2.3.2.2 Affective aspects of the personal dimension

The personal dimension in information behaviour (emotions and feelings, motivation, perceptions) influences individuals' information behaviour. In the field of psychology, psychologists use the term 'affect' to refer to 'emotion', which encompasses feelings and moods (Manstead, Frijda & Fischer 2004:264). In a broad psychological sense, emotion refers to "a relatively brief episode of coordinated brain, autonomic and behavioural changes that facilitate a response to an external or internal event of significance for the organism" (Davidson, Scherer & Goldsmith 2003:xiii).

From an information behaviour perspective, Choo (2006:47) observes that research in neurobiology has shown that emotions play a crucial role during information seeking and processing; emotions can cause users to use past experiences to seek information, or direct users to new information. Choo (2006:48) refers to the anxiety, confusion, frustration and doubt users experience when seeking information as 'affective symptoms'. These symptoms implicitly motivate and direct users' information processing and information-use experience. Kuhlthau's (1991:363) information search process model (ISP) describes the stages of the information search process from the user's perspective. Each stage reveals different feelings, in particular 'uncertainty'.

Both Panksepp (2004:175) and Savolainen (2015a) argue that affective experiences cannot be directly measured and have inherited underpinnings. As such, Panksepp (2004:175) points out that people do not learn to be afraid, angry or happy, even though people can learn in which situations to express these feelings. Furthermore, psychologists claim that the term 'affect' must be used to refer to behavioural components. From a psychological view, Forgas (2001:204) argues that to analyse human interaction and information processing, an understanding of the

affective influences on behaviour is needed, as affective states might influence thinking and judgments.

To give background to this study, the outline below of the elements that determine the term 'affective' might provide insight into the following affective elements of information behaviour:

a) Feelings

Feeling is a subjective representation of an emotion and can reflect any or all of the components that constitute emotion (Davidson, Scherer & Goldsmith 2003:xiii). From an information behaviour perspective, Nahl (2001) explains that the affective aspect of feelings includes a user's motives and is closely associated with the evaluation and choices users make when seeking information. Nahl (1997:14) also refers to affective elements of feelings (which include interests, values, motivation, purposes, and goals people have) that might influence information seeking behaviour. Zajonc (1981:152) sees feelings as behaviour that underlies an avoidance approach. Nahl (1997:14) uses the example of people struggling with technology in the new technological environment. They may experience feelings of uncertainty and information anxiety, which may result in avoiding specific technology or the library. Similarly, Nahl (1998:60) claims that users maintain 'affective' filters to keep out or ignore information they feel are not relevant to their search topic. However, feelings can also move from negative to positive (Savolainen 2015b:182). Kuhlthau's (1991:363) information search model illustrates that during the information search process, users may experience negative feelings, such as uncertainty and anxiety, which might change to feelings of optimism as the search process evolves. Kuhlthau (1993:343) draws on the affective feeling of 'uncertainty' to describe the stages in the information search process. For example, she explains that during the initiation, selection and exploration stages of an information search, users may experience feelings of uncertainty, which intensify as the search process progresses or could change to optimism or diminish in the formulation stage.

b) Moods

Psychologists refer to a mood as a diffuse affective state that is often of lower intensity than emotion but considerably longer in duration (Davidson et al. 2003:xiii). In explaining the search process, Kuhlthau (1993:350) describes a mood as the mind-set users take on, which triggers their decision-making on certain search options or possibilities. In other words, a mood may be thought of as an attitude that determines a user's approach to the task at hand (Kuhlthau

1993:350). Kuhlthau (1993:350) further explains that moods lead to certain actions in any constructive process; for example:

- An invitational mood leads to expansive actions.
- An indicative mood leads to conclusive actions.

According to Kuhlthau (1993:350), either invitational or indicative moods can obstruct the progress of the search process and the ability to alter moods as the search progresses allows for the accommodation of different tasks in each of the various stages.

c) Motivation

Motivation is an affective activator, in other words the driving force to achieve or accomplish a goal (Nahl 2004:192). Case and Given (2016:373) view motivation as a mental or emotional state that causes a person to act; this can account for individual differences in information seeking. Nahl (1998:60) found that people's culturally structured motivational states, such as their need for information and personal motives, influence their information behaviour. Savolainen (2012) suggests that the affective attribute behind motivation may be users' emotional reaction to a learning task; in other words, the users' feelings about the learning task. For example, feelings of satisfaction or anxiety can be tied to motivation (Nahl 2004:192). In addition, according to Savolainen (2012), motivation is the chief activator for searching for information. Wilson (1999:257) argues that when information needs are to be satisfied, motivational factors such as stress/coping and risk/reward theory apply; where high risk is associated with high reward, this is unlikely to initiate information seeking behaviour.

The above discussion described how different elements of the personal dimension influence users' information behaviour. The context in which a person seeks information consist of cognitive, social and other components related to a person's tasks, goals and intentions (Cool & Spink 2002:605).

Various elements, such as situation and knowledge structures, shape individuals' information behaviour and help determine individuals' information needs (Sonnenwald 1999:180). Therefore, information needs will be discussed in the next section.

2.3.3 Information needs

Information needs are closely related to the personal dimension in information behaviour, in that people's mental structures interact with their inner feelings, resulting in the realisation that they cannot solve an information problem because they lack knowledge (Meyer 2016). Belkin, Oddy and Brooks (1982:62) refer to this state of realisation as an anomalous state of knowledge when an information need arises from an acknowledged anomaly in users' state of knowledge that renders them unable to determine what they need to do to solve their information problem.

Dervin and Nilan (1986:18) contend that when the internal senses of individuals run out, a gap in the individuals' understanding of the information problem occurs, causing an information need to arise. Ingwersen (1996:14) maintains that the formation of an information need derives from a desire for information as a result of mental processes, and the outcome is a situation in which a person's mental state processes the situation in such a way that the person recognises an immediate knowledge gap.

People experience information needs in different ways and different influences also shape information needs (Allen 1996:112). Case and Given (2016:80) are of the view that to investigate information needs, one has to start with an understanding of the concept 'need'. To Case and Given (2016:80), a 'need' means to achieve the desired goal and 'need' is therefore instrumental in reaching the desired goal. For example, people use information intending to accomplish something with that information, such as passing a test or simply satisfying curiosity (Case & Given 2016:80).

Wilson (1981:5) argues that what makes information needs such an intricate component of information seeking behaviour is the question of what motivates information needs. From a psychological perspective, he explains that the concept of 'need' can be divided into three categories, namely physiological needs such as a need for food, water and shelter; affective needs or emotional needs; and cognitive needs, such as the need to plan or learn. These needs can be interrelated; one need may trigger another need, as well as trigger problems to satisfy those needs (Wilson 1981:3). To indicate the complexity of defining information needs, Wilson (1981:5) argues that the difficulty lies in separating information needs from 'wants', 'expressed demands' and 'satisfied demands'. Derr (1983:274) argues that specific conditions dictate specific information needs and information is not needed unless it clearly contributes to the achievement of an information purpose. With this in mind, Derr (1983:274) suggests that a need

can only be called an information need when the information needed serves to satisfy the condition in which it is needed. In other words, unrelated information cannot be needed information and the condition for which the information is needed must be present to claim that there is a need for information (Derr 1983:274). Derr (1983:275) argues that judgement is required to determine whether the information need contributes to an information purpose and can be linked to the affective domain of information behaviour. Derr (1983:276) concludes that an information need is a condition in which specific information contributes to the achievement of a valid information purpose.

Some researchers approach information needs from a contextual perspective and others from a subjective perspective. Contextual information needs can be regarded as the needs that arise within specific situations (situational needs) and people then attempt to satisfy those information needs in the situation in which they find themselves (Savolainen 2012a). Subjective information needs can be approached from the user's perspective, where different interferences can influence users' information needs, such as their knowledge structures (Wilson 1981:7).

2.3.3.1 Contextual information needs

Cole (2011:1216) links information needs with context, in the sense that an information need is produced within users by the context in which they find themselves. Therefore, the context or information-situation of the user from which the information need arises is important (Cole 2011:1216). Taylor (1982:341) argues that when information providers understand information users' information environment (that is, the environment in which information is needed) they will also understand their information needs better and be able to meet users' information needs.

Dubnjakovic (2017:1034) explains that when context in information needs is considered, task-based information needs arise for a specific kind of information from specific sources and situational information needs arise within a specific situational state. Therefore, situation and tasks will be discussed next.

a) Situation

Dervin (1983:6); Allen (1997:114) and Borlund and Dreier (2014:494) suggest that certain situations influence how people experience information needs. Allen (1997:112) refers to this influence as "situational influences on information needs". In other words, the situation in which

people find themselves has a profound effect on their information seeking behaviour. According to Savolainen (2012), temporal and situational circumstances can influence information needs since, depending on the situation in which individuals find themselves, their information needs may undergo several changes as situations change. Savolainen (2012) calls this a 'situation of action'; this action is dependent on the urgency of a problem at hand.

According to Allen (1997:113), individuals sharing the same context will also obtain information from within these contexts and focus their problem-solving considerations on these contexts. Allen (1997:113) suggests that the perceptions of a situation of people who share specific contextual factors' (collective influence) might restrict their information needs to only that shared context.

In a given situation, individual variables may influence how individuals react to an information need (Allen 1997:112). Allen (1997:113) provides the example of people being simultaneously individuals, as well as members of a group. Group members' information needs will be based on that specific group's information requirements, whereas the information needs of individuals in that group will be evident on an individual rather than group level (Allen 1997:113).

Similarly, Krikelas (1983:11) suggests that certain situational conditions may produce immediate needs, resulting in the needs being recognised more easily. The situation can also change as the need changes, for example when a service is no longer required (Krikelas 1983:11).

According to Wilson (1981:8), when examining information needs in specific situations, factors that might influence users' information needs, such as work, socio-cultural, politico-economic and physical environments, need to be taken into consideration.

b) Tasks

Taylor (1982:341) maintains that tasks and problems that require solutions to information problems arise within users' information environment. Savolainen (2012) explains that from the context of task performance, information needs are driven by problem-solving and the task at hand. Savolainen (2012) further explains that in the context of task performance, problem-solving involves the information user determining the best options, investigating them and selecting the most appropriate plan of action, which will yield the desired outcome to solve the

information problem. Savolainen (2012) adds that problem-solving and task performance are affected by situational constituents bound to time-space.

c) Dialogue

Savolainen (2012) regards dialogue as a contextual factor that shapes information needs and explains that dialogue can be understood as verbal or textual exchange between two or more individuals. Dialogue can also be viewed in a broad sense, which may include needs arising from either understanding or misunderstanding of written text or oral communication. In an academic environment, needs may arise from the understanding of a task given by the lecturer to the student, or understanding of a task in written form, as well as understanding of the use of the required information sources.

Savolainen (2012) explains that information needs in the context of dialogue emphasise the uniqueness of the needs. This is about understanding the information need and what additional information is needed to gain understanding of that information need, such as negotiation and redefinition of the information need. Similar to task performance, the context of dialogue is bound to time-space and always remains open for negotiation (Savolainen 2012a).

d) Roles

Some researchers, such as Leckie, Pettigrew and Sylvain (1996:163), believe that information needs arise within specific roles people play and that these roles may trigger certain needs. Leckie et al. (1996:163) explain that people play many distinct roles throughout a given day, which require specific knowledge and expertise. The information needed and sought may also vary with each role enacted. In other words, numerous different roles assumed by people may lead to different information needs (Leckie et al. 1996:165). Leckie et al. (1996:265) indicate that specific roles and tasks largely determine information needs and information needs stem from tasks associated with distinct roles. Cole (2011:1223) is also of the opinion that information needs arise in response to people's social and work roles and argue that from a contextual approach, an information need is produced in users by the context in which the users find themselves (Cole 2011:1217).

Not only users' environment provides insight into their information needs, but also users' knowledge structures. Therefore, subjective information needs will be discussed next.

2.3.3.2 Subjective information needs

Wilson (1981:7) argues that when a need is of a personal (subjective) nature, the need only exists in the mind of the person in need. Wilson (1997:552) adds that the subjective character of 'need' is a cognitive representation of a future goal that is desired. Consequently, Wilson (1981:8) suggests that the term 'information need' be removed from the professional vocabulary and that one should speak instead of "information seeking towards the satisfaction of needs".

According to Liu (2017:669), there is a fine balance between users' knowledge level of an information problem and their ability to solve their information problems. Wilson (1997:552), adds that people's needs can only be discovered when they make their needs known and needs could differ from person to person. Similarly, Cole (2011:1220) argues that users who experience an information problem do not always regard the information problem as an information need; it is rather the information provider (librarian, intermediator) who identifies the information need. He agrees with Wilson (1997:552) that information needs are often not known to users, therefore the information need cannot be observed or defined.

Taylor (1968:182) was among the first researchers who discussed subjective information needs in the context of information systems. He describes four levels of information needs:

- Visceral need: This is an actual but unexpressed need where users are vaguely aware of an information need. This can be knowing or unknowing. This need will change form as information is added and the need becomes more recognisable.
- Conscious need: This refers to the conscious within-brain description of the need. Although the information need is not yet properly defined, the information users have an abstract image in their minds of the information need. At this stage, information users might seek the assistance of other people, such as information workers, to clarify their information problem.
- Formalised need: This refers to the formal statement of the need. Information users are able to formulate clear questions based on distinct information needs.
- Compromised need: This refers to the question as presented to the information system. Information questions are modified based on the type of information retrieved from information systems.

In the recognition of information needs, uncertainty is a factor that may have a major influence on users' information needs. Therefore, the cognitive state of uncertainty will be discussed in the following section.

a) Uncertainty

Uncertainty is a cognitive state that causes affective emotions, such as anxiety (Kuhlthau 1993:347). Krikelas (1983:8), Kuhlthau (1993:343), Chowdhury, Gibb and Landoni (2014:576) and Cole (2011:1224) all maintain that information needs are rooted in uncertainty, because users often do not know when a need arises, or what is required to satisfy that need.

In developing his communication model, Atkin (1973:206) states that uncertainty is triggered by inconsistencies in a person's current state of knowledge and what that person desires to achieve by gaining knowledge.

Krikelas (1983:8) defines information needs as a person's acknowledgement of the reality of uncertainty, as well as recognition of a need to come up with a solution for this uncertainty. Krikelas (1983:11) suggests that individuals recognise uncertainty in a wide range of personal and work-related situations.

Kuhlthau (1991:361) explains that information users experience feelings of uncertainty during all the stages of the search process, starting in the initiation stage, when the task is merely to recognise an information need, up to the exploration stage when users are still unable to determine exactly when information is needed, which increases the uncertainty.

Chowdhury et al. (2014:575) have found that during the information search and retrieval process, users may at any stage feel uncertain because of their initial information need and the expression of that information need. Chowdhury et al. (2014:576) explain that information needs, and the pressure to satisfy them, may create psychological uncertainty in users, for example the pressure to perform tasks successfully and find accurate information.

Another cognitive factor that might influence users' information needs is their understanding of the need in terms of sense-making.

b) Sense-making

The concept of ‘sense-making’ is used to study how people construct information needs and uses in the process of sense-making (Dervin 1983:6). Dervin (1983:6) and Kuhlthau (2004:6) link cognitive behaviour with sense-making. For Allen (1997:112), the cognitive approach to information needs focuses on users’ knowledge structures, mental entities, processes and relationships to explain their information behaviour. From a problem-solving perspective, Allen (1996:55) states that information needs comprise the recognition of a problem, determining alternatives to solve the information problem, evaluating these alternatives and selecting the best possible actions to solve the information problem. Allen’s (1996:55) approach is consistent with Dervin’s (1998:36) theory that an information need arises from a gap in someone’s knowledge base.

Similarly, Naumer and Fisher (2009:2455) regard information needs from a cognitive point of view and state that information needs are seen in terms of the knowledge structures of people. Therefore, people’s information needs are based on knowledge or lack of knowledge about a topic, their level of proficiency regarding a process, and the cognitive processes in which they engage to make sense of information (Naumer & Fisher 2009:2455). Choo (2006:29) explains that information needs arise when users recognise gaps in their states of knowledge and their ability to make sense of an experience.

Dervin (1983:3) describes ‘sense-making’, as behaviour that involves both internal (cognitive) and external (procedural) processes, which enable individuals to develop their movements through time-space. Kuhlthau (2004:6) regards ‘sense-making’ as the process people use in an attempt to make sense of information by moving from the initial stage of the information need to the goal state of resolution by a series of choices. These choices, according to Kuhlthau (2004:6), are influenced by prior experience, knowledge, interest and available information.

c) Cognitive dissonance

The experience of cognitive dissonance (avoidance) may affect the formation of an information need (Savolainen 2012a). Lee’s (2011:96) study focused on information needs as a target entity that can be attributed to a set of specific characteristics, such as a gap in meaning. Lee (2011:96) claims that without access to sufficient contextual information, users may suffer from gaps in understanding, but in an attempt to make sense and reduce cognitive dissonance, they also mentally fill in the gaps themselves. However, Savolainen (2012a) argues that the

experience of cognitive dissonance and an information need may be so intricately related that it is possible to indicate reliably which one is a target entity and which one is its context.

2.3.3.3 Connection between contextual and subjective information needs

To illustrate the connection between contextual and subjective information needs, Cole (2011:1217) claims that an information need is produced in the context in which the information users find themselves. In other words, it derives from a problematic situation, which is a contextual situation. Furthermore, the information need is defined in the way in which information users are trying to make sense out of the information problem (subjective). As information users seek information, they adapt their information needs by moving from the basic to the more focused (Cole 2011:1217). Meyer (2016) explains that the interplay between the elements of context and the elements of the personal dimension in information behaviour gives rise to information needs.

Savolainen (2017a:10) claims that either cognitive or affective needs may be involved when users find themselves in specific roles. For example, the role of a student may initiate a need to understand a research topic (cognitive) or a need to achieve or execute something successfully (affective). According to Wilson (1981:7), these cognitive and affective needs are interrelated, depending on users' specific environment and roles. For example, in an academic situation, and in the role of a student, cognitive needs might trigger information seeking, such as where to find evidence to strengthen a research assignment. Affective needs may be triggered as well, for example how to appear competent in the eyes of the lecturer who has to mark the research assignment (Wilson 1981:7).

To Borlund and Dreier (2014:495), a user's perception of an information need is thus triggered by the perception and interpretation of a given situation. However, Ingwersen (1996:14) differs in his viewpoint. He argues that the information need formation process involves changes in the users' knowledge structures and the processes of perception and interpretation of information needs.

Social influences involve contextual factors, such as environment, values and culture (Allen 1997:114). Allen (1997:114) maintains that individuals sharing the same value, culture, or environment share the same knowledge structures and will, therefore, experience information needs the same way. According to Allen (1997:114), when individuals are uprooted from their

social context and placed in a situation in which they do not belong, and in which they cannot understand their environment, failure of perception is experienced. Allen (1997:114) suggests that if the problem is clearly perceived, the identification of alternatives is necessary to overcome that problem. Borlund and Dreier (2014:495) state that users' cognitive and emotional states are affected by the cultural and social context in which the users act.

Various approaches to information needs indicate that that the need for information lies in context, for example, situation-based or task-based, or in people's inner processes and needs (cognitive and affective). The context within which information needs arise is important for the study of FG students' information seeking behaviour, as various situational factors might influence their information seeking behaviour. The inner processes and needs of FG students might also influence their information seeking behaviour, such as their avoidance of information and uncertainty that causes anxiety or cognitive dissonance.

It is generally accepted that information needs give rise to information seeking. Therefore, information activities, including seeking activities, will be discussed next.

2.3.4 Information activities

Information activities include the acquisition, processing, use and communication of information (Ingwersen & Järvelin 2005:259). As with information needs, Wilson (1997:567) argues that information behaviour is only observable through the information activities carried out by individuals. Meyer (2016), endorsing Wilson's view, argues that it is in the information activities, such as "seeking, searching, use and transfer, or communication" where the mental acts in the information behaviour process are transformed to observable activities.

Leontyev's (1978) philosophical perspective that 'activity' is related to motives, goals and the conditions under which the activity is performed can relate to the definition of information behaviour. Information behaviour is mainly regarded as a mental process, with interrelationships between its core components and attributes (Meyer 2016).

These interrelationships initiate the information behaviour process (Meyer 2016). Meyer (2016) explains that the underlying flow of mental actions is responsible for the conception of information activities (such as seeking, use and transfer) and these physical activities are carried out to achieve the desired outcome.

Some researchers reported loosely on information activities and others in detail. However, researchers are in agreement that information activities are physical activities (Wilson 1981:9; Wilson 1999:552; Wu 2011:527; Davies & Williams 2013:552; Meyer 2016) through which mental acts change to observable activities (Meyer 2016). Activities can include information seeking, searching, information transfer, sharing and use. With this in mind, the first information activity that will be discussed is information seeking.

2.3.4.1 Information seeking

Information seeking can be viewed as a process (Krikelas 1983:14; Marchionini 1989:54; Case 2006:5). When viewed as a process, information seeking has a beginning and an end. It begins when users become aware that there is a gap in their knowledge that needs to be filled and ends when the users are able to satisfy their information needs (Krikelas 1983; Marchionini 1989:54; Case 2006:5). Bates (2007) contends that the goal of information seeking is to find out what is unknown to the user, before embarking on the search process. As such, information seeking can be viewed from a problem-solving perspective.

a) Information seeking from a problem-solving perspective

Marchionini's (1989:54) information seeking reflection is closely related to the concept of uncertainty in information needs, where information seeking is seen as a problem-solving process of actions being taken to solve the uncertainty, thereby satisfying the information need. He regards information seeking as the processes users follow to seek information yielding the required results. He further notes that these processes can be repeated or changed, until the user is satisfied.

When information seeking is viewed from a problem-solving approach, as Marchionini did, it can be associated with cognitive behaviour, in that cognitive efforts are made to seek and retrieve information (Savolainen 2017b:1323). Krikelas (1983:14) also views information seeking from a problem-solving perspective, to the extent that the degree of importance and urgency of the needed information will influence the pattern of information seeking. Foster (2003:223) points out that the cognitive approach to information behaviour describes the willingness of information users to identify and use information relevant to an information problem. Ultimately, the results that information users wish to gain from active information seeking is to locate the desired

information, to understand the information, take it and generate new knowledge from the information (Kuhlthau 1991:356).

To Dervin (1983:3), sense-making is central to information seeking, where people form their own opinions about how they approach the information seeking process. The problem-solving process becomes goal-orientated when users have a specific purpose when seeking information and the information is sought through various information channels and sources (Johnson, Case, Andrews, Allard & Johnson 2006:570). As such, the problem-solving process in information seeking relates to active information seeking.

b) Active and directed information seeking

Active information seeking relates to users' cognitive states, where they attempt to solve information problems, intentionally seek out sources that have been identified beforehand and conduct a search on the known information (Savolainen 2016b). Bates (2002:4) refers to active information seeking as occurring when individuals do anything actively to acquire information. She also refers to 'active' information seeking as 'directed' information seeking when individuals seek particular information that can be specified to some degree. Similar to Bates, Pálsdóttir (2010:225) also links 'directed' information seeking to 'active' information seeking, where the information seeking process is goal-driven; for example, people seek information for a specific purpose. Usually 'browsing' is associated with passive information seeking, for example, when a user browses bookshelves or databases in the hope of finding useful information. However, when a user browses to seek specific information, the browsing becomes directed (Bates 2007)

Earlier reports show that active information seeking involves interaction between information users and information systems, for example electronic systems, such as the World Wide Web (Wilson 2000:49). However, active information seeking is now also more involved with seeking information from other people – especially in an everyday-life setting where seekers are more dependent on the viewpoints of relevant people than on print media. Thus, seeking and searching as separate activities have become more interlaced. Not all information activities are intentional.

c) Passive and undirected information seeking

Wilson (2000:50) describes passive information seeking as a process occurring when users acquire information without intentionally seeking it, which also relates to undirected seeking.

Bates (2002:3) views passive information seeking as ‘undirected’ information seeking behaviour through which users are randomly exposed to information. According to Bawden (2011:4), browsing is less structured in finding information. Therefore, browsing can be associated with the ‘undirected’ seeking of information, such as visual scanning, where a person quickly skims through information, for example a newspaper (Bates (2007). Furthermore, Pálsdóttir (2010:228) points out that undirected information seeking can be carried out by using information retrieval systems such as browsing the web. Bawden (2011:7) notes that browsing may lead to “unexpected, serendipitous information discovery” because it might direct the user to unexpected information.

Case and Given (2016:6) also confirm that passive information seeking occurs through serendipity, chance encounters, or when people share information that they believe might be useful to others, as indicated below:

- Discovery and encountering
  Information encounters can lead to ‘accidental discovery’ or ‘incidental discovery’ (Erdelez, Basic & Levitov 2011). Basically, these concepts imply that information users can stumble upon other information while searching for specific information (Erdelez et al. 2011). These concepts underlie the experience of discovery, which can be categorised as passive discovery and encountering of information (Erdelez 1999:25). Erdelez et al. (2011) state that encountering is a type of opportunistic discovery of information that complements purposeful approaches to finding information. Erdelez et al. (2011) argue that information encountering is especially relevant in an educational context, in terms of the information research process. For example, Erdelez et al. (2011) explain that in the context of students’ research projects, information encountering represents situations in which students search for information on one topic and come across information related to some other topic of interest.

  Incidental information discovery is similar to accidental discovery and is also viewed as users finding information unexpectedly (Williamson 1998:24). In other words, the users engage in other activities and only become aware that they need the information upon its discovery (Williamson 1998:24). Bawden (2011:7) has found that it is especially in digital environments where browsing may lead to the accidental discovery or encountering of information. Because of the unstructured nature of the information in digital environments,

unexpected information discovery may lead to the finding of unanticipated material (Bawden 2011:7).

- Monitoring

  Monitoring as a form of browsing relates to undirected and passive information seeking, as there is no pressing need to engage in active information seeking (Bates 2002:4). Both Choo (2006:116) and Savolainen (2016a) claim that a characteristic of passive monitoring is that the relevance of the information is only recognised when it comes along. Choo (2006:116) refers to monitoring as 'undirected viewing' where users casually seek information from either personal information sources or external sources.

  Bates (2002:5) associates 'monitoring' with people's environment and suggests that the more experienced users are in carrying out a specific action or process, the more likely it is that they will be monitoring their environment for the groundwork that will trigger their next information seeking behaviour. Bates (2002:5) claims that people will, by monitoring, most likely come across information they can use by interacting with their immediate environment, such as students getting guidance from lecturers on information to use.

- Awareness

  Bates (2002:4) argues that most information is acquired through people becoming aware of information without actively seeking it. Bates (2002:4) explains that when people do not know what they want, they either browse or remain passively aware of the information. Thus, they collect the information by passively absorbing it from their environment. Awareness can lead to information encountering when useful information is found by accident (Bawden 2011:9).

The above discussion indicated how the mental acts of active and passive information seeking activities influence users' information seeking behaviour. Information searching is closely related to information seeking. Therefore, information searching will be discussed next.

2.3.4.2 Information searching (human machine searching)

Since information seeking is goal-orientated, the search task can be seen as a sequence of activities to find specified information, which might involve the use of information retrieval systems (Ingwersen & Järvelin 2005:73). Marchionini and White (2010:207) differentiate

between seeking and searching and conclude that while information seeking and searching are synonymous, the difference lies in information seeking being a human activity, whereas searching can be undertaken by both humans and machines. Marchionini (1995:5) describes the term ‘search’ “as the behavioural manifestation of humans engaged in information seeking”.

Wilson (2000:49) defines information search behaviour as individuals’ interaction with information of different kinds and formats. This behaviour is on a micro-level; users can engage with other humans or with systems, such as computer systems, and plan or adopt search strategies to retrieve the required information. Savolainen (2017b:1323) uses the term ‘heuristic’ to describe searching for information that requires little effort from the user. For example, when users need information quickly, they seek easily accessible information, such as searching the internet; then heuristics are used to retrieve the most relevant information (Savolainen 2017b:1323).

According to Wilson (2000:49), information search behaviour also involves the mental act of evaluation of information, that is, the ‘micro-level’ of behaviour individuals employ to engage with different kinds of information in different formats.

Kuhlthau (1991:362) explains the search process by breaking it up into stages; where the active part of the search process encompasses information seeking and the tasks involved are recognising, identifying, formulating, gathering and completing the information search task. Savolainen (2016a) states that the core of information searching is the interaction between information users and information systems. Thus, interaction can take place with or without intermediaries (Savolainen 2016b).

Bates (2002:4) refers to active information searching as ‘directed searching’, which encompasses ways in which users find information that they know they have to know. According to Bates (2002:6), when users actively attempt to answer questions or develop an understanding of a particular question or topic area, the search is directed to problem-solving.

The concept of ‘information searching’ is based on users formulating a query that requires a specific mindset in the user (Cole 2011:1218). Beaulieu (2000:432) explains that searching is an interactive task where users apply certain search strategies to retrieve the desired information, for example applying Boolean logic to retrieve information. Choo (2006:2) suggests that

information searching can be regarded as the strategic use of information, as it involves decision-making such as the evaluation of information. Similarly, Xu and Liu (2007:988) link information searching with how users plan their information seeking process by applying specific cognitive activities, such as formulating a sequence of searches and search queries. Similar to information transfer, users' information literacy skills can influence the way they search for information. This is of particular interest to this study, as one wants to understand how FG students plan to seek information.

Various factors influence the success of information searching outcomes, such as users' information seeking knowledge, knowledge of conducting precision searching, their perception, knowledge and experience of using information retrieval systems and putting search strategies into practice (Rosman, Mayer & Krampen 2016:113). Taylor (2012) found that undergraduate students' web searches were problematic owing to lack of skills to move through a search process and they could not execute searches effectively. This is an indication of students' lack of information literacy competencies.

Beaulieu (2000:435) regards the concepts of 'searching' and 'retrieving' as integrated, in that 'searching' is the method of obtaining the information and 'retrieval' is the mode of obtaining the information. Beaulieu (2000:436) emphasises that information searching and retrieval involve a combination of different types of interconnected activities or tasks. Some of the activities include high-level mental processes, whereas others are more tangible visible actions, such as goals and intentions that are transformed or translated into executed actions.

How individuals share and transfer information is reflected in their information seeking behaviour.

2.3.4.3 Information-sharing and transfer

When people engage with one another, they share and transfer information (Haythornthwaite 2009:4837). For example, users might share their experiences with one another about information processes, resources and data (Haythornthwaite 2009:4837). Haythornthwaite (2009:4837) points out that when people share information with other people, a connection is formed between these people. Haythornthwaite (2009:4837) explains that patterns of connectivity reveal who transfers what kind of information to whom and the information transfer is reinforced by existing knowledge of the other. Information-sharing and transfer can apply to

FG students' information seeking activities, since they tend to share information within their own space and social boundaries.

Both Belkin (1984:111) and Talja and Hansen (2006:114) consider the information transfer process as the user attempting to understand and improve the information problem that instigated the information transfer. This can also involve collaboration on the creation and use of documentation (Talja & Hansen 2006:114). However, according to Belkin (1984:116), information transfer can become problematic when users are unable to specify their information requirements.

Savolainen (2019:530) drew various conclusions from the interplay between information seeking and information-sharing. Firstly, when these are considered as indirect activities, the seeking and sharing are linked by third-party factors, such as information needs and information use – information-sharing then is transformed into information transfer. Secondly, seeking and sharing information are sequential processes, where information seeking precedes sharing. The connection structures can be information encountering, information acquisition – information-sharing is transformed into information transfer or information exchange. Thirdly, when seeking and sharing of information are regarded as interactive activities, these activities may vary according to users' physical actions – information-sharing then is transformed into information exchange and the interaction can also evolve into several sequences of seeking and sharing, through which they can shape each other.

Information use relates to the purpose for which information sources are consulted and the degree to which the sources are useful to the information user (Savolainen 2009:190). Therefore, the ways in which users' approach and select different types of information can be regarded as 'information use.

2.3.4.4 Information use

In the building blocks of her information behaviour model, Meyer (2016) refers to 'information use' as the activities of creation, collection and application of information. She regards information use as "an input resource to complete a task or solve problems". Wilson (2000) describes information use as cognitive and physical processes. For example, he points out that these cognitive and physical processes can occur when users apply their current knowledge to decide whether to use or reject information, determine the importance or relevance of

information and compare their existing knowledge to new information. Savolainen (2009:192) suggests that a major part of information use is determined by people's interpretation and judgement of the information. Choo (2006:3) also links information use to mental acts, in that information use is shaped by a user's sense-making processes. He further notes that strategic information use involves the evaluation of information in order to make certain decisions. Choo (2006:4) refers to information use as the "dynamic social processes" of interpretation, conversion and processing, which generate meaning, knowledge and action.

Information use has multifaceted elements; it encompasses users' context, needs, information seeking behaviour, cognitive and affective influences and information seeking behaviour outcomes (Hughes 2006:3). Kari (2010:1) highlights the diversity of information use by conceptualising information use as information practices, information search, information processing, knowledge construction, information production, application of information and the effects of information.

Savolainen (2009:189) views information use as the general term describing people's preferences and the ways in which they access information sources of various types. Savolainen (2009:188) also points out that general models of information behaviour suggest that information use begins when the information sought or received from various sources is mentally processed by the information seeker, thus linking information use with information processing, which relates to cognitive influence in information behaviour. According to Savolainen (2009:196), information use can be divided into phases of information use, which indicates the temporal order in which users process cognitive elements and construct meaning. Savolainen (2009:198) argues that the phases of information use are specified by characterising the major contextual factors affecting the flow of human information processing. To conceptualise information use, information use strategies must be included. Savolainen (2009:199) describes information use strategies as the way in which individuals weigh the relative importance of the cognitive elements.

The above discussion provided insight into the sharing of concepts and the interrelationship between different information activities and their influence on users' information seeking behaviour.

2.4 INFORMATION LITERACY

For the purposes of this study, it is important to understand where on the continuum of information literacy one finds FG students. Thus, one can argue that information literacy is closely related to a person's information seeking behaviour, as it has to do with the persons' ability to deal with information as stipulated in the ALA's (2000:2) definition below. Chapter 1, section 1.5.3, highlighted the influence of information literacy in students' information seeking behaviour and the development of students' learning abilities. As explained in chapter 1, section 1.5.3, information literacy is a basic requirement for higher education (ALA 200:2). This section also provided an overview of the definition of information literacy as stipulated by the ALA (2000:2): that an information-literate individual is able to recognise when information is needed and to find, evaluate and apply the relevant information effectively. The Association of College and Research Libraries (2015:7) draws attention to the fact that the changing landscape of higher education now requires students to be able to generate new knowledge in an information world that is constantly evolving and also to be able to use information ethically in this new environment.

The Society of College, National and University Libraries (SCONUL) seven pillars of information literacy model was developed in 1999 for higher education and is seen as a set of standard competencies for different users (Brent & Stubbings 2011:2). The authors also maintain that this model is flexible, since it can be adapted to individuals and to different situations. Brent and Stubbings (2011:5) explain that each pillar describes an information literacy skill and as individuals develop their skills, they move from pillar to pillar until they reach the top of the pillar. The pillars are:

- Identify: the ability of individuals to recognise a need for relevant information.
- Scope: the ability of individuals to use their current knowledge and assess it against gaps in that knowledge base.
- Plan: the ability to strategise how to locate and apply relevant information.
- Gather: the ability to search and find relevant information.
- Evaluate: the ability to review and consider relevant information.
- Manage: the ability of organise and disseminate information by applying ethical practices.
- Present: the ability to create new knowledge by integrating old and new information and present the information by using a variety of information platforms.

Brent and Stubbings (2011:3) argue that the concept of information literacy is much broader that just the term 'information literacy'. It encompasses concepts such as digital, visual and media literacy, academic literacy, information handling, information skills, data curation and data management. Spiranec, Zorica and Kos (2016:248) point out that information literacy must also be considered from a critical perspective, given that information literacy is practical, as well as dynamic, because it entails reaching specific goals and completing certain tasks. As such, information literacy underpins critical thinking and awareness (Spiranec et al. 2016:248). Spiranec et al. (2016:258) draw attention to the fact that critical information literacy is particularly important in the Web 2.0 environment, which requires active participation and exchange of information on the part of the information user. Therefore, being able to apply critical information literacy skills is now more essential than ever before (Fosnacht 2020:272).

Solmaz (2017:939) views information literacy as a lifelong learning process. He maintains that, because individuals live in an information society, information literacy is as much part of the society in which individuals live as the individual itself. Furthermore, he maintains that for individuals to function sufficiently in information societies, they must have the skills to keep improving themselves and this involves lifelong skills. In the information age, Solmaz (2017:939) argues that life-long learning assumes a continuing learning process and individuals' ability to adapt to a changing environment by updating their skills and generate new knowledge from old information, as well as recognising new opportunities to develop and grow. Gunasekara and Collins (2008:2) emphasise that information literacy is essential for life-long learning, since it enables skills to identify information needs and addresses these needs in the context of independent thinking.

Libraries and librarians have always played a major part in enhancing students' academic experience by helping students find, evaluate, use and apply resources. Consequently, various information literacy programmes have been developed aimed at improving students' information literacy skills (Squibb & Mikkelsen 2016:164; Gaha, Hinnefel & Pellegrino 2018:744).

Studies on information literacy training outcomes prove that students' information literacy capabilities increase after they have received formal library information literacy training (Ren, 2000:323; Burkhardt 2007:25; Fain 2011:109; Jessy, Bhat & Rao 2016). Kavšek, Peklaj and Žugelj (2016:293) point out that information literacy training as part of curricula has a long-lasting impact on students' university progress. Lower-level students benefit particularly from

information literacy training (Stonebraker & Fundator 2016:438). Morgan, Saunders and Shrem (2013:3) argue that students' success is dependent on engagement and one of the core functions of academic libraries is to engage students by providing a variety of ways in which students can apply information.

Information literacy also refers to individuals' capabilities to use ICT and requires definite skills. These skills are applied to ICTs to reach certain goals (Yu, Lin & Liao 2017:198). In twenty-first-century education, students are expected to be able to use and apply ICTs. Hence it is also important to discuss the role digital literacy plays in the academic development of FG students.

Being able to use ICTs efficiently enables individuals to access information and knowledge anywhere, at any time and immediately (World Summit on the Information Society 2003). In other words, ICTs have now become working tools and students must have the knowledge and expertise to use these tools to their advantage (World Summit on the Information Society 2003). Consequently, the effective use of ICTs is now embedded in information literacy as a skill to use and apply efficiently in all its different forms (Campbell 2004:7).

Adding to information literacy, in their NMC horizon project, Adams, Pasquini and Zentner (2017:3) define digital literacy as the ability to interpret, understand, create and employ digital resources, which encapsulates having the ability to think critically and solve problems in different situations. They recommend three models of digital literacy: firstly, universal literacy, which means familiarity with using basic digital tools; secondly, creative literacy, which encompasses all aspects of universal literacy, plus more complex technical skills to produce richer content; and thirdly, literacy across disciplines, which means that a person should be able to apply literacy across different classes in suitable ways that are unique to that specific context.

Yu et al. (2017:198) contend that peoples' willingness to use ICTs are dependent on their knowledge and capabilities. For example, for a user to be able to evaluate information retrieved from a search query, the user must be able to carry out a search query. By reason of FG students' socioeconomic backgrounds, many of these students find the use of digital technology challenging (Brinkman et al. 2013:647). Behavioural aspects that can influence students' use of ICTs may be cognitive, in that their perceptions of ICTs and their skill levels will determine their use of ICTs, and affective, such as their feelings about ICTs (Yu et al. 2017:198).

2.5 REFLECTION

Viewpoints taken from other disciplines, such as psychology, communication and education, offer greater understanding of information behaviour and can be applied across a broader spectrum. In particular, the discipline of psychology provides understanding of FG students' information seeking behaviour.

The discussion on context and the personal dimension in information behaviour plays a prominent role in why and how information users seek information. In particular, users' knowledge structures (cognitive) and feelings and emotions (affective), situational factors and actions influence their information seeking behaviour. Context and the personal dimension are also reflected in the concept of information literacy and digital literacy; users' situations and knowledge structures influence their information and digital literacy skills. What is important to note is that information needs, seeking and use are connected by sharing concepts. For example, cognitive and affective elements influence personal experiences in information behaviour, as well as the context in which users need information.

Although the literature reflects in detail on most of the core components of information behaviour that influence information seeking behaviour and other information activities, most research derives from the needs and activities of a print-based society. Very little research has been conducted on information seeking behaviour of people in the context of other socio-cultural societies. Meyer (2002:103) states that people from a predominantly oral background develop (in the absence of print-based information) their own ways and means to seek, transfer or access information. These include the viewpoints of other people, use of metaphors, riddles and visual demonstrations, to name but a few. Since FG students come from communities where means other than the printed word are applied to seek or transfer information, it seems apt to investigate further how these communication practices affect the information seeking behaviour of FG students when exposed to the demands of an academic context.

2.6 CONCLUSION

This chapter provided a literature review and framework according to which information seeking behaviour can be examined, as well as insights into the concepts relevant to information seeking behaviour. The literature revealed that people's personal experiences, as well as their situation or context, influence their interaction with information, which gives rise to their information needs, information seeking and information searching activities. The literature

provided insight into how cognitive and affective factors influence users' information needs and information seeking activities. To gain deeper understanding of FG students' information seeking behaviour, the contextual and personal influences in their information seeking behaviour will be discussed in the next chapter.

CHAPTER 3:
PERSONAL AND CONTEXTUAL INFLUENCES IN FG STUDENTS' INFORMATION SEEKING BEHAVIOUR IN THE EVERYDAY LIFE CONTEXT

3.1 INTRODUCTION

In chapter 2, the various aspects and influences of information seeking behaviour were described in detail, as well as the relationship of these influences with FG students' information seeking behaviour. Certain characteristics of FG students, such as their socioeconomic background and the personal dimension in information behaviour, as well as the context in which their information needs arise, seem to influence this user group's information seeking behaviour. As explained in chapter 2, section 2.3.1, context can be regarded as the information environment in which individuals function and the personal dimension as the cognitive, affective and sensorimotor elements in information behaviour, which might influence their information seeking behaviour.

Therefore, this chapter focuses on the following components in FG students' everyday life environment that seemingly influence their information seeking behaviour:

- Their everyday life context to explore how students' environment (situation) could influence their information needs and seeking, as well as the social and cultural influences and barriers that play a role in their information needs and seeking behaviour;
- The cognitive domain to obtain understanding of how students make sense of their environment and information, their information source perceptions and the cognitive factors that motivate their information needs and seeking; and
- The affective domain to obtain understanding of how students' feelings influence their information seeking behaviour, their information source preferences and the affective factors that motivate their information needs and information seeking.

3.2 BACKGROUND

Most of the research on FG students was undertaken to gain better understanding of the relationship between the characteristics of these students and their academic experiences and what sets them apart from other students. As indicated in chapter 1, section 1.2, FG students represent 62.05% of UJ's student population (Van Zyl 2016a). Chapter 2, section 2.2 highlighted that South African FG students come from unique socioeconomic backgrounds and as such their everyday life environment (context) has a profound influence on their information seeking-

behaviour, which also influences their behaviour in other contexts. An understanding of FG students' unique characteristics, which are shaped by their everyday life environment, might shed light upon their information seeking behaviour.

In their everyday life context, FG students are generally characterised as the first in their families to attend university (Van Zyl 2016b:5). They can also be characterised as students whose parents did not complete university training (Torres et al. 2006:65; Darling & Smith 2007:203) and students whose parents do not have bachelor's degrees (Tsai 2013:15). Financial issues are a factor that plays a major role in the choices FG students make. They generally come from lower-income families (Inman & Mayes 1999:16). Means and Pyne (2017:907) note that low-income FG students often find the university environment hostile.

Social and cultural capacity often influences FG students' information seeking behaviour (Beasly 2016:130). Beasly (2016:130) refers to 'cultural capacity' as capabilities and abilities that can lead to opportunities. Rodriguez, Guido-DiBrito, Torres and Talbot (2000:516) describe 'cultural capacity' as inherent and internalised beliefs and values, which include the attitudes and perceptions of FG students regarding education. 'Social capacity' refers to people's social networks and relations (Beasly 2016:132). Family life is regarded as part of FG students' 'social capacity'. Beasly (2016:132) found that family was very important to FG students. This close connection to family influences the decisions these students make and their information seeking behaviour significantly (Beasly 2016:132). Beasly (2016:132) argues that in a successful social capacity, the social structure must be solid, and must share the same values and beliefs. In the context of FG students' everyday life environment, they are faced with certain situations relating to their socioeconomic background that influence their information seeking behaviour, as discussed in the next section.

3.3 CONTEXT

FG students experience two different worlds: their home environment and their academic environment (Pascarella, Pierson, Wolniak, & Terenzini 2004:251; Beasly 2016:127). (For the purposes of this study the researcher interprets the terms worlds and environments as contexts.) Both of these environments set specific requirements for FG students' information behaviour. Consequently, in terms of these two environments, they face unique challenges (Pascarella et al. 2004:251; Grice, Adsitt, Mullins & Serrata 2016:34). This endorses

Sonnenwald's (1999:178) theory that "different contexts may have different possible types of situations".

To determine how FG students' everyday life (home) environment and academic environment influence their information seeking behaviour, these two environments will be discussed in this chapter (chapter 3) and the next chapter (chapter 4).

3.3.1 Everyday life environment

The everyday life environment can be regarded as a context not related to any work activities, which may be a domesticated environment (Savolainen 1995:259). Savolainen (1995:262) explains that in an everyday life context, people's social values, norms, beliefs and experiences guide their decisions (in what they deem natural) in relation to their cultural groups and social classes. Dalmer and McKenzie (2019:386), however, argue that in terms of context, everyday life cannot be positioned only in one environment, but as an interplay between family and organisational contexts. The literature suggests that various factors influence FG students' information seeking behaviour; these include FG students' background, circumstances and information literacy capabilities (Torres et al. 2006:67; Tsai & Kim, 2012:3; Brinkman et al. 2013:648).

Chapter 1, section 1.2, described FG students' socioeconomic circumstances as a challenging environment, due to low socioeconomic circumstances and a lack of academic support from family members. Bryan and Simmons (2009:398) point out that this challenging environment, was found to evoke feelings of anxiety and frustration in FG college students. The student profile of FG students at the UJ showed that 30.5% of their parents did not finish school (Van Zyl, 2016a). Studies in education also revealed that FG students are less likely to complete their academic programmes in the prescribed time and more inclined to drop out after the first semester (Ishitani 2006:862). Consequently, the contextual elements that might influence FG students' information seeking behaviour will be discussed in the next sections.

3.3.1.1 Situational context

As highlighted in chapter 2, section 2.3.2.3, users' situations are embedded in the context within which they seek information (Johnson 2003:739). Allen and Kim (2001:1) point out that a person-situation approach to information seeking behaviour occurs as a result of the interaction between contextual characteristics and humans' personal characteristics in a specific situation.

Allen and Kim's view relates to FG students' everyday life situation, since the characteristics of the students' everyday life situation determine their information seeking behaviour. FG students' everyday life context consists of low-income families in which parents do not have higher education qualifications. Therefore, parents are unable to provide support in terms of academic advice or information about academic matters (Inman & Mayes 1999:4). Originating from a low-income situation results in many students seeking employment first to contribute to the household income and then enrolling at university at a more mature age than their peers. This situation causes psychological issues, such as low self-esteem (Inman & Mayes 1999:4). In an everyday life situation, with parents having no university experience, FG students' sources of information are informal networks, such as siblings and peers with similar socioeconomic backgrounds. In these students' everyday life context, relying on these informal networks for all their information needs is normal to them. As a result, their information seeking behaviour is influenced by the interaction within these informal networks, for example word-of-mouth communication. Inman and Mayes (1999:4) point out that influences from the informal networks often lead to the students not getting reliable information.

a) Information horizons

Sonnenwald (1999:183) explains that individuals seek information within an information horizon that may comprise a variety of resources. Depending on their situation, these may be social networks, colleagues, subject experts, books, documents, or other sources.

In everyday life situations, horizons can relate to influences in that everyday life context. For example, when informal networks in a family context, such as other family members, have opinions about certain information sources, those opinions can influence users within that environment's valuation of those information sources. Thus, the position of the information source in the user's information horizon is influenced (Sonnenwald 1999:178).

Sonnenwald's (1999:178) view can be linked to how FG students' everyday life environment influences their opinion of formal information networks in other environments, such as their academic context. Brinkman et al's (2013:646) study revealed that some FG students experienced some failures and disappointments with formal support networks. Consequently, personal contacts via informal support networks with whom the students felt comfortable (support staff and bus drivers) provided in these students' information needs. Brinkman et al. (2013:646) also found that some FG students sought academic mentors who had similar

socioeconomic and ethnic characteristics to their own to obtain information. This supports Sonnenwald et al's (2008:7) information horizon theory, as FG students create an information horizon according to their immediate information situation and context to which they can relate. Tsai's (2012:19) study also confirmed that there was a strong link between FG students' social ties and their information source preferences. Family members and peers were shown as strong ties and academic staff and online forums were shown as weaker ties (Tsai 2012:28). It seems that the reality of FG students' immediate home environment, where they rely on information from informal networks, influences their information horizons. This reality seems to be carried over into their academic context, as supported by Ocepek (2018). Ocepek (2018:399) maintains that reality is created in everyday life and understanding of this reality influences users' information behaviour.

Given that FG students are unable to share their academic experiences with people in their everyday life environment and have to rely on themselves or often on unreliable information sources, they find it difficult to connect their everyday life context with the academic context and regard these two contexts as disconnected, separate worlds (London 1989:146).

b) Time-space

In situational conditions, time-space is a context associated with interactions between users and information sources during the information seeking process (Dervin 1997:17; Agarwal 2018:71). Although sense-making is related to the cognitive and personal influences in information seeking behaviour, in the context of time-space and users' everyday life context, it relates to how the realities of their everyday life context influence their sense-making as they move from time-space moment to time-space moment (Savolainen 1995:261).

Usually in an everyday life context, parents who attended university and obtained university degrees are able to transfer certain skills during the socialising process at home to the next generation. In contrast, FG students are not exposed to these skills at home (Dumais & Ward 2010:246). Consequently, FG students are inefficient in applying certain skills to an environment (academic context) to which they are not used or in which they feel uncomfortable. For example, Borrelli, Su, Selden and Munip (2018) found that FG students were unable to identify information needs beyond their immediate needs. In the context of time-space, the students could not move forward owing to the socioeconomic situation in their everyday life context.

c) Tasks

In certain situations and settings, the need for information is usually initiated by certain tasks to be carried out (Hyldegård & Ingwersen 2007; Agarwal 2018:53). In everyday life settings, the situation might involve family members having to solve a problem (task) that triggers the information need (Agarwal 2018:53). Agarwal (2018:54) explains that a task situation can vary according to type, complexity, stage, importance, engagement or interdependency. For Savolainen (2012b:492), information needs are motivators for task-based information seeking.

- Task-based information needs

  In information seeking behaviour, tasks relate to specific actions users apply to find information and have a practical goal (Byström & Hansen 2005:1051). Byström and Hansen (2005:1050) argue that tasks must not be looked at only from a descriptive context, but also from how users perceive tasks. Savolainen (2012b:499) suggests that information needs are activated by situations related to specific tasks, which then prompt the information seeking process. Because of FG students' everyday life context, in which family members are unable to relate to the students' academic environment and the students cannot share their academic environment with their families, the students find it difficult to identify information needs for academic tasks (Torres et al. 2006:67). Similarly, Borelli et al. (2018) point out that FG students experience loss of academic and social information capacity, because their parents are unable to transfer their experiences to their children to prepare them for higher education environments. Consequently, FG students' information task needs are influenced by their social and cultural expectations in their everyday life context. This is reflected in Savolainen's (1995:262) observation that past experiences in everyday life influence people's actions and choices.

- Task-based information seeking

  When an information need arises, the information seeking process may be influenced by certain contextual situations, such as an individual's past experiences, as well as social and cultural influences (Savolainen 2012b:503). Brinkman et al. (2013:644) state that FG students carry the habits they form in the everyday life environment over into their academic environment. For example, what they regard as meaningful in their everyday life influences their information seeking behaviour in their learning environment. In the students' everyday life environment, they rely on informal networks such as siblings or peers for information. It has been found that these informal support networks are also used in their

academic environment to seek information from, often yielding disappointing results (Torres et al. 2006:67). Regarding the concept of everyday life information seeking, Savolainen (1995:266) explains that individuals' lives are holistic, in the sense that what an individual regards as meaningful in an everyday life situation can be extended to a work situation, and the information seeking strategies an individual employs in these two environments complement or influence each other.

- Task complexity
  Task complexity involves problem-solving (cognitive influence) and information activities connected to the task complexity (Vakkari 1999:819). In the context of everyday lives, people acquire several informal methods to orientate themselves or solve problems, which are not formally connected to the carrying out of occupational tasks (Vakkari 1999:819). In students' everyday life context, they do not discuss any academic complexities with their parents, because the parents will either not understand their problems, or they do not want to disclose that they are struggling because they do not want to upset their parents (Brinkman et al. 2013:645). This behaviour is transferred to their academic context, where they attempt to solve information problems themselves or seek information from informal networks such as their peers. Savolainen (1995:267) points out that individuals' problem-solving processes are determined by their everyday life problem-solving experiences, as well as their familiarity with information use situations and effective functioning in these.

3.3.1.2 Social and cultural influences

Shared contexts, for example people sharing the same environment, culture, norms, values and beliefs, play a key role in users' information seeking behaviour (Agarwal 2018:101). FG students also share contexts in the form of similar socioeconomic situations (Darling & Smith 2007:204). In Chatman's (1999:208) 'life in the round' theory, she endeavours to explain information behaviour in terms of social factors influencing information behaviour. She uses the term 'life in the round' to describe people's experiences with information for everyday needs and state that individuals' context is central to how they perceive information. Moreover, context seems to be the determining factor that makes them either use or reject information. FG students' everyday life information needs are of an informal nature: they prefer informal information sources such as friends and peers. They rarely seek assistance from formal sources such as librarians for everyday information needs. Consequently, they also make use of informal information sources in their academic environment (Torres et al. 2006:67).

a) Small worlds and social networks

As described in chapter 2, section 2.3.1.3, Chatman (1991:439) linked information worlds with social environments, which is similar to Sonnenwald's (1999:176) theoretical framework of information horizons, where each context or situation consists of 'information horizons' that are socially and individually influenced. Darling and Smith (2007:645) note that FG students' socioeconomic characteristics can be associated with the characteristics of small worlds in sharing similar cultural and social spaces. This is confirmed by Torres at al. (2006:66), Brinkman et al. (2013:645) and Borrelli et al. (2018). According to them, FG students bond with social networks (friends and peers) in their small world. They also seek out people in similar circumstances and with similar characteristics in their academic environment to bond with. They then seek information from these social networks, thus feeling united in an unfamiliar environment. As Chatman (1991:440) observes, it would thus appear that the information acquired is situational and experiential, and the outcome might only be successful in a particular situation and not solve information problems in other problematic situations.

Burnett (2015:9) suggests that in small worlds, the value of the information may vary between different information worlds. For example, for FG students, information-sharing in their home environment may have a different value from information-sharing in an academic environment. Brinkman et al. (2013:645) observe that FG students' parents cannot share any academic experiences with them to prepare them for success in a higher education environment. In addition, the students cannot share their academic experiences with their parents, since their parents are unable to relate to these.

b) Social and cultural barriers to information seeking

Social and cultural barriers may exist because of people's social norms and cultural values (Savolainen 2016a:52). These barriers influence how people access information sources and influence their information seeking behaviour (Savolainen 2016a:52). Savolainen (2016a:54) claims that social norms can form invisible barriers to information seeking, since such norms dictate users' information seeking and usage choices or avoidance thereof, because they are not valued by the community. Within FG students' small worlds, they seek information from resources they 'trust', which for some cannot successfully meet their information needs. Therefore, these students avoid trusted resources for fear of being labelled as "not having the ability to succeed academically" at university (Torres et al. 2006:66). For Agarwal (2018:126),

this behaviour refers to a “collectively stereotyped context” where the individuals in their small worlds choose not to engage with the information source. In a small world, this barrier of avoidance is an example of members of that small world guarding against taking risks, because they are afraid of being caught out as incompetent (Savolainen 2016a:57).

In South Africa, FG students are faced with having to speak English at university, which is usually not their first language. When language barriers are experienced, forming social networks outside the students’ language proficiency is therefore difficult (Vincent & Hlatshwayo 2018:122). Vincent and Hlatshwayo (2018:122) argue that when social capacity networks are restricted to only inbound networks (consisting of the sharing of similar socioeconomic backgrounds) the networks then lead to the students not developing outside these. Vincent and Hlatshwayo (2018:122) also contend that from a social capacity point of view, social networks sharing the same socioeconomic characteristics restrict the members from receiving support from other social networks, such as valuable information support and resources.

Cole (2011:1217) claims that information needs are also generated by information users in the situation they find themselves. Moreover, information users express an information need by comparing the user’s real-life situation and the user’s cognitive structures (Allen 1996:128). Therefore, information needs in a situational context will be discussed.

3.3.2 Information needs in a situational context

Research has shown that FG students have different information needs from second-generation students, since their parents cannot offer them any university academic advice (Rodriguez, Guido-DiBrito, Torres &Talbot 2000:517; Torres 2006:66; Brinkman et al. 2013: 645). For example, Brinkman et al. (2013:649) point out that FG students’ information needs are often interrelated with their academic and non-academic lives. They consequently tend to focus their information needs on immediate needs they have expressed in their everyday life and apply the same expressions in their academic environment. Savolainen (2012a) contends that the situation in which individuals experience information needs is more concrete in nature, as the information need is manifested in “the condition of human action”, such as the urgency of the problem at hand, and may change as situations change.

3.3.3 Reflection on everyday life context

This discussion highlighted that information seeking behaviour cannot be examined in depth without considering the vital role context plays in influencing users' information behaviour. The discussion highlighted that FG students' information seeking behaviour is shaped by the unique characteristics of their everyday life context and the situations in their everyday life context, which are presented in the following table:

Table 3.1: *Reflection on contextual influences in FG students' information seeking behaviour*

Everyday life environment • First in the family to attend university • Low income, low social and cultural capacity • Parents who are unable to support FG students' information needs	**Situational context** • FG students experience their everyday life environment and academic context differently and owing to situations in their everyday lives they struggle to connect these two worlds. • FG students' information seeking behaviour is influenced by the information horizons in their everyday life environment. They trust sources of information in their academic context that they are accustomed to use in their every life environment based on everyday life characteristics. • Parents of FG students are unable to transfer certain skills to them in their everyday life environment, to help them function efficiently in an academic context. Consequently, FG students are unable to identify information needs beyond immediate information needs and task-based information needs. In the context of time-space, they are unable to move forward. • FG students' problem-solving processes are determined by their everyday life context. They attempt to solve information problems themselves or rely on informal sources of information with which they are familiar in their everyday life, such as friends and peers.
Social and cultural influences • FG students' information seeking behaviour is similar to that of people sharing the same culture, value and beliefs; their experiences in their 'small worlds' (which exist in their everyday life environment) determine how they perceive, use or reject information. These small worlds they live in also cause barriers, because they make use of informal sources of information for academic purposes.	

In FG students' everyday life environment, various personal experiences can also influence their information seeking behaviour, such as their emotions and feelings related to everyday life stress situations, family expectations, their inner experiences and knowledge structures. This will be addressed in the next section.

3.4 PERSONAL INFLUENCES IN STUDENTS' INFORMATION SEEKING BEHAVIOUR

As pointed out in chapter 2, section 2.3.2, Meyer (2016) refers to the personal dimension in information behaviour as inner experiences of information users. To Bateson (1972:453), the personal influence in information behaviour can be seen as the stage when humans mentally become aware that information alters their state of mind. In everyday life, individuals' information behaviour is manifested in personal experiences and influences, such as personality traits and personal judgements (Savolainen 1995:261).

Case and Given's (2016:56) understanding of personal influences in information behaviour can relate to everyday life, since it does not matter whether information originates externally (environment) or internally (psychological). Its significance is the meaning that people derive from the information and this can differ from person to person.

As described in chapter 2, section 2.3.2, cognitive and affective influences on information behaviour are manifested in feelings, emotions, thought processes, knowledge, understanding and perceptions. These cognitive and affective influences also link personal influences in information seeking behaviour with information users' information needs (Allen 1996:62). Ultimately intervening variables such as education, background, experience and motivation might influence information users' information seeking behaviour (Davies & Williams 2013:557).

Considering FG students' socioeconomic situation as described in chapter 1, section 1.2, the next section examines the influence of cognitive and affective elements in the personal dimension component as manifested in their everyday life context, which might influence the students' information seeking behaviour.

3.4.1 Cognitive elements influencing FG students' information seeking behaviour

In information behaviour, cognitive elements influence the meaning and the way people attempt to make sense of information relevant to their everyday lives and the environment in which they function (Wilson 1984:197). In other words, as Nahl (1997:14) suggests, thoughts lead to

solutions that involve the recognition and processing of information. According to Savolainen (2015b:178), these thoughts are usually focused on the task at hand, which involves the mental act of formulating specific information processing strategies. Meyer (2016) states that the cognitive processing of information enables humans to make sense of information and they are therefore able to determine whether the information can be used for a particular purpose or not and tap into their current knowledge store to make decisions about information. Ocepek (2018:409) explains that in everyday life situations, individuals' cognitive framework is based on their personal frame of reference and they attempt to understand the world from their own experiences and information known to them. Pascarella et al. (2004:252) is of the view that Ocepek's notion can apply to FG students, in the sense that they attempt to make sense of their environment with skills they have to attain themselves and the information they use in this social environment.

3.4.1.1 Sense-making

From a cognitive viewpoint sense-making is regarded as internal behaviour processes where users attempt to make sense of their environment through time and space (Dervin 1983:1). Dervin (1983:1) explains that sense-making is initiated by a need for information. This need is recognised by a gap in the user's knowledge base that needs to be filled. Dervin (1983:1) further explains that when users are faced with an information problem, an information need arises from the desire to make sense of that situation or environment.

According to Savolainen (1995:261), in everyday life people make choices according to what they perceive as normal. Certain characteristics, such as individuals' socioeconomic circumstances, can therefore influence their sense-making processes. Savolainen's view is supported by Torres et al. (2006:66), who point out that most FG students' families do not understand their university experience. This causes a unique experience, as the students have to manage the cultural expectations at home, as well as what is expected of them in their academic environment. London (1989:149) observes that parents of FG students from rural areas are often anxious about students losing their cultural identity when attending universities in big cities. The parents develop hostile feelings towards the students' academic environment. Consequently, because students cannot discuss university life at home with their parents, they are their own sole sources of information.

Pascarella et al. (2004:252) note that because of their parents' lack of university experience, students often have a disadvantage related to knowledge of accessing and understanding information. Given that the students do not have any academic role models at home, they are influenced by information decisions their peers make, which are not always correct (Beasly 2016:159).

FG students' sense-making can also relate to Kuhlthau's (1991:361) view that from a user's perspective, different environments trigger different sense-making outcomes (Kuhtlhau 1991:361). Individuals' interpretation of information is guided by how they perceive their environment and consequently, they actively attempt to find meaning that fits into that environment (Kuhlthau 1991:361).

3.4.1.2 Information processing and problem-solving

Savolainen (1995:264) suggests that in everyday life individuals will act and react to situations according to their social classes and cultures, which will influence how they solve problems. For instance, specific examples received at home and school will influence individuals' problem-solving efficiency. In everyday life, individuals create meaning from their existing knowledge store (Dervin & Nilan 1986:13). Because of FG students' home environment, where they lack academic support from their parents, they have not learnt to initiate the information seeking process themselves. Instead, they wait to be informed (Torres et al. 2006:67). They would also rather seek information from informal sources such as peers with a similar background or pamphlets because they fear being given the wrong information by authorities or looking foolish (Torres et al. 2006:67).

Users' perception of information sources is a personal cognitive factor, which will determine their acceptance or rejection of information sources.

3.4.1.3 Perception of information sources and resources

In information seeking behaviour, perception is a cognitive factor that relates to the personal dimension in information behaviour and influences how humans process information (Savolainen 2015b:181). Lindsay and Norman (1977:73) regard 'perception' as a mental process through which humans interpret their world and the world around them. According to Lindsay and Norman (1977:74), when humans are unable to match their perceptions with their environment, it leads to misinterpreted perceptions. Brinkman et al. (2013:648) found that the

FG students' self-perception of being information-poor in their everyday life hindered their information seeking, since they found it difficult to use information in an academic environment. To Savolainen (2015b:176), the environment within which individuals function plays a major role in how individuals perceive information and the decisions they make.

According to Savolainen (1995:263), what individuals regard as 'normal' in their everyday life can be transferred to other environments and thus influences their information seeking behaviour. Savolainen's theory is endorsed by Torres et al. (2006:68), Brinkman et al. (2013:646) and Pickard and Logan (2013:409), who believe that FG students' everyday life influences their perceptions of information sources. Torres et al. (2006:68) found that Latino FG students associated academic authorities such as lecturers and academic advisors with negative stereotyping, as they perceived these authorities to treat them differently from other students. As a result, the students would rather seek information from informal sources with whom they formed relationships outside their academic environment, as they could relate to these sources in a social environment to which they were used.

Students' experiences also influence their perception of information sources (Mercado 2012:107). Mercado (2012:107) found that minority students' perception of how helpful, supportive, or receptive their environment was influenced their behaviour or interactions with peers and instructors.

The personal influence in information seeking behaviour is also embedded in people's motivation to seek information, for example to solve problems or achieve academic success, which will be discussed next.

3.4.1.4 Cognitive motivation

Cognitive motivation is goal-driven and is seen as the motivational force behind information needs and the information seeking process (Dubnjakovic 2017:1035). In everyday life, individuals' motivation is to solve everyday life problems that give rise to information needs (Savolainen 1995:282). These information needs are prioritised according to individual criteria and importance, as well as personal courage to seek assistance (Savolainen 1995:282). FG students' socioeconomic backgrounds indicate that they are financially constrained. Because of financial challenges and lack of academic support from their families, their motivation lies in

becoming independent and not relying on their families (Bean & Metzner 1985:522; Brinkman et al. 2013:646; Beasly 2016:148).

Because of the cognitive challenges the students' face in their everyday life environment, they find it difficult to identify with their academic environment and therefore transfer these challenges to their academic environment. Their socioeconomic background is consequently exhibited in their sense-making and perception of information sources. The personal influence in information seeking behaviour also involves the affective components of feelings and users' information source preferences.

3.4.2 Affective elements influencing FG students' information seeking behaviour

As described in chapter 2, section 2.3.2.2, emotions are one of the major contributing factors that influence humans' information seeking behaviour. Zajonc (1980:151) considers 'affect' to be 'post-cognitive', because affect occurs after several cognitive elements, such as individuals' sense-making, problem-solving, decision-making and perceptions, have been put into motion. Zajonc (1980:151) also regards these cognitive elements as reactions that influence affective judgments and argue that feelings as an affective action are accomplished after the information has been thoroughly processed. As pointed out in chapter 2, section 2.3.4.3, it is important to note the interplay between cognitive and affective structures of the personal dimension that brings about understanding and judgement of a problem (Meyer 2016).

In an everyday life problem-solving situation, emotional reactions, such as pessimism or optimism about the problem, might influence the solvability of the problem (Savolainen 1995:265). Considering FG students' socioeconomic background and the challenges they face in their everyday life environment, such as lack of academic support from parents and having to find solutions to information problems themselves, feelings of being unprepared for higher education, or relying on informal networks for information, feelings such as anxiety, failure, or mistrust are likely to influence their information seeking behaviour (Torres et al. 2006:66).

3.4.2.1 Feelings

Feelings can be manifested in experiences of liking and disliking (Zajonc 1980:151) or negative and positive (Savolainen 2015b:176). Torres et al. (2006:66) note that in the students' everyday life environment, they are not instructed how to prepare for an academic environment. This lack of understanding causes them to feel isolated and at a disadvantage (Torres et al. 2006:66).

Furthermore, Torres et al. (2006:66) observe that before arriving at university, the students already had hostile feelings about the university. That is why they focus on what they see as normal in their everyday life that provides them with a sense of comfort, such as seeking information from informal networks. This behaviour can be associated with Savolainen's (1995:273) explanation that in everyday life situations, individuals' feelings are usually associated with normalities in their everyday life routines and also feelings of attachment and belonging in a community. Thus, seeking information from informal networks can be seen as a quality of belonging (Savolainen 1995:273).

a) Trust

Trust is an affective reaction to the cognitive process of perception where individuals pass judgement. Trust is also dependent on people's knowledge of something (Zajonc 1980:157). Zajonc (1980:157) explains that when individuals believe that their reactions are true, it represents an internal state of reality and accuracy.

In FG students' everyday life environment, their parents cannot relate to their academic experiences and they can therefore not share their experiences with their parents (Brinkman et al. 2013:645). As such, with limited or no knowledge, they have to rely on themselves to manage their academic environment, which causes them to trust questionable information sources such as peers or avoid expert information sources (Torres et al. 2006:68). Savolainen (1995:266) explains that when individuals are not exposed to certain information sources in their everyday life situation, lack of understanding of these sources might cause reactions of distrust and avoidance. FG students feel that certain information sources, such as lecturers, must earn their trust before they will use them (Torres et al. 2006:68).

(b) Failure

In everyday life problem-solving situations and information seeking, affective influences are grounded in how individuals may react (Savolainen 1995:266). For example, individuals may avoid certain situations because of risk of failure, instead of considering other practical options (Savolainen 1995:266). Wilson (In press:39) explains that certain intervening variables may discourage individuals from pursuing their information needs, such as risks or rewards. Wilson (In press:39) argues that risk/reward theory can be associated with the way people act when having to make decisions. They determine their actions based on the risk or reward of the action. The risk or reward can be reviewed based on the individual's personal experiences or

from other people's experiences. Given that FG students do not receive sufficient information in their everyday lives regarding academic matters, they view themselves as being information-poor and often give up pursuing other information seeking options when they experience failure (Brinkman et al. 2013:648). Similarly, Torres et al. (2006:66) observe that FG students often feel that they are picked out as not having the ability to succeed at university. Consequently, they experience feelings of failure because their everyday life environment has not prepared them for their new academic environment.

c) Discomfort

When individuals in their immediate environment, such as their everyday life environment, receive limited support from their family members when they attempt to achieve their goals, their negative feelings increase (Rodriguez et al. 2000:518). These obstacles in everyday life are often transferred to other environments where they have to explore new ways of seeking and finding information. Lack of skills in this situation leaves the students frustrated if they cannot get the desired results (Torres et al. 2006:67).

3.4.2.2 Preferences

Preference can be associated with affective judgements (Zajonc 1980:156). According to Zajonc (1980:156), preference is always about "the self" and explains that when individuals evaluate something, they weigh one decision up against the other and usually the dominant decision prevails. In everyday life, individuals' information source preferences are focused on that informal environment and they determine their preferences according to their informal knowledge store (Savolainen 1995:275). Given that FG students have not been prepared for the demands of an academic environment, and they are basically their own information providers or seek information from informal networks in their immediate environment, their preferences for sources for academic matters are influenced by their everyday life context, since they prefer seeking information from informal academic sources such as peers and working-class university staff (Brinkman et al. 2013:647).

3.4.2.3 Affective motivation

Motivation is an internal state that is driven by both social values (affective) and cognitive structures (understanding and meaning) of an information environment (Nahl 2004:192). For example, individuals' everyday life context determines their information needs, interests, information use and problems that need to be resolved (Nahl 1998:60). This means that in an

everyday life context, affective motivation can be driven by personal goals, in other words the need to search and find information for personal motives (Nahl 2004:192). FG students' everyday life context includes financial and family obligations as well as parents not being able to provide the students with academic-related information (Torres et al. 2006:65). Nahl's view is reflected in FG students' motivation, where their everyday life motivation is driven by the goal to be financially independent and find employment.

In FG students' everyday life context, they are unable to share their academic experiences with their parents and cannot seek information from their parents. This lack of understanding causes the students to develop feelings of frustration and mistrust. They base their judgements on their experiences with information in their everyday life context and their motivation is driven by their everyday life experiences.

3.4.3 Reflection on personal influences

This discussion pointed out that particular cognitive and affective elements influenced FG students' information seeking behaviour. These are presented in the following table:

Table 3.2: *Reflection on personal influences in FG students' information seeking behaviour*

Cognitive elements	**Affective elements**
Sense-making • FG students lack academic support and guidance in their everyday life context. Therefore, their interpretation of information is influenced by the decisions their peers make. • FG students use information practices with which they are familiar in their everyday life context to make sense of their academic environment. Hence, they seek out sources of information on the basis of familiarity and comfort to help them make sense of their academic environment.	**Feelings** • FG students have hostile emotions and feelings about their academic environment, which are caused by the challenges they experience in their everyday life context. • FG students' emotions and feelings influence their information source preferences; they prefer informal sources of information in their everyday life context for academic purposes. These informal sources of information, such as friends and peers, provide a feeling of comfort to which they can relate and that they can link to their everyday life context.
Information processing and problem-solving • FG students have not learnt how to solve information problems in their everyday life context; therefore, they either rely on informal sources of information with which they are familiar for information or wait to be told what to do.	**Information source preferences** • FG students' preferences for sources are influenced by their lack of understanding of the demands of an academic environment, as well as their inexperience in using academic information in their everyday life context. Therefore, they prefer sources of information to which they are used in their everyday life context, such as friends

	and peers as informal sources in an academic context.
Perception of information sources • FG students' everyday life context, such as lack of academic support and lack of using information in their everyday life context for academic purposes, influenced the perceptions they have of academic information sources. FG students tend to stand by sources to which they can relate in their academic environment, which stems from their everyday life context.	**Affective motivation** • Affective feelings and emotions of trust and mistrust, as well as hostility to their academic environment, contribute to their motivation for seeking information from specific sources or using specific sources of information. These feelings and motivation derive from FG students' low social and cultural capacity in their everyday life context in which they cannot share their academic experiences with their parents or seek information from their parents.
Cognitive motivation • FG students transfer the cognitive challenges they experience in their everyday life environment to their academic environment and therefore find it difficult to function in an academic environment.	

3.5 CONCLUSION

This chapter provided a literature review of how contextual and personal influences in FG students' everyday life environment influence their information seeking behaviour. The literature further revealed that FG students' socioeconomic background and their personal frames of reference play an important role in their information seeking behaviour. Furthermore, the literature review revealed that owing to the students' socioeconomic background and the challenges they face in their everyday life environment, they keep their everyday life and academic environment separate from each other and thus experience a disconnection between these worlds: their everyday life environment as a familiar environment where they have a sense of belonging and the academic environment they experience as unfamiliar and hostile. It also revealed that owing to the students' socioeconomic background, they tend to stay in the small worlds with which they are familiar and seek out sources within this small world with whom they can connect. As the students have to function in these two environments, their academic environment will be discussed in the next chapter.

CHAPTER 4:
PERSONAL AND CONTEXTUAL INFLUENCES IN FG STUDENTS' INFORMATION SEEKING BEHAVIOUR IN THE ACADEMIC CONTEXT

4.1 INTRODUCTION

In chapter 3, the FG students' everyday life environment was described, as well as the way in which that environment could influence their information seeking behaviour. The chapter also explained that FG students have to function in two different worlds, namely their everyday life environment and the academic environment. Because of their socioeconomic background and various influences in their everyday life environment, they find it difficult to link these two environments. Therefore, this chapter focuses on the contextual and personal influences in FG students' academic environment by examining

- the contextual elements that influence the students' information seeking behaviour, such as task-based situations, social and cultural capacity and barriers that might influence their information needs and information seeking and how the world they have created for themselves influences their information seeking-behaviour;
- personal cognitive factors affecting how students make sense of their academic environment and information, their information source perceptions and the cognitive factors that motivate their information needs and seeking;
- personal affective factors of how students' feelings influence their information seeking behaviour, their information source preferences and the affective factors that motivate their information needs and information seeking; and
- affective and cognitive contextual influences that restrict students' information literacy competencies.

4.2 BACKGROUND

As explained in chapter 1, section 1.2, Van Zyl's (2016b:8) profile analysis of incoming first-year students at UJ showed that almost 42% of students indicated that there were 10 or fewer books in the house where they grew up and almost 63% of students had only read five or fewer books in the past year.

Pascarella et al. (2004:250) argue that in comparison with other students, FG students have a disadvantage in terms of their preparedness for higher education, knowledge about higher education procedures and academic support from their families. This can be ascribed to

psychological, cultural and social differences (Inman & Mayes 1999:3; Pascarella et al. 2004:250). Pascarella et al. (2004:265) found that FG students tend to achieve lower grades throughout their studies than their peers.

Because of FG students' socioeconomic circumstances, these students tend to drop out during their first year of study. They develop various complexes because they have to cope with a new environment (cultural and academic), and they will most likely leave university without obtaining a degree or proceeding to postgraduate degrees (Terenzini, Springer, Yaeger, Pascarella & Nora 1996:2; Pascarella et al. 2004:250; Darling & Smith 2007:203). Regarding UJ students, the factors that might influence their academic success are their socioeconomic conditions, social and cultural capital, schooling and lack of support from their home environment (Van Zyl 2016b:2). In particular, these factors contribute to the students feeling isolated in their academic environment and often feeling inferior to their peers (Van Zyl 2016b:3; Vincent & Hlatshwayo 2018:121).

Chapter 3 described how students' everyday life environment influences their information seeking behaviour, as well as how this environment influences their academic context. The following examines the contextual influences in FG students' academic context.

4.3. CONTEXT

As indicated in chapter 3, section 3.3, FG students experience two different worlds, which they keep separate: their everyday life environment and academic environment. Meyer (2016) points out that people can operate in different contexts, which can be an everyday life context and an academic context. She further points out that certain contextual elements determine the type of information required, as well as the operation thereof. These elements will differ from context to context. As in any task-based context, there are contextual elements in an academic context such as standards, rules and regulations that stipulate how academic tasks should be carried out. Thus, the following discussion will provide insight into operations of an academic environment as applied to FG students.

4.3.1 Academic context

In an academic context, the purpose of higher educational institutions is to develop students' capabilities so that they achieve academic success and generate knowledge to live productive lives one day (Gleason 2018:4). Various academic role-players therefore contribute to the

success of students' academic achievements (Kettunen 2018:34). For Kettunen (2018:34), academic role-players are people and services that are able to influence students positively. He divides these role-players into internal and external role-players. Internal role-players are members of the academic community such as lecturers, students and institutional support services such as institutional libraries. External role-players can be parents and other partners, which can include the larger community (Kettunen 2018:34; Marshall 2018:79). Marshall (2018:79) emphasises that students are not only interested in obtaining a qualification; they are also deeply involved in the nature of the academic institution. He argues that from an educational perspective, it is important to note that many students lack perspective and judgement concerning their own potential and the opportunities available to them. Marshall (2018:80) further argues that it is the academic faculty's responsibility to ensure that students meet the requirements to graduate successfully and to decide whether students have the required abilities to proceed to the next level of their studies.

If students are to meet the expectations of their course requirements, they have to carry out certain academic tasks to the satisfaction of their lecturers, complete research projects and adhere to certain academic rules and regulations (Anderson & Pešikan 2016:6). Such tasks differ in purpose, scope, setting and complexity (Anderson & Pešikan 2016:7). With this in mind, students need access to relevant information to carry out academic tasks successfully. In order to access relevant information, students need to apply information literacy skills. The library as information resource provides a variety of services and information sources to enhance students' academic experience, such as information literacy training, electronic and print sources, as well as collaboration with the academic faculty in various student programmes (Crowe 2015:445). In addition, twenty-first-century education requires students to be digitally literate and thus to be able to connect effectively to technology and apply technology to retrieve relevant information (Fernández-Ramos 2019:242). However, all these different aspects have particular requirements to which students must adhere, to enable them to access information effectively.

In an academic context, students must also follow pedagogical standards. The South African Qualifications Authority (SAQA) is responsible for the development and implementation of South African national qualifications. SAQA's (2012:2) role is to develop standards and procedures for qualification criteria. SAQA (2012:2-3) stipulates that a student pursuing a university degree is expected to have the following skills:

- The ability to apply relevant information to the task at hand and have an understanding that different tasks have different requirements and that the information applied to those tasks must meet the task criteria.
- The ability to apply information literacy skills across different subject disciplines.
- The ability to think critically about problem-solving and being able to apply problem-solving skills effectively across different disciplines.
- The ability to understand the legal and ethical use of information, as well as the consequences of plagiarism and copyright infringement.
- The ability to apply different information processes to solve information problems and being able to use applicable technology to achieve the desired outcomes.

Van Zyl (2016a) notes that in the South African higher education system, many incoming first-year students originating from minorities have difficulty in coping with a higher education environment, because of their socioeconomic backgrounds. Apart from lacking knowledge about higher education practices, their difficulty in coping with higher education requirements involves cultural, social and academic changes, all of which influence their academic performance (Pascarella et al. 2004:250). Therefore, it is important to examine the contextual elements that might influence the students' information seeking behaviour.

4.3.1.1 Situational context

As highlighted in chapter 3, section 3.3.1.1, from a situational context point of view, context can be regarded as environments within which individuals function. These may be social environments or more formal environments. For example, one context may be an everyday life context, and another an academic context. Different contexts make different demands of individuals. Sonnenwald (1999:178) explains that a flow of situations occurs within each context and people act differently in different situations. In other words, different contexts may involve different types of situations. She also points out that situations can be described by users' actions and behaviour.

In an academic context, students are faced with situations where they have to solve problems and carry out tasks prescribed by lecturers. Normally, the skills students are taught at home by parents are also used in an academic context. As described in chapter 3, section 3.3.1, 'cultural capacity' can be regarded as the competencies individuals acquire within their social

environment, which leads to opportunities. Because of FG students' insufficient access to cultural capacity through family relationships, they lack understanding of the expectations of higher education (Pascaralla et al. 2004:252). Consequently, these students face challenges in understanding how to access relevant information and make academic decisions.

a) Information horizons

As explained in chapter 3, section 3.3.1.1, individuals usually seek information within specific information horizons, which are determined by specific situations in which individuals find themselves (Sonnenwald 1999:184). In FG students' information horizons, they regard informal networks such as peers as sufficient sources of information. As such, they also make use of informal networks in their academic environment as information providers (Torres et al. 2006:67). In an information seeking situation, FG students' information horizons consist of peers, pamphlets, non-academic staff and university staff with whom they have developed personal relationships (Torres et al. 2006:67; Brinkman et al. 2013:644). This finding relates to Sonnenwald's (1999:176) theory that an information horizon influenced by various elements exists within each context.

Cognitive dissonance caused a shift in some FG students' information horizons (Torres et al. 2006:67). Torres et al. (2006:67) found that FG students' interaction with their preferred information resources caused them to experience cognitive dissonance because their information needs were not satisfied. In this situation, the unsatisfactory outcome caused them to interact with other information resources, thereby initiating a different process of information seeking. (They sought information from academic advisors.) However, Torres et al. (2006:67) also found that some FG students did not experience cognitive dissonance by relying on peers and pamphlets and as a result did not change their information seeking behaviour. Consequently, their information horizons stayed the same. This situation can relate to Sonnenwald's (1999:184) view that in some situations and contexts, an information horizon may be restricted by socioeconomic circumstances. In other words, FG students' everyday life environment restricted them from expanding their horizons in their academic environment.

b) Time-space

In information seeking behaviour, time is seen as an essential component of a situation or context (Savolainen 2006:110). In an academic environment, time-space can relate to problem-solving and knowledge generation. Since FG students' everyday life environment hinders them

from acquiring the necessary knowledge and skills to apply in their academic environment, in that moment in time-space, their informal knowledge store is insufficient for their academic environment (Borrelli et al. 2018).

Borrelli et al. (2018) found that transfer FG students (students changing campuses) found transferring to a new campus difficult. This meant that they had to start afresh and within that specific stage in time and space, they felt disconnected from their immediate academic information needs. With this change of campus, they could not remember how to do research or what to do when they received an assignment topic. Thus, the sense-making process stopped when they entered a new environment and they were unable to bridge that information gap.

However, Borrelli et al. (2018) found that by using the library resources over time, the more senior FG students' perception of the library changed. They started regarding the library as a resource-rich environment, instead of just a library space. Within a time-space context, some FG students changed their information seeking behaviour when they experienced academic crises and made use of information sources other than the sources with which they felt comfortable (Torres et al. 2006:69). Moreover, within a time-space context, FG students sought information sources with whom they had, over time, formed a trusting relationship (Torres et al. 2006:69). This confirms Savolainen's (2006:115) view that in a specific situation, such as FG students' socioeconomic background and unpreparedness when entering university, time-space is a fundamental attribute of situation or the context of information seeking. As indicated by Borrelli et al. (2018) and Torres et al. (2006:69), some FG students' information seeking behaviour changed and evolved through time and space. This moving from present to future characterises time-space as a situational context (Savolainen 2006:113).

c) Tasks

In an academic environment, tasks can be regarded as situational activities, which involve sense-making and problem-solving (Talja & Nyce 2015:62). In order to carry out tasks relating to a learning environment, knowledge and skills relevant to this learning environment are necessary (Halttunen 2003:326). Halttunen (2003:326) adds that task environments give meaning to learning environments. Regarding students' learning environment, Halttunen (2003:326) suggests that context is important in a learning environment.

For Savolainen (2012a:492), information needs are motivators for task-based information seeking. Furthermore, in specific environments, such as FG students' socioeconomic environment, their decision-making situations revolve around needs that are critical to meet, such as financial challenges (Torres et al. 2006:66). Consequently, in their academic environment, their focus is also on immediate economic needs, instead of planning and strategising to satisfy academic needs, which can be transferred into an overall enhancement of their academic experience (Borrelli et al. 2018).

- Task-based information needs

  In the context of problem-solving, task-based needs relate to the cognitive domain in information seeking behaviour (Nahl 1997:13). Nahl's view is confirmed by Ingwersen and Järvelin's (2005:29) notion that a task situation (work-related or interest-related) prompts the cognitive space of individuals into certain situations, which may be work-task situations, problem situations and information need situations.

  In an academic environment, students' information needs may depend on coursework-related tasks. FG students' socioeconomic factors, which are context-based, influence their task-related information needs (Pickard & Logan 2013:400). Pickard and Logan (2013:400) found that because first-year FG students could not ask their parents for academic-related information, they had difficulty in identifying their task-related information needs. For example, they could not share their information need vocabulary with librarians (Pickard & Logan 2013:400).

  Brinkman et al. (2013:548) found that the situations FG students encountered at university were totally different from their cultural and socioeconomic experiences, causing their information needs to take on a practical problem-solving nature. Because these students had experienced so many information seeking failures, their immediate information needs were focused on solving one information problem and moving on to solving the next information problem. This behaviour confirms Talja and Nyce's (2015:64) view that individuals' knowledge base is generated within a specific situation or setting, and their competencies are also created within that situation where people share the same characteristics.

- Task-based information seeking

  Talja and Nyce (2015:65) contend that task-based information seeking is triggered by challenging situations, which requires problem-solving and decision-making. In an academic environment, task-based information seeking is often influenced by students' competencies, or lack thereof, which can lead to information seeking avoidance. These experiences are often embedded in the affective domain of information seeking behaviour, such as negative or positive reactions to information seeking (Savolainen 2012b:503). Thus, these experiences and contextual factors will influence users' information seeking choices and performances (Savolainen 2012b:503). Torres et al. (2006:68), Brinkman et al. (2013:646) and Pickard and Logan (2013:410) confirm that in an academic situation, affective factors such as anxiety, trust and comfort initiate FG students' task-based information seeking processes. Consequently, FG students use and apply their informal knowledge store to their academic environment by seeking information from sources with which they are comfortable, rather than attempting other, better options, for fear of encountering information failure (Brinkman et al. 2013:648).

- Task complexity

  The complexity of a task is determined by the task performance and information needs, which can be influenced by a user's uncertainty (affective influence) about the task at hand or preconceived judgment of the task to be carried out (Vakkari 1999:825). Torres et al. (2006:67) found that FG students made preconceived judgements of certain information resources, therefore they chose to avoid these sources; for example, not seeking out university authority figures for information, because their perception was that authority figures would not understand their needs.

  Different tasks set different requirements for the information that is needed; more information processing is involved in more complex tasks (Byström 2002:582). Because of FG students' limited understanding of academic resources such as the library, they are unable to determine that different tasks give rise to different information needs (Brinkman et al. 2013:646; Borrelli et al. 2018). Talja and Nyce (2015:65) argue that for people to solve problems, they must have some knowledge of the options to solve those problems. Given that the students have no experience and have been taught no skills to solve information seeking problems in their everyday life environment, they also have no clear understanding of how to approach information problems in their academic environment (Torres et al.

2006:67; Brinkman et al. 2013:646). Talja and Nyce (2015:65) further contend that within real-life activities, tasks and problems often have no definite and clear solutions or outcomes.

Kuhlthau's (1993:344) uncertainty principle suggests that during the action of task completion, uncertainty might decrease as the user becomes more confident and proficient in the information seeking process. Vakkari (1999:825) explains that the more familiar the user becomes with a task, the less complex the task becomes. Borrelli et al. (2018) found that initially, FG students' lack of understanding of academic support systems prevented them from making use of the library resources. However, spending time in the library changed the students' perception of the library resources and they were able to benefit from what they had learnt about the resources and services.

4.3.1.2 Social and cultural influences

As mentioned in section 3.3.1.2, people sharing an environment normally also share the same values, culture and beliefs. This sharing environment will influence the individuals' information behaviour inside and outside their immediate environment (Agarwal 2018:101). This is confirmed by Torres et al. (2006:67), who note that because FG students share the same socioeconomic background, they transfer their information behaviour in this shared environment to their outside environment, which is their academic environment. In their academic environment, they seek information from the same sources they are accustomed to in their immediate home environment, where they do not get the required guidance on expanding their information seeking behaviour beyond their informal knowledge store (Torres et al. 2006:67).

As pointed out in chapter 2, section 2.3.2.3, Chatman's (1999:221) theory of 'life in the round', includes small worlds, social norms, social types and worldview.

a) Small worlds and social networks

People's small worlds are bound by their everyday life environment, namely their physical space, the people sharing that space and social and cultural characteristics in that space (Savolainen 2009:38). Consequently, seeking and sharing information are also influenced by the roles of the individuals in their small world (Savolainen 2009:38). In their academic environment, Brinkman et al. (2013:646) found that FG students seek information sources that provide them with a sense of comfort and familiarity. Therefore, they seek out informal support

networks not only for comfort, but also to find information. In their academic environment, these informal support networks provide a type of family care situation for them that they can relate to their everyday life environment. Johnson (2004) points out that in social structures, people tend to seek out other people with the same characteristics than theirs and similar resources to their own. Consequently, FG students' have difficulty in moving out of the boundaries of their small worlds and attempt to make their academic environment, which is an unfamiliar environment, feel like home by using sources to which they can connect in their everyday life environment (Brinkman et al. 2013:646).

Influenced by their small worlds (similar socioeconomic backgrounds) Brinkman et al. (2013:648) found that FG students created their own small worlds within small worlds by developing their own formal and informal support networks for academic and non-academic information needs. In these small worlds, the students' identified information resources with strong ties and ones with weak ties. For example, because of distrust of university authority figures, they formed ties with informal resources, such as peers and pamphlets (Torres et al. 2006:68). Chatman (1999:438) noted that the handicap of people limiting themselves to seeking information in this small world is that they are not active information seekers outside their familiar social environment, most probably because they have the notion that outside sources are unable to meet their information needs and they are therefore not motivated to explore the relevance of those sources. This observation endorses Brinkman et al's (2013:648) findings. They found that FG students sought out people with similar backgrounds to their own for academic information. Tsai and Kim (2012:2) found that having social networks had a positive impact on FG students' adjustment at university. Similarly, Wibrowski, Matthews and Kitsantas (2017:327) found that non-academic social settings, such as a retreat camp, helped FG students bond with one another and thus encouraged these students to participate in activities designed to develop certain skills.

FG students' behaviour is consistent with Savolainen's (2009:39) view that these networks within which groups or members function may either hinder or enable access to information. Agarwal (2018:126) concludes that when individuals look at their own context with peers or within a shared group, the context consists of their own individual abilities, thoughts and feelings, as well as their shared context where they are part of a group or share the same worldview or small world.

b) Social and cultural barriers to information seeking

In an academic environment, students' limited opportunities in their social and cultural environment can influence their information behaviour in terms of the seeking and finding of information and information choices, which they need for their academic course work.

FG students' perception of being information-poor in their everyday lives influences their academic information seeking behaviour; they assume that they are unable to locate required information, use the library resources and do research (Brinkman et al. 2013:648). Because they cannot ask their parents to explain certain university practices and systems to them, FG students repeatedly experience information failures, because of lack of understanding of university systems and specifically university terminology. They also do not ask for clarification, because they assume that they are supposed to know this information (Brinkman et al. 2013:648). Brinkman et al. (2013:648) further note the students comment that they are "outsiders"; they believe that they ought to know what other generation students naturally know about university systems and terminology.

Information needs arise when users recognise that they have an information problem that needs to be resolved. Johnson (2004) explains that an option to resolve information problems would be to monitor how other people in a network deal with similar information problems or situations. However, Johnson (2004) also maintains that the information problems remain resilient when the people in the network are unable to resolve the information problem and alternative action needs to be taken.

4.3.2 Information needs in a situational context

As highlighted in chapter 3, section 3.5.2, when information needs arise, users communicate their information needs by comparing their everyday life situations and their knowledge structures (Allen 1996:128). Brinkman et al. (2013:649) note that FG students' socioeconomic backgrounds cause them to find it difficult to differentiate between information needs for their immediate everyday life environment and their academic environment. Because they do not receive any academic support in their everyday environment, they find it difficult to identify information needs for academic purposes. Brinkman et al. (2014:647) have found that FG students' frustrations about not getting any assistance at home reveal a need for sources to help them improve their skills to succeed academically.

Belkin, Oddy and Brooks (1982:62) maintain that in a problematic situation, information needs arise when users realise that their knowledge condition is inadequate to meet their information needs. In the case of FG students, Borrelli et al. (2018) have found that at the beginning of the academic year, students find it difficult to identify their immediate information needs for academic purposes, owing to receiving too much information to deal with. This behaviour is confirmed by Kuhlthau (1991:79). According to her, certain interferences can hinder the recognition of information needs.

Ruthven (2019:77) contends that in the context of problematic situations, users are faced with decisions where they either recognise that a need has arisen, or they can ask someone else to change their problematic situation. Brinkman et al. (2013:647) found that in problematic situations, such as FG students finding themselves outside the scope of their home environment, the students' information needs resorted to practical information needs for problem-solving purposes.

In an academic context, Tsai (2013:184) points out that FG students have stronger information needs in a special situation than in a typical situation. For example, a special situation might pose a need for information to switch a major subject, which will require a wider range of information and sources to pursue.

4.3.3 Reflection on academic context

The discussion underlined that FG students' environment within which they function influences their academic context. This academic context requires task-based problem-solving skills, which are usually developed in an everyday life environment.
The reflection on the FG students' academic context is presented in the following table:

Table 4.1: *Reflection on academic context*

Academic context	**Situational context**
• Task-based situations stipulate standards, rules, and regulations according to which tasks must be carried out. • Students need to use cognitive skills to carry out academic tasks.	• FG students lack social and cultural capacity in their everyday life environment. This makes them unprepared for expectations of higher education and influences academic decisions they make. • FG students seek information within their information horizons and within these information horizons they regard informal networks such as peers as sufficient sources of

	information for their academic environment. As such, their information horizons restrict them from expanding their information horizons in an academic context. • Situations in FG students' everyday life environment hinder them from acquiring sufficient skills to move forward academically. In that moment in time and space, their knowledge store is therefore insufficient in an academic context. • FG students' information needs are focused on immediate needs and they lack skills to strategise their information needs based on academic tasks. • FG students use and apply their informal knowledge store to their academic environment, by seeking information from sources with which they are familiar in their everyday life environment, rather than attempting alternative options, for fear of experiencing information failure. • FG students have not been taught any problem-solving skills in their everyday life environment. Consequently, they do not know how to approach academic task-based problems and how to solve these. • Because of lack of problem-solving skills, FG students are prejudiced towards certain information resources, resulting in avoidance of these resources.
Social and cultural influences • FG students' seeking and sharing of information are influenced by the roles of the individuals in their small world. In their academic environment, FG students therefore seek information sources that provide them with a sense of comfort and familiarity. They tend to keep their information seeking within their small worlds and do not explore the relevance of information sources appropriate for an academic environment, often experiencing disappointment with the information retrieved.	

Peoples' thought processes, personal experiences, emotions and feelings influence their information seeking behaviour and these personal elements are therefore also embedded in FG students' education and background.

4.4 PERSONAL INFLUENCES IN STUDENTS' INFORMATION SEEKING BEHAVIOUR

As pointed out in chapter 3, section 3.4, individuals' cognitive structures, for example their knowledge structures and skills, as well as their emotions and feelings, play a significant role in their information seeking behaviour. These cognitive and affective influences relate to humans' inner experiences (Meyer 2016).

FG students' information environment is divided into their everyday life environment, which is informal, and their academic context, which is task-based. As indicated in chapter 3, section 3.2, FG students are unprepared for the demands of higher education, because of cultural and social influences (Pascarella et al. 2004:250). The outcomes of these inner experiences, such as their judgements and feelings, will thus influence their information seeking behaviour.

4.4.1 Cognitive elements influencing FG students' information seeking behaviour

When the cognitive influence in information seeking behaviour is considered, the focus is on sense-making and the information processes users employ to bridge the gap in their current knowledge store (Savolainen 2006:1125). Halttunen (2003:309) explains that in the context of a learning environment, prior knowledge, prior learning and conceptions of learning assignments are important in constructing new knowledge.

As indicated in section 4.4.1, a student at university level's cognitive development should include the knowledge to solve problems in different situations, critical thinking skills and the ability to make sound decisions. Terenzini et al. (1996:16) found that FG students had lower than average cognitive skills and their perceptions of their academic environment put them at a disadvantage.

Some of the personal cognitive influences that seem to influence students' academic success are sense-making and source preferences.

4.4.1.1 Sense-making

As indicated in chapter 2, section 2.3.3.1, the cognitive approach to sense-making relates to meaning and the way people make sense of information in different situations (Savolainen 2009:194).

In an academic context, sense-making involves the cognitive processes of students contextualising and personalising their environment (Nahl 1997:26). Rodriguez et al. (2000:521) found that within Latina FG students' academic environment, they bonded with students they felt were able to act as mentors to help them make sense of their environment. These students also developed peer groups in their environment where they could share their knowledge and who helped them overcome the complexities of their academic environment (Rodriguez et al. 2000:251).

In information seeking behaviour, sharing of information becomes the activity of sense-making and is thus regarded as a personal sense of creation (Dervin 1983:6). Kuhlthau (1991:361) explains that by presenting and sharing information with others, the information is transformed into meaning, which is the evidence of sense-making.

To make sense of the academic environment, Rodriguez et al. (2000:251) found that one Latina FG student created a 'cognitive map' of her environment by narrowing down the environment. She was then able to place herself within each geographical space of the university. Rodriguez et al. (2000:251) argue that narrowing an environment down is a way in which FG students can control their environment and facilitate their own success. In turn, Pickard and Logan (2003:411) found that FG students tended to return to familiar environments in which they were comfortable to help them make sense of the new academic environment, such as returning to their school or public libraries for research assistance. The reason the students in Pickard and Logan's (2003:411) study gave was that they found the university library overwhelming.

Pickard and Logan (2013:410) found that because of not being able to get the necessary guidance from their parents regarding general university operations, upon entering university, FG students needed assistance to make sense of academic-related practices such as using an academic library. Brinkman et al. (2013:646) found that the FG students first tried to find the information themselves before asking someone to help them. Up to now the argument tended to be that they have not been taught to do this and are reluctant to take responsibility for themselves. According to Brinkman et al. (2013:646), the FG students found this process of finding information frustrating and exhausting.

4.4.1.2 Information processing and problem-solving

Lee (2011:100) highlights that when users attempt to process information in an unfamiliar environment, they may lack understanding. However, based on the situations in which humans find themselves, they tend to try to make sense mentally of the information situation and reduce cognitive dissonance (Lee 2011:100). Similarly, Brinkman et al. (2013:645) state that FG students experience cognitive dissonance in unfamiliar environments, such as using an academic library. When they have to function in an unfamiliar environment, they question their own abilities, therefore experiencing cognitive dissonance. They question their own abilities to use the library as information resource and therefore perceive the library as not being useful. Consequently, they avoid the library.

Similar to FG students, sharing comparable socioeconomic backgrounds, Dessalles (2011:117) reasons that in a shared culture, when people share information, they also sometimes share cognitive dissonance. The people sharing this cognitive dissonance come to an understanding that there is something wrong in a situation and decide to alter this situation.

Savolainen (1995:264) further explains that when interferences occur in what is regarded as meaningful, there is a natural need to find resolutions to the problem. The experiences of individuals making problem-solving attempts will determine the effectiveness of their problem-solving and cognitive abilities. Torres et al. (2006:67) note that FG students do not always get the information they need from their preferred information sources, which causes them to experience cognitive dissonance and question their current process of getting information. They consequently change the process to seek assistance from academic advisors.

Torres et al. (2006:67) note that only once some FG students have experienced academic crises, cognitive dissonance causes them to take responsibility and adopt new information seeking processes. This behaviour can relate to Lee's (2011:100) argument that cognitive dissonance often prompts users to change direction in the information seeking process.

The perceptions users form about information sources and resources are also influenced by personal elements such as users' knowledge structures.

4.4.1.3 Perception of information sources and resources

In the context of FG students' capacity and social culture, they come from an environment with no resources, which influences their perceptions of sources in their academic environment (Borrelli et al. 2018). Libraries and librarians fulfil a very important role in supporting students in their pursuance of academic success. However, when students are not familiar with the academic library environment, it can influence their perception of the library (Voelker 2006:72). Pickard and Logan (2013:409) note that owing to FG students' limited knowledge about academic libraries, they do not perceive librarians as having authoritative knowledge and would rather seek information from peers and friends.

Borrelli et al's (2018) study revealed that FG students at Penn State University found the library facilities and services complicated, which caused these students to miss out on the expert services the library offered. Because of this complexity, the students also limited their interaction with library staff. As a result, their perception of the library remained negative.

The age factor of the library staff influenced the FG students' perception of librarians as information source (Borrelli et al. 2018). The students found that peer-to-peer reference staff could relate better to their information needs and older staff had more expertise. Borrelli at al. (2018) also suggested that the FG students were so focused on satisfying their immediate information needs that they missed out on the overall value and expertise librarians could offer them. However, by using the library resources over time, some FG students changed their perception of the library and learnt to regard the library as a resourceful environment (Borrelli et al. 2018). Spending time in the library was the most frequently mentioned reason why the students changed their perception of the library and library staff (Borrelli et al. 2018).

Brinkman et al. (2013:645) report that many FG students perceive informal support networks (such as other FG students) for information provision to be more effective than formal support networks (faculty and staff). They perceive informal networks as welcoming and trustworthy sources of information. According to these students, formal support networks have weaknesses, such as not understanding the students' information needs. However, some FG students do make use of formal support networks for information provision, such as faculty and staff whom they regard as mentors and who have similar backgrounds to their own. Students' perception of information sources may also be the reason for their motivation to seek and prefer certain

information sources over other sources. Motivation can be divided into cognitive and affective motivation; both are closely related to students' perception as well as source preferences.

4.4.1.4 Cognitive motivation

Dubnjakovic (2017:1037) relates cognitive motivation to activities such as carrying out certain actions to complete an information task. Pintrich and De Groot (1990:34) claim that the value of student motivation lies in students' reasons for doing a task, such as learning new things, gaining knowledge and facing challenges.

Brinkman et al. (2013:647) believe that, being outside their normal cultural and social environment, FG students are motivated to follow their peers actively to see how they solve problems. According to Brinkman et al. (2013:647), FG students perceive their peers differently from themselves. Peers are seen as not having any difficulties in seeking and finding information, whereas the FG students struggle to work out by themselves how to seek and find information. Savolainen (2012b) contends that cognitive motivation poses the question of whether individuals can carry out an information task and apply the strategies and efforts to carry out the tasks. Pickard and Logan (2013:407) note that FG students' reason for not using some library resources, for example the library's organisation tools, is due to their limited language skills. Thus, the students' cognitive motivation causes them to avoid using some library resources.

The student's everyday life cognitive influence is reflected in their academic environment: their information processing, problem-solving and perceptions about information sources and resources are based on the behaviour to which they are accustomed in their everyday life. Consequently, they struggle to take action to engage in new ways of information seeking. Given that FG students' socioeconomic backgrounds have a major influence on their information seeking behaviour, their emotions will also influence their information seeking behaviour.

4.4.2 Affective components influencing FG students' information seeking behaviour

As mentioned in chapter 3, section 3.4.1.1, in an academic context students must carry out academic-related tasks and solve academic problems, for which they need information. As mentioned in chapter 2, section 2.3.2.2, people's emotions and feelings have a major influence on their information seeking behaviour. In an academic context, certain affective behaviour is set in motion when students have to carry out cognitive performance tasks (Nahl 2005).

4.4.2.1 Feelings

People's past experiences can influence certain feelings towards a task assignment, such as feelings of negativity or positivity (Kuhlthau 2004:44). Torres et al. (2006:66) confirm that factors in FG students' everyday life environment, such as parents not understanding their academic environment, cause their unpreparedness for the requirements of higher education. This unpreparedness can create negative feelings towards their academic environment and their motivation to use certain academic resources, such as the library, or seek information from experts (Torres et al. 2006:66). Moreover, this unpreparedness causes them to lose confidence in themselves and they are therefore afraid to seek information from academic experts (Torres et al. 2006:66). Consequently, they stick to sources with which they feel comfortable. Savolainen (2015b:176) argues that thought (which is a cognitive element) is the determining factor that influences feelings.

a) Trust

As mentioned in chapter 3, section 3.4.2, trust is a response to people's perceptions about something (Zajonc 1980:157). FG students' everyday life situation does not teach them to apply everyday life problem-solving to their academic environment, which causes them to avoid certain information sources and develop feelings of distrust. Savolainen (1995:266) explains that when individuals do not rely on their everyday life problem-solving abilities, they adopt strategies of avoiding efforts to improve their situation.

Torres et al. (2006) found that FG students had a pre-conceived mistrust in seeking information from academic experts, because of fear of coming across as unintelligent. They would therefore rather seek information from their informal networks of peers or informal sources such as pamphlets. However, Torres et al. (2006:67) also found that the students tended to seek information from university staff with which they had established a personal relationship and not from staff they encountered only now and then. Borrelli et al's (2018) study showed that with increased interaction between librarians and FG students, the students' negative perception of the library changed to a positive perception. This positive perception was an indication of the students moving from an affective negative feeling of doubt to a positive feeling of trust.

b) Failure

When individuals struggle to find information, affective barriers such as feelings of failure may be experienced (Savolainen 2016b). These negative expectations may also be experienced in the initial stages of information seeking (Kuhlthau 1993:343). It was found that early in FG students' education process they experienced feelings of failure (Torres et al. 2006:67; Brinkman 2013:647). This experience of failure was ascribed to the students' feeling of not having the ability to be successful at university because they lacked the required academic information (Torres et al. 2006:67). Brinkman et al. (2013:647) noted that the students' inability to find information by themselves in the library strengthened their feelings of failure and disappointment.

c) Discomfort

Brinkman et al. (2006:67) found that FG students experienced feelings of discomfort during information seeking and they often felt they lagged behind their peers owing to their socioeconomic background (Brinkman et al. 2006:67). These feelings of discomfort are portrayed by FG students' words such as "anxiety", "frustration", "exhaustion", "uncertainty", "foolish", "disconnection" and "confusion" when trying to find information by themselves (London 1989:146; Torres et al. 2006:67; Brinkman et al. 2013:646; Pickard & Logan 2013:410; Vincent & Hlatshwayo 2018:21). These feelings are influenced by lack of support from family, unpreparedness for university (London 1989:146; Brinkman et al. 2013:646) and unfamiliarity with an academic environment (Pickard & Logan 2013:410). Furthermore, because the students feel discouraged from seeking academic advice from their parents, they also feel discouraged from seeking advice from sources with which they are not comfortable, such as academic staff, and rather seek information from informal networks that they feel are more effective, for example peers (Brinkman et al. 2013:646). Wilson's (In press:39) notion that individuals weigh risks and rewards against each other to determine their actions to pursue information needs or any other type of information seeking activity relates to Brinkman et al's finding.

Case, Andrews and Johnson (2005:364) explain that when people feel discomfort during the information seeking process, they tend to avoid information, which then leads to the cognitive influence of dissonance during the information seeking process.

4.4.2.2 Preferences

As mentioned in chapter 3, section 3.4.2.2, preferences are embedded in affective judgements (Zajonc 1980;156). Regarding FG students, their preferences link to familiarity with their everyday life environment. Pascarella et al. (2004:260) found that for academic purposes, FG students preferred information that they could organise and interpret themselves, as opposed to information they had to remember and recount. They also preferred information that could help them understand themselves. Regardless of the nature and scope of FG students' information needs, Borrelli et al. (2018) found that the students used information sources with which they were familiar, such as using a database they were shown in high school for academic coursework. Borrelli et al. (2018) concluded that FG students were unable to see the limitations of the sources they used, because they were stuck in the familiarity of the sources. Kuhlthau (1991:361) explains that part of the sense-making process is based on what individuals already know or what fits in with their frame of reference.

4.4.2.3 Affective motivation

In an academic environment, affective emotions can arise from emotional reactions to tasks (Pintrich & De Groot 1990:33; Savolainen 2012a). Brinkman et al. (2013:643) note that most FG students feel that they are less academically prepared when they enter university than non-FG students. They are, therefore, motivated to seek information to feel accepted in their academic environment and motivated to feel confident to find and use information. Their affective motivation consequently leads to cognitive motivation to advance in their studies and to increase their personal development (Brinkman et al. 2013:643).

However, in terms of humans as information sources, Torres et al. (2006:65) found that FG students felt they were academically unprepared and that they were being disregarded at university because of their socioeconomic backgrounds. Consequently, the respondents in Torres et al's (2006) study developed negative feelings towards authority figures as information sources, leading to mistrust. This mistrust caused a dissonance between the students' motivation and the information source.

People's experiences with information in specific environments can trigger certain feelings regarding information and information seeking process. Because FG students do not receive academic support in their home environment, they develop negative feelings about their

academic environment. These feelings are reflected in their preferences for sources and motivation to seek information.

4.4.3 Reflection on personal influences

This discussion showed that the challenge FG students face is that their academic environment is a totally different environment from their home environment and they have to try to make sense of both. Consequently, their sense-making processes, perceptions, preferences and motivations revolve around their socioeconomic status. A reflection on the personal influences in FG students' information seeking behaviour is presented in the following table:

Table 4.2: *Reflection on personal influences in FG students' information seeking behaviour*

Cognitive elements	**Affective elements**
Sense-making • FG students' lack of academic support from parents result in them contextualising information for their academic information needs according to what makes sense to them in their everyday life environment. Consequently, they attempt to use informal sources with which they are familiar to make sense of their academic environment.	**Feelings** • Situations in FG students' everyday life environment cause them to be unprepared for an academic environment, resulting in the students having negative feelings about their academic environment, as well as their motivation to use academic sources of information. • FG students' unpreparedness for their academic environment causes them to lose confidence in themselves and they are therefore afraid to ask academic experts for assistance. • FG students' trust in sources and resources of information influences their perceptions and the use of such resources. Because of the FG students' lack of problem-solving skills, which stems from their everyday life environment, they trust informal sources of information, mistrust other sources, and avoid these sources of information.
Information seeking processes and problem-solving • Because of lack of problem-solving skills, FG students question their own abilities to use certain academic sources and consequently avoid using relevant sources.	**Information source preferences** • FG students' source preferences are embedded in their affective judgements, since they link their preferences for academic sources of information to their everyday life environment by using sources of information that are familiar to them.
Perception of information sources and resources	**Affective motivation** • FG students' perceptions of feeling academically unprepared motivate them to

• FG students' low social and cultural capacity in their everyday life environment influences their perception of specifically tested sources of information in an academic context. Their unfamiliarity with academic sources of information leads them to regard these as useless.	seek information to succeed in an academic context. • FG students' trust or mistrust in information sources motivates them to either make use of an information source or avoid it.
Cognitive motivation • When FG students find themselves outside their cultural and social environment, their motivation is to approach their peers to observe how they solve information problems in an academic context.	

4.5 INFORMATION LITERACY

Students' success in an academic environment is dependent on their information literacy competencies. This means that a student must not only be able to think critically about information and solve information problems, but also be proficient in the use of ICTs to retrieve and disseminate relevant information. Webber and Johnston (2017:158) contend that information literacy skills are influenced by a person's cognitive and social development, as well as practical insight into applying information literacy skills.

4.5.1 Critical thinking

Critical thinking, which is an aspect of cognition, involves a person's ability to explain, analyse, evaluate and develop a line of reasoning (Pascarella et al. 2004:258). In relation to information literacy, critical thinking requires users to strategise how they are going to use information and the impact of decisions on information (Grafstein 2016:4).

Torres et al. (2006:67) note that FG students do not initiate the information seeking process themselves, but rely on information coming to them from sources such as academic advisors. Some students never change their information seeking behaviour throughout their university experience and others only change their information seeking behaviour when they experience academic crises. Terenzini et al. (1996:3) and Pascarella et al. (2004:252) claim that there is a distinct connection between parental education levels and FG students' critical thinking levels. Because of their parents' inability to transfer skills needed to develop the students' cognitive skills, they struggle to understand information and make sound decisions on information. Latham and Gross (2013:156) argue that students with lower-level skills are often unable to make skills assessments and recognise their own inabilities.

Pickard and Logan (2013:402) found that first-year FG students did not perceive research as a cyclical process. They regarded research as a once-off process. Pickard and Logan (2013:402) also found that first-year FG students described information seeking as being able to find information but could not explain the process of finding relevant information. Nor could the students clearly describe how they searched and where they searched for information. However, this behaviour is no different from other students' behaviour. Head and Eisenberg (2009:4) found that students, in general, did not grasp the concept of the research and information seeking processes. Nevertheless, Pickard and Logan's study revealed that there was an improvement in final-year FG students' understanding of research after they had received information literacy instruction.

4.5.2 Problem-solving

In view of the abundant production of information, students need to be able to process and integrate information from a variety of sources (Moore 1995:1). Because of FG students' low cultural capacity, their problem-solving skills in an academic environment are challenged. Brinkman et al. (2013:648) note that because they must rely so heavily on themselves as information sources, the students experience so many information failures that they do not pursue other directions of information seeking. According to Engle and Tinto (2008:3), this problem originates before students enrol at university, as their experiences at home do not prepare them for the academic demands of higher education.

Torres et al. (2006:67) note that some students continuously use the same information seeking process and cannot recognise that it does not work. Only after a crisis, for example failing a subject, they realise that they need to change their information seeking behaviour. Brinkman et al. (2013:649) confirm that there is a strong connection between FG students' academic and everyday life information behaviour, rather than a clearly defined purpose and need distinguishing academic and non-academic information needs. They also argue that because the students feel so out of touch socially and culturally with their academic environment, they engage in active problem-solving to overcome their deficiencies.

Picard and Logan (2013:402) state that first-year FG students have a complex understanding of searching a database and cannot understand that by searching a database, one cannot physically "search through it". The first-year students are unaware that searching for information

requires a range of steps, such as applying different search terms and different variations of search terms. This also requires them to learn how to use a database and the library catalogue, and different databases covering different disciplines. Brinkman et al. (2013:647) point out that the students' use of small school and public libraries, where they only took out books, contributes to them finding sophisticated library technology confusing.

According to Borrelli et al. (2018), the students base their information needs not on what they require in their academic environment, but on past experiences. For example, they revert to familiar sources they used in high school to meet their information needs at university (Borrelli et al. 2018). They also cannot see a connection between their information needs and the academic resources that can assist them in understanding their information needs, such as receiving library instruction. Borrelli at al. (2018) contend that because of the students' lack of understanding of library services, they develop a form of tunnel vision, can only see the library as being able to fulfil their immediate needs and remain unaware of the transferable expertise of the library staff. However, Borrelli et al. (2018) report that over time the more senior students who spend time in the library are able to recognise their evolving academic needs and recognise the library resources, previously unfamiliar to them, which can meet their curriculum needs. Latham and Gross (2013:158) maintain that lack of skills may influence the insight that information is needed, information choices, evaluation of information and best solutions to address the information problem. Furthermore, Latham and Gross (2013:158) argue that individuals with low-level information literacy skills may not have the cognitive ability to recognise that they need training and assistance, causing them to miss out on opportunities to improve their skills.

4.5.3 Locating information and source selection

In an academic environment, the location of information sources and source selection will pertain to academic task completion. Libraries play a key role in providing sources to support students' academic development (Borrelli et al. 2018). According to Borrelli et al. (2018), FG students' inadequate social and cultural capacity contributes to their lack of understanding of academic matters and they are on their own in familiarising themselves with the academic system. As a result, they do not attempt to explore new areas of locating information and source selection, but keep going back to what they were used to before university. For example, some students who made use of one specific database in high school continue to use only that database.

Torres et al. (2006:68) note that because of lack of understanding of academic sources, students seek alternative information sources, such as pamphlets and peers, for fear of coming across as inexperienced, even though these sources cannot meet their information needs. Brinkman et al. (2013:647) point out that the students are unable to match information sources with the purpose they are intended to serve. Instead, they seek information from minority groups such as their peers and academic working staff such as bus drivers and cafeteria staff for both academic and non-academic information. Alternatively, some students seek out a one-stop-shop to supply in all their information needs, such as guidance counsellors. Brinkman et al. (2013:647) and Borrelli et al. (2018) have found that the students also discover that at university the information is divided into different types and serve different purposes; for example, library jargon did not mean anything to them at home and they could not ask their parents to explain it to them.

Pickard and Logan (2013:403) note that first-year FG students do not discuss their search processes – only that they want “enough” information and reject sources they do not understand. However, this finding is not restricted to FG students. Cordes (2012:363) found similar information seeking behaviour among students in general.

Pickard and Logan (2013:407) also found that first-year FG students ranked librarians as their third choice of information source. They would ask friends and peers for help to search and learn to search. Pickard and Logan (2013:410) maintain that because FG students did not learn certain practicalities such as baseline searching for information and recognising a library as a resourceful source of information from their parents, they lack certain information literacy skills.

4.5.4 Source evaluation

The evaluation of information and sources involves assessment of the information and sources to determine whether these are appropriate to use. Many FG students assess information according to their trust and comfort in using it as opposed to the actual value of the information. For example, Torres at al. (2006:67) and Brinkman et al. (2013:646) note that the students refer to informal networks as effective and of value because they provide comfort as well as information and they trust them. This relates to the students’ disconnection between their everyday life environment and academic environment, where their information seeking strategies in their everyday life environment are transferred to their academic environment.

Pickard and Logan (2013:403) note that first-year FG students tend to select the sources containing most information. This is an indication that the students have only moderate understanding of specific source evaluation.

Pickard and Logan (2013:402) claim that first-year FG students cannot differentiate between different online sources, such as a website, catalogue, and databases. They refer to all online sources as “online” and cannot explain the steps they took to locate online sources (Pickard & Logan 2013:402). Similarly, Head and Eisenberg (2009:6) state that students, in general, struggle to differentiate between different types of online sources.

When viewed from FG students’ cultural capacity context, their lack of understanding of information sources motivates them to stick to information sources with which they felt at ease, or they compare information resources with which they are comfortable, such as resources they used in their high school library, with unfamiliar academic library resources. This reluctance to move on to assess other resources used in an academic library or by their peers restricts their information literacy skills development (Borrelli et al. 2018). Kruger and Dunning (1999:1121) argue that when students are unable to recognise their own limitations, they also often overestimate their own competencies. This argument is confirmed by Latham and Gross (2013:432), who found that students with low information literacy proficiencies were unable to recognise their own deficiencies and therefore would not seek help to improve their skills.

4.6.1 Reflection on information literacy

The discussion pointed out that information literacy competencies are a requirement for higher education and FG students’ cognitive development influences their information literacy skills. Furthermore, various aspects influence FG students’ information literacy competencies, which can be directed at their socioeconomic background. A reflection on FG students’ information literacy is presented in Table 4.2:

Table 4.3: *Reflection on FG students’ information literacy*

Critical thinking	**Problem-solving**
• FG students critical thinking skills are inadequate to apply information seeking processes successfully.	• FG students struggle to solve information problems, resulting in the students experiencing information failures, causing

• Because of inadequate cognitive skills development in the FG students' everyday life environment, they fail to make appropriate decisions in an academic context.	them to avoid alternative information searching strategies.
Locating information and source selection • FG students' information seeking behaviour in their everyday life environment do not make provision for seeking information from academic resources. The students do not deviate from their everyday life environment behaviour by investigating other academic resources for information.	**Source evaluation** • In FG students' everyday life environment, they seek information from sources with which they are familiar. Consequently, they evaluate information in terms of comfort and familiarity rather than relevance and purpose.

4.7 CONCLUSION

This chapter provided insight into the literature on the influence of the contextual components and the personal dimension in information behaviour on FG students' information seeking behaviour in an academic context. From the literature review, it seems that the contextual components that have the greatest influence on FG students' information seeking behaviour are the situations in which they find themselves and the social and cultural aspects of their everyday life environment. Furthermore, in academic task-based situations, the literature review indicated that FG students' low social and cultural capacity in their everyday life environment and the lack of family support impede their cognitive development. This results in the students not understanding what is needed to be done to satisfy their academic information needs and the steps they need to take to solve their information need problems. The contextual components also influence FG students' cognitive sense-making and problem-solving abilities (personal dimension), making them struggle to process information. This inability to make sense of academic situations and solve academic information problems influences their cognitive sense-making and problem-solving, as well as the perceptions they form about sources of information. Furthermore, personal affective elements of feelings and emotions influence FG students' motivation to use certain sources of information and their source preferences. The literature further indicated that FG students' information literacy skills are inadequately developed owing to their socioeconomic circumstances in their everyday life environment. The next chapter will examine information seeking behaviour models applicable to FG students' information seeking behaviour.

CHAPTER 5: INFORMATION SEEKING BEHAVIOUR MODELS

5.1 INTRODUCTION

The purpose of this chapter is to discuss a number of information behaviour and information seeking behaviour models, which might be of value to examine FG students' information seeking behaviour. The models will be discussed in the context of the information seeking behaviour of users in an academic context and in terms of the value of the relevant models.

The following aspects in terms of the respective models will be addressed:

- User studies
- Contextual influences
- Information needs
- Barriers that might influence information seeking behaviour
- Sense-making
- Information search process
- Information literacy
- Information behaviour processes.

As described in chapter 2, section 2.2, FG students' values, race and ethnicity, socioeconomic background and learning skills are all issues that challenge their learning experiences as well as their methods of seeking and searching information. Therefore, the information seeking models selected for this chapter will be used to analyse how these models can be applied to the information seeking behaviour of FG students.

5.2 VALUE OF INFORMATION SEEKING BEHAVIOUR MODELS

Cole (2013:3) defines a model as "a descriptive, sometimes predictive, summary of a research area that joins the findings from a research study to the conceptual framework determined via the study's literature review." Cole (2013:3) points out that a study's findings could, for example, modify current understandings of concepts, or could have as its purpose the evaluation or testing for a model, which could either strengthen or contest a model. According to Cole (2013:3), a conceptual framework can be seen as the beginning of the selection of various studies in the literature review, or be based on a selection of a specific model that is closely related to aspirations of a specific research study. Concepts can also be regarded as

generalised ideas, such as the concept of ‘information’ that could fit into larger models of information seeking (Cole 2013:2). Wilson (1999:250) describes a model as:

> a framework for thinking about a problem and may evolve into a statement of the relationships among theoretical propositions. Most models in the general field of information behaviour are of the former variety: they are statements, often in the form of diagrams that attempt to describe an information seeking activity, the causes and consequences of that activity, or the relationships among stages in information seeking behaviour.

According to Case and Given (2016:143), models are graphical illustrations that address, describe and explain specific problems. For example, in information behaviour, models can be used to describe and explain patterns and concepts (Krikelas 1983:17), processes and stages (Kuhlthau, 1991:367), steps and activities (Ellis 1989:179), context (situation) (Dervin 1983:9), needs and seeking (Wilson 1981:4;1996:2) or relationships (Foster 2004:232). Thus, they attempt to describe and explain the interconnectedness of the multiple dimensions of information seeking behaviour.

Nesset (2014:45) states that information seeking behaviour models focus on behaviour processes and present best practices in information seeking behaviour that can be used to modify or predict behaviour. Case and Given (2016:142) explain that information seeking models serve to suggest a sequence of events and explain and predict actions by individuals to find information of some kind. However, Case and Given (2016:146) argue that models are versions of reality and cannot depict every possible influence or process.

Some models also focus on explaining specific elements or actions in information behaviour. For example, Ingwersen (1996:6) developed a model to explain how cognitive structures determine information seeking and retrieval. Chang and Rice (1993:258) developed a general model of browsing, to understand browsing behaviour. Ibenne, Simeonova, Harrison and Hepworth (2017:328) analysed various information seeking behaviour models to develop a model highlighting information literacy and knowledge in information behaviour. Chowdhury, Gibb and Landoni (2014:577) developed a model of uncertainty and its relation to information seeking and retrieval.

Information behaviour researchers also apply models to understand, explain and describe information seeking behaviour of specific disciplines or professions. For example, Leckie,

Pettigrew and Sylvain (1996:180) developed a general model derived from research on engineers, health care professionals and lawyers. Joseph, Debowski and Goldschmidt (2013) compared different information seeking behaviour models to develop an information search model that could be employed to study the search behaviour of electronic document and record management system users.

Of note is that the identification of models focusing on specific aspects of information seeking behaviour offer guidance on users' interaction with information in their respective environments (Joseph at al. 2013). As such, Meyer (2016) analysed various information seeking behaviour models to develop a new model aimed at explaining information behaviour to novice researchers. Meyer's model (2016) presented the core components and attributes of information behaviour in such a way that novice researchers could acquire a complete picture of what constitutes information behaviour.

In particular, in qualitative studies, models can be of value, as models can be exploratory in their design. For example, Meyer (2016) used a qualitative analysis of multifaceted information seeking behaviour models to determine which components are fundamental to the information behaviour process and to what extent these information behaviour components are interrelated. Models can, therefore, be developed, changed and adapted over time as new research emerges (Case & Given 2016:143). Wilson (2016) states that researchers must use models to modify existing models or develop new models based on existing models. Ikoja-Odongo and Mostert (2006:149) claim that models can serve to analyse and predict users' information behaviour.

Considering the profile and characteristics of FG students as described in chapter 2, section 2.2, this study will focus on models that are centred on emerging information situations, information needs and uses. To gain complete understanding of these models, it will be necessary to examine them in terms of their strengths and weaknesses and the extent to which they can be matched with conditions applying to FG students' information seeking behaviour. The models of note for this study are:

- Wilson's 1981, revised 1981 and 1996 model of information behaviour
- Dervin's 1983 sense-making model
- Ellis's 1989 information behavioural model
- Kuhlthau's 1991 ISP and her 2015 extended model

- Ibenne, Simeonova, Harrison and Hepworth's 2017 model of causative and outcome factors of information behaviour (COFIB)
- Meyers' 2016 model of building blocks of information behaviour.

5.2.1 Wilson's 1981 model of information behaviour

Wilson (1981:4) approached his original 1981 model from a user study perspective, with the focus on the information user and how users attempt to satisfy their information needs by various interactions with information.

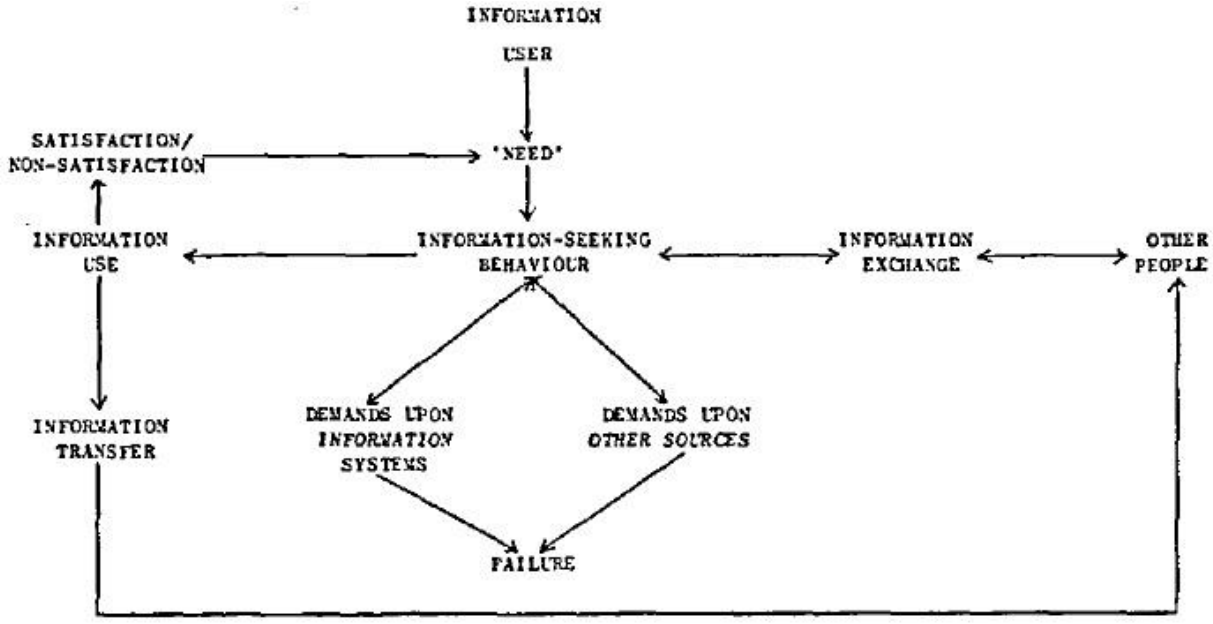

Figure 5.1: Wilson's 1981 model of information behaviour
Wilson (1981:4)

The model suggests that information seeking behaviour comprises certain interactions between the information user and information sources. These information sources can be humans or systems. The model implies that when demands upon information sources or systems fail, users might then attempt to use alternative sources to satisfy their needs, such as other people. Wilson's 1981 model does not include any search processes that might influence users' information use and information transfer. Since it seems that the focus in Wilson's model is on the user and information needs, this model could also indicate contextual factors that might influence users' information seeking behaviour, such as users' environment, situation and social context.

From information use, the arrow indicates a downward flow to information transfer and other people. The reason for this flow may be that information use and information transfer take place when users interact with other people. The two-way flow between information seeking behaviour, information exchange and other people suggests that information exchange is the 'communication' or 'feedback' that can influence a user's information seeking behaviour. The model suggests that users' information use is dependent on the satisfaction or non-satisfaction of their information needs. The model further implies that information exchange can only take place between information users and other people, but no other sources and that failure can only be experienced between information systems and other sources, not other people.

Wilson (1999:251) claims that the limitation of his 1981 model is that it does not provide contributing factors in information behaviour. Besides Wilsons' comments on his 1981 model, other researchers focused on different restrictions or properties of this model. For example, Godbold (2006) suggests that Wilson's 1981 model does not indicate the processes through which a person is affected by context, or how context affects information users' barriers to information seeking. She further suggests that Wilson's 1981 model be extended to include humans' exhibition of information behaviour in the context of a specific situation, such as information-spreading, taking mental notes of information, disbelief, avoidance of information, creating information and destroying information.

Upon analysing Wilson's model, Ikoja-Odongo and Mostert (2006:150) assert that the model attempts to indicate that the satisfaction of an information need is proposed to be the driving force behind the action taken by a user. To Ibenne et al. (2017:319), Wilson's model attempts to show how information use is directly linked to information behaviour. However, Ibenne et al. (2017:319) also argue that this view tends to contradict the role of the knowledge generated through information use, sense-making and adaptation, these being the direct outcomes of information behaviour.

Despite the different opinions of a number of researchers on the original model, this model can be of value to examine FG students' information use habits, source preferences and own experiences.

5.2.2 Wilson's revised 1981 model

Wilson revised his original 1981 model of information behaviour to adapt it to a general model of information seeking behaviour. Similar to his original model, the user and information needs are still the focus.

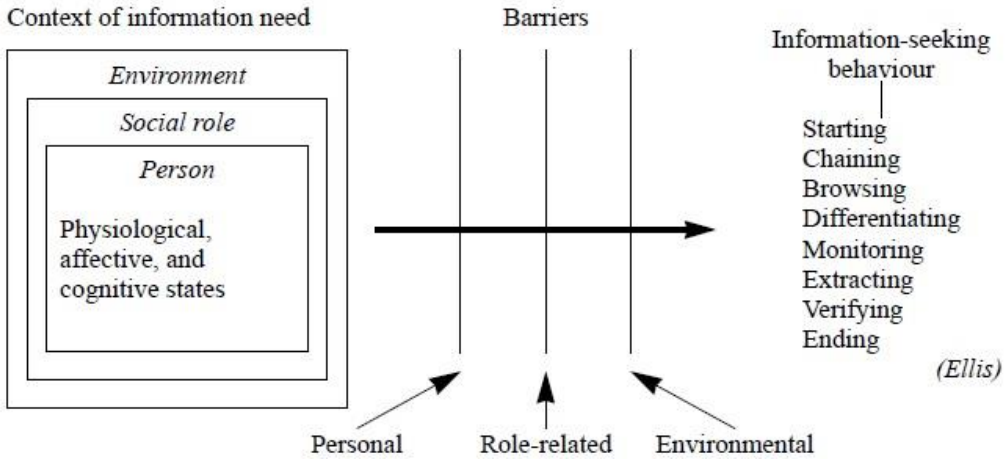

Figure 5.2: Wilson's 1981 revised general model of information seeking behaviour (Wilson 1997:552)

With his revised model, Wilson implies that the context of information needs, such as the environment and social roles, as well as personal influences (physiological, affective and cognitive states), are factors that can influence users' information seeking behaviour. Wilson also positions barriers in the centre between the context of information needs and the consecutive steps of information seeking behaviour, which he links to Ellis's information behavioural approach. Ellis's model (1989:179-196) describes information seeking steps and related activities. Wilson's revised model suggests that barriers of context and personal influence can also influence users' information seeking behaviour. This model suggests that contextual factors and personal influence, when they become barriers, can influence Ellis's succession of information seeking steps. In this case, barriers can be regarded as obstacles that users encounter in the information seeking process. Wilson attempts to show how the context of information needs (users' personal work environment in which they perform certain tasks and experience certain information needs), personal influence, and contextual and personal barriers might influence users' information seeking behaviour. However, it seems that Wilson's model failed to show clearly how these factors are connected with Ellis's information seeking steps.

Choo (2005:39) interprets Wilson's revised model as being applicable when personal information needs arise from users' attempt to make sense of their environment; their needs may be physiological, affective, or cognitive. Ibenne et al. (2017:328) indicate that Wilson's revised model attempts to show that users have the potential to determine which choices of information seeking they make in resolving their information needs. Considering FG students' socio-economic backgrounds, the context of information needs and barriers that might influence information seeking steps and activities are all aspects of this model that can be used to determine FG students' information seeking behaviour.

5.2.3 Wilson's 1996 model of information behaviour

Wilson's (1999:256) 1996 model of information seeking behaviour is a further revision of his 1981 model. Wilson (1999:256) still used the basic framework of his 1981 model to adapt his 1996 information seeking behaviour model, where, in the context of information needs, humans as person-in-context are the key focus.

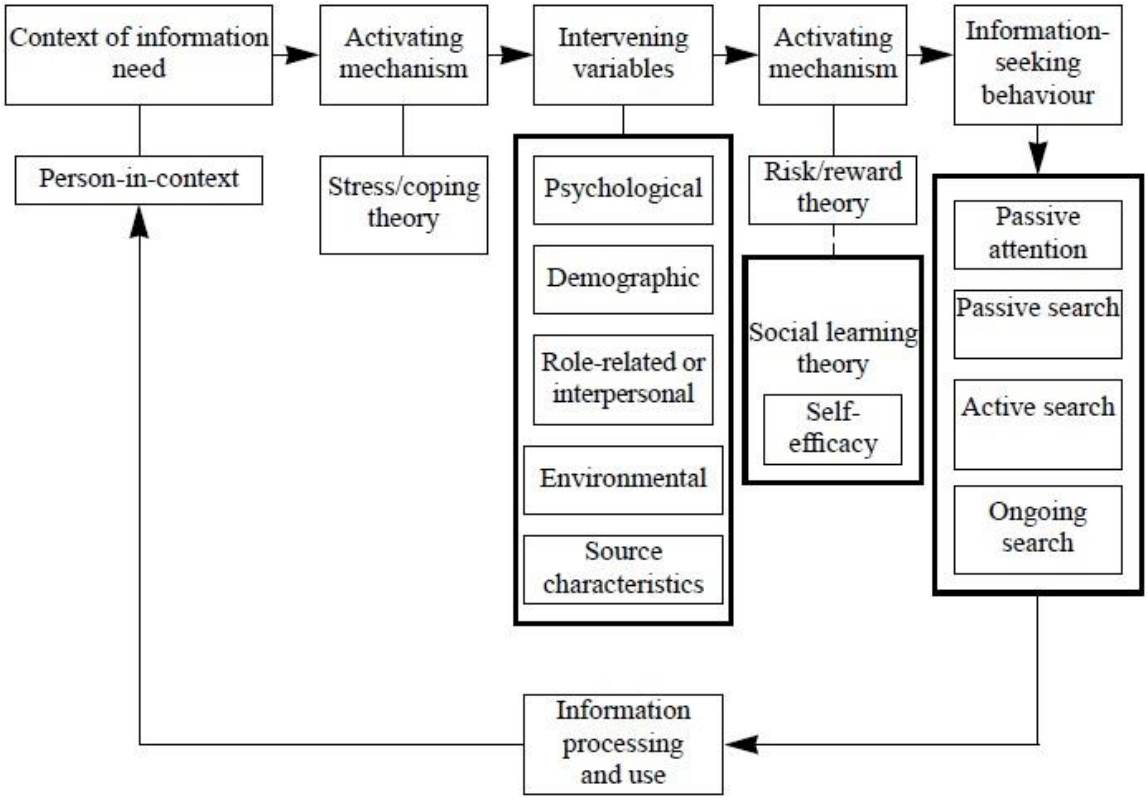

Figure 5.3: Wilson's 1996 model of information behaviour
(Wilson 1999:257)

Wilson added information processing and use to his model, which are connected to personal influence (inner experiences) in information behaviour (person-in-context). Wilson's model implies that in the context of information needs, certain intervening variables (barriers) influence information seeking behaviour, which is again linked to context and personal influence in information behaviour. The model further indicates that during the information seeking process, users may use certain mechanisms to help them make sense of their environment, such as stress and/or coping theory, risk and/or reward, social learning theory and self-efficacy.

Wilson broke information activities down into active and passive information seeking, which link with information processing and use. With this in mind, Wilson attempts to indicate how information activities can determine the outcome of information processing and information use. However, Wilson did not indicate how the cognitive and affective aspects of information behaviour connect context, intervening variables and information-processes and use.

Various researchers studied Wilson's 1996 model and pointed out some shortcomings. For example, Robson and Robinson (2013:181) argue that Wilson's 1996 model is more complex than the diagrammatic representation, for it incorporates earlier models without showing all their detail.

Niedzwiedzka (2003) found that Wilson's models (1981 and 1996) presented the way in which relationships among theoretical propositions and processes connected with the identification and satisfaction of users' information needs. Niedzwiedzka (2003) further found that Wilson's information behaviour models can be grouped according to various levels of processes, such as the level of cognition and level of social behaviour. Wilson's 1981 and 1996 models also show how users move from defining an information problem, through information seeking to interaction with information systems and information processing and use (Niedzwiedzka 2003). Niedzwiedzka (2003) suggests that while Wilson's 1996 model separates the information need phase from the decision to seek information phase, the diagram does not reflect this separation. The reason is, as Niedzwiedzka (2003) points out, that Wilson clearly suggests that not every information need leads to information seeking.

Niedzwiedzka (2003) further indicates that Wilson's (1981:6) reference to different information strategies (paths) to obtain information is not reflected in his 1996 model. These paths can be used by information seekers directly or on behalf of information systems (Wilson 1981:6).

Of interest to this study is the intervening variables that influence users' information seeking behaviour and activating mechanisms. These intervening variables, such as psychological, demographic, role-related or interpersonal, environmental and sources' characteristic influences, have been found to be useful to investigate FG students' information seeking behaviour.

5.2.4 Dervin's 1983 sense-making model

Dervin's sense-making model can be viewed from a contextual approach, since all her sense-making concepts relate to context.

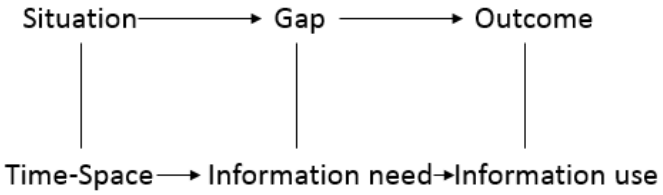

Figure 5.4: Dervin's 1983 sense-making model
(Dervin 1983:9)

Dervin's model is divided into two areas: at the top, the linear flow moves from situation, to gap, to outcome and at the bottom from time-space to information need and information use. Situation is linked to time-space. This implies that in a given situation, where users find themselves (time and space) might determine their information needs and influence their information seeking behaviour. The gap is linked to information needs, which can be an indication that Dervin regarded information needs as becoming evident when users recognise lack of knowledge in their internal sense-making that needs to be supplied. The outcome is linked to information use, which can be viewed as implying that the outcome of the information need will determine how or when users use the information. Dervin's model suggests that through certain contextual influences, users attempt to make sense of their situation and solve their information problems. Although Dervin's model indicates cognitive behaviour and contextual influences, it does not indicate the connection between cognitive behaviour and contextual influences.

Wilson (1999:253) considers that the strength of Dervin's (1983:9) model:

lies in the way it can lead to questioning, which can reveal the nature of a problematic situation, the extent to which information serves to bridge a gap of uncertainty and the nature of the outcomes from the use of information.

To Niedzwiedzka (2003), Dervin's model focuses on the problem-solving process and isolates problem-solving from context. According to Case and Given (2016:86), Dervin viewed information needs as subjective in her model, since information needs are prompted by a gap in knowledge or a feeling of unease about a situation. Wilson (1999:253) points out that the strength of Dervin's model lies in the fact that it can lead to a way of questioning that can reveal the nature of a problematic situation, as well as the extent to which information can bridge a gap of uncertainty.

Considering FG students' socioeconomic background and environment, Dervin's model could be useful to study how FG students make sense of their environment and solve information problems. Information literacy is essential to bridge information gaps and to ensure that relevant information is retrieved to carry out information tasks successfully. This aspect needs to be explored empirically.

5.2.5 Ellis's 1989 information behavioural model

Ellis's model proposes six mental steps, which describe a sequence of six information seeking activities that people normally carry out during formal seeking of information: starting, chaining, differentiating, extracting, verifying and ending. However, the linear sequence can be interrupted by informal seeking activities such as browsing and monitoring.

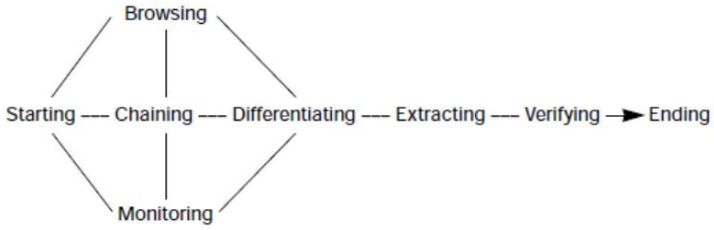

Figure 5.5: Ellis's 1989 information behavioural model adapted by Wilson (in Wilson 1999:255)

Wilson (1999:255) describes Ellis's model as a process model and has adapted the model into a diagram, as illustrated above. Ellis's model suggests that the information seeking process has a beginning and an end. The information seeking activities of browsing and monitoring do not form part of the sequential six steps, implying that these two activities are alternative information

seeking activities, connected to the beginning stages of the information seeking process. However, this model does not indicate the connection between browsing and monitoring and starting, chaining and differentiating. Furthermore, it does not indicate what happens after the information seeking process ends, if the user's information needs are not satisfied. The model also fails to indicate how information needs are connected to the different information seeking activities or what initiates these information seeking activities.

Ellis's (1989:173) model does not represent a set pattern that any or all information users follow when seeking information, but varies according to the different circumstances of the information user groups. Based on his behavioural model's information seeking patterns, Ellis (1989:172) envisions that users should be able to create their own information seeking patterns while interacting with systems if these information retrieval systems are provided with facilities that reflect the information users' behavioural characteristics.

Wilson (1999:267) suggests that Ellis's (1989:173) behavioural model be used as a basis for in-depth analysis of the reiterated search activities at each phase of the problem-solving process. Järvelin and Wilson (2003) note that the strength of Ellis's model is that it is based on empirical research and has been tested in various studies. For Järvelin and Wilson (2003), Ellis's model can be used to describe any type of information activity. However, Järvelin and Wilson (2003) argue that if one attempts to explain information seeking behaviour in terms of tasks in which users are engaged, the features of Ellis's model fall short, because the model's features are not explicitly related to external causative factors (Järvelin & Wilson 2003). Järvelin and Wilson (2003) acknowledge that Ellis's model can be of indirect help in finding explanations for information seeking behaviour, when distinguishing between the different features in different situations. The factors that cause the differences can then be examined (Järvelin & Wilson 2003).

Despite its shortcomings, this model can be used to examine FG students' information seeking patterns and activities.

5.2.6 Kuhlthau's 1991 information search process model

Similar to Ellis's model, Kuhlthau's ISP model depicts the different stages in the information search process.

1 Phases of Construction (Kelly)	2 Levels of Need (Taylor)	3 Levels of Specificity (Belkin)	4 Expression (Taylor, Belkin)	5 Mood (Kelly)
Confusion	Visceral	Anomalous States of Knowledge		
Doubt	Conscious	New Problem	Questions Connections	Invitational
Threat		New situation Experiential		
Hypothesis Testing	Formal	Needs	Commands Gaps	Indicative
Assessing	Compromised	Defined Problem Well Understood		
Reconstruing		Situation Informative Needs Coherent State of Knowledge		

Figure 5.6: Stages in the information search process 1991
(Kuhlthau 1991:367)

Kuhlthau's ISP model focuses specifically on what emotions searchers experience while carrying out a search process. She divides the search process into six stages: initiation, selection, exploration, formulation, collection and presentation. This model also clearly depicts feelings, thoughts, actions and tasks associated with each information-search stage. The first stage begins with feelings of uncertainty, whereas stage six ends with satisfaction, relief or disappointment. Liu (2017:669) also outlines that Kuhlthau's ISP model identifies the emergence of uncertainty as the initiation of the information searching process, which arises from lack of understanding.

Wilson (1999:255) concludes that Kuhlthau's (1991:2004:82) model is more general than Ellis's (1989:179) in drawing attention to feelings associated with the various stages and activities and that feelings of uncertainty are associated with the need to search for information, which gives rise to feelings of doubt, confusion and frustration. As the search process proceeds and becomes more successful, those feelings change to feelings of confidence and satisfaction with a sense of direction (Wilson 1999:255).

Nahl (2001) explains that Kuhlthau's ISP model can be regarded from a psychological framework, which involves sensorimotor, affective and cognitive behaviour, implying that people seek meaning in various circumstances and information behaviour is driven by a need to make sense of reality (Nahl 2001).

Nesset (2014:46) states that Kuhlthau's 1991 model has been empirically proven to have successfully integrated research into information seeking behaviour and information literacy. Nesset (2014:46) maintains that Kuhlthau's 1991 model can be applied in a holistic manner, as it is successful in school environments, higher education and the workplace. Kuhlthau's 1991 model can be used to develop practice in diverse contexts such as education, work and every-day life information seeking and can be used to support learning (Nesset 2014:46). As such, Kuhlthau's information search process model positions itself in the intersection between information seeking behaviour and information literacy (Nesset 2014:46).

Kuhlthau, Heinström and Todd (2008) acknowledge that the information environment has changed since the development of Kuhlthau's 1991 ISP model and question the current usefulness of the model. However, in today's digital environment, Kuhlthau et al. (2008) have found that the 1991 ISP model continues to be useful for explaining information behaviour in information tasks that require knowledge construction. Kuhlthau et al. (2008) also argue that the model remains a useful tool for examining information seeking behaviour in complex tasks. Kuhlthau and Cole (2012:1) state that the model is also useful when studying information barriers and people's interaction with information. After studying students' experiences in the process of enquiry, Kuhlthau, Maniotes and Caspari (2015) added a seventh stage to the current six stages of the ISP model, namely an 'assessment' stage. Kuhlthau et al. (2015) regard the 'assessment' stage as a very important stage of reflection and self-assessment in the inquiry process. Kuhlthau et al. (2015) found that feelings of disappointment can occur during this stage when expectations are not met and these feelings form the basis for assessing what went wrong or well, or how to approach inquiry in the future.

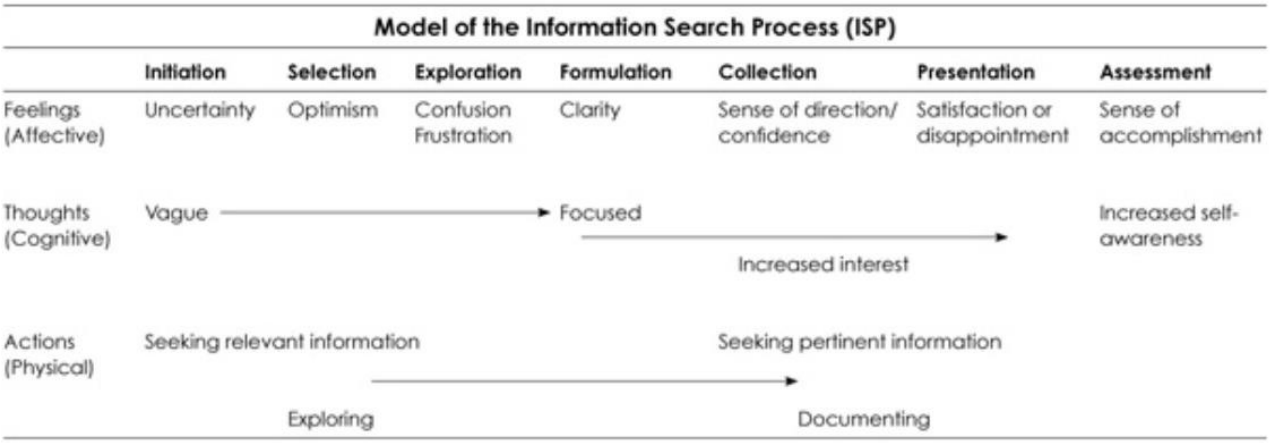

Figure 5.7: Kuhlthau's 2015 extended model of the information search process (Kuhlthau et al. 2015)

Kuhlthau's (1991; 2004:77-78) information seeking model was tested on students and is therefore relevant to this study. Kuhlthau's model can be relevant to study the cognitive and affective influences in information seeking behaviour and the role of these in FG students' information seeking behaviour, along with the actions these students take to reduce uncertainty and gain understanding of their information needs. This model can also be useful to examine FG students' information literacy capabilities, in terms of how they process information.

5.2.7 Ibenne, Simeonova, Harrison and Hepworth's 2017 model of causative and outcome factors of information behaviour

Ibenne, Simeonova, Harrison and Hepworth (2017:328) developed their COFIB model by studying models of people's information behaviour and the integration of the concepts of information literacy. The key focus of Ibenne et al's model is on information literacy and how information literacy and knowledge formation are reflected in information behaviour.

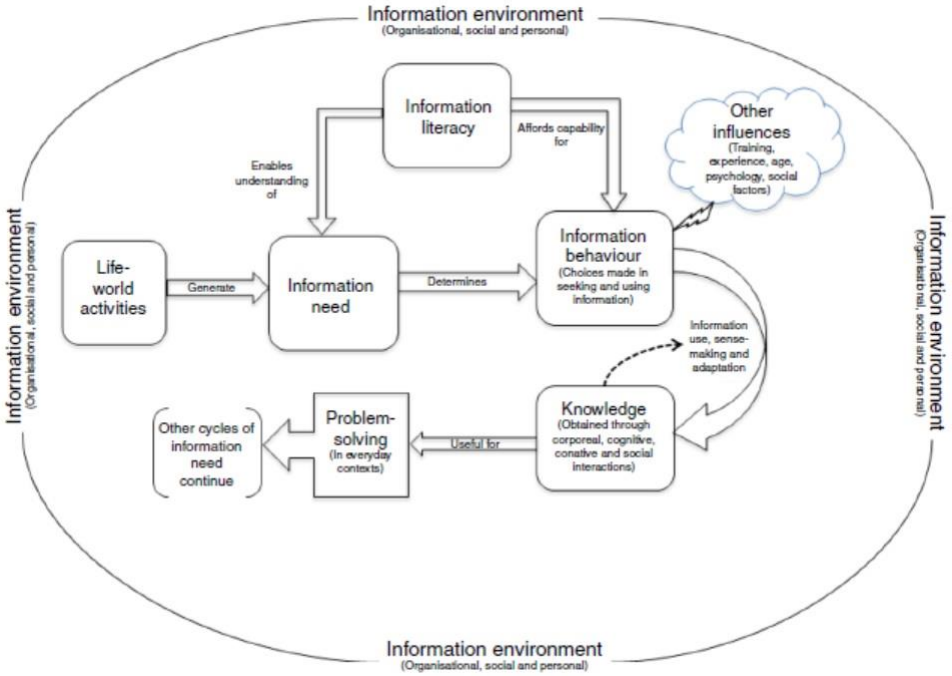

Figure 5.8: Ibenne et al. 2017 causative and outcome factors of information behaviour model
(Ibenne et al. 2017:328)

Ibenne et al's model emphasises that when applying problem-solving in specific contexts, knowledge generation is the outcome of information behaviour. This model acknowledges that information needs initiate information behaviour, hence the linear flow from information needs to information behaviour. In describing their COFIB model, Ibenne et al. (2017:328) explain that the type of information need is prompted by life-world activities, which then has the potential to determine which choices information seeking people make to satisfy the need. This confirms that information behaviour takes place in the context (environment) in which people function and may have different outcomes. The model shows that information literacy enables a person to understand and know when an information need arises and influences a person's information seeking choices. Information use, sense-making and adaptation are linked to information behaviour and knowledge. This implies that people's information use, sense-making outcomes and adaptation are factors that can influence their information behaviour. The model also indicates that knowledge is obtained through sense-making outcomes, information use and adaption, which are reflected in people's information literacy skills. Ibenne at al. (2017:328) explain that information literacy is needed to assess information, making sense of information and applying the information. This then results in knowledge production.

This model can be useful to study FG students' information literacy competencies and factors that might influence their information behaviour.

5.2.8 Meyer's model of the building blocks of information behaviour

Meyer (2016) developed a generic model of information behaviour, which offers a more holistic picture of the core components (building blocks) contributing to the entire information behaviour process. The core components include information, context, a personal component, information needs, a technology component and an activities component (seek, use and transfer information activities).

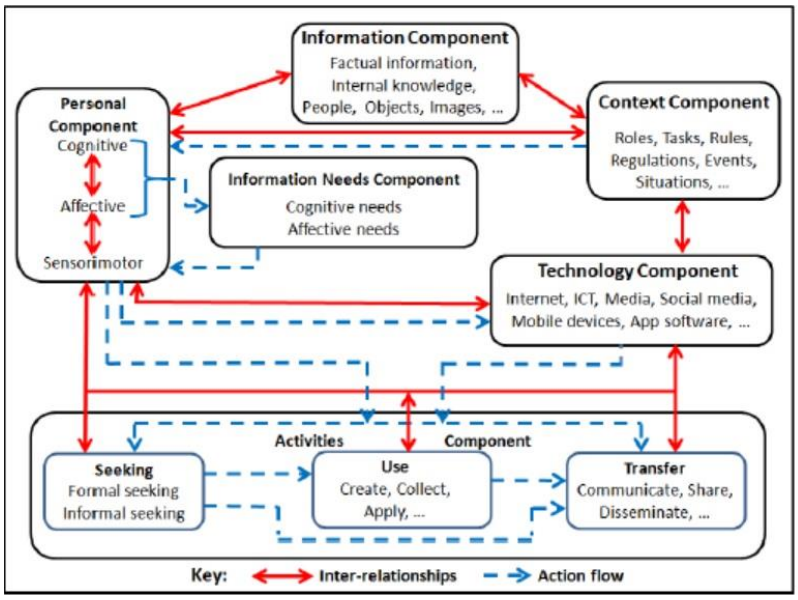

Figure 5.9: Meyer's 2016 model of the building blocks of information behaviour (Meyer 2016)

The components of 'information' and 'technology' are not reflected in any of the other models described in this chapter. Since information behaviour in real life is primarily an intricate mental process where the interaction of components is intertwined, Meyer (2016) developed a simplified model in which she takes the respective components apart to describe their features accurately and to show the interaction among them. Her description of the features of each component not only shows how they function, but also indicates their requirements in terms of information to address a problem that arises in the context. Meyer uses a flow chart to show the interaction among the different components. The solid-line double-headed arrows represent the interaction among the respective components, while the broken-line single-headed arrows represent the consecutive actions of the mental process. Meyer (2016) argues that the mental process originates in the context and shifts to the person's mind (inner experience), where the

interplay among the respective mental structures enables the person to make sense of the problem and decide whether information is needed or whether it will be necessary to carry out any of the other information activities (seek, use or transfer). The single-headed arrows below the 'personal' component suggest that the person can take two or more decisions simultaneously, namely to decide what type of information is required, which information activity needs to be carried out, and which tool to apply to speed up the relevant information activity (such as seek, use or transfer).

This comprehensive model has all the components deemed fundamental to examine FG students' information seeking behaviour. In addition, the added technology component is of value to this study, as FG students' information literacy competencies might influence their use of technology and their proficiency in the use of technology.

From the models discussed above, it is evident that each model has specific elements that can be useful to study FG students' information seeking behaviour. With the purpose of outlining these specific elements, a summary of the models is presented in Table 5.1.

Table 5.1: *Summary of information seeking behaviour models that seem to be relevant to this study*

SUMMARY OF INFORMATION SEEKING BEHAVIOUR MODELS RELEVANT TO THIS STUDY			
Model Name	**Model focus**	**Relevance**	**Source**
Wilson's 1981 Model of Information Behaviour	• Information user and how information users attempt to satisfy their information needs by various interactions with information. • Information use • Information exchange	Examine FG students': • information use habits • source preferences • own experiences.	Wilson, TD (1981). On user studies and information needs. *Journal of Documentation* 37(1):3-15.
Wilson's revised 1981 Model of Information Behaviour	• Information user and how information users attempt to satisfy their information needs by various interactions with information.	Context of information needs. Barriers that might influence FG students' information seeking steps and activities.	Wilson, TD (1997. Information behaviour: an interdisciplinary perspective. *Information Processing and Management* 33(4):551-572.

	• Context of information needs • Barriers that might influence information seeking behaviour • Ellis's information seeking activities steps		
Wilson's 1996 model of information behaviour	Human as person-in-context.\	Intervening variables that might influence FG students' information seeking behaviour and activating mechanisms: • psychological • demographic • role-related or interpersonal • environmental • source characteristics influences	Wilson, TD (1999). Models in information behaviour research. *Journal of Documentation* 55(3):249-270.
Dervin's 1983 sense-making model	Sense-making approach	Examine how FG students' make sense of their environment and solve problems.	Dervin, B (1983). An overview of sense-making research: concepts, methods and results. Paper presented at the annual meeting of the International Communication Association, Dallas, TX, May. http://communication.sbs.ohio-state.edu/sense-aking/art/artdervin83.html
Ellis's 1989 information behavioural model	Six mental steps to describe information seeking activities	Examine FG students' information seeking patterns and activities.	Ellis, D (1989). A behavioural approach to information retrieval system design. *Journal of Documentation* 45(3):171-212.
Kuhlthau's 1991 information search process model	Describes the different states in the information-search process.	Examine first-generation students': • cognitive and affective influences in information seeking behaviour • information literacy capabilities.	Kuhlthau, CC (1991). Inside the search process: information seeking from the user's perspective. *Journal of the American Society for Information Science* 42(5):361-371.
Ibenne, Simeonova, Harrison and Hepworth's model	Information literacy and how information literacy and	Examine FG students':	Ibenne,SK, Simeonova, B, Harrison, J & Hepworth, M (2017). An integrated model highlighting information literacy

of causative and outcome factors of information behaviour	knowledge formation are reflected in information behaviour	• information literacy competencies • factors that might influence their information behaviour.	and knowledge formation in information behaviour *Journal of Information Management* 69(3):316-334.
Meyer's model of the building blocks of information behaviour	Core components of the information behaviour process	Examine first-generation students': Information use • contextual influences • personal influences • information needs • technology use and competencies • information activities • information use • information transfer • information literacy competencies	Meyer, HWJ (2016). Untangling the building blocks: a generic model to explain information behaviour to novice researchers. *Information Research* 21(4). http://www.informationr.net/ir/21-4/isic/isic1602.html

5.3 CONCLUSION

In this chapter the respective models and conceptual frameworks provided insight into predicting users' information seeking behaviour. The intention of models is to describe and show why and how users need, seek and use information and also to allow the improvement of existing models; expansion of existing models or creation of new models based on existing models. These models provide insight into how a model can be used to gain understanding of users' information seeking behaviour. For the purposes of this study, they serve as a base to develop a model that can explain the information seeking behaviour of FG students as a unique information user group, as reflected in Chapter 8. The research methodology will be discussed in the next chapter.

CHAPTER 6: RESEARCH METHODOLOGY

6.1 INTRODUCTION

Gaining understanding of the complexities of information seeking behaviour requires in-depth study. Consequently, in order to investigate the information seeking behaviour of FG students, the research method must correspond with the requirements of an in-depth study. The purpose of this chapter is to discuss the most applicable qualitative approaches relevant for studies in information seeking behaviour, namely a phenomenological inquiry to gain understanding of individuals' real-life experiences with information. The data collection methods employed in phenomenological research and the ways of achieving reliability and validity in qualitative research, as well as data analysis activities, are addressed in this chapter.

6.2 BACKGROUND

The selection of a research approach is very important to the outcome of a study in a specific subject field. Yin (2016:3) argues that doing any research requires skills and understanding of a specific research method. The value of research depends on the transparency of the research, the systematic and methodical order of the research, and compliance with evidence (Yin 2016:3). Research methods applied in previous studies of a specific subject field can guide researchers in determining the best research methods to follow (Greifeneder 2014). Literature, such as reports on the work conducted by Creswell (2013:72), Maxwell (2013:49), Yin (2016:3), Lune and Berg (2017:22), Creswell and Poth (2018:646), provided insight into the best research approaches to follow for this study.

6.3 RESEARCH APPROACHES IN INFORMATION BEHAVIOUR

The qualitative research approach to study human information behaviour prevails over the quantitative research approach (Greifeneder 2014). Togia and Malliari (2017:43) claim that the five most popular topics in research in library and information science are information literacy, information retrieval, information behaviour, information services and library services, as well as library organisation and management. They also say that a total of 78% of library and information science articles report empirical research, with an increase in the number of a variety of research methodologies, indicating that qualitative research has gained importance. Greifeneder (2014) notes that earlier research in information behaviour tended to focus on users' information needs, whereas it has now changed to incorporate context as a core component of information behaviour. For example, in respect of information needs, Derr's

(1983:273) study concluded that an information need is the relationship between information and the purpose of information. Now, researchers such as Cole (2011:1217) and Meyer (2016) link information needs with context, saying that an information need is produced in users by the context in which they find themselves. As shown in chapter 2, section 2.3.3, context includes users' environment in which they find themselves. Greifeneder (2014) also highlights that new models of information behaviour include context as a major influence in information behaviour. Meyer's (2016) study signifies the prominence of context in information behaviour research as one of the major building blocks in information behaviour. Vakkari (2008) also notes a change in meta-theory from a person-centred approach to a person-in-context or situated focused approach and asserts that the leading research in information behaviour is on information seeking.

Vakkari (2008) states that in information behaviour research, there has been a decline in quantitative studies and the variety of topics and research methods in qualitative research have increased. There has been an increase as well as in qualitative descriptive research methods, including participatory designs and content analysis. Chu (2015:40) reports that content analysis, experiment and theoretical approaches have emerged as the dominant research methods, with information seeking behaviour focusing mainly on qualitative research methods. In particular, the trend in information behaviour has changed to focus on information behaviour in everyday life settings (Vakkari 2008).

The previous literature review chapters described the complexity of information behaviour and how the different components of what constitutes information behaviour influence users' information seeking behaviour. As shown in chapter 2, sections 2.3.2 and 2.3.3, contextual components and the personal dimension of information behaviour influence FG students' information seeking behaviour. The literature review indicated that the qualitative research approach was the dominant approach followed to explore both these information behavioural components.

Many of the activities of reference librarians occur in an interpersonal context, where they have to instruct, guide and advise their patrons. In the case of academic librarians, they service academics and students on a personal level, whether one-on-one or in a group setting. Following quantitative statistical data collection procedures to determine their users' information needs and the manner in which they use and process information may therefore be insufficient

when collecting data. To gain in-depth understanding of FG students' information seeking behaviour, this study therefore followed a qualitative research approach.

6.4 QUALITATIVE RESEARCH

Qualitative research is all about interpretation from the world of the observer (Denzin & Lincoln 2018:43). Both Maxwell (2013:18) and Denzin and Lincoln (2018:19) argue that the flexible nature of qualitative research makes it difficult to assign a definition to qualitative research. Therefore, in a generic sense, Denzin and Lincoln (2018:19) define qualitative research as a "situated activity" that involves sense-making of a situation, experience or phenomenon, which takes place in natural settings. Yin (2011:3-4) explains that qualitative research is the best approach to explore how people in real-world settings cope in those settings. In contrast, quantitative research is concerned with testing objective theories by examining the relationship among variables. These variables can be measured by using statistical procedures (Creswell 2009:22). According to Creswell (2009:29), quantitative research also relies on numeric descriptions of trends, attitude or opinions of a population. The essence of understanding information seeking behaviour is to capture the information seeking experiences as described by the respondents. Therefore, this study relies on rich descriptive data, which cannot be presented as numeric descriptions, as in the case of quantitative research. Following a quantitative research approach to gain in-depth understanding of human information seeking behaviour is therefore not the appropriate method to follow for this study.

According to Merriam and Tisdell (2016:6), the qualitative approach is concerned with how people experience and interpret their environment and the meaning they attach to their environment. Thus, qualitative research can be summed up as the practice of understanding and meaning, with the researcher as the main data collection instrument, following an inductive process and producing a rich descriptive outcome (Merriam & Tisdell 2016:6). Merriam and Tisdell (2016:6) contend that the core concern in qualitative research is understanding the phenomenon from the participants' perspective rather than that of the researcher. Qualitative research thus enabled this researcher to obtain insights into FG students' information seeking behaviour in their real-world settings.

Creswell (2013:21) notes the diversity in qualitative research, which can be approached from an inquiry, phenomenology, grounded theory, ethnography, or case study perspective. For this reason, different interpretations about a research topic will require a qualitative research

approach related to that specific interpretation of the research problem (Creswell 2013:21). Denzin and Lincoln (2018:29) refer to qualitative research as “qualitative enquiry”, since qualitative research is constantly being transformed into new paradigms, which lead to post-interpretive activities and steering between positivism, critical theory, constructionism and participatory models of inquiry. To Merriam and Tisdell (2016:5), qualitative research is more than describing a phenomenon; it involves uncovering the meaning of a phenomenon and the people involved.

Lune and Berg (2017:16) explain that qualitative procedures seek in-depth knowledge about real people’s behaviour through interviews, documentation and observation, which cannot be quantified. Consequently, through qualitative methods, researchers are able to share their understanding and perceptions of others. Lune and Berg (2017:16) argue that the more in-depth knowledge a researcher has of an individual or specific group, the better the essence and characteristics of those individuals or groups can be understood and explained.

Because qualitative approaches enable research in a variety of disciplines and professions, Yin (2016:5) argues that qualitative research must be described, rather than defined. Therefore, Yin (2016:9) breaks qualitative research down to the

- study of people’s behaviour in real-life settings;
- representation of the views of people in the study;
- recounting of people’s contextual conditions;
- explanation of people’s behaviour and thinking; and
- recognition of the significance of multiple sources of evidence.

To Leavy (2014:1), qualitative research is about the ordinary and the extraordinary: qualitative research unravels the intricate relationship between people, individually and in groups. In contrast, quantitative research is concerned with calculations and quantities of entities and the degree to which subject matters are distributed, the size of the subject matter and the likelihood of encountering the subject matter (Lune & Berg 2017:12). Leavy (2014:2) explains that qualitative research is a continuously developing methodological field that includes a broad scope of approaches to research, as well as numerous outlooks on the essence of research.

As described in chapters 2, 3 and 4, FG students’ information seeking behaviour is influenced by personal and contextual components in information behaviour. As the purpose of research is

to seek answers to questions, qualitative research aims to seek answers to individuals' and groups' behaviour in different social settings, and how individuals and groups make sense of their environment through social structures and social roles (Lune & Berg 2017:16).

6.4.1 Philosophical assumptions and paradigms

Philosophical assumptions and perspectives guide researchers in the actions associated with their research, which are embedded in interpretations about problems and issues that need to be explored (Creswell 2013:245). Philosophical assumptions are usually the first ideas in developing a research study (Creswell 2013:33). These assumptions are ontology (nature of reality) epistemology (what counts as knowledge and how knowledge claims are justified) axiology (the role of values in research) and methodology (the process of research) (Creswell 2013:35). In light of attempting to obtain first-hand understanding of FG students' experiences about information from their point of view, this study adopted an ontological assumption. According to Creswell (2013:35), an ontological assumption relates to how people, each in his or her own way, perceive reality, which is seen in many different views. Researchers then report on these multiple realities from multiple forms of evidence, such as individuals' different perceptions about a situation, presented in their own words. From a personal and contextual perspective (which are components in information behaviour), the ontological assumption enabled this researcher to gain understanding of FG students' individual realities of different situations.

The paradigms or beliefs a researcher brings into the inquiry also guide the action of the research (Creswell 2013:245). Donmoyer (2008:591) defines a 'paradigm' as "a set of assumptions and perceptual orientations shared by the research community." Furthermore, Donmoyer (2008:591) states that the purpose of a paradigm is to gain in-depth understanding of the phenomenon being studied. Paley (2008:259) explains that the constructivism and interpretivism research paradigms represent different theories, interpretations and presumptions. Creswell (2013:38) describes constructivism and interpretivism as being employed when individuals seek understanding of their environment; in order to understand their environment, the experiences of each individual become personal to that individual. Because of the variations in meanings, researchers have to look for the intricacy of the meanings, instead of narrowing down the meanings into a few possible categories (Creswell 2013:38). The author argues that these personal meanings are constructed through interaction

with other people and shaped by people's own historical and cultural norms. In order to generate meaning, theories are developed inductively (Creswell 2013:38).

Denzin and Lincoln (2018:196) also refer to constructivism as interpretive practices and users of this paradigm's intention is to recreate their perceptions of the social world. Yin (2011:329) views constructivism as "social reality", in that social reality is a combination of the production of the types of external situations and of the people examining and reporting on these situations. Denzin and Lincoln (2018:45) note that interpretive paradigms can be employed in any particular problem, for example cultural studies. In view of this study exploring various accounts of experiences, a research paradigm encompassing constructivism and interpretivism was followed.

As suggested by Creswell (2013:73) the researcher adopted a specific qualitative research approach, which was guided by the paradigm of the research; the research method described the meaning of such an approach.

6.4.2 Qualitative approaches

There are several qualitative approaches researchers can apply to their studies. The approaches of importance to this study will be discussed to determine the most appropriate approach to study FG students' information seeking behaviour. These approaches are narrative research, grounded theory, ethnographic research and phenomenology.

6.4.2.1 Narrative research

Narrative researchers collect stories from individuals about their lives and experiences, which are communicated to the researcher by the participants (Creswell & Poth 2018:112). Narrative stories are told within certain environments or situations, which then contain contextual details of physical, emotional and social situations of the participants (Creswell & Poth 2018:112). Merriam and Tisdell (2016:33) refer to biographies, life histories, oral histories and auto-ethnographics as forms of story experiences. The implication of narrative inquiry is that researchers openly discuss the meaning of the narrative and include their own perceptions jointly with those of the participants, as well as repeatedly revising questions from experiences in the field (Creswell & Poth 2018:112). Since this study did not discuss FG students' information seeking behaviour in the narrative form, narrative inquiry was not viewed as an appropriate method to follow.

6.4.2.2 Grounded theory research

The intention of grounded theory is to develop or build a theory and focus on a process or actions that occur in phases over time (Creswell 2013:83). Creswell and Poth (2018:133) describe grounded theory as a qualitative research design in which a theory of a process, action or interaction is generated by the views of a large number of participants. They explain that a theory can be understood as an explanation of something a researcher develops. This explanation is tied, in grounded theory, to theoretical categories that are grouped together to indicate how the theory works. Creswell and Poth (2018:135) use the example of a theory of support for faculty that may show how faculty is supported over time, by specific resources, or specific actions undertaken by individuals, with individual outcomes that enhance the research performance of a faculty member. This study focused on FG students' information seeking behaviour rather than processes over time. Grounded theory therefore did not seem applicable to this study.

6.4.2.3 Ethnographic research

The focus of ethnographic research is on gaining understanding of individuals' shared patterns of behaviour, such as an entire group sharing a specific culture (Creswell & Poth 2018:143). Ethnographic design describes and interprets the shared and learned patterns of participants' values, beliefs and behaviour within their shared culture group (Creswell & Poth 2018:143). Since this study did not focus on FG students as a culture group, this research method was viewed as not applicable to this study.

6.4.2.4 Phenomenological research

Phenomenology has its roots in philosophy and in the lived experiences of people (Creswell & Poth 2018:124). The phenomenological method aims to consider the way people interpret their experiences and their perceptions of the world in which they live (Merriam & Tisdell 2016:33). According to Given (2008:614), the main characteristic of the phenomenological tradition is that it examines the real life of humans and their experiences of their real-life world. As such, phenomenological research attempts to describe and interpret meanings in the way that they emerge and are shaped by humans' mental structures (Given 2008:614). This type of approach endeavours to remain as true as possible to the lived experiences of the participants in their own words (Yin 2011:36). Heymann and Carolissen (2011:1389) note that in order to be

practically useful, qualitative research allows the researcher to capture the stories of individuals in real-life environments.

A feature of phenomenological research is that it focuses on what groups or individuals have in common (Creswell & Poth 2018:121), such as FG students sharing the characteristic of being the first in their families to attend university and sharing similar socioeconomic backgrounds. Creswell and Poth (2018:121) explain that the exploration of a phenomenon (being an FG student) means that all the individuals in a group experience this phenomenon. Creswell and Poth (2018:124) deliberate that when phenomenology is discussed within philosophy, it must be noted that individuals can experience a phenomenon subjectively as well as objectively, in the sense of sharing something in common with other people.

Brinkmannn, Jacobsen and Kristiansen (2014:22) maintain that the manner in which humans experience their immediate real life does not matter; the phenomenological approach will consider all forms of experience. Brinkmannn et al. (2014:23) further maintain that in the phenomenological approach, the participants' experiences are the important phenomenological reality; therefore, in a given situation, the researcher remains objective to that situation and experience. According to Given (2008:4), phenomenology is about 'lived' experience, which is a pre-reflective rather than a conceptualised experience. She further explains that phenomenology may explore the unique meanings behind human experiences or phenomena, for example FG students' information seeking behaviour and the factors that might influence their information literacy competencies. Bliss (2016:15) emphasises that phenomenological inquiries should also address the researchers' predefined conceptions of and theories about the phenomenon of interest.

Yin (2011:14) explains that human events can be unique or contain elements that are applicable to similar or other situations, all of which can have implications the researcher must identify and analyse. In essence, phenomenological research underpins interpretive analysis in describing the uniqueness of events (Yin 2011:14).

As described in chapters 2 and 3, personal influence, such as users' experiences and contextual elements, for example users' 'life worlds' and 'time-space', relate to phenomenological research and play a significant role in humans' information seeking behaviour. Bliss (2016:15) explains that the location where the researcher interacts with the

participants; time, for example participants' past, present and future; and principles and concepts that provide structure and meaning how humans live, become part of the research experiences for both.

Creswell and Poth (2018:126) point out that phenomenological inquiry can draw on several views:

a) Hermeneutic phenomenology

Researchers interpret the meaning of life experiences and write a description of the phenomenon while staying true to the topic of enquiry (Creswell & Poth 2018:126).

b) Psychological phenomenology

Researchers focus less on the interpretations of a phenomenon and more on the description of participants' experiences (Creswell & Poth 2018:126). In other words, researchers examine the phenomenon from a new point of view.

c) Transcendental phenomenology

Creswell and Poth (2018:126) explain that transcendental phenomenology consists of identifying a phenomenon to study, where researchers put to the side their experiences as much as they can, in order to adopt a fresh perspective on the phenomenon under examination, while collecting data from numerous participants who have experienced the same phenomenon. The data collected are then analysed by decreasing the information to noteworthy accounts or quotations and combining the accounts into themes, so as to obtain an overall view of the experience. As such, the analysis takes on a textural and structured format.

Considering the views of different types of phenomenology and the fact that this phenomenon has been observed in South African universities, this researcher is of the opinion that this study requires a hermeneutic phenomenological research approach.

6.5 DATA COLLECTION

Data can be defined as "a collection of information" (Schreiber 2008:185). In qualitative research, data refer to participants' words, non-verbal sources and other empirical evidence, which serve as the foundation of any study (Firman 2008:190; Schreiber 2008:196; Yin 2016:137). For example, verbal data can include audio recordings, personal diaries, letters,

media reports, interviews and field notes (Screiber 2008:187). Non-verbal data sources can include pictures, videos, film, art and other print sources (Schreiber 2008:187). Yin (2016:137) explains that the method of data collection may entail interviewing, observing, collecting or examining. According to Creswell (2013:130), it is important to consider the actual types of data and procedures to follow when data are collected. Creswell (2013:130) visualises data collection in terms of a cycle, where a researcher engages in a series of consecutive activities, as shown in figure 6.1.

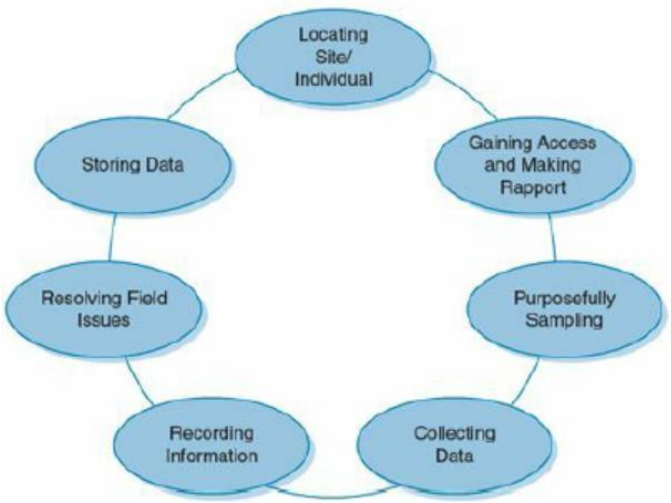

Figure 6.1: Creswell's data collection activities
(Creswell 2013:131)

Greifeneder (2014) notes that the leading data collection methods in traditional qualitative research are interviews, observations, focus groups or diaries. In the phenomenological approach, the data collection activity will be multiple individuals who have experienced the same phenomena. In this study, the phenomena are first-year students at the same university (UJ), FG students, MAPS in the Humanities students who completed the library's information literacy training course.

For the purpose of this study, qualitative data were collected by means of interviews, and analysis of the library's information literacy course content.

6.5.1 Consent

Data collection requires certain ethical considerations. These ethical considerations involve obtaining permission, applying good quality qualitative strategies, as well as recording information and storing it securely (Creswell & Poth 2018:211). When humans are involved in a

research study, it is essential to obtain informed consent from all persons involved in the study, which is the first step in the data collection procedure (Yin 2016:49). Obtaining informed consent from participants ensures that their rights are protected (Yin 2016:49). Yin further explains that 'informed' means that the participants understand the purpose and nature of the research and their role in the research study. Ritchie and Lewis (2003:75) confirm that in any research study, participants' informed consent to participate in a research study must be obtained. This entails providing the participants with information on the purpose of the study, all parties involved, how the data will be collected and used, what will be required of the participants and how much time will be required. Ritchie and Lewis (2003:75) note that information on informed consent should also clearly indicate that participation is voluntary. For the purposes of this study, informed consent was obtained from the respondents to be interviewed. The data collection methods in phenomenological research will subsequently be discussed.

6.5.2 Sampling strategies

The reason for sampling is to draw conclusions about a larger population from a smaller population. Depending on how well the sample represents the population, drawing conclusions can either fail or succeed (Lune & Berg 2017:38). To Morgan (2008:799), all samples must be drawn from some larger population, which requires prior definition of the population. This will then determine which data sources are suitable for the study, regardless of whether the data sources are people being interviewed or observed, or textual sources. Silverman (2013:122) claims that the validity of qualitative analysis is more dependent on the quality of the analysis than on the size of the sample. Morgan (2008:798) also confirms that in qualitative studies, the goal is to gain in-depth and highly contextualised understanding of specific phenomena; consequently, the sample size is not particularly important.

Merriam and Tisdell (2016:96) explain that in research, probability and nonprobability sampling are the two basic sampling approaches. Probability sampling (of which simple random sampling is the most familiar example) enables the researcher to generalise results of the study from the sample to the population from which it was drawn (Merriam & Tisdell 2016:96). They argue that from a statistical perspective, generalisation is not the goal of qualitative research; therefore probability sampling is not a requirement in qualitative research. Hence, this study followed nonprobability sampling strategies.

Since the aim of this phenomenological inquiry was to understand, in depth, FG students' information seeking behaviour and experiences with information, the following nonprobability sampling strategies were valuable to this study:

6.5.2.1 Convenience sampling

One of the most general ways to select nonprobability samples is convenience sampling (Morgan 2008:829). Saumure and Given (2008:153) explain that when convenience sampling is applied, the participants are selected based on ease of availability. That means involving people who are willing and able to participate in the study (Saumure & Given 2008:562). Saumure and Given (2008:562) suggest that a convenience sample test is helpful to test the relevance of interview questions, before undertaking a larger study. Lune and Berg (2017:39) state that convenience sampling is fairly commonly used with students as subjects in research projects.

6.5.2.2 Purposive sampling

Purposive sampling relates to the distinctive definition of the broad population (Morgan 2008:798). To Palys (2008:698), purposive sampling is synonymous with qualitative research and purposive sampling is viewed as a series of strategic choices that must relate to the study's research objectives. Similarly, Yin (2011:94) reflects that when applying purposive sampling, the participants or sources are deliberately selected based on their likely strength, value and significance of information relative to the study's research questions. According to Dawson (2002:59), purposive sampling focuses on description rather than generalisation. Since this study followed a phenomenological inquiry, purposive sampling is viewed as appropriate to select a sample from a population sharing a phenomenon (FG students).

a) Theoretical sampling

According to Fletcher and Plakoyiannaki (2010:837), theoretical sampling has been outlined in grounded theory on the basis of emerging theories. This involves the methodical examination and modification of concepts as they emerge. The sampling can be specified upfront or developed gradually, once the fieldwork begins (Fletcher & Plakoyiannaki 2010:837). Theoretical sampling can also refer to 'selective sampling', where a decision is made prior to the study to sample subjects according to a predetermined set of criteria (Fletcher & Plakoyiannaki 2010:837). Silverman (2013:216) states that theoretical sampling can help the researcher to link concepts to broader theories.

b) Purposive random sampling

Purposive random sampling is used to enhance credibility and the goal of this type of sampling is not to be a representation of the general population (Fletcher & Plakoyiannaki 2010:837).

6.5.2.3 Selecting the target population

It is important to get clarification of the target population, before drawing the sample (Du Plooy 2001:101). Usually, in qualitative research, the target population is chosen based on specific criteria of interest to the researcher (Miller 2008:754). These criteria may not always represent others in the population from which the sample is drawn (Miller 2008:754).

Considering that this study followed a phenomenological inquiry and in view of the unique characteristics of the target population, combining different sampling methods was appropriate for this study. Therefore, a purposive convenience sample was drawn from the target population, which was made up of first-year FG students, from MAPS in the Humanities, based on criteria that categorised these students' as FG students. This study had two levels of purposive convenience sampling, as suggested by Merriam and Tisdell (2016:295):

1) The selection for this study was done according to specific criteria, which enabled detailed exploration and understanding of the research problem: first-year FG students of the UJ's MAPS in the Humanities, who took the library's information literacy course. All the students who were selected had completed the library's information literacy course.
2) Convenience sampling was used to select participants from the first-year FG students who were enrolled in the MAPS in the Humanities and compulsory information literacy course.

The MAPS in the Humanities' lecturer granted the researcher permission to address the class (where all the first-year students were present). She explained the purpose of her study and invited first-year FG volunteers who wished to be part of her study to contact her. The researcher also posted an announcement on the MAPS in the Humanities' student portal, informing the students of the purpose of her study and inviting first-year FG volunteers who wished to be part of her study to contact her. Although 22 first-year FG students signed up, only 17 students met with the researcher.

Table 6.1: *Respondents' profiles*

Respondent	Gender	Age	First language
1	Male	20	Xhosa
2	Female	19	Sepedi
3	Female	20	isiZulu
4	Female	19	Sepedi
5	Male	24	isiZulu
6	Male	23	isiZulu
7	Female	19	isiZulu
8	Female	21	Sepedi
9	Male	28	Venda
10	Female	21	Afrikaans and English
11	Female	21	isiZulu
12	Female	20	isiZulu
13	Female	26	isiZulu
14	Male	19	Sepedi
15	Female	20	Xhosa
16	Female	22	isuZulu
17	Male	19	Sotho

6.5.3 Interviews

Interviews are a standard form of data collection to determine how individuals' experience a phenomenon (Creswell & Poth 2018:124). The goal of interviews as data collection method is to produce research knowledge (Brinkmann 2018:997). According to Yin (2018:331), interviews provide rich data about users' perceptions and feelings about a phenomenon, because the data are descriptive and narrative in nature. Creswell (2013:53) emphasises that on a qualitative level, research involves an interpretive and naturalistic approach. Thus, according to Creswell (2013:53), interviews enable the researcher to interpret phenomena in terms of people's real-life experiences.

With its flexible forms, Brinkmann (2018:997) notes a wide spread of qualitative interviews as data collection method across multiple disciplines, such as education, sociology, communication, anthropology and psychology. Brinkmann (2018:1000) views 'interviews' as the sharing of verbal information between an interviewer (researcher) and interviewee (participant) where information is exchanged face to face, with the aim to obtain an understanding of the

interviewee's personal views, opinions and beliefs. The advantage of interviews is that they are conversational in nature; the researcher is thus able to obtain a clear picture of the participant's perception of a phenomenon in the participant's own words (Yin 2016:352).

An interview can take on structured, unstructured and semi-structured forms (Brinkmann 2018:1000). Brinkmann (2018:1000) argues that interviewing cannot be completely structured, as people always respond to questions that go beyond the structure, for example before an interview starts or after a recording ends. Brinkmann (2018:1000) contends that responses that go beyond the structure are very valuable for understanding interviewees' answers to pre-structured questions. Bliss (2016:21) explains that in phenomenological research, semi-structured interviews with open-ended questions will help the participants to keep focused on accounts of their experiences. Brinkmann (2018:1002) states that by using semi-structured interviews as qualitative data collection method, researchers can follow up on participants' responses, which can add value to the research objectives and be seen as "knowledge-producing potentials". Moreover, the interviewer has a greater input in guiding the conversation on issues important to the research objectives.

Merriam and Tisdell (2016:110) set out semi-structured interviews as follows:

- The interview guide includes a mixture of relatively structured interview questions.
- The questions can be used in a flexible manner.
- The aim is to collect specific data from the participants.
- The greater part of the interview is guided by questions or issues to be explored.

Questions to be asked are in the form of an interview schedule that is used in face-to-face interviewing (Sapsford & Jupp 2006:97). The following section describes the interview schedule.

a) Interview schedule

An interview schedule contains a list of questions the researcher intends to include during an interview and ensures that key issues of interest are covered (Morgan & Guevara 2008:470). In order to determine FG students' information needs and information seeking behaviour, this study used a semi-structured interview schedule consisting of 43 open-ended questions, which dealt with the gaps found in the literature review. The questions were composed according to the research questions set out in chapter 1. The questions were grouped according to categories: students' socioeconomic environment, information needs, information seeking

activities, information sources, information services, information literacy and the information literacy course. The researcher conducted the interviews with the respondents in person-to-person and one-on-one format in the university's Auckland Park library. The semi-structured interview schedule is attached as Appendix B.

According to Wilson and Sapsford (2006:99), interview schedules allow for more control over the interview. Creswell and Poth (2018:231) view interviews as a sequence of steps in a procedure. Kvale and Brinkmannn (2009:3) contend that the sequence of the interview questions does not necessarily have to be fixed, thus allowing the interviewer to change the questions asked, the sites chosen, as well as the situations to examine.

b) Conducting the interview

Audio recordings involve using recording devices to capture interviews and conversations (Siegesmund 2008:49). According to Peräkylä and Ruusuvuori (2018:1163), recorded interviews provide rich in-depth data of social interactions between humans and offer qualitative descriptions of "interactional structures". Siegesmund (2008:49) states that the value of audio recordings is that these provide an accurate summary of what is discussed during an interview, as well as additional detail, for example the tone of voice used by the respondent and emphasis. All interviews for the main study were audio-recorded and transcribed verbatim by the researcher. The interviews were recorded on a Samsung mobile phone voice recorder and copied to the researcher's computer. This allowed the researcher to listen, rewind and re-listen to each interview and transcribe the interview directly from the recording. Each interview lasted approximately 50 to 90 minutes. Although English was not the first language of the respondents, the interviews were conducted in English, as all respondents were conversant in English. Also, because of the information literacy training sessions, the researcher developed a good rapport with the respondents prior to the interviews. They were therefore comfortable in conducting the interviews in English. All respondents expressed their eagerness and willingness to participate in this study. For the sake of anonymity the respondents were referred to in the findings as R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16 and R17.

6.5.4 Document analysis

Merriam and Tisdell (2016:162) views documents as ready-made data, relevant to the research study, which are easily accessible. According to them, documents can be related to observations, since documents provide a glimpse into what the researcher may deem important.

Public records and personal documents are general types of documents used in qualitative research (Merriam & Tisdell 2016:163). This study analysed the online information literacy course content to establish whether the course content needed improvement or revision, as well as the mode of offering, which was a blended-learning offering. Merriam and Tisdell (2016:174) claim that the generation of documents provides insight into situations and the respondents being investigated.

6.6 ENSURING RELIABILITY AND VALIDITY

All research is concerned with producing valid and reliable knowledge (Merriam & Tisdell 2016:237). Merriam and Tisdell (2016:237) emphasise that in order to ensure reliability and validity, the research has to be carried out in an ethical manner, which requires the research study to be rigorously conducted.

6.6.1 Reliability

Reliability refers to consistency to the extent that when research findings are repeated, the findings will produce similar results (Miller 2008:753; Silverman 2013:530; Merriam & Tisdell 2016:250). Kvale and Brinkmannn (2009:327) also state that consistency entails that findings can be replicated at a later stage by other researchers using the same research methods. Lincoln and Guba (1985:290) refer to reliability as trustworthiness and state that the issue of trustworthiness is about researchers persuading their audience that their research findings are worth considering. The essence of phenomenological inquiry is people's real-life experiences, which means that each person will have a different real-life experience. Therefore, even though the same research methodology is followed, the findings cannot be replicated by different researchers (King & Horrocks 2010:160). Guided by Lincoln and Guba's (1985:290) suggestions, the following questions were asked to determine reliability:

- Truth value: How can confidence be ascertained in the 'truth' of findings or an inquiry, and the context in which the study is carried out? This researcher verified the conclusions drawn from patterns apparent in the data by retracing the analytic steps that led to the conclusions. This researcher also verified that the procedures used to arrive at the eventual conclusions had been clearly expressed. Lune and Berg (2017:41) explain that this method is a way of ensuring that the patterns in the data are real and not wishful thinking on the part of the researcher.
- Applicability: To which extent can the findings of an inquiry be ascertained and to which extent is this inquiry applicable in other contexts or with other respondents? This

researcher verified the findings of this study by comparing them with findings in the literature.

According to King and Horrocks (2010:158), reliability is concerned with the accuracy of the measurement of variables. Miller (2008:753) argues that reliability in qualitative research is viewed differently from that in quantitative research. He explains that from a quantitative perspective, reliability is clearly defined, sought and measured, whereas, because of the diversity in qualitative research approaches, reliability is not so clear-cut in qualitative research. He also notes that some researchers avoid the pursuance of reliability entirely. To Miller (2008:754), one way of determining reliability in qualitative research is 'methodological coherence', which comprises the employment of collection, analysis and interpretation of data.

Merriam and Tisdell (2016:250) advise that reliability can be challenging when human behaviour is explored, since human behaviour is never static. They maintain that when behaviour as a phenomenon is explored, researchers attempt to describe the world as those in the world experience it. In addition to that, there are more than one possible interpretation of incidents. Therefore, there are no standards by which replicated measures can be taken to establish reliability in the technical sense.

Silverman (2013:564) states that in order to calculate reliability, it is essential for researchers to document their procedures. Therefore, when occurrences are assigned to categories, researchers must demonstrate that the categories have been used consistently.

This researcher attempted to increase the reliability of this study by following guidelines provided by Brink (1993:36) by

a) ensuring that the respondents were very clear on the nature of the research;
b) building a trust relationship with the respondents;
c) comparing the results obtained with other evidence;
d) ensuring that suitable recording procedures were followed when conducting one-on-one interviews; and
e) keeping accurate and detailed field notes.

Babbie (2013:189) proposes that when a research design involves asking people questions, a measure of reliability is achieved by making sure that the question content relates to the

respondents and that they are likely to know the answer. The questions must also be clear. In the case of this study, all respondents completed the library's information literacy course during their first semester. The interviews were conducted by the end of their last semester. The respondents were therefore familiar with library terminology and the information literacy terminology used in the questions.

Before each question was asked, the researcher explained the category and the reason for the question. For example, in the section on 'Information needs', the researcher explained to each respondent the meaning of a 'need' as "something that is needed in order to live or succeed or be happy." As the interview process progressed, the researcher amended the questionnaire to fit in with the students' level of understanding. For example, after the first respondent was interviewed, the question, "Were you satisfied with the results?", under the heading 'Information seeking activities', was amended to "Were you happy with the results?" After the first interview had been conducted, the question under the heading 'Information sources', "Did you experience any difficulties in accessing the required information source(s) or talking to people?" was changed to "Did you experience any difficulties in accessing the required information source(s)?" This was done because the following question related to consulting humans as information sources; "…or talking to people" was thus removed from the question.

After the first interview had been conducted, the question, "For academic assignments, what are your information needs?" was changed to "For academic assignments, what are your information requirements?"

The question, "Who would you ask for help to assist you in your academic information needs?" was changed to "Who helps you to seek information for your assignments?"

Lune and Berg (2017:86) state that in light of the possible replication of a study, the use of a consistent and systematic line of questioning for even unanticipated areas is particularly important for reliability. During the first interview, the researcher became aware that it was also important to the study to establish how the respondents felt when they first arrived at university and how their knowledge of information technology influenced their use of information technology. Although these questions did not form part of the original interview schedule, the following questions were recorded:

- "How did you feel when you first arrived at UJ?"

- “Have you now found your feet?”

The researcher recognised that for some people, it may be harder to be interviewed than for others. Kvale and Brinkmann (209:165) state that it is important to obtain interviews rich in knowledge from every possible subject. When a respondent was not very forthcoming with information, for example only answering “yes” or “no”, the researcher asked follow-up questions, such as “Why did you answer ‘no’ (or ‘yes’)?”, or “Explain to me why your answer is ‘no’ (or ‘yes’)”. Lune and Berg (2017:73) suggest that extra questions can be included to verify the reliability of responses, which is done through the examination of consistency in response sets. The researcher asked questions that were almost equivalent to certain essential questions but worded these slightly differently. For example, the question, “Do you feel that being the only member in your family going to university restricts you from getting all the information you need regarding academic matters?” was followed up by, “In other words, do you feel that you had a disadvantage coming to UJ because you are the first in the family to attend university?”

6.6.2 Validity

Validity in qualitative research is based on determining whether the findings are accurate by following certain procedures (Creswell 2009:176). According to Creswell and Poth (2018:334), the validation of qualitative research lies in the broad understanding of both traditional and ongoing perspectives. Babbie (2013:191) explains that validity refers “to the extent in which an empirical measure adequately reflects the real meaning of the concept under consideration”; in other words, whether a method investigates what it intends to investigate (Kvale & Brinkmannn 2009:327).

Shenton (2004:64) notes that many qualitative researchers employ criteria such as credibility, dependability, confirmability, consistency and transferability to determine the validity of a study. This researcher applied these strategies to enhance the validity of this study.

a) Credibility

As suggested by Miller (2008:754), credibility is a strategy that can be applied to enhance the reliability in a study by finding and citing negative cases that do not always confirm the researcher’s theory. According to Miller (2008:754), credibility can also be enhanced by doing member checks; these indicate that the researchers confirmed their findings with the

participants from whom the data were collected. This study confirmed the findings by discussing them with the participants whose ideas were represented.

b) Dependability

The dependability of a study can be improved by discussing coding results with colleagues to determine whether the researcher's interpretations are similar to those of others.

c) Comparability

The reliability of a study can be enhanced by comparing various cases with one another to build a theory that represents all the overall findings. To comply with the requirement of comparability this researcher compared the findings with viewpoints found in the literature.

d) Transferability

Shenton (2004:69) explains that transferability is concerned with the extent to which findings of a specific study can be applied to other situations. However, as Shenton (2004:69) points out, in qualitative research a research project is often focused on a small number of particular individuals and it is impossible to demonstrate that the findings and conclusions are applicable to other situations in the population.

To test the validity of a phenomenological inquiry, Van Manen (2014:350) recommends that the researcher should ask whether the study is based on a valid phenomenological question. In other words, what is this human experience like? The researcher looked at how the phenomenon is experienced by studying a particular group (FG students) to gain understanding of a phenomenological theme. Polkinghorne (1989:57) proposes that in a phenomenological inquiry, researchers might reflect on whether the transcripts are accurate and convey the original oral presentation of the interview. The researcher repeatedly referred back to the transcriptions to ensure that the recordings had been transcribed accurately. The researcher also provided detailed descriptions of the phenomena being studied and their context. According to King and Horrocks (2010:164), in quality assurance 'thick descriptions' assist the researcher to determine whether the researcher's understanding of the analysis appears consistent with the description presented. King and Horrocks (2010:164) note that thick descriptions also assist in helping the reader gain understanding of the conclusions researchers reach from the presented data.

6.6.3 Triangulation

Triangulation is a method to determine reliability and validity where the evidence of different data sources is examined to develop a consistent validation for themes (Creswell 2009:176). Creswell explains that when several data sources or perspectives from different participants are combined and similar themes emerge, the process can be claimed as adding validity to a study. It is an ongoing process involving continual reflection about the data, asking analytic questions and writing memoranda throughout the study (Creswell 2009:183-184). Case (2006:229) explains that when researchers study human behaviour, they sometimes rely on a combination of sources that reveal different types of evidence. This study analysed the taped recordings and the UJ's information literacy training course content. The researcher also applied theoretical triangulation by using different theoretical models to make sense of similar sets of data.

However, Maxwell (2013:161) argues that "validity depends on the relationship of the researcher's conclusions to reality, and no method can completely assure that this has been captured."

6.7 DATA ANALYSIS

Qualitative data collection and data analysis activities occur simultaneously (Merriam & Tisdell 2016:215). According to Merriam and Tisdell, the analysis starts with the first data collection method, for example the first interview or observation. They contend that insights and possible theories can already emerge during the data collection phase. Furthermore, the analysis becomes more intensive as the study progresses and once all the data have been collected (Merriam & Tisdell 2016:215).

Cresswell (2009:171) explains that the process of analysing qualitative data comprises making sense of the data and consists of several procedures. He lists the procedures as

- preparing the data for analysis;
- conducting different analyses;
- digging by moving deeper into understanding the data;
- representing the data; and
- interpreting the larger meaning of the data.

Inductive reasoning as the basis of qualitative research relies on textual and visual rather than numerical data (Maxwell 2013:15). For that reason, the research design is flexible and the

actions of collecting and analysing the data, and adapting and developing the theory are conducted simultaneously (Maxwell 2013:20).

Maxwell (2013:50) sets out inductive reasoning as

- understanding the meaning of participants, events, situations and experiences, as well as actions in which participants are involved;
- understanding a particular context within which participants act and the influence of context on participants' actions;
- understanding the processes by which events and actions occur;
- identifying unexpected phenomena and influences; and
- developing informal explanations about events, actions and experiences.

Qualitative research is therefore aimed at interpretive analysis and lived experiences, which can be found in phenomenological studies (Yin 2016:20).

This study followed Maxwell's (2013:15) recommendations on inductive reasoning as an open-ended approach, where data could lead to the development of new theories. Since the inductive approach focuses on specific situations and people, with the emphasis on descriptions, this study also followed the inductive approach to gain in-depth understanding of human information behaviour and the various contexts within which FG students' need and seek information.

This study collected and analysed the sources of data simultaneously by

- sorting the data into different collections, reflecting different themes and sub-themes;
- using the original research questions to interpret the data and draw conclusions; and
- applying triangulation strategies to determine reliability and validity.

Inductive reasoning formed the basis of this study's data analysis, as it allowed this researcher to gain understanding of the respondents' experiences and situations and the context in which they seek information. The emphasis of qualitative data analysis is on producing rich descriptions; therefore the data analysis was interpretive.

6.8 CONCLUSION

This chapter focused on the best research methodologies to follow to investigate the information seeking behaviour of FG students. Since information seeking behaviour encompasses many different elements, the qualitative approach to a phenomenological inquiry was argued to be the most appropriate method to follow for this in-depth study. This chapter discussed different sampling strategies, followed by data collection activities and data analysis procedures. Because of the phenomenological inquiry and the unique characteristics of FG students, a combination of purposive and convenience sampling seemed the best strategy to follow for this type of research. Interviews and document analysis as data collection methods were consequently used to strengthen the reliability and validity of this research. In chapter 7, the research findings on information seeking behaviour of FG students of MAPS in the Humanities will be analysed and discussed.

CHAPTER 7: RESEARCH FINDINGS

7.1 INTRODUCTION

This chapter reports on the empirical data collected from first-year FG students in MAPS in the Humanities. As explained in chapter 1, section 1.2.2, MAPS is a year-long bridging course for first-year students. The Faculty of Humanities is one of the faculties at the UJ offering this programme for its students. Chapter 6 highlighted the significance of qualitative research to study information behaviour and peoples' real-life experiences using the phenomenological method. Given that the exploration of information behaviour requires in-depth study, the qualitative research approach was followed with a phenomenological method. The phenomenological method examines how humans experience real life in their world (Given 2008:614). Therefore, the findings are reported to reflect the respondents' real-world experiences as they perceive their everyday and academic context, and how these two contexts influence their information seeking behaviour.

7.2 BACKGROUND

The literature review chapters pointed out that FG students function in two different worlds: their everyday life environment and their academic environment (contexts) (Pascarella et al. 2004:251; Beasly 2016:127). Chapter 2, section 2.2, detailed the unique characteristics of FG students as being first in the family to attend university and coming from low-income families. Consequently, these characteristics could influence their information seeking behaviour in both their everyday life and academic contexts.

In order, to put the respondents at ease, two introductory questions were asked which related to their feelings when they first arrived at UJ. These questions and answers were also recorded.

The first introductory question, Question 42, was as follows: *How did you feel when you first arrived at UJ?*

Most of the respondents found it difficult to adjust to the university environment. Feelings of anxiety were described to express their feelings when arriving at UJ. They felt alone, out of place, intimidated and isolated because of being the first in the family to attend university and no-one in their everyday life could prepare them for this new environment. It also seems that a major effect of feeling isolated was the struggle to make friends at university. Some respondents indicated that they had to force themselves to adapt so that their life could be easier at

university than at home. Those who did not find the adjustment too difficult early on sought out friends who were already at university and who could advise them on what to expect.

In the second introductory question, Question 43, the respondents were asked: *Have you now found your feet?*
Almost all the respondents stated that over time they had adjusted to university life. This was after they had made friends and could ask people to help them.

The focus in the rest of the interview was on an understanding of how FG students' everyday life and academic contexts influenced their information seeking behaviour. Both the interview questions and the analysis of the respondents' responses were based on

- establishing the information needs of FG students;
- learning more about the difficulties FG students encounter concerning their information activities;
- establishing the FG students' information literacy capacities; and
- evaluating the effectiveness of the current information literacy course.

The findings are presented according to the themes formulated in the interview schedule and the research questions. Seventeen respondents were interviewed. For the purpose of anonymity, the respondents are assigned numbers, for example, Respondent 1 is called R1, up to Respondent 17 as R17. The questions are not presented in the same order as in the interview schedule, but to fit in with the different themes. The questions are numbered in numerical order.

7.3 EVERYDAY LIFE CONTEXT

An everyday life context signifies people's home environment in which they perform ordinary tasks they are used to doing (Savolainen 1995:259). Furthermore, in the context of an everyday life context, the decisions people make are guided by their values, beliefs, norms and experiences within a specific group or culture (Savolainen 1995:262).

The findings revealed that four out of 17 respondents finished school late and four respondents first worked before enrolling at university. Only two of the 17 respondents lived at home. The remainder of the respondents (15) either lived in student residences or other accommodation.

Respondent R13's response is an indication of how her everyday life context influenced her enrolment at university at a later stage:

> To be honest I did want to study before in 2011. I was accepted at the University of KwaZulu-Natal, but I felt like there wasn't much motivation for me to go to varsity because everybody didn't go. I only decided to go now, because I was working. I want to be something in my life and get somewhere. So, I decided to go to university now. Before, life wasn't the way I wanted it to work out. So, now I decided to do something.

This respondent captured her real life experience in her everyday life situation where there was not much motivation to study. Hence, her motivation and decision to enrol at university at a later stage and improve her life. Therefore, this respondent's experience is an example of the phenomenological approach, where humans describe their lived experiences in their own worlds (Yin 2011:36).

7.3.1 Library experience before entering university

As highlighted in chapter 2, section 2.4, academic libraries play a major part in a student's academic experience and success. Therefore, the following question aimed to determine whether the respondents had any experience of using libraries prior to entering university:

Question 1: *Describe your library experience prior to university.*

The findings revealed that the following aspects in the respondents' everyday life context influenced their library experience: living in rural areas, having to travel too far to a library, relocating too many times or not being exposed to libraries in their everyday life context because of schools or communities not having libraries. More than half of the respondents had no experience with a library prior to entering university. Respondent R3's experience is reflected in this response:

> No, we didn't, because it is a deep rural area, so we didn't. We only had libraries in towns. Those are the places. When we travel out of our area there were places with libraries, but I didn't go to any libraries. Our school also didn't have any library. Yes, I only started using a library when I came to university.

Respondent R2 relocated so many times she never learned how to use a library. She responded as follows:

> Hmm … we didn't have a library in our school. I actually went to different schools. We moved around a lot. So, from school to school. From grade 8 to 10 the community had a library, but I didn't

> use it. I didn't know the process how to use a library or how to get a book. Yes. In grade 11 and 12, we didn't have a library at all. So, coming here was actually the first time I started to use a library.

Although Respondent R8 had a community library and a school library, she did not make use of any of these libraries: "So, it only started at varsity. We were encouraged to use the library, but I didn't see it as a necessity at the time."

The findings showed that the respondents also had a negative school library experience. For example, nine respondents' schools had libraries, but only four used these. The respondents also had mixed experiences with their school libraries, ranging from positive to negative experiences. Only three respondents stated that their school libraries had sufficient resources. Respondent R11's experience is reflected in this response:

> OK so my high school had a library and it was able to accommodate our academic needs. Hmm … the community I came from also had a library, but I never used that library. I used the library at school. The one at school was not technological advanced, so coming to varsity and having to learn information literacy, it was difficult to adjust, but as time went by with assistance I got used to it. The school library was convenient because I lived far from the community library, so walking late was not for me. For the work they gave us, the books in the library sufficed for our needs.

Respondent R14 described his library's lack of resources as follows:

> My school had a library. It was small. It didn't have good resources. No. In grade 11 they tried to come up with PCs [personal computers] and a lab [laboratory], but they didn't spend much. The PCs were stolen. So, after that they didn't replace anything. It was unsafe to go to.

The respondents' public library experience prior to university entrance was also not favourable. Five respondents stated that they had a public/community library in the area they lived, but only three of them made use of their public/community library. They described their experience with their public/community library as enjoyable. Three of the respondents used their public library to take out and read books and two of the respondents used the public library because their schools did not have libraries. Notwithstanding the fact that one public library did not have sufficient resources, Respondent R12 still used it to read books. His experience is reflected in this response:

> OK, so in high school, we did have a library; it was not functioning very well. It had old books and encyclopaedias and, in my community, we have a community library, also very old, mmm, no computers and just old books. I used to go there to read a lot of the old books. Ja, all the books were

> outdated. So, I did have experience in a library, and I enjoyed going there. Ja. The library was where I lived. It was 10-15 minutes walking distance. I live at home in Soweto.

Although some respondents had access to libraries (community or school) and others did not have access at all, their exposure to libraries could be attributed to their socioeconomic circumstances.

7.3.2 Computers and internet access

Since computers and the internet play such a crucial role in accessing information for academic purposes, the following section was intended to determine whether the respondents' socioeconomic situations in their everyday life context made provision for computers and internet access at home and how their ICT knowledge influenced their use of these resources.

7.3.2.1 Availability of computers and internet at home

To establish whether the respondents had computers and internet access at home, they were asked the following question:

Question 2: *Do you have access to a computer and internet at home?*

The findings indicated that finances were the main reason the respondents did not have computers or internet at home. In addition to the reported financial reasons, some of the respondents' parents did not deem computers and access to the internet necessary and therefore they did not have computers or internet access at home. The parents might have had this attitude because they had not attended university and did not understand the needs in the academic context.

Respondent R11 gave her reason for not having a computer and internet as: "It is due to financial reasons. My mom is a single parent. My dad died when we were young. She is a domestic worker. So, we can't really afford endless data and a computer." Respondent R13 stated: "At home, there is not a computer. I am the breadwinner, that is why I have to work part-time. There is no money." Two respondents stated that at home, their parents did not regard having a computer and the internet as important. This finding is reflected in Respondent R4's response:

> Well, because no one uses a computer at home. They don't think it important to buy one. So, if I would have to get a computer, I would have to buy it myself. There is no funding for something like that.

Despite the lack of computers and internet at home, some respondents showed initiative to overcome this problem. For example, two respondents stated that although they did not have computers or internet at home, they used their mobile phones and bought data to do academic work when at home. Respondent R13's response reflects this finding:

> No, I don't, my home is in KwaZulu-Natal, and I live in a student res. [student residence] near DFC [UJ Doornfontein campus]. No, most of the time when I am at home, I use my cell phone. I don't have a laptop. I did have a laptop, but I was mugged back to my res. So now I only have my phone. I don't have any access to a computer.

Only four respondents stated that they had computers and internet at home. Of these, Respondent R8 stated that she had saved money and bought a computer and acquired internet access herself to use at home, because her parents could not afford it themselves. Six respondents stated that they had computers at home but no internet. Respondent R12 explained her reasons for having a computer at home:

> I only have access to a computer but no internet. Even the software on the computer is very outdated. I only use the computer to type assignments when I am at home, but most of the assignments, I do at the school's [university] computers. My uncle bought me a computer. I think it was about five years ago. It still uses Microsoft 2007. Not having internet is definitely due to financial reasons.

Respondent R3 stated that she had only a computer at home: "because my parents don't want to pay for the internet, because then you must have a router for Wi-Fi and they're not prepared to do that." Three respondents used their computers at home for academic purposes, such as typing assignments and doing research. Three respondents used their computers and the internet for academic purposes, as well as personal use, for example social media and communicating with friends. Respondent R1 did not use his computer at home for academic work. He used it only for personal use to do voice recordings; as he stated: "voice recordings, voice-overs and editing".

7.3.2.2 Knowledge of technology

In order to establish whether the respondents thought their knowledge of technology influenced the use they made of it, they were asked the following question:

Question 3: *Did your knowledge of technology influence your use thereof when you arrived at UJ?*

All of the respondents stated that their knowledge of technology was not on an adequate level to equip them to apply it to academic work when they arrived at the university. Respondent R10 stated: “It is different from using a cell phone to using everything of the computer. Not only to type, but also to use it for online classwork. That was not easy.” Respondent R3 explained: “Mmm … I could use a computer and the internet, but not on the level that was expected at university. What I am saying, is that a lot more stuff at university is online. I didn’t expect that. I had to learn fast [not] to get lost.” Respondent R9 indicated: “I worked with computers before but it wasn’t academically. So academically it was difficult.”

Five respondents mentioned that they found the use of the students’ learning management system, Blackboard, challenging. Respondent R13’s response reflects this finding:

> When I came I didn’t know about passwords or things. I didn’t know what Blackboard was. I was so confused. I didn’t understand anything at all. I was so lost. I was familiar with phones, but not for academics.

It seems that contributing factors responsible for the respondents’ unpreparedness for the academic context were their socioeconomic situations, which resulted in low social and cultural capacity. Consequently, they lacked exposure to resources that prepared them for the academic context, such as libraries where they have contact with librarians and other types of information and technology that are a necessity to function sufficiently in the academic context. This finding can relate to Beasly’s (2016:130) observation, as indicated in chapter 3, section 3.3, that FG students’ social and cultural capacity frequently play a role in their preparedness for the academic context and consequently their abilities and capabilities are influenced by the level of their social and cultural capacity. Beasly (2016:131) describes social capacity as a person’s social networks and relations and cultural capacity as a person’s skills and knowledge, which might lead to new opportunities.

7.3.3 Being an FG student

Certain characteristics define FG students, such as being the first in the family to attend university and coming from low-income families (Van Zyl 2016b:8). In order to gain understanding of the respondents’ information seeking behaviour, it is important to understand how the characteristics of FG students influence their academic context. Therefore, the

following question was designed to ascertain how the respondents' everyday life characteristics influenced their academic context:

Question 4: *Do you feel that being the only member in your family going to university restricts you from getting all the information you need regarding academic matters? In other words, do you feel that you were at a disadvantage coming to UJ because you are the first in the family to attend university?*

The majority of the respondents stated that they felt restricted, owing to being FG students. Their feelings were expressed by the words: "Yes definitely", "Oh yes, yes", "Oh yes, very much", "It restricted me a lot." The reasons they gave can be grouped as follows:

- Lack of academic support from parents

  Fifteen respondents stated that they did not get any academic support from their parents. Respondent R13's response reflects this finding:

  > Oh yes, very much. First of all, my mom only, only, has grade 11. No-one in my family went beyond grade 12. Many of them didn't even reach grade 12. So, for me being the first in the family to go to varsity, there isn't much motivation. I feel that they don't understand and also, I cannot talk to anyone at home who will understand. They don't understand the pressure of varsity and how everything is. You know you will sometimes get two assignments which are due in one day. There isn't anyone who I can talk to, to help me out at all. There isn't anyone who I can call or check up on me. They never ask me anything academically. Only about my well-being. Not even my academic progress.

- Family reliant on respondents for information

  Four respondents stated that their parents and family relied on them for information. Respondent R10's response reflects this finding:

  > Yes, it does, because if I reach out for help in my family like relatives they don't really understand what I need. They will say, "you look for the information because you know what you need." They are not mindful about that. They don't want me to come to them with any problems. I am the third eldest. They will come to me for advice. Like my sister studies at a college, not university. And she will constantly ask me for help with her subjects. I live at home in Riverlea. So it puts a lot of pressure on me. Their expectations of me are high and they expect a lot of me.

  Respondent R16 stated: "My family relies a lot on me for information because I am the first to go to university. Almost, I know more than they do. I am much more upgraded than they are." Respondent R17 stated similarly: "Yes, they expect me to help my

brother who comes after me who is still in school, to help him. Because they think I am the first to attend university, I can help him."

- Consult other people for information

  Six respondents stated that they consulted peers and friends who had attended university before them for information. Respondent R5 responded as follows:

> Yes, it did because I could not ask anyone in the family. So I had to ask people from outside. I had to ask friends. Some of my friends are already at varsity here. Some of the friends I have, had already finished, so I had to ask them. Mmm … you see not being able to ask someone at home is an inconvenience, because you feel you burden people, because you feel that they are busy and you are forced to ask them for anything about academics.

- Work it out by themselves

  Seven respondents stated that being an FG student meant they had to work out everything by themselves. Respondent R9 (this respondent was 28 years old at the time of the interview and first worked before enrolling at university) reflected this finding:

> Yes, it affected me a lot. It affected me negatively. I am only starting to learn things now. That is why I started so late. Back in high school I didn't get much information, I didn't understand information. I had to find out for myself. Hence, I only enrolled this late.

- Emotions and feelings

  Emotions and feelings such as, "…it is very stressful", "I cried the first week coming to varsity", "you feel like a burden", "it affected me negatively", "there is a lot of pressure on me", "it has been very hard", "lonely", "ashamed", "challenges", "difficulties", were expressed by the respondents. Respondent R7 expressed her emotions and feelings in this response:

> I did struggle, because when I applied here, they told us that no walk-in applications are allowed. My parents could not help me. So, I did not know how to apply, and I also had to apply for the bursary. I didn't know how to upload documents. And to scan and upload. I had to find someone who once applied to show me. I had to go the public library. The libraries at Soweto where my parents live only give you a certain megabytes per user. So, you had to be very careful with the data. I waited for feedback and I had to constantly go back to the library. It wasn't near my hometown, So, I had to take a taxi to the library. I had to go back many times. I arrived early and pretended to read books and waited until near closing time and check my e-mails to see whether I was accepted. I also had to do a lot of follow-ups all by myself. It was very stressful. At home no-one went to varsity. So, they don't know the experiences I experience every day. I don't have anyone to talk to, even regarding social issues. And

> personal issues. Okay, regarding academic matters I have no one I can ask, because they don't know the modules that I am studying. They will just tell me that "you are the one at varsity and you are the one who wanted to study, you chose this course because you said you loved it". "If you want to pass you must learn to love it". "We can't help you". "But we trust there are mentors and tutors and you use the services the varsity offers". "If you are shy to ask, go to someone where you can talk privately". But I also felt that I needed emotional support, because from high school to varsity, it is very different. In school we have subjects, but here we have modules. And also, some freedom that I am not used to. You must have good time management. And pressure from the bursary because you must average a certain percentage. You can't go home to say you failed because they don't have money to pay for you. There is a lot of academic pressure because they don't understand at home what you are going through. Even at the res [student residence] you are alone because your friends come from different backgrounds and you can't pressurise them to help you. Even if you try and talk to them, they have their own problems, and you don't want to be a burden. You truly learn to be alone. At home, they don't have access to resources and know how to go about to help you with academic assignments. At home they are also very busy trying to get extra incomes into the household.

It is evident that this respondent's motivation to enrol at university drove her behaviour, in that she needed information to enrol at university and had to use technology that she did not have in her everyday life context. This respondent's motivation seems to be in line with Wilson's (2020:16) affirmation that when individuals recognise that they need information to achieve a specific goal, motivation drives them to seek information to satisfy their information need.

The two respondents who did not feel restricted by being FG students decided early on to seek out people who could assist them. Respondent R1 chose people outside his family who could help him with information on academic matters, because he knew his family could not. Respondent R8 explained that some of her extended family (aunts and uncles) lived abroad and they had attended university. She asked them for assistance.

It seems that the characteristics of FG students, such as parents' inability to support them in their academic information needs, motivated these respondents to find alternative ways to meet their information needs and also to go to some extremes to find information, as demonstrated by Respondent R7 who had to go back to the public library repeatedly and make use of public transport on her own to enrol online at the UJ.

It also appears that situations in the respondents' everyday life context caused feelings of anxiety and isolation, as well as pressure to succeed at university. The findings showed that these feelings arose from the respondents' parents' failure to understand their academic

context. They also had to rely on themselves to work out where and how to find information, in addition to having younger family members rely on them for academic assistance. These findings can relate to Brinkman, et al's (2013:645) findings that FG students experience detachment between their family life and academic life, because their families do not understand their academic context.

7.4 ACADEMIC CONTEXT

In the academic context, students are expected to be able to do research and carry out academic tasks, which require a student to be information-literate (Anderson & Pešikan 2016:6). Anderson and Pešikan (2016:6) argue that higher education institutions have a responsibility to ensure that students' capabilities are developed to enable them to carry out academic tasks successfully. As described in chapter 1, section 1.2.2, as part of the first-year MAPS in the Humanities' programme, these students had to complete a six-week compulsory information literacy course, developed by UJ's library, which starts at the beginning of their academic year. The literature review highlighted that academic success is dependent on students being able to recognise when information is needed, evaluate information, and apply relevant information (ALA 200:2).

In the academic context, the next section and questions will explore the respondents' underlying information needs.

7.4.1 Information needs

People experience information needs differently, and different influences shape information needs (Allen 1996:112). As underlined in chapter 3, section 3.3.1.1, different environments, such as informal environments (everyday life) and more formal environments (academic) will initiate different information needs. In addition, different contexts make different demands on individuals (Sonnenwald 1999:3). Chapter 3, section 3.5.2, pointed out that FG students' information needs are affected by their immediate context (informal environment) for example, parents' inability to offer any assistance regarding academic matters (Rodriguez et al. 2000:517; Torres et al. 2006:66; Brinkman et al. 2013:647). For the purposes of this study, it was also necessary to determine how FG student's immediate context (including situations that arise in that context) affects their information needs.

Situation is a contextual element and can be regarded as the active context within which information is processed (Cool 2001:12). Therefore, the intention of the following question was to determine whether the respondents could describe a typical situation in which they needed information:

Question 5: *Can you describe a typical situation in which you need information?*
The respondents described different situations in which they needed information. Most of the respondents described their information needs in an academic situation. Four respondents also conveyed their information needs in both an academic and everyday life situation. Only one respondent described his information needs in an everyday life situation and not an academic situation. Given that the majority of the respondents professed information needs in an academic situation, situations in the academic context will firstly be discussed, followed by information needs in both an academic and everyday life situation, and lastly information needs in an everyday life situation.

a) Academic situation

Almost all the respondents needed information to gain understanding of their coursework. In addition, the respondents also described the type of information they needed and access to the needed information. These needs will be discussed separately.

- Information needs

  To understand their academic coursework, the information needs of the respondents ranged from information to enable them to do research to information to study and complete assignments. Respondent R15's response reflects her need to understand coursework terminology:

  > Because here it was not like in high school where like I would just use my general information. Here I still have to understand everything. Like topic terms [terminology] in class, I don't understand. Everybody else understands the terms but I don't understand why I still don't seem to get them, and I still need to look up the terms we use in class. I don't want to ask because everybody knows them and when I come up with a question, they look at you in a way that you are funny. So, I have to look up the information. So, I would say I need information to explain my coursework terms to me.

  This response is an indication of students' unfamiliarity with the academic context, such as using academic terminology.

For research and study purposes, the respondents also recognised that they needed to read up on their assignment topics, as explained by Respondent R5: “I have to do some readings. And sometimes I have to get extra information on a topic I am busy with, so I have to read a lot.” Respondent R12 stated: “I have to look at previously published articles and read all of them, we have reading modules and I need a lot of information for them.” It seems that reading up on a topic to get background information was important to the respondents, which is an indication that they understood that different types of information serve different purposes.

Respondent R4 stated that she needed information to complete her assignments successfully because: “We cannot write without referencing and citing anything. So that is when I need information for my assignments and for class.”

These findings indicate that the respondents’ role as students prompted their information needs to evolve in the context in which they found themselves; they understood that reading up on an assignment topic and getting background information are important to the success of the task they have to carry out. Thus their role as a student determined their information needs to support their learning and task performance. These findings are confirmed by Wilson (In press:77) who states that problematic situations give rise to information needs.

- Information requirements

  The type of information needed by the respondents in an academic situation varied from a variety of information to specific information. Respondent R7 explained: “Our course states that we need to look for a variety of information sources. We use different information sources to support our arguments and include it in our essays. We need a lot of sources and references.” Respondent R15 pointed out: “It [the information] mustn't be all over the place. I have to understand the information and it must just explain to me how things work.” Respondent R7 further narrowed down his information requirements to include timeliness:

  > And oh yes, the information I need for my course must not be older than ten years. Because my module is new, Developments Studies, and we are not allowed to use old information. We study about the State of the Nation. So, the information must be new.

Regarding tasks and task complexity, it seems that in these respondents' minds, they have already narrowed down the search to specific information relevant to their assignment topics.

- Access to resources

  The findings revealed that five respondents stated that their biggest academic information need would be access to resources. These resources were access to technology and the internet; access to software such as Microsoft Word and access to people to explain information. Respondent R1 explained: "My biggest need would be the internet. Right, hmm ... because it has everything … it is legit [sic]." Respondent R4 explained: "I don't have Word [Microsoft Word] on my computer, I want the library computers to have MS Word. So, for typing and having internet access for searching up articles".

  These findings are evidence that in the academic context, the respondents also recognised that a need for technology (hardware and software) can make their information search pursuits easier. This demonstrates that once the respondents have been exposed to the academic context, their information habits start to change; they also consider technology as part of satisfying their information needs.

  Respondent R6 professed her need for a person to explain information to her: "No, you first need someone to explain to you what your research is about to get clarity about everything, then you need to find sources." Respondent R14 stated: "You know when you present something to someone, and it is not correct. So, I would say I need people who will understand my needs for assignments."

  This finding is an indication of the trust the respondents place in people to help them clarify information, which relates to their informal everyday life context, where they are used to rely on other people for answers. Moreover, because of their everyday life context in which parents are not able to develop the respondents' cognitive skills adequately, they lack the ability to make informed judgements. These findings are also evidence of the influence of the informal context where the respondents depend on other people's opinions and do not want to make their own decisions in case these are wrong. Meyer

(2009) states that this type of behaviour is a common phenomenon in traditional communities.

It seems clear in the academic context that the respondents' information needs are task-related to support their academic information needs. The respondents' task-based needs corroborate Borlund and Pharo's (2019) viewpoint that information needs usually serve a specific purpose, for example to learn something new, to achieve success, or to change a situation.

Various stakeholders play a role in students' academic success, for example lecturers and librarians, as well as external stakeholders such as family members (Kettunen 2018:34). Therefore, the intention with the following question was to ascertain who the respondents consulted to find information for their assignment needs and whether these sources were able to provide in the respondents' information needs:

Question 6: *Who helps you to seek information for your assignments?*
The findings indicated that more than half of the respondents sought information for their assignments from their lecturers. Respondent R6 stated: "I personally prefer lecturers, since they are better informed than others." Six respondents asked friends and peers, as reflected by Respondent R4's response: "I will ask someone who has already done what I am busy with now, like a senior." Five respondents consulted tutors and only two respondents sought assistance from a librarian. One respondent stated that apart from asking someone, she would also consult the internet because of the ease of access and variety of information available on the internet.

Most of the respondents indicated 'trust' as the reason why they consulted a specific person, owing to the person's knowledge and experience. An interesting finding emerged, in that the respondents who indicated that they consulted friends and peers would consult their friends and peers first before asking lecturers, tutors or a librarian. Furthermore, one respondent indicated that she sought help within her assignment group: "Because if you don't understand something or don't have a certain idea, someone in the group will have it." Similar to this finding, Meyer (2009) found that in a cultural context, group opinions are important to information users, because the users are often doubftul of sources that are not part of that specific group, for fear

of being dissapointed that their desired outcomes will not be achieved. This reliance on other people is an indication of the trust they place in people.

The library and librarians were consulted because of their usefulness in finding information for the respondents. Interestingly, the respondents who mentioned the library and librarians did not ask the librarian to show them how to find information, but trusted the librarian to find the information for them. This finding may be a reflection on the respondents' informal everyday life context, where they were not taught certain cognitive skills, such as attempting to solve problems themselves or asking someone to show them, but instead relied on informal networks for information.

Asking people for assistance also came with challenges, as three respondents mentioned that people were not always willing to assist or available to help and they did not always get timeous feedback from lecturers and tutors.

The decisions people make are influenced by their everyday life social values, experiences and beliefs (Savolainen 1995:262). Given that FG students are the first in the family to attend university, the following question's intention was to determine to what extent the respondents would ask their family members for information on academic matters:

Question 7: *To what extent do you ask family members to help you with information you need for academic assignments?*
Half of the respondents admitted that they would not and could not ask any of their families to help them with information for academic assignments. Words such as: "they do not know anything", "will not understand anything", "are not educated", "does not take me seriously" were used. Respondent R3's response indicates her parents' lack of understanding:

> I have never asked. (Laughs). No never. No they won't know and I think I will just be adding stress to them. (Laughs). Like asking them, they will like look at me and go "are you serious"? They don't know anything. So they will think I am joking. (Laughs).

The rest of the respondents stated that they would only ask family members for academic information in special situations, such as when they have assignments where there is a need for cultural and historical information. (These respondents take a subject called Anthropology

where they study heritage and culture.) Here, they indicated that based on their parents' personal experience with culture, history and heritage, their parents were able to provide the required information. Respondent R7 explained: "I only go to them when I got an assignment regarding my family's past history and ethnic groups. They know their family history very well." Three respondents also indicated that their family consulted them for information and expected them to assist their younger siblings with academic matters. Respondent R14 said: "I have to use examples and use the example on them, before they can understand." Only one respondent, R6, stated that he would ask his family to help him with English because he struggled with English.

It seems that the respondents would only trust their parents as an informal information source based on personal experience, rather than factual information found in formal information sources. This confirms the influence of the respondents' everyday life context on their academic context. This finding is in line with Meyer's (2009) findings that in an oral context, experience and viewpoints of trusted people are accepted and no comparison is made between factual information and subjective viewpoints.

b) Everyday life situation

Everyday life is one of the contexts within which information needs arise (Wilson In press:77). Four respondents stated that apart from having academic information needs, they also needed information in everyday life situations. Respondent R2 stated that she needed information to relax and Respondent R8 explained that she needed information: "… for social needs, like health issues. I share this with my family at home. I share social information on health issues with my family."

Respondent R7's everyday life information came before academic information needs:

> Okay, I feel like firstly I need information on how transport works. I don't have money for taxis. So, I need information on UJ transport and when and how to get to class on time. It is for every day. Secondly, I need information how to get around this campus because it is big, and you don't know where to go to get help with for example our devices and internet. And then for my academics.

This respondent also expressed a need to increase her general knowledge:

> I also write from my general knowledge and not only from what I learn in text-books. So those are the things I need to understand and to pass. Because when you bring in your own knowledge, you can pass better. I use daily examples in my life to help me understand my module.

This finding is an indication of how deeply some respondents' everyday life is rooted in their academic context.

It is evident that the respondents' information needs are task-based; the majority of the respondents described their information in the academic context. In other words, the underlying cause of their information needs was task performance, since the respondents took themselves out of their everyday life context and saw themselves as students.

Information activities are usually initiated by an information user's motives and goals, as well as a user's skills (Chowdbury & Gibb 2009:470). Wilson (In press:27) asserts that in different contexts, information users engage in different activities, which have different requirements. He further maintains that the analysis of human information behaviour requires understanding of the context of specific information activities. Therefore, the next section examines the information activities in which the respondents engage:

7.4.2 Information activities

Information activities are mental processes that become observable in physical activities, such as seeking, searching, use and information transfer (Meyer 2016). The following section explores the respondents' understanding of information activities:

7.4.2.1 Information seeking

Information users' engagement in information seeking is determined by their information needs, their desire to satisfy those information needs, their capabilities to carry out information activities and the availability of resources (Wilson in press:24). Therefore, the purpose of the following question was to gain understanding of whether the respondents could describe and explain the steps they took to find information. As mentioned in section 7.4, all the respondents completed a compulsory information literacy course prior to this study.

- Steps taken

  Question 9: *Describe the steps you take to look for information.*

  All the respondents described different steps they took to seek and find information. Some respondents had more steps in their information seeking process than others. This finding is consistent with Ellis's (1989:178) observation that individuals' information seeking patterns are flexible and will interlink and complement one another, depending on the context in which they seek the information.

  The steps the respondents engaged in ranged from starting with the internet, as reflected by Respondent R6's response: "Oh, for me I just first go to the internet, because you know the internet has a lot of information and the information is enough", to more complex steps such as starting with the library's catalogue, full-text electronic journal databases, the university's student portal called Ulink, internet search engines such as Google Scholar and the library's search engine called UJoogle. Respondent R9 mentioned a specific database he started with: "I usually use Ebsco and Google Scholar. First Ebsco and then Google Scholar in that order. Google Scholar is my backup." Respondent R4 stated: "When I look for information I log on to Ulink and go to the UJ resources." Respondent R5 stated that he applied keywords to search for information in the catalogue and databases and "if that doesn't help, I go on to Google Scholar and type in the same keywords and I try and narrow it down to what I feel is more related to my topic." This finding is an indication of the benefits of having completed the information literacy course.

  Apart from searching the library's catalogue, Respondent R3 also regarded collecting the information sources at the library, downloading, copying and printing the information as information activity steps. This finding is evidence that in the academic context, the respondent's information activities are also focused on the convenience technology can offer to yield information.

  Seven respondents also included asking people as one of the steps they used to find information. Respondent R10 started with asking a friend: "Well the first thing I do is ask a friend. And then after that I would read through the information and search for the relevant information and then use it." This finding is consistent with the information seeking behaviour of FG students; as a consequence of the nature of their informal everyday life context, they are used to making use of informal networks for information.

Depending on the academic task and situation, the findings revealed that the respondents could clearly describe why they took specific steps to look for information. It might, for example, be to gain better understanding of their assignment topic, as Respondent R14 explained: “I take these steps to get a clear understanding of the information.” The internet was used to determine the overall background and because of its ease of access and the variety of information it provided. Six respondents also reasoned that they took certain steps because they were taught how to look for information when taking the information literacy course and it gave them a better understanding of their assignment topic. Respondent R17 referred to specific databases: “I take these steps, because with Sabinet and Ebsco we were taught how to use it.” (Sabinet is a South African database service provider that focuses on South African content. EbscoHost is a multidisciplinary database.) Respondent R16 stated: “I think for me it is because I was taught that way. So this is what I will follow until I finish my degree.”

It seems that the respondents’ information seeking is related to satisfying their academic informaton needs and that they could see a connection between information literacy and information seeking.

Wilson (In press:33) asserts that during information seeking certain barriers can occur, which might influence satisfaction with the information activity outcomes, as explored in the next section.

- Level of satisfaction

  The possibility of users engaging in information seeking behaviour is also determined by their ability to perform the information activity successfully (Wilson in press:24). Therefore, the purpose of the following question was to determine whether the respondents were satsified with the outcomes of the information seeking steps they took:

Question 10: *Were you happy with the results?* (the steps taken in Question 9.)
The findings showed that almost all the respondents were unhappy with their informatin activity outcomes. Most of the respondents indicated that the information they retrieved did not meet their expectations. Affective feelings such as “annoyance, “inconvenient”, “frustrated”,

“confused”, “disappointment”, “lost”, were used to describe the information activity outcomes. Respondent R3’s response reflects this finding:

> Sometimes when you read an article and then you read the first paragraph and you think okay this is what I am looking for and then as you go further on you find that it is not really what you need. And as you go in-depth, you find it does not really explain what I want, and now you have to go look for another article.

Another frustration was not finding the right information. R4 stated: “There are times when I don’t find books. So I then have to go to Scholar [Google Scholar]. I don’t always find the material I need for my assignments. Most of the time I don’t find anything.” Respondent R10 stated that she relied on friends for information and reflected: “No, I am not happy with the outcomes. It is difficult to always rely on my friends. That is why I wish UJ has more people to help us.”

Most of the respondents started by saying that they were satisfied with the information activities outcome, but as they proceeded to describe the information they found, they moved on from being satisfied to somewhat satisfied to admitting it was not the desired result, as indicated by Respondent R2: “I am happy, no … somehow satisfied, but the last time I asked the tutor, and the information I got from the tutor was not the right information. The information was restricted.”

These responses are a typical example of Kuhlthau’s (1993:401) stages in the information search process: in situations where information is presented to the users, uncertainty as to the assessment of the information arises and can even increase in the decision-making on information use.

Only two respondents stated that they were satisfied with their information activity outcomes. Respondent R17 stated: “I can say I am satisfied because I got good marks in my assignments, which shows the information was really valuable for me.”

The findings are an indication that although the respondents could identify specific steps to seek information, putting the activities into practice proved to be the barrier. In Kuhlthau’s (1991:366) stages in the information searching process, the respondents’ steps in information seeking can be viewed as the ‘selection’ stage where information users experience feelings of optimism, as reflected in the confidence the respondents showed when describing their information seeking

steps. The negative feelings they described related to their information outcomes can be viewed as Kuhltau's 'exploration' stage, where users experience feelings of confusion, doubt and frustration.

People usually draw on their knowledge and existing understanding of information sources to solve information problems (Wilson In press:40). Therefore the following questions aimed to determine whether the respondents had alternative strategies to solve their information problems:

Question 11: *If you cannot find the information you need, how do you go about solving that information problem?*

The findings revealed that the majority of the respondents consulted a person to assist them with their information problems. This ranged from asking friends, peers, lecturers, tutors and mentors to librarians. The people consulted most often were friends and peers who had more experience than the respondents. Respondent R3's response reflects this finding:

> Okay, usually I ask … I have like a family friend – it is his second year right now, so I most of the time I ask him because he must have seen or come across and know things before me, so I just go to him for help. But as far as I am concerned, I don't know who else I can ask. Yes, I trust him, because he was here before I was. So, I think he would know better than I would.

An interesting finding that emerged was that asking a librarian only happened after they had asked friends and peers. Respondent R11's response reflects this finding:

> I ask fellow students if they also struggle with finding the information and if they also struggle, we go together to ask the librarian or our tutors during their consultation times. We ask them if they can help us.

Respondent R11's response can also be an indication that the respondents feel more comfortable asking a librarian for assistance in a group situation than on their own.

Respondent R4 stated:

> I would ask for someone who has done the same course. I don't find it very comfortable to consult lecturers or tutors. I will ask tutors who are not mine but who tutors someone else.

These findings reflect on the trust the respondents have in informal networks, as well as not being taught how to solve problems at home, which is transferred to their academic context, where they would rather ask someone to solve a problem for them than risk coming across as incompetent.

Only two respondents consulted the library resources and three respondents stated that they tried the internet, as explained by Respondent R14: “I go to the internet and then see what I can apply or not. I have to come up with my own way of understanding things.”

Five respondents indicated that they would change their strategies if they could not find the information they needed. Respondent R13 indicated: “I look for sources that will have the information I want. I ask people. I also do a lot of reading. I also Google and do research. I don’t stop, I try alternative things.”

This finding is an indication that in the situation of problem-solving, the respondents experienced cognitive dissonance, where their dissatisfaction with their information seeking strategies prompted them to seek alternative ways to satisfy their information needs.

Wilson (In press:42) explains that when information fails the user attempting to perform certain tasks, the user may experience certain negative setbacks. The purpose of the next question was to ascertain what type of challenges the respondents experienced with finding information they had to use for assignments:

Question 12: *Describe the difficulties you encounter with finding the information that you have to use for your assignments.*
The main difficulties most of the respondents encountered with finding information were:

- Not getting relevant information applicable to their assignment topics. Respondent R7’s response sums up this finding:

> Sometimes you find a source but it is not what you are looking for. You read it but don’t understand it. And it sometimes goes off the topic and you need to keep on searching. Also, sometimes the information is too broad and you struggle to find information in boundaries. Because you need to keep the information in boundaries.

- Lack of internet and Wi-Fi connectivity. Respondent R5 stated: “If the internet connection is bad, it becomes very tricky to go on to the internet and search what you have been looking for.”
- The respondents’ inability to apply sufficient search techniques and research skills. Respondent R11 stated: “When I look for a certain topic, the database just takes me somewhere else. So the information is close but not close enough.”
- Socioeconomic circumstances, such as finances that prevent them from using certain resources. Respondent R5 mentioned: “… having to purchase the sources and books being hard copy and electronic.” However, this response is an indication of the respondent’s lack of awareness that all library resources are free to use and students’ prescribed text-books are available in the library.
- Getting assistance from people. Respondent R13 stated that a lack of response from lecturers impeded her finding relevant information: “Sometimes you send e-mails to lecturers and they don’t respond and you really need that information. At all! They just don’t reply at all.”

The challenges the respondents described when having to apply information activities suggest that they are unable to bridge the gap in applying information to make sense.
Therefore, they would rather ask other people to find relevant information for them. This finding can relate to Dervin’s (1998:11) view that sense-making is about finding ways to bridge information gaps and it seems that the respondents are not yet able to come up with solutions on their own to bridge information gaps.

7.4.2.2 Information searching

Information searching is goal-orientated, consisting of purposive actions (Savolainen 2016c:1157). Wilson (In press:16) explains that when users engage in information activities, there may be additional activities when searching for information, dependent upon how keen the user is to know more about the topic or matter at hand. For Nahl (1997:14), searching on a micro-level can involve three types of domains: a user may select a particular database from a menu (goal-orientated and the affective domain), have knowledge of the database and the content (memory, which is the cognitive domain) and perform certain actions to retrieve the information (sensorimotor domain). With this in mind, the purpose of the following question was to determine the respondents’ information literacy competencies in searching for information:

Question 13: *Generally, when you try to search for a particular piece of information yourself (i.e. without receiving assistance or guidance, etc. from anybody), how long does it take you to find the required information?*

Most of the respondents stated that it took them a long time to search for information. This ranged from searching for five to seven hours, up to a week or longer, suggesting that the respondents who stated that it took them a long time to search for specific information did not know how and where to look for relevant information. Respondent R1 explained: "I spend a long time looking for specific information. I sometimes have to work around and around, before I get what I want and redo it." Respondent R3 said: "… It takes me long. Sometimes five hours to seven hours. Sometimes I think the information is not relevant then I must search other sources. I have to start again until I find the relevant information." Respondent R4 indicated: "(Laughs). It would take a while. Ja, mmm … Not knowing how to navigate your way around finding information, could take a while." (Respondent R4, also indicated that she could not see a connection between her learning and where and how to find information.)

Respondent R6 stated: "Eish, it takes quite long. It can even take me a whole day to find relevant information. That is the information needed." Respondent R12 stated: "If it is not on Google then I give up. I skip it and move on to the next thing. A day or let's give it a week … So I would say a week." Respondent R15 indicated: "Hmm. Approximately a week. Yes, a week. I have to search and change the way I search before I find what I need." Respondent R15 seemed to experience cognitive dissonance, which caused her to change her way of searching when she was not satisfied. On the other hand, Respondent R12's response is an indication that she did not experience cognitive dissonance but instead gave up. This finding can relate to Wilson's (2020:38) risk/reward theory that the risks outweigh the rewards in pursuing the search actions further.

Three respondents stated that the time they spent on searching for information depended on the type of information they needed. For example, Respondent R11 indicated: "It depends on the amount of sources I need for a certain assignment. So I would say probably 20 to 30 minutes looking for the right information." She further indicated that the more complex topics required more searching, and less complex topics were easier to find. This finding indicates that the respondents thought about the information and realised that not all types of information would require the same time to find.

Three respondents stated that it did not take them long to find information. They mentioned that the reason it did not take them long was that they knew where and how to search for information. Respondent R7's response is an indication that over time she learned how to search and apply her information literacy skills:

> As a student, I feel that I have learnt a lot. I struggled firstly, but now I know. Our parents and siblings don't know anything. It took me long. I didn't know how to access anything. I would say longer than an hour. Because we are not allowed to use Wikipedia. Now it takes me an hour or less. I find information from not one source, but more than one source. I can now apply the information differently.

The fact that the majority of the respondents indicated that it took them a long time to search and find information suggests that a barrier exists between the respondents as users and the information systems (machine-driven, World Wide Web, human interaction) they used to search for information. This behaviour relates to Kuhlthau's (1991:363) stages in the search process where users experience feelings of confusion and frustration during the search process.

The intention with the following question was to determine whether the respondents were able to see a connection between their learning and where and how they looked for the information they needed after the completion of the information literacy course. In the context of information literacy as a tool, information needs also arise to support learning and task performance, which according to Wilson (In press:5) are cognitive needs:

Question 14 : *Do you see any connection between your learning and where and how you look for information when needed?*

Almost all the respondents indicated that they saw a connection between their learning and where and how they looked for information. They indicated that they looked at information differently and were able to apply the information they retrieved to their subjects. Respondent R14 responded:

> Hm, ja there is definitely a connectivity. Every subject I do, I can connect it to the library and how I search. Everything how I look for information is clear. I can now go straight to the databases and find different journals. I can see the subjects I am doing are on the databases.

Respondent R5 reflected: "I now see myself as an analytical learner. I analyse information, and write down notes. I function now to go and find information instead of waiting for the information." Respondent R8 stated: "Back then you just looked for information on the internet.

You only use what you see. You don't really check the credibility, the reliability and the content of the information. As long as it is there you just use it can copy and paste the information. So now I use information much differently."

One respondent could not see the connection. Respondent R4 stated: "I don't think so. I haven't really used the skills I acquired to look for information." This finding relates to Wilson's (2020:59) observation that users' behaviour is influenced by their intentions, which in turn influences the desired outcomes of their information needs. In this instance, it seems that the respondent's cognitive skills prevented her from making the connection between her learning and where and how she looked for the information she needed.

The next question aimed to determine whether the respondents were able to recognise that they could improve their searching abilities:

Question 15: *What more would you like to learn regarding the searching and finding of information?*
All the respondents indicated that they would like to learn more about the searching and the finding of information. This ranged from alternative ways to search and find information to spending less time looking for information, finding relevant information, finding better information and finding specific information. To illustrate this finding, Respondent R5's response sums it up: "Yes, I would. To spend less time finding information sources and how to go about when the way I search I cannot find anything. Like the information isn't what I hoped it to be."

This finding is evidence that the respondents are able to recognise that they still lack some skills to improve their search techniques, which in the academic context is essential for their academic development.

Part of a search strategy is to determine whether the information is relevant to a research topic (Savolainen 2016c:1165). Therefore the intention of the following question was to determine whether the respondents were able to recognise the relevancy of the retrieved information. In this regard, the format was not only machine-driven, but also human-driven and sources of information in print format:

Question 16: *How do you decide whether the information obtained (retrieved) is relevant for your assignment (or any other task)?*

The findings revealed that almost all of the respondents were able to evaluate information relevant for their assignments. Respondent R15 compared the internet with academic information from the library: “Hmm … I would say hmm ... sometimes like I compare the internet information with the academic information I got from the library. If it says the same thing I can trust that the information is real.” Respondent R11 used keywords to determine whether the information is relevant: “So I look at the keywords, if the keywords help me find information relevant to my topic, I know this is the right information for my assignment.” Respondent R10’s response indicates her understanding of whether the information is relevant to the assignment:

> So what I first do, I would look at the source, I would look if it has a reference, I would look at the year and it if has a range of years. And then if it has the required information, I would look if the source answers the question I am looking for. I would then see if can use it. Even if the documents have only one paragraph, I will see if I can use that information.

These findings are evidence of the value the respondents gained from the information literacy course; they gained understanding of how to evaluate information. In this instance, they recognised that in the academic context, the information they decided to use needed to meet certain standards.

Two respondents stated that they would ask a lecturer or tutor to help them, as indicated by Respondent R2: “I then consult. Most of the time I do the work weeks before and then I take it to the tutor. I then ask if the information is relevant. Like if the information is fresh.” This finding relates to the respondents’ uncertainty in their own abilities; they would rather rely on someone else to provide answers for them, instead of determining for themselves whether they could use the information or not.

One of the outcomes of information acitivities is information use. Information use can be conceputalised as information practices, information searching, the processing of information, the production of information, application of information and the effects of information (Kari 2010). Therefore, the respondents’ information use practices will be discussed in the next section to determine whether their information literacy skills improved by completing the compulsory information literacy course:

7.4.2.3 Information use

As part of students' academic practices, they need to use and apply information to carry out academic tasks successfully. The following question intended to determine how the respondents applied information:

Question 17: *How do you use the information?*

The respondents interpreted this question in a broad sense. They described not only how they used information, but also for which purposes they applied the information and which information sources they consulted. Some also used it not only for academic purposes, but also for personal development. Most of the respondents stated that they used the information to gain understanding of their assignment topics, to do research and to prepare for tests. Respondent R13 stated: "… sometimes it helps me in understanding to prepare for exams. I have noticed that before I was only using Google as my sources for my research. But now I use books. And I noticed that my marks have improved." Respondent R16 explained: "I use it to understand my modules and explain the modules to me. So I would say explain and broaden what I know or not know." Some respondents went into more depth and mentioned that they applied the information to cite and reference their information sources, as indicated by Respondent R10: "I use it for in-text reference, cite it and paraphrase it, have a list of references, explain it and hand it in."

Seven respondents also stated that they used the information for personal development. Respondent R8 reflected: "It will depend on the credibility it has on the real life. If it is applicable on the real life and real world, then definitely, it would broaden and develop my knowledge." Respondent R15 stated: "I even use it for my personal use to understand most of the things I am going through. Like all the happenings at UJ."

Fitting in with the academic context, it is evident that that the respondents' information use contributes to developing their academic skills by enabling them to understand their assignment topics and apply information literacy skills such as reference methods. The findings also indicated that the respondents used information for other purposes, such as personal development, which reflects back to the respondents' everyday life contextual influences.

The literature drew attention to the benefits of students receiving information literacy instruction from librarians. Being information-literate is being able to apply information literacy skills across

disciplines. The following question aimed to to determine whether the respondents could apply their information literacy skills:

Question 18: *After completing the course, do you think you can apply what you have learnt to your other subjects?*
All the respondents stated that they could apply what they had learnt to their other subjects. Specific components of the course, such as 'how to reference', stood out for the respondents as an important skill. Eight respondents mentioned that after completing the information literacy course, they were able to apply reference skills to their subjects. Respondent R7 stated: "Oh yes, definitely, especially with referencing. I can apply referencing to all my modules." Similarly, Respondent R11 emphasised referencing skills: "Yes, yes, definitely, because it teaches us a lot about referencing. That sticks out immediately in my mind." The findings also revealed that the respondents were able to link referencing with 'how to avoid plagiarism'. Respondent R15 stated: "I mostly use the one on avoiding plagiarism, because most of my work is based on referencing and citing and having information with authors like reliable sources."

The information literacy course also made the respondents reflect on information, as indicated by Respondent R8: "Yes, yes. In fact, I can apply to all of my subjects. What I mean is (pause) I now think before I use information." Respondent R10 noted: "… you have to be accurate with the information you share with your lecturer and the information literacy course really helped with that. With the accuracy of information." Respondent R13's response reflects the link between information and the use of information:

> This taught me how to access information, which sources to use, how to get on to Blackboard. These things are not taught to us if it was not for information literacy. I also need to know what type of information I can use and information literacy taught me that. With assignments, it would have been very hard if I didn't know how to use information and answer questions.

With the following question the intention was to determine whether the respondents had a change to practise their information literacy skills.

Question 19: *Did this course provide you with the opportunity to practise the skills you learned?*
Almost all the respondents stated that they could practise the skills they learnt. Respondent R16 stated that she now helped other students with referencing: "I find more ways to reference and save time. So I can apply it and I also help other people how to reference." Respondent R11

indicated that she continued to practise the skills: “Mmm. Yes, definitely. I can practise my reference and compiling a list of sources. I am still doing this today.” Respondent R5 linked searching the library catalogue with helping him to reference:

> Yes, especially during the course. So after a class, I would go to the catalogue and try out to search and find the referencing techniques and when I went through it, I could see how to reference when the source is an organisation or a person. I now know where to look for dates, when there is no author and how to reference it.

Three respondents indicated that their skills improved their academic performance. Respondent R2, stated: “Yes, a lot, it helped me a lot. My marks improved.” Respondent R13’s response also supports this finding:

> In the beginning of the year I asked myself whether this information literacy was really necessary and compulsory. But after the second class, I knew how important it was, Because, we then got our first assignment and for that assignment, we had to use different sources. I wouldn’t have an idea how to go about if it was not for information literacy.

Two respondents also added that these skills influenced their everyday lives. Respondent R1, explained: “I apply those skills I’ve learned; it changes the way I think and approach even life differently. Like the things we do at school I look at it differently”. Respondent R15 stated: “Hmm. I would say yes because I was required to practise it every day and it is part of my everyday life.”

These findings confirm the importance of information literacy as a required/needed skill for twenty-first-century learning.

Only Respondent R4 stated that she could not practise her skills, because she did not have time to practise them. This respondent also indicated that she could not make a connection between her learning and how and where she looked for information. It seems that in this situation, the respondent’s motivation was not strong enough to overcome the barriers she was experiencing in seeking, processing and using information. This finding corresponds with Wilson’s (2020:26) observation that usually information needs arise from the situation of people’s real-life worlds. However, it does not mean that a person would act on the information needs and engage in information seeking. For example, certain barriers might prevent them from engaging in information seeking, such as people not recognising that the problem they are experiencing has

an information dimension. This can be traced back to the respondent's everyday life context in which she was not taught adequate cognitive skills to carry out academic tasks.

The purpose of the following question was to determine whether the respondents were satisfied with the outcomes of the information literacy course:

Question 20: *Were you satisfied with your efforts in this course?*
The findings revealed that the majority of the respondents were satisfied with their efforts. Words such as "happy", "very very happy", "I am so happy" and "very pleased" were used to describe their feelings of satisfaction. Respondent R7 indicated that after more than one attempt, she was satisfied with her efforts:

> I was happy. Sorry during the first time I didn't do well, but they gave us an opportunity of doing it again, and then I did well. I did it multiple attempts. So you could see where you got it wrong. So after multiple attempts, I was happy with my marks. We would also after class sit together and go through the work. So that also helped.

Two respondents indicated that although they were satisfied with their efforts, they felt that they could do better and three respondents stated that they were not satisfied with their efforts. Respondent R6 reflected: "Eish, I think I could have done better. I am not happy with the one I've got. Last semester, even though the marks of all of the first semester were not quite good. I am still looking to improve."

This finding showed that some respondents needed more time to develop their skills and it must be taken into consideration that not all respondents were on the same level. In this regard personal influence in information seeking is evident, in the sense that certain affective and cognitive attritubes contribute to the respondents' feelings about their course efforts. Wilson (In press:36) refers to these attritubes as intervening variables. For example, when users lack sufficient skills, they might not be motivated to put in an effort.

The intention of the next question was to determine whether the respondents found the course easy to use:

Question 21: *Did you find the online course user-friendly?*
Most of the respondents found the online information literacy course easy to use. Respondent R6 stated: “It is easy to like whenever you want to, you can stop and carry on when you are back in the computer lab [laboratory].” Respondent R13 also connected the usability of the course with her everyday life context:

> There is no aspect that I found difficult at all. I was able to complete it. I passed it well, distinction even. If I can pass it and I went to a school in the rural areas, I think people would really find it helpful. Because you see now that we are in the fourth industrial revolution, people would still adjust. So where I come from people are still busy with the first industrial revolution.

Three respondents indicated that they first found it challenging, but with assistance, they found it easier to use. Respondent R7 stated that she first found it challenging because she did not know how to use a computer: “Well, it was first confusing, because I didn’t know how to use a computer. But our mentors helped us. We did it on Fridays and they were always there to help us.” Respondent R1 did not find it user-friendly at all, and indicated that he found the navigation of the online course confusing. This finding indicates that affective feelings of uncertainty emerge when users find themselved in an unfamiliar environment, such as online learning to which they are not used.

In conjunction with question 21, the purpose of question 22 was to determine whether any aspects of the course could be improved.

Question 22: *Which aspects of the course should be improved?*
The majority of the respondents indicated that the online information literacy course did not need any improvement. Respondent R3 explained: “I feel like the course did what it was meant to achieve. I now speak personally. I know now more than before I started. It really did help me, so I don’t think it needs changing”.

Four respondents indicated that there was room for improvement. Respondent R5 reflected: “I think, maybe face to face. During the class it was sometimes difficult to follow at the back. Maybe have the classes in smaller groups. In a big class it is difficult to follow.” Respondent R7 wanted an instructional guide, instructing users what to do: “Maybe have a guide to tell us what to do. To click where we have to. Because I panic and maybe tell us that two tabs will open up and how to click here.” (On the course’s home page is an instructional video, as well as an

instructional tutorial in PDF format uploaded on the student portal. Some of the respondents registered late and missed out on the first two classes when this was demonstrated.)

Respondent R15 reflected that the steps could be made simpler: “I would say make the steps simpler so that everybody can understand it”. (The course is divided into units. Each unit consists of a set of tutorials and steps to follow. On the landing page of the unit, it explains that the user must follow the steps, beginning with step 1 and ending with the last step. Some tutorials have more steps than others.)

Even though this course followed a blended learning approach, with face-to-face instruction and activities that are completed online, as well as in-class mentors to assist the students, Respondent R1 requested a blended-learning method of instruction: “I would like a mix online and face to face.” This respondent also stated: “I personally didn’t take it seriously because it was online. However, when it comes to courses that are not online you have to take it seriously, because you know what is expected of you.”

Based on the findings, it is evident that the respondents understood the requirements of the academic context. They recognised that using information for task-based purposes and applying information to academic tasks required deeper reflection on information. For example, information use can be applied to reference, to clarify certain aspects or to provide background information (Wilson In press:52). Wilson (In press:52) argues that when users put information to use, they must look at the advantages they gain from having the information and how the information is used in relation to their information needs. The findings also showed that the way the respondents put the information into practice was influenced by their information literacy capabilities. In the academic context, the respondents’ information practices need to support their academic endeavours.

Nahl (1991:13) argues that users’ interaction with information sources are influenced by their environment, motivation, feelings, emotions and cognitive development. The next section explores the respondents’ interaction with information sources, resources and services.

7.5 PREFERENCES FOR INFORMATION SOURCES, RESOURCES AND SERVICES

Based on the literature review of Meyer (2016), personal influences play a significant role in information behaviour and preferences can be linked to users’ judgements.This section attempts

to gain understanding of the respondents' source, resource and service preferences, after they have been introduced to information resources and practices in the academic context by way of completing the compulsory information literacy course.

7.5.1 Information sources

Byström (2002:591) defines an 'information source' as the carrier of information such as books, people and even an information system such as databases. In order to complete academic tasks successfully, students are required to read widely and consult a variety of information sources. The intention of the following question was to determine the sources the respondents used to find information they needed for their academic assignments:

Question 23: *Which sources do you use to find the information you need?*
The findings showed that most of the respondents made use of a variety of information sources. Most sources mentioned were books, more specifically text-books, journals and the internet. In particular books and journals were associated with trustworthy information. Respondent R8 stated that with journals and books, "I am sure that I will get the information I need", and Respondent R13 stated that information in books and journals are "based on evidence". Respondent R5 mentioned that journals were "peer-reviewed and we have been warned about not to use Wikipedia." The internet and search engines such as Google and Google Scholar provide a variety of information that is updated continuously and is convenient because of ease of access.

Although books, journals and the internet were mentioned most often by the respondents, more than half of the respondents also mentioned other sources they preferred. It seems that these sources were preferred because they were able to satisfy the respondents' immediate assignment needs, such as material prescribed by lecturers and held in the library's reserve collection, official documents and statistical information, as well as newspapers. The respondents mentioned these specific sources, because to obtain a good mark, a requirement for written assignments was that they needed to use and reference five or more information sources.

People, such as friends, peers, tutors and lecturers, were mentioned because of the trust the respondents placed in them as sources of information. Respondent R7 explained: "I also talk to people who did the course previous years. And I also speak to tutors. I trust them a lot because

they also mark our assignments and papers." Respondent R3 mentioned that he preferred YouTube videos, because "The lecturers will tell us to use videos or they will ask you to go to YouTube and watch the video and you can use it for your work." Respondent R3 preferred books and journals because lecturers referred him to these: "I figured, they looked at them before they gave them to us. So when you look at them, you can see that it is relevant."

It is evident that the respondents' motivation for their source preferences includes their need to search and find information for personal motives that are academic-driven. This finding confirms Nahl's (2004:191) argument that without affective support, information is of no value to the information user.

Wilson (In press:35) explains that certain affective and cognitive elements, such as motives and skills, may cause some barriers when searching for information, which will influence users' decisions to use information or access information. He uses the example that if someone fears showing ignorance or lack of knowledge to carry out an information search, this might cause the person not to proceed with the action. Therefore the intention of the next question was to determine whether the respondents experienced any difficulties in accessing information sources:

Question 24: *Do you experience any difficulties in accessing the required information source(s)?* Almost all the respondents experienced some type of difficulty in accessing information sources. The biggest challenge was technological. Their biggest frustration was experiencing problems with internet and Wi-Fi connections. Respondent R5 stated: "It comes down to the internet connection not working. Then I must come early in the morning to campus so I can cover and try and find what I am looking for." Two respondents stated that they experienced difficulty in accessing information from the library computers. Respondent R11's response reflects this finding: "So, coming to the library we cannot access the computers, because there are queues everywhere and the two places we can use let us down." However, not all respondents experienced difficulties in accessing information through technology. Respondent R6 stated: "No, not at this stage. I have access to Wi-Fi in the library and at the res [student residence]. And I have my own laptop, so I don't struggle to access information."

The findings also indicated that about half of the respondents experienced difficulties in accessing library resources and sources, such as restrictions on the loan of specific books or

downloading past examination papers from the library's institutional repository, owing to lecturers not making these available. Respondent R7 stated: "I struggle to access past exam papers on the library website. I think they have removed the papers. I need the past papers to prepare for exams." Respondent R7 indicated: "So, accessing the information, you may find the book but then you are not allowed to take out the book, and you can't make copies of the book." This respondent referred to the library's reserve collection (prescribed text-books) which are not for loan off-campus, but students can borrow it for two hours in the library.

The respondents' socioeconomic background also had an influence on their problems to access sources, as indicated by Respondents R12 and R13, who said that they did not have money for data when the Wi-Fi connection on campus was not working. Respondent R13 also stated: "Sometimes I even don't have electrically [electricity]. I don't have a gadget to use for no electricity." Two respondents stated that payment for information sources caused difficulties for them to access certain information sources. This finding again indicates the respondents' lack of awareness of the library resources, which are freely available to the students.

Two respondents indicated that the people they consulted contributed to their difficulty in accessing information; for example Respondent R7 stated: "I struggle because other people are busy and they have their own problems. So I then don't want to ask them."

None of the respondents mentioned that they had problems with accessing information sources because the sources were too complicated for them to use. It therefore seems that the type of source, such as technology, systems and people, contributed to the respondents' difficulties in accessing information.

In view of FG students' informal everyday life context, where they have come to rely either on themselves or informal networks for information (Torres et al. 2006:69), the following question was intended to determine whether the respondents trusted people as information sources:

Question 25: *How do you feel about consulting humans as information sources?*
Although the respondents stated that they would ask lecturers, tutors, friends and peers (sometimes a librarian) for information, their feelings showed their discomfort in using people as sources of information. Respondent R6 stated: "Oh, it is very difficult for me. I don't want to lie, it

is very difficult for me to ask someone. I don't have that confidence." Respondent R9 stated: "(Laughs) I never do it", and Respondent R10 stated: "I am an introvert. I don't really like to approach people." Reasons given were that they did not want other people to notice their inexperience, as reflected by Respondent R2: "I will not ask questions to people. They will think I am stupid and get angry with me." (This finding is in line with Wilson's (2020:35) observation that dread to show ignorance or lack of knowledge to carry out an information search might cause a person not to proceed with the action.) Mistrusting people was another reason, as indicated by Respondent R8: "It is always biased and biased. People are not objective." They rather seek information themselves, as explained by Respondent R10: "I will first try myself and then go to a person. I think it is easier looking for different points of views myself than going to a single person and asking them."

Some respondents had different viewpoints on using people as sources of information. For example, five respondents stated that they would rather ask someone with whom they felt comfortable, such as friends or peers. Respondent R17's feelings are reflected in this response:

> No, I am that person who does not like to talk to people or strangers. I only like to talk to people close to me. Ja, it was very hard for me. I would rather first ask my friends and peers. My peers do the same modules so we have the same tasks.

This finding is an indication of the influence of the respondent's informal everyday life context on her academic context.

Five respondents also stated that although they were hesitant to ask other people for information, they would do so when the situation arose. Respondent R7 stated: "Sometimes you have to talk to a person, even though you don't want to … I just tell myself that I have to do what I need to do to pass." Almost half of the respondents indicated that they would first consult other sources such as books or the internet before going to ask a person for information.

Four respondents stated that they were comfortable with people as sources of information. Respondent R14 stated: "I always ask people. I look what they can do for me that I can't find myself." However, R14 also added: "As long as you are not afraid what they expect from you," which indicated some uncertainty.

From the findings it is evident that the respondents linked the affective element of trust with people as sources of information. This element of trust can also be a reflection on the respondents' self-confidence, suggesting they do not want to reveal their own incompetence to carry out tasks successfully. That is why they would rather trust friends and peers as sources of information.

7.5.2 Resources

Information resources such as libraries and computers can assist users with information sources and lead users to information sources. Wilson (In press:38) views resource characteristics as possible future actions of people based on their existing understanding and the nature of the information resources within their scope of action. Therefore the purpose of the next question was to determine whether the respondents utitlised the library as a resource:

Question 26: *Where do you conduct most of your academic information searches?*
All the respondents mentioned a specific resource or resources they preferred to carry out their information searches. Of these, the university's computer laboratories and the library were mentioned most often. Some used more than one resource. From the findings it is evident that the resources were used because of their convenience. The respondents preferred the computer laboratories, because they could spend unlimited hours using the laboratory computers, always had Wi-Fi connection and could use those computers to type their assignments using Microsoft sofware. (The library computers have a 45-minute time limit usage and students can use the internet and the library's electronic resources to do research, as well as print out their assignments.) This is confirmed by Respondent R7: "I do my searches at the E-les [one of the university's computer laboratories] because we are not timed."

Respondent R15 used the library, because "I usually do most of my searches here at the library at the computers. Because that is where I get access to Wi-Fi and it will not just shut down." Respondent R14 stated: "Hmm … before I used the D-Labs [computer laboratory]. But ever since I heard the library closes late, I use the library." Three respondents also mentioned using their student residences to carry out academic searches, because the residences had Wi-Fi and they spent most of their time there. Respondent R8 stated: "It is a safe place and I can search there when I have finished with my lectures." Respondent R11 stated that she used the student residence "because I like working alone, I don't like working around people."

From the findings it seems that the most valuable resource for the respondents is access to technology. This shows that the respondents can distinguish between resources needed to function in the academic context, which is different from their everyday life context. In other words, they see their academic context as a physical environment from which they can benefit by accessing information sources.

The next question aimed to determine whether the respondents could recognise the value of information resources:

Question 27: *Which information resource is the most important to you and why?*
About half of the respondents mentioned the library as the most important resource and about half mentioned the internet. An interesting finding that emerged was that even though the respondents mentioned the library as an important resource, they did not name or talk about librarians as a resource.

The diversity of resources the library offered was the main reason the respondents regarded the library as the most important resource available to them. Respondent R8 explained: “The library, because you can get everything there. Like computers, desktops, books and there are also people that you can ask for help.” Respondent R10 stated: “The D-Labs [computer laboratory], only have computers and internet, but in the library there are books, newspapers, internet sources”. The findings also revealed that the library was able to meet the respondents’ academic needs, as indicated by Respondent R15: “I said the library because most of the information I need is academic and I can get academic information in the library.” Respondent R14 explained: “Everything in the course that I am doing, the material is here in the library.”

The internet was regarded as important because of convenience of use. Respondent R5’s response sums up this finding:

> I feel the internet is the most, well it is the most valuable, because sometimes you are off campus and you cannot get to school. Or to the library and the distance. Also sometimes the campus library like Doornfontein [University of Johannesburg campus library] doesn’t have what I am looking for. That library doesn’t have books on my course and modules. Then the internet is better and more useful.

Two respondents also linked the library with the internet. Respondent R17 stated: "… the internet connects me to the library. Books in the library I can find on the library website and the levels in library. In the library it is hard to find a book by yourself. The library website tells you where the book is in the library." Similarly, R3 stated: "… with books I can go to the shelves and look myself. I might miss one. But I feel with the internet, I can check it out and then when I go [to] the shelves I already know what I am looking for and expect to get it."

For four respondents, the computer laboratories were the most important resource in view of strong Wi-Fi connectivity and the availability of computers. Respondent R1 explained: "The reason why is that when you go to the computer labs [laboratories] you know you will find what you are looking for. Because the computers there won't give you trouble." Respondent R12 indicated: "… the computer labs [laboratories] I can use freely and for as long as I want." Respondent R7 regarded lecturers and tutors as some of the most important resources: "Lecturers give us information on assignments", and "we can e-mail lecturers and tutors to help us get extra marks.".

In conjunction with question 27, the purpose of question 28 was to determine the respondents' library usage:

Question 28: *How often do you use the library?*
The findings revealed that the majority of the respondents used the library regularly, ranging from daily or two to three times a week to once a week. Those were the respondents who also mentioned that they regarded the library and internet as the most important resource. The respondents who did not use the library often or never used the library indicated that they used the computer laboratories or the internet at their residences.

The majority of the respondents who indicated that they made use of the library regularly used it every day. The most frequently used resource in the library was the computers to search for information for their assignments. The most frequently mentioned types of activity for which they used the library was working on their assignments, studying and printing out assignments. Respondent R2's response reflects these findings: "I go to the computers to search for information and then print out. I come every day to the library." Respondent R17 stated: "I am always in the library". Respondent R15 stated: "Mostly every day. I use the computers to search and then printing." Respondent R12 stated: "Every day, yes, every day. I use the library for the

computers or to just sit in the reading corner and read books." Respondent R13 indicated her usage:

> I use the library maybe two to three times a week. I use it to read and to learn. I read a new book every three weeks. I am a very good friend of the library. I am reading a book right now from the library.

Respondent R1 stated that he was not a regular library user, but only came to the library when he had to study for specific subjects or had to complete specific assignments. He explained: "I never really come for text-books because I have that at home. I come to study or to meet a friend or use the discussion room for group discussions. So not really often." It seems that this respondent connected his non-library use with text-books and not usage of other resources, such as the library spaces.

Even though the majority of the respondents used the library regularly, they did not mention librarians, which is an indication that they did not regard a librarian as someone who could assist them with their information needs. This may be an indication of the respondents' low cultural capacity in their everyday life context and that the majority of the respondents' first experience with a library was at university. Similarly, Borrelli et al. (2018) found that FG students' insufficient cultural capacity often caused low awareness of services available in the library and influenced their interaction with library staff.

In order to determine whether the library was able to satisfy the respondents' information needs, the following question was asked:

Question 29: *Do you find most of the information needed for an assignment in this library?*
In terms of resources, the findings revealed that most of the respondents found that the library was able to provide in their information needs. The respondents indicated that the library had a variety of information sources as well as computers, internet and printing facilities. Respondent R16 stated: "Yes, because it has journals, books, articles and computers". Respondent R7 stated: "… I can use the database and I can also print. And there are a lot of books that support my course." Only one respondent (Respondent R1) stated that he could not say whether the library provided in his information needs because he used his own text-books and the computer laboratories. This respondent also stated that he only used the library to meet with friends, to use the discussion room and to study. This finding indicates how the library as a resource has

changed: library spaces are now seen as important aspects of the library, not necessarily the use of librarians and library sources such as books. It is evident that although some respondents did not make use of librarians or information resources such as databases or the online catalogue, subconsciously they used the library resources in a different way by making use of library spaces to improve their learning.

Respondent R4 indicated that she needed information on a very specific topic, which the library could not provide: “Like I had to do research on school uniforms. I couldn’t find anything in the library. So I had to look on Google Scholar.” This finding might be an indication that the respondent misunderstood the many services the library offered to assist students in their information needs, such as obtaining information for them that cannot be found in the library.

The next two questions aimed to determine whether the respondents made use of the library’s electronic resources and to assess their familiarity with the resources:

Question 30: *How familiar are you with consulting an electronic library catalogue?*
Half of the respondents stated that they were familiar with consulting the library catalogue and the rest of the respondents were fairly familiar to unfamiliar with the procedure.

Initially, Respondent R6 found it complicated to use the library catalogue, but he found using it easier the more he used it. He responded: “Now I am getting used to using it. But when I first came here, I struggled. The more I use it, the more it gets easier to search it.” Respondent R3 described her library catalogue usage as:

> Yes, I use it a lot to look for books. At the beginning of the year, they showed us how to use it. That was very helpful. I would not have known how to use it if it was not for the ladies [librarians] who showed us.

These findings indicate that the respondents were able to overcome initial barriers with persistence, which in the academic context is important for academic progress. It also shows that the respondents could apply what they had learnt in the information literacy course.

Not all respondents who indicated that they were familiar with the use of the library catalogue found it easy. Respondent R8 indicated:

> I am familiar and have used it. But the challenge with the catalogue is that it comes with so many authors so you don't know which author to choose. It also becomes overwhelming then … Oh, my word, I ask myself "do I have to check all the authors and stuff?"

Two respondents confused the library's search engine with the online catalogue. The respondents who stated that they were unfamiliar with using the catalogue attempted to use it but did not pursue it further. Respondent R11 indicated: "I only used it once with assistance. I haven't really used it on my own. So not so familiar." Respondent R12 said: "I tried but I didn't know where to go or how to look. I didn't know what to do. When I searched it told me the book was on DFC [Doorfontein campus library], then I gave up."

These findings may be an indication that the resource characteristics and the respondents' lack of competence, as noted by Wilson's (2020:35) 'intervening variables', can cause users not to pursue information seeking or searching actions further.

Question 31: *How familiar are you with using a full-text electronic journal database?*
Similar to question 30, the findings indicated that half of the respondents stated that they were familiar with using the library's journal databases. However, only two mentioned specific databases. The rest of the respondents were unfamiliar with using the library's databases. One respondent also confused the library's search engine with the library databases.

Respondent R17, indicated: "For me, it is very easy to use it. Like Sabinet and Ebsco. I use it a lot." Similarly, Respondent R9 stated that "I can use Ebsco, I can use keywords and narrow down." Respondent R7 described her experience:

> Very familiar, I can find information within the year-range. I don't find information that is older. Databases can give you information that is very up to now. I can find relevant and up to date information.

The respondents who indicated that they were unfamiliar with database usage did not use it at all or hardly used it. Respondent R1 indicated that he retrieved his journal articles from the student learning management system called Blackboard. (Lecturers sometimes upload some journal articles on Blackboard for students to read.) Respondent R6 stated: "No, I can't say I am familiar with it. I more use Google Scholar." Respondent R4 found it too complex: "It also took me long to search through the databases. Because I didn't know how to search it properly. I then find myself having to ask for help, like my seniors." This finding relates to the respondents'

everyday life context in which they they could not ask anyone for assistance, and therefore they used their social networks and asked individuals with whom they felt comfortable for assistance. They were also reluctant to come across as incompetent and therefore asked peers who would not judge them harshly.

The library catalogue and full-text electronic journal databases are essential resources students need to be able to use, if they want to become efficient information users. It seems that the respondents who were able to apply their information literacy skills were able to use the library's electronic resources successfully. They consequently had positive experiences of using the catalogue and databases. However, it seems that the respondents who were unable to apply their information literacy skills effectively had negative experiences and therefore reverted to avoidance of the resources. Wilson (In press:17) explains that this type of behaviour is common in both desirable and undesirable situations. In this instance the respondents' information literacy competence either made the situation desirable and the respondents kept using the resources, or lack of competence made the situation undesirable and they decided to reject the resources.

Wilson (In press:113) claims that services have now mutated into seeking. He further maintains that in order to understand what motivates information seeking, the way in which information is retrieved and used, as well as information service delivery, needs to be considered.

7.5.3 Services

One of the main focuses of an academic library is to support students' academic development by providing updated services. Consequently, user satisfaction is extremely important (Dahan, Taib, Zainudin & Ismail 2016:38). Therefore, the intention of the following question was to ascertain how the respondents regarded the library services:

Question 32: *What is your opinion of the nature of the support and guidance that you receive from library staff?*

The findings showed that the majority of the respondents were satisfied with the support they received from library staff. Two respondents did not make use of any library support and one respondent had a negative library support experience. Comments such as, "I so get support from library staff, "I was happy with their service", "They were eager to help me", "The staff helped us a lot with that", "The staff is really helpful", "They take time to help me", were used to

describe the support they received. The finding and locating of books and the value of the information literacy course were mentioned most often by the respondents. Respondent R13 explained: “When I need books, the staff in front in the library [circulation desk staff] helped me to locate the books. They showed me where the books are I needed. They support me greatly”. Respondent R17 stated that “… they showed me where in the library the book was. Also when to bring back the book and rules [library rules].”

Regarding information literacy, Respondent R10 indicated: “Like they taught us time management and how to use information. I see it as a build-up here at UJ if you want to go on to post-graduate. It really helped me,” Similarly, Respondent R15 responded: “Yes, in the beginning of the year we were taught how to use the library database and search for information. And how to get information on the library. I was happy with the support”. The respondents also mentioned other services with which the librarians assisted them, such as how to use the computers, and the assistance they received from the library tutors. For Respondent R7, the library tutors were very helpful: “… especially the library tutors. I receive a lot of support from [them] and from the one who sits at the back of the office. They understand my urgency.”

Two respondents stated that they had not made use of any library support. Although Respondent R4 stated that the library was the most important resource, she used the library when she had assignments and the library had most of the sources she needed, she had not made use of any support from library staff. Respondent R1 also stated that he had not made use of any library support. (He mentioned that he used the library spaces to study and meet friends for discussions.) He said the following:

> I hear from other people that they recommend the staff because it is a very good thing. Hmm, they are able to provide you with all the information you need. I know there are subject librarians. So they make everything much more easier for you.

Although Respondent R12 stated that overall the library staff was supportive, her one negative experience made her hesitant to seek library support. She used the library every day to read and use the computers. She described her experience:

> Like last week I asked a librarian and she just like told me to search and Google UJ Library. I didn’t know where to start. She was the only person I asked and I never ever went back to any person to help me.

It seems that the respondents only became aware that they had actually made use of library staff for assistance when asked about it. Previously, the library staff was seldom mentioned. This might be an indication that librarians exist in the respondents' minds but they do not necessarily remember a specific librarian when an information need arises.

Since an academic library serves academics and students and to ensure that the students' academic experiences are enhanced, the next question endeavoured to ascertain whether there were any additional services the respondents wished the library to offer:

Question 33: *Are there additional services that you wish to be offered by the library?*
Most of the respondents stated that they were satisfied with the current services of the library. Seven respondents recommended additional services or improvements.These services were to restructure the library's computer usage so that they would have more time to use it, as well as adding Microsoft software to the computers, simplifying the printing process from the computers to the printers and reducing printing costs. In addition, the following requests were made:

- Respondent R10 wanted study rooms the students could book to use. She also recommended that the library acquire laptops and tablets that could be on loan to students: "… can I say borrow or lend to students who can't afford it, laptops and Macbooks?"
- Respondent R1 wanted "the library to spread more awareness about services they offer to the students because a lot of students don't know about them." This respondent was not a regular user of the library. The library has an intensive awareness programme.
- Respondent R4 wanted "… an expansion of South African sources. Most sources are from Africa and not South Africa. Like for my studies, if I want to read on South Africa, I can only find on Africa."
- Respondent R13 recommended: "So I think like sometimes when it comes to reading for instance. I used to struggle. So I think maybe offer help on how to read."

These findings reflect personal preferences, since the recommendations come from personal motives. Nahl (1998:60) calls this behaviour "culturally structured motivational components", saying the user's needs in an information environment are based on personal problems and interests.

7.6 REFLECTION

In reflecting on the outcomes of the collected data, a picture emerged from the responses of what the FG respondents encountered when entering the academic context and what they experienced in terms of emotions, perceptions, information needs, seeking, use and information literacy. The very first aspect that came to the fore was that they were confronted with two opposing contexts – the everyday life context from which they originated and the academic context in which they had to pursue their academic career. Both contexts displayed characteristics and sets of criteria that were hardly compatible. Both made different demands on them and they were faced with different types of information needs.

7.6.1 Everyday life context

The findings revealed that a variety of factors influenced the respondents' information seeking behaviour. It seems that situations in their everyday life context influenced their information seeking behaviour in their academic context, such as being the first in the family to attend university, socioeconomic circumstances, the environment being an informal environment and parents lacking skills to prepare the respondents for the academic context. These factors caused the respondents to adopt certain information seeking habits in order to make sense of this context.

These habits were also transferred to their academic context. For example, they relied on informal networks or individual people with whom they felt a connection in their everyday life context. In their academic context, these included more experienced friends and peers they felt could provide in their information needs better than they themselves could. They also did not distinguish between the expertise of friends, peers, lecturers, tutors and librarians and regarded these sources of information on the same level of trust. Other factors included their unfamiliarity and uncertainty in the academic context, such as academic resources, using technology for academic purposes and solving information problems in an academic environment.

7.6.2 Academic context

It seems that the situations in the respondents' everyday life context motivated them to achieve academic success. The findings indicated that the respondents' efforts to satisfy information needs were academically motivated and goal-driven. They needed information to understand their coursework and their information activities and information source requirements therefore revolved around satisfying their academic information needs. Their information needs also

revolved around familiarising themselves with general campus practices and everyday life information to transfer to their families, owing to lack of resources in their everyday life context.

Although the respondents showed clear understanding of their academic information needs and information requirements, their uncertainty about solving academic information problems impeded their application of certain information activities, such as coming up with solutions. Uncertainty was evident in the affective emotions and feelings the respondents portrayed when they were dissatisfied with their information outcomes. They fell back on their old information seeking habits, tending to consult other people to solve their information problems for them. They still did not ask information professionals such as librarians to show them how to solve their information problems, but rather waited for their information problems to be solved by friends, peers, lecturers and tutors. This finding may be a reflection on their everyday life context in which their information seeking behaviour seemed suitable for that context.

7.6.3 Information literacy

The respondents' information-literacy abilities seemed to have been improved by completing the compulsory information literacy course, because they realised that if they were to apply relevant information efficiently in an academic environment, they needed to be information-literate. The findings revealed a change in the respondents' information use habits. They thought of how they would use information differently, evaluated information and showed a connection between their level of information literacy and how they learnt. It seems that in improving their information literacy capacity, the respondents came to understand the differences between information practices in an everyday life context and an academic context; they realised that technology is part of the processing of information and resources such as the library fit into their academic context.

7.7 CONCLUSION

This chapter reported on the analysis of the empirical data collected. The findings were analysed in terms of the respondents' real-life experiences, based on the phenomenological research method. The findings showed that situations in the respondents' everyday life context influenced their information seeking behaviour in their academic context. The findings also showed that the respondents were able to overcome certain information challenges by improving their information literacy skills, enabling them to function efficiently in the academic context. The following chapter will discuss the findings comprehensively.

CHAPTER 8: EVOLVEMENT IN FG STUDENTS' INFORMATION SEEKING BEHAVIOUR

8.1 INTRODUCTION

Based on the insights gained from the findings in chapter 7, this chapter discusses the main influences in the FG respondents' information seeking behaviour to show how their information seeking behaviour evolved from their initial entry into the UJ's academic context to the point where they mastered the necessary information literacy skills. With this in mind, this discussion covers in consecutive order (i) the influences of the everyday life and academic contexts on the FG respondents' personal dimension, (ii) the information needs experienced, (iii) the information seeking practices applied, (iv) the intervention of information literacy skills training, and (v) the achievement of the desired outcomes.

In conclusion, based on the insights gained, a conceptual model, as well as a proposed operational definition, are provided to display graphically how FG students' information seeking behaviour evolved over time.

8.2 EVERYDAY LIFE CONTEXT

From the findings it became clear that FG respondents were confronted from the onset with factors present in both the everyday life context and the academic context. From the literature study (chapters 3 and 4) and the findings it became clear that the two contexts represent the opposite ends of a continuum with diverse characteristics, elements and criteria the FG respondents need to consider or have to comply with. For example, the FG respondents experienced the following situations in their everyday life environment:

- The majority of them came from rural areas with no library in their area. Alternatively, they had to travel long distances to public/community libraries where they could gain access to text-based information. Because of this limitation, they were unfamiliar with the nature and purpose of a library when they arrived at UJ.
- They came from low-income families and consequently did not have computers or internet at home. In some instances, FG respondents were the breadwinners of their families and could not afford additional luxuries such as computers or the internet.
- Most of the FG respondents did not live at home but in student accommodation, on or off campus.

- Some FG respondents finished school late and some first worked before enrolling at university.
- At home FG respondents were sometimes expected to assist younger siblings in their academic needs, because the parents could not do it. FG respondents who were expected to assist their younger siblings with their academic work did not receive academic support from their parents themselves. This was because their parents lacked knowledge and understanding of higher education, as for some of them their highest qualifications were below grade 12 and they were not necessarily interested in finding out about FG respondents' studies or their academic progress.
- FG respondents were often the information providers for their families.
- They did not get much motivation or support from their parents regarding academic matters.
- Their access to information was primarily interaction with family members and this was limited to everyday life conversations, which did not include academic matters.
- In the everyday life context, they were used to approaching people whom they trusted as legitimate sources of information instead of using recorded information in documents or in digital format.
- FG respondents often felt isolated because they could not approach their parents for information.

The situations the FG respondents experienced showed that they grew up in a low social and cultural capacity environment. Consequently, the situations they experienced in their everyday life context affected their preparedness for entering an academic environment.

Usually when first-year students enrol at university or arrive at university for the first time, they are aware of what to expect from an academic context and have received some preparation from parents and older siblings. Considering the nature and purpose of a tertiary institution, it became clear from the responses that FG students were totally unprepared for what awaited them in an academic environment.

8.3 ACADEMIC CONTEXT

To understand to what extent FG respondents were prepared for the academic context, it will be necessary to compare the typical characteristics, elements and information requirements of an academic context to those of the everyday life context from which they originated. From the

literature reviewed in chapters 3 and 4 it became clear that an academic context has very specific criteria, rules and regulations with which people in this type of context need to comply. In terms of information, primarily tested information is applied to accomplish tasks. To access information, users need to be ICT-skilled and should know which information sources and resources to select to retrieve relevant information timeously and with the least effort. It is also necessary that only information relevant to a specific task should be retrieved and evaluated. Prior knowledge from a person's knowledge store of a specific topic is normally used to serve as a stepping stone to plan an information search strategy. Perhaps most important is that information users should have access to information technology (computers and online facilities) and should know how to apply them.

Outstanding characteristics of the academic context are

- using authoritative and tested information to reach academic goals;
- using ICTs as a prerequisite to find, retrieve and apply relevant information for the intended purpose;
- solving task-based information problems to advance academically to the next level of study;
- strategising on how to use information effectively;
- using information legally and economically;
- demonstrating that the student can work independently and able to use current knowledge to generate new knowledge; and
- collaborating with academic staff and other students on task-based outcomes.

When comparing the two contexts described above, it seems clear that they differ substantially in terms of nature and purpose and the type of information viewed as relevant.

8.3.1 Information needs

Before this discussion moves to the personal domain's influence on FG students' information seeking behaviour, it is necessary to take cognisance of the typical information needs of FG students and where they originate. From the literature (chapters 3 and 4) it became clear how information needs are defined and that they originate from the roles or tasks in the context in which the individual operates. Each of these roles or tasks will have different information requirements (Wilson In press:36). It also became clear that information needs evolve owing to the interplay between cognitive and affective structures of the person-in-context's mind, thus

enabling the individual to formulate his/her information need(s) consciously. In the case of the FG respondents, their information needs derived from the academic context, but their level of understanding was strongly influenced by the everyday life context in making sense of the information problems that originate in the academic context. Furthermore, the literature (Wilson in press:36) indicates that a person can experience different types of information needs. For example, individuals can have two roles: a social role and a professional role. Wilson (In press:36) provides the example of a social role as a person functioning in a family (father or mother) and a professional role as the person functioning in a workplace environment (employee or employer). Each of these roles will have different information needs.

From the findings it was evident that the FG respondents experienced three types of information needs. They required information for orientation on campus (information on transport for getting to and from the campus, class timetables, the layout of the campus), assistance with connecting their mobile devices to the university's internet and how the communication systems such as Blackboard operate on campus, as well as everyday life information such as information on health and social issues to pass on to their families at home.

However, their most prominent information needs derived from the respective courses for which they were registered. Originally, they found themselves at this point in an awkward situation in the sense that they were not familiar with the types of information required for assignments. They recognised that they needed information to complete their academic assignments successfully, but they did not have the skills to act upon their information needs. They also did not have the necessary skills to seek information as required in the academic context and they could not revert to the information seeking mechanisms they were used to in the everyday life context, since those did not comply with the sophisticated requirements of the academic context. For example, they could no longer ask a person such as a family member, friends or other students to tell them how to interpret an assignment topic. Although they did try to apply these seeking methods in the academic context, this did not yield the expected success. They found themselves literally caught up between two diverse contexts with diverse information-related demands.

8.3.2 Personal experiences

Apart from the influence of the two contexts, the findings confirmed that there is a third very important component that influences FG respondents' information seeking behaviour, namely

their personal dimension (inner experiences). In fact, in this study the personal dimension together with the two contexts seems to form the core components that influence FG students' information seeking behaviour, as will become clearer as this discussion progresses.

Guidance from the literature explained how cognitive and affective aspects of individuals' personal experiences interact with contextual components to determine the information needs relevant to the situation (Meyer 2016). On the cognitive side individuals need to make sense of concepts, compare incoming information to their existing knowledge stores and display their ability to judge the relevance of information when they are confronted with an information-related problem. On the affective side are the emotions and feelings individuals experience when they are confronted with an information-related problem. In this investigation it became clear how FG respondents' inner experiences fluctuated between their cognitive and emotional abilities, specifically when they were exposed to demands deriving from the academic context. They then subconsciously tended to apply their information seeking abilities inherited from their everyday life context.

8.3.2.1 Motivation

The FG respondents' everyday life situation of parents not understanding their academic environment needs served to a certain extent as motivation for FG respondents in fulfilling their information needs to prepare them for university. This was reflected in some of the FG respondents' networking activities, where they focused on surrounding themselves with people they knew who could assist them with information to prepare them for university. For this purpose, they included people outside their immediate family, or friends who were already at university and who could help them in their information seeking and communication activities.

Some FG respondents also tried alternative ways until they were satisfied that they had received the needed information to prepare them for university. For example, one respondent reported how she repeatedly returned on her own to her public library to use the library's computer and internet to get information to enrol at the university. The parents' disinterest in home technology also prompted some FG respondents either to acquire data for their mobile devices themselves to enable them to access information or to purchase their own computers. The decisions these FG respondents made were not only guided by their values, beliefs, norms and experiences that were applicable within their own everyday life situations, but also acted as a motivational force to satisfy their information needs to prepare them for university.

8.3.2.2 Emotions and feelings

Parents' inability to share skills with the FG respondents to prepare them for an academic environment brought about negative feelings. Among the feelings were feelings of isolation, uncertainty, stress, anxiety, loss, confusion, frustration and low self-confidence. In fact, one respondent admitted that she felt like a burden to other people, because she could not ask anyone in her family for information, and instead was forced to ask other people. The feelings of uncertainty and discomfort the FG respondents experienced could have resulted in them being too scared to ask help from people in positions of authority. The main reason was that they were scared of coming across as ignorant. The FG respondents' lack of information-literacy skills when they arrived at the university caused these negative feelings in the following situations:

- Lack of digital skills to apply technology in an academic context. Owing to their lack of skills, the FG respondents felt confused and lost.

- Problem-solving abilities also made the FG respondents feel frustrated, because no one in their everyday life environment had taught them how to solve problems, specifically how to search for and find information. Most of the FG respondents could not find relevant information and spent too much time searching for information they could not use. They also did not know how to go about solving their information problems. As a result, some of them, after searching for information for a long time, gave up searching or moved on to something else. This finding seems to be evident of the risk/reward experience, discussed by Wilson (In press:37-38) as an intervening variable that can discourage searching activities. It implies that when individuals seek information, before they act, they weigh up the risks and rewards associated with the action, based on their previous experience or by further exploration and then assess whether any further action is worth pursuing. In the case of this finding, it seems that the risk is related to the respondents' ego: the risk of loss of self-esteem (ego) outweighs the benefits of the information they seek. This finding is reflected in one respondent's statement that she found the library's online catalogue so confusing she just stopped using it to search for books. Another respondent also stated that if she could not find the information on Google, she gave up the search process. These findings corroborate Wilson's (In press:38) notion that risk can affect a person's ego in terms of loss of self-esteem. Thus, the risks outweigh the rewards of pursuing search actions further.

- The FG respondents tended to be dependent on other people to solve their information problems for them, often with disappointing outcomes, such as being provided with incorrect information. An implication of these experiences was that the FG respondents realised they could no longer rely on their informal networks for information and their inability to retrieve relevant information left them frustrated and disappointed, with low confidence in their own capabilities.

8.3.2.3 Trust

FG respondents commonly associated feelings of trust with information sources when they had to decide on using or not using a source. In an academic context, trust or mistrust in resources derived from the perceptions FG respondents formed of people as information sources in their everyday life environment, which also influenced their preferences for sources. Preferences for people as sources of information were specifically associated with trust.

Because the FG respondents could not get any guidance from their parents on the selection of information sources in an academic environment, they put their trust in the resources with which they were familiar in their everyday life context. These included friends and peers with similar or more experience than themselves, because they could relate to them and these people could give the FG respondents advice on their subjects. It therefore seems that the source's characteristics made them trustworthy in the FG respondents' academic environment.

The only area in which the FG respondents trusted their parents as sources of information was their parents' personal lived experiences relating to heritage, culture and history. In a cultural context, they perceived their parents as trustworthy information providers of factual information, because their parents and grandparents were personally present during certain cultural and historical occurrences.

This phenomenon of FG respondents placing their trust in people as sources of information is an example of how the FG respondents transferred their trust in the sources of information they chose in their everyday life environment to their academic environment. Thus, trusting these sources provided the FG respondents with a feeling of confidence in themselves.

It was only after FG respondents became more familiar with the way of acting in the academic environment that they eventually perceived sources of authority such as lecturers and librarians

in the same manner in which they perceived sources of information in their informal environment – as people who could help them and who knew more than they did. The trust that FG respondents placed in people of authority as sources of information seems to suggest that they were integrating what was known and familiar to them in their everyday practices with their preferences in other environments, such as the academic environment in which they found themselves.

Despite FG respondents placing their trust in other people to help them with their information problems, in asking for assistance, they experienced emotions and feelings of discomfort towards other people. Most of the FG respondents were hesitant to ask other people for assistance. Their hesitance to ask people for assistance could be ascribed to lack of self-confidence and fears of coming across as inexperienced and incompetent.

FG respondents' reliance on people for answers (still influenced by the everyday life context), became evident in their academic environment as well. This manifested in responses where FG respondents acknowledged that they needed people to first explain and clarify information for them, before they could look for sources containing the information they needed. They therefore needed clarification in order to make their own informed decisions. Since the FG respondents' parents come from traditional communities where they often depend on other people's opinions and do not want to make their own decisions, the FG respondents' behaviour is a reflection of their parents' influence on their cognitive development.

8.3.3 Information seeking outcomes

The FG respondents' academic unpreparedness resulting from situations in their everyday life context largely contributed to their initial unsuccessful information seeking outcomes. Furthermore, there seems to be a direct link between the FG respondents' information seeking outcomes and their cognitive and affective responses to information seeking. These responses are an indication of how deeply the FG respondents' real world manifested in their information seeking behaviour. The following cognitive and affective responses contributed to their information seeking outcomes:

8.3.3.1 Cognitive responses

Guided by the literature, there is a relationship between parents' education levels and children's cognitive development and their educational expectations (Terenzini et al. 1996:3). The FG

respondents' cognitive skills were inadequately developed to seek, find and process information on a level that is required for higher education, because of their parents' inability to transfer their cognitive skills to the FG respondents.

a) Problem-solving

From a problem-solving situation in an academic context, the FG respondents' cognitive skills were limited to solving problems in everyday life situations and their thought processes about solutions were of an informal nature. They could consequently not move past their everyday life context to employ strategies to overcome the gaps in solving academic information problems. Having to solve information problems in a new environment (academic context) to which they were not used and of which they had no experience in their everyday life context resulted in them being unable to take action to satisfy their academic information needs. Indeed, almost all the FG respondents stated that their information seeking outcomes were unsatisfactory and they professed a desire to learn how to solve academic information problems more successfully.

b) Gap-bridging

From the literature review chapters (chapters 2,3 and 4) it became evident that gap-bridging is related to sense-making, problem-solving and cognition. The FG respondents' inability to seek solutions, for example to apply search strategies to find relevant information to satisfy their information needs, caused the gap requiring bridging in their information problems to increase, which left their information needs unsatisfied. The FG respondents' insufficient cognitive development in terms of information seeking caused them to develop a type of 'tunnel vision' in respect of bridging their information need gaps, created by the situations in their everyday life context where no-one guided them in solving academic information problems or using information systems to find relevant information.

The following aspects also contributed to their unresolved information seeking outcomes:

- lack of information seeking skills;
- everyday life customary habits of making use of informal sources of information, thus relying on untested opinions and on other people to solve their information problems for them;
- lack of ICT skills caused by lack of ICT infrastructure
- limited use of academic resources; and
- using Google as an easy way out.

Because of the FG respondents' inadequate cognitive skills and not knowing how to solve their gap-bridging situations, they turned to their everyday life comfort zone, which entailed asking other people in their informal networks and individuals to bridge the gaps for them, instead of asking them to show the FG respondents how to solve the problems themselves. This behaviour is an example of their unstructured information seeking practices in the sense that they accepted assistance from anyone, regardless of the individual's knowledge and skills. As a result, they became stagnated in their gap-bridging attempts; one respondent indicated that even though she was unsatisfied with the information outcomes of asking friends, she kept asking them for assistance. This shows that the FG respondents' everyday life context made it difficult for them to adapt their information seeking behaviour to fit in with the requirements of an academic context.

In addition, this behaviour can have negative consequences for FG students in an academic context and cause ripple effect in terms of drop-out rates for the UJ and subsidy allocations from the South African government. As indicated in chapter 1, section 1.2, according to Van Zyl (2016a) 62,5% of first-year students studying at the university are FG students. In line with Pascarella et al's (2004:250) findings, it is quite possible that these FG students could drop out of university during their first year, because of low social and cultural capacity in their everyday life environment. Therefore, it can be argued that developing the students' cognitive skills not only to solve academic information problems, but also to be able to use technology to access relevant information fit for an academic environment, will enhance their academic experience and contribute to their academic success.

8.3.3.2 Affective responses

In real-world information behaviour situations, an interplay between cognition and affect exists (Savolainen 2015a). This is the case with FG respondents' information seeking-behaviour; their inadequate cognitive ability to resolve information seeking problems successfully is reflected in their negative feelings and emotions about their information seeking outcomes. These negative feelings and emotions were displayed throughout the FG respondents' responses when describing how they felt about seeking, searching and finding relevant information, as well as their processing of information. These negative feelings and emotions also influenced their attitude to sources of information. Such an attitude is displayed by one respondent who avoided asking experts for assistance because she did not want to reveal her lack of confidence and

ignorance to experts. This finding is again evidence of Wilson's (In press:38) arguments on the risk/reward experience, where the risk of the respondent's ego suffering a loss outweighed the reward of having her ignorance come to light by asking someone for assistance.

The interplay between cognition and affect also arose in the FG respondents' use of technology when having to search and retrieve needed information. In the FG respondents' everyday life context their information seeking was straightforward, since it was of an informal nature and in essence, they either had to rely on themselves for information or ask their informal networks for assistance. However, in an academic context, a student is required to apply information literacy skills to search and find relevant information by applying search techniques to a variety of information retrieval systems. Since they had not been exposed to this type of information seeking in their everyday life context, they could not apply seeking and searching strategies by using technology as tools to search and find relevant information, leaving them disappointed and frustrated with their information seeking outcomes. Consequently, as one respondent reported, searching the library catalogue was overwhelming because it provided too much information to choose from. It therefore seems that their cognitive and affective feelings and emotions also acted as barriers, which prevented them from resolving their information needs and information seeking problems. It is indeed confirmed by Wilson (In press:73) that individuals' physical environments as contextual influences may be sources of potential barriers that can impede individuals' information seeking.

8.3.3.3 Knowledge of technology

Perhaps the most important information problem experienced by FG respondents was their level of knowledge of technology and skills to master the seeking process. A further setback was their poor use of ICT. During the interviews they admitted that their competencies to use technology for academic purposes were inadequate when they arrived at UJ. They were accustomed to using technology such as their mobile phones for social interaction in everyday life situations. None of them used technology to address academic information needs. The found particularly the creation of passwords to access specific academic systems challenging. Moreover, using an academic system such as Blackboard was unfamiliar to them. In addition, they were not aware that they had to access all of their coursework online.

Although many FG respondents could not afford technology to comply with the academic requirements, financial constraints were not the only reason their technology capabilities were

inadequate when they arrived at university. Some of the FG respondents' parents did not regard a computer and internet as necessities to use in an academic environment. Therefore, most FG respondents did not have this kind of technology at home and were never exposed to it. It seems that the parents had to prioritise essential needs at home and unwittingly acted more in their own interest rather than attempting to provide what was important to the FG respondents' needs in an academic context. Therefore, the FG respondents were left at their own mercy to buy computers for themselves, but they did not have the financial means to do so. In homes where a computer was available, the FG respondents could not access the internet, since their parents were not prepared to pay for data to connect to the internet. Thus, the parents' lack of understanding of the requirements of an academic environment, or their inability to accommodate the additional costs involved in connecting to the internet, restricted the FG respondents' use of computers. This situation limited the FG respondents' access to information communication technology, which in turn affected their academic development negatively. Without assistance, the FG respondents might not have been able to pass and/or to comply with the academic requirements of the university.

8.3.4 Intervention of information literacy skills training

As indicated in chapter 1, section 1.2.2, the head of MAPS in the Humanities recognised a need for MAPS first-year students to develop their information literacy skills and thus improve their overall academic performance. With the assistance of the library, the information literacy training course was adapted to meet the MAPS students' level of skills, such as having face-to-face training sessions where the students could interact with the training librarians and at the same time follow the course content online and complete online compulsory assessments.

The information literacy course seemed to have had a positive outcome, since almost all the FG respondents confirmed that their information literacy skills improved after they had completed the information literacy course. In fact, the findings reported on in chapter 7, section 7.4.2.3 showed that most of the FG respondents could see a connection between how and where they looked for information and their learning. Furthermore, the FG respondents were able to apply their newly acquired information literacy skills to their subjects. They were also able to practise their skills, particularly the referencing of information sources. A further positive outcome of the information literacy training pertains to the fact that the FG respondents used information differently, such as using more academic type resources, not only the internet. Furthermore,

they could evaluate information before they used it. Some of them were even able to help other students with the referencing of information sources.

As the FG respondents became more familiar with their academic environment, they recognised the differences between needing academic information and information for informal activities that were of a more routine nature. Wilson (In press:37) refers to these needs as everyday needs, which are in a person's scope of competencies to fulfil, and information needed for academic purposes, such as assignment completion. Their academic information needs seemed to include:

- In-depth understanding of their coursework. The FG respondents understood that in order to complete an assignment successfully, they needed to do research, they needed a variety of information and the information had to come from credible sources.
- Understanding of unfamiliar academic terminology. FG respondents learnt to understand that information at university level is different from that required at high school level.
- Understanding that different tasks require different types of information.
- Recognising that they needed technology to access information. The FG respondents recognised that the efficient use of technology forms part of the information seeking process.

As the FG respondents' information-literacy competence and their use of ICTs improved, they also started using different sources of information and resources. This included moving away from searching Google to searching databases, and they also consulted the library online catalogue for books and journal articles. They learnt to embrace the convenience and ease of access that use of ICTs provides to retrieve and deliver information. It became clear that the FG respondents' information seeking behaviour started to change as their self-confidence increased and they recognised the demands of the academic environment.

The improvement of the FG respondents' information-literacy skills caused them to reconsider consulting people as sources of information and they started to believe in their own ability to search for reliable information. They also moved from consulting friends and peers to making use of the library resources and asking librarians for assistance. It became clear that FG respondents evaluated themselves and recognised that they needed to embrace other ways to seek information and sources in an academic environment to meet their academic information needs.

Because of FG respondents' mastery of information literacy skills they developed the ability to separate the demands of their everyday life context from their academic context and recognise that in an academic context information has a different dimension. As their information literacy competencies increased, they also came to realise the value of sources of information they would normally not have made use of, as well as connecting information literacy with their learning abilities. It can therefore be endorsed in line with Dervin's (1998:360) sense-making theory, that the moment when the FG respondents attempted to make sense of the situations in their academic environment, their reality changed. The reality changes they experienced supported them in recognising the gap in their knowledge store that had to be bridged. Eventually the FG respondents' gap-bridging changed from unresolved information needs to the ability to apply search tactics and reference styles, access a variety of electronic information retrieval systems, apply ICT skills, judge information and sift retrieved information. As far as their affective experiences are concerned, their emotions changed from anxiety, uncertainty, frustration and dissatisfaction to excitement, self-confidence, satisfaction and motivation.

8.3.4.1 Bridging the knowledge gap

The information literacy training course made a significant contribution to addressing the FG respondents' knowledge gap. The FG respondents admitted that in the academic context in which they now found themselves, their behaviour had changed to the extent that they were eventually able to describe and use a variety of information systems to search for information. This ranged from search engines such as Google Scholar, the library's search engine, UJoogle, the library's online catalogue, electronic databases, their student portal, and other library electronic resources, such as online newspapers and the university's institutional repository for examination papers. For this purpose, most of the FG respondents used the library computers or university computer laboratories to search for information. This ability to conduct independent information searches and to use technology confidently to search for information is also indicative of how developing their knowledge and skills through the information literacy course contributed to a change in the FG respondents' information seeking behaviour.

Unfortunately, despite having completed the information literacy course, some FG respondents still experienced challenges with technology to search for information. They specifically found it difficult to use the library catalogue and electronic databases. The challenges these FG respondents experienced are indicative of the fact that not all users benefit from the same information literacy course, as they have different learning needs. For example, some FG

respondents needed more time to improve their information literacy competence. This finding provides insight into how the information literacy course can be adapted to meet students with different levels of skills needs. In addition, some of the respondents required more face-to-face training and support other than online training.

Notwithstanding the FG respondents' information literacy skills having improved to the extent that they understand how to use information and are able to apply information according to the requirements of an academic context, their problem-solving and search techniques need to be developed further. Almost all the FG respondents expressed a need to improve their search techniques and recognised that they needed to improve their problem-solving skills. Their ability to identify and describe their need for further training could be indicative of how their ability to solve problems developed through their involvement in the information literacy course.

8.3.4.2 Achievement of the desired outcomes

Information literacy is synonymous with lifelong learning. From the findings the value of an information literacy course is evident when considering how the FG respondents developed through the course. Whereas they lacked self-confidence and were frustrated with information seeking processes prior to doing the course, they developed self-confidence through the course and became able to use information independently and critically.

By considering the different phases of the FG respondent's information seeking experiences, a very definite change in information seeking-behaviour has been observed. At the beginning there was evidence of hopelessness, which eventually changed to a very positive experience in the second phase after the information literacy training intervention. In the end the FG respondents were much better prepared for independent seeking and lifelong learning, which is after all the desired outcome of information literacy training.

Insight into the FG respondents' information seeking behaviour, as reflected in the findings and discussion, as well as the influence of the variety of information seeking behaviour models as discussed in chapter 5, served as background and enabled this researcher to develop a conceptual model of FG students' information seeking behaviour, as displayed in Figure 8.1.

8.4 CONCEPTUAL MODEL AND PROPOSED OPERATIONAL DEFINITION

Models are widely used to describe and explain information behaviour (Wilson In press:22). As pointed out in chapter 5, section 5.2, the value of a model lies in presenting information seeking behaviour problems, patterns, concepts, processes and stages, steps and activities and relationships in graphical form. The models analysed in chapter 5 provided insight into a proposed operational definition aimed at FG students and a proposed model to describe FG students' information seeking behaviour. Admitting that the proposed model could be subject to possible discrepancies, a conceptual model of FG student's information seeking behaviour is offered in Figure 8.1. The following models and frameworks provided some background to compile this conceptual model:

- Wilson's 1996 model of information behaviour
- Meyer's 2016 model of the building boxes of information behaviour
- Dervin's 1983 sense-making model
- Ibenne et al's 2017 COFIB
- Kuhlthau's 2015 extended ISP model.

8.4.1 Conceptual model

The following graphical conceptual model (Figure 8.1) depicts the major influences in the FG respondents' information seeking behaviour, as derived from the discussion, namely everyday life context and the academic context with the personal experiences component in the centre and the information needs component between the personal and academic contexts, with the information literacy skills component acting as a catalyst.

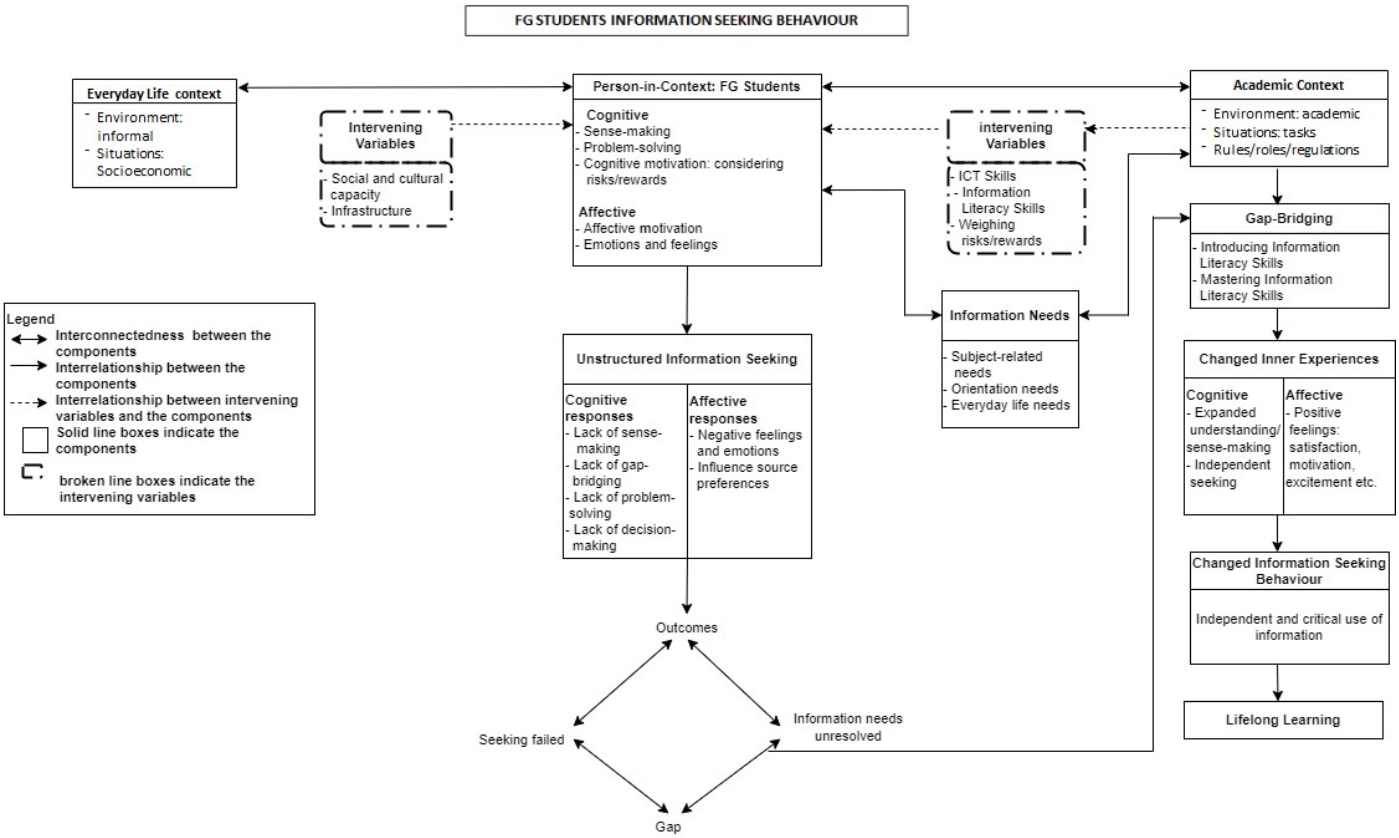

Figure 8.1: Conceptual model of FG students' information seeking behaviour

The model is divided into the different components constituting the phenomenon of information seeking behaviour that influenced the respondents' information seeking behaviour. The two-way solid-line arrows point out the interconnectedness between the components and the one-way solid-line arrows the interrelationships between the different components of information seeking behaviour. The solid-line boxes indicate the components that influence the FG students' information seeking behaviour. The broken-line arrows point out the interrelationships between the intervening variables and information seeking behaviour components and the broken-line boxes indicate the intervening variables.

The person-in-context box is centred at the top of the model, below the title, to indicate the significant influence the FG respondents' inner experiences (personal dimension in information behaviour) have on their information seeking behaviour. The person-in-context component is linked to the two contexts (everyday life and academic), to show the interaction between the FG respondents' personal experiences with the contextual components that determine their

information needs. The interconnectedness between context and the personal dimension on information seeking behaviour has been borrowed from Meyer (2016).

The context in which the FG respondents function is complex in nature, as it comprises elements of both an everyday life context and an academic context. As in the case of a generic model, the everyday life context and academic context in this model comprise rules, regulations and standards with which the FG respondents have to comply. From their characteristics (of which only some are depicted in the respective boxes to avoid clutter) it is obvious that they are divergent in nature. Their influences are depicted in the intervening variables boxes.

This model attempts to show the connection between intervening variables and how these variables influence context, by positioning the intervening variables between the everyday life context and academic context. Insight into intervening variables was obtained from Wilson's 1996 model, where he illustrates how certain intervening variables (barriers) can influence information seeking behaviour. The direction of the broken-line one-way arrows (for example, one from everyday life to person-in-context and one from academic life to person-in-context) demonstrates that the intervening variables derive from both contexts, which in turn influence the FG respondents' cognitive development and affective feelings and emotions in the person-in-context box. Everyday life intervening variables include the FG respondents' social and cultural capacity and everyday life infrastructure in terms of resources. Academic intervening variables are the FG respondents' competencies (or lack thereof) in terms of ICTs and information literacy, which encompass problem-solving and sense-making.

Forming part of the person-in-context component are the elements of the personal dimension in an individual's information seeking behaviour (cognitive and affective). The cognitive elements consist of sense-making, problem-solving and cognitive motivation. Risks/rewards are motivational mechanisms that are associated with cognitive actions, which influence individuals' actions to pursue information needs or information seeking activities. For the FG respondents the risks outweighed the rewards to engage in certain information seeking activities. The affective elements are elements of feelings and emotions and affective motivation, which in return influence source preferences. After the interplay between the cognitive and affective elements in the personal domain, the FG respondents took a decision to seek information. Without knowledge of the standardised rules of seeking information for academic purposes, the FG respondents applied their own, unstructured methods of seeking as depicted in the

unstructured information seeking box, which gave rise to negative responses in the personal domain, as displayed in the unstructured information seeking box.

The demands made of the FG respondents cause discordance in their information seeking behaviour. The solid-line double-headed arrows show that the information needs box is situated between the person-in-context and academic boxes, indicating that information needs originate in the academic context. The types of information needs observed among the FG respondents have been described in detail in the discussion (8.3.1). The results of the first interaction between the two contexts and the person-in-context are reflected in the unstructured information seeking box in the second line of boxes. The nature of responses is evident of failed information seeking activities, which resulted in an information gap the FG respondents experienced because of their unsuccessful seeking efforts. This caused their information needs to remain unresolved and the risks outweighed the rewards. The FG respondents needed a bridge to cover the gap resulting from their unstructured seeking. This came in the form of the information literacy intervention (depicted in the box to the right in the second line of boxes).

Before the intervention, the respondents experienced negative feelings and emotions, as depicted in the unstructured information seeking box. After mastering the information literacy skills introduced during the intervention (depicted in the gap-bridging box), the respondents' started to achieve the desired outcomes of their seeking and searching for information. The changed inner experiences box indicates that once the FG respondents were able to bridge their information need gaps, their personal experiences started to change to positive experiences. Thus, their reality changed when their information seeking behaviour (depicted in the changed information seeking behaviour box) changed in such a way that they became able to think critically about information and thus to seek and apply information independently. Their information source preferences changed from relying on people as sources of information to integrating ICTs in their information seeking processes and exploring electronic information retrieval systems to find information. Ultimately the outcome of their information literacy competencies leads to lifelong learning, as depicted at the end of the line of boxes below the academic context. Their unresolved information needs also changed to resolved information needs as they became more proficient in the use of ICTs, as depicted by the single-line arrow from the gap box to the bridging the gap box. The solid two-way arrow line in the shape of a diamond illustrates that the FG students' unstructured information seeking actions' outcomes failed, leaving the information gap unchanged. Dervin's 1983 sense-making model provided the

necessary insight to illustrate how the respondents were able to bridge their information gap through an improvement in their information literacy competencies. Kuhlthau's (2015) extended model of the information search process was useful to show the stages in the respondents' feelings and emotions and how these changed as the mastering of information skills kicked in, until their self-awareness increased, causing different ways of information searching. Ibenne et al's 2017 model of causative and outcome factors of information behaviour provided insight into how information literacy can be linked to information seeking behaviour.

The model is a graphical display of the phases in FG respondents' information seeking behaviour. Their initial ignorance of information seeking changed gradually as the mastery of ICT skills progressed and changed to a positive display of information seeking behaviour. The changed behaviour is displayed in their feelings, judgements and information use, as well as ICT and information literacy competencies.

8.4.2 Proposed operational definition

For the purpose of this study, information behaviour can be defined as human interaction with information through which contextual elements and personal experiences give rise to information needs and information activities.

8.5 CONCLUSION

The discussion in this chapter hightlighted areas of significance that influenced the FG respondents' information seeking behaviour. The main influences were contextual influences and personal experiences in FG respondents' everyday life environment, such as their low social and cultural capacity. Of significance is the two envirornments in which the FG respondents function, and which made almost incompatible demands on them. The FG respondents' inadequate cognitive skills, deriving from a lack of academic support from their parents, as well as poor infrastructure, contributed to their poor information literacy and ICT skills. Their inadequacies are also reflected in their emotions and feelings about sources of information and the application of technology. By means of the library's information literacy training course as intervention, the FG respondents were able to become proficient in the processing and use of information – they were thus able to keep up with the demands of the academic context. The discussion emphasised the observation that the FG respondents' information seeking behaviour changed over time through the influence of diverse factors, and

keeps on evolving on its way to lifelong learning. The overall impressions of this study are introduced in the concluding chapter following hereafter.

CHAPTER 9: CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

9.1 INTRODUCTION

The focus in this chapter is on drawing conclusions on the basis of the literature study and the results of the empirical research. The research limitations of the literature review and the empirical investigation will be explained in the context of the conclusions of the research. Recommendations on further research, for the organisation involved in the empirical research and for practitioners in the information behaviour research discipline will be discussed.

9.2 CONCLUSIONS TO THE RESEARCH QUESTIONS

The literature review on the concepts of information needs, information seeking and the factors that could contribute to the specific information seeking behaviour of FG students enabled the researcher to draw certain conclusions.

In order to investigate the factors influencing FG students' information seeking behaviour, the following subordinate research questions were identified in chapter 1:

1. What are the information needs of FG students?
2. What difficulties do FG students encounter with regard to their information seeking activities?
3. What are FG students' information literacy capabilities?
4. How effective is the existing information literacy course in enhancing FG students' information literacy skills?

To gain understanding of FG students' information needs and the factors affecting their information seeking behaviour, as well as to learn more about the students' information activities and their information literacy capabilities, the research questions were addressed theoretically and empirically. By learning more about FG students' information seeking behaviour, it was possible to make recommendations on how the library can address the students' information needs and how the information literacy training course can be developed further to enhance FG students' academic experience. To determine to what extent this study answered the respective research questions, the following sections will address the outcomes of each question.

9.2.1 Conclusions relating to the literature study

Conclusions will be drawn about information seeking behaviour, information needs and information seeking activities, with specific reference to the contextual framework of the

research (FG students) and the literature reviewed, culminating in the conceptualisation of these concepts.

9.2.1.1 Research question1: What are the information needs of FG students?

The literature review pointed out that in their context, the situations in which individuals find themselves will determine their information needs (it can be more than one situation). In addition, different situations will trigger different information needs. From the personal dimension of information behaviour, the interaction among mental structures of the individuals alert them that their knowledge is insufficient to satisfy the information need pertaining to that specific situation. Thus, individuals' cognitive abilities and affective feelings and emotions can influence the actions they undertake to solve their information need problems.

The empirical study also complied with the aim to determine what the information needs of FG students are. It can be concluded that the two contexts (everyday life and academic) and the FG respondents' personal dimensions were instrumental in the emergence of their specific information needs. In the FG respondents' everyday life context their information needs related to personal information needs for everyday life use. In their academic context, they had two types of information needs: to orientate themselves with campus practices and information needs relating to academic tasks. It can therefore be concluded that their personal information needs stem from situations in their everyday life context and their needs to orientate themselves. Needing information for academic tasks is academically motivated.

9.2.1.2 Summary on information needs

Finally, it can be concluded that both the literature study and empirical evidence enabled this researcher to confirm that the information needs of FG students revolve around personal information needs, orientating themselves with campus practices and task-based needs related to their coursework.

9.2.1.3 Research question 2: What difficulties do FG students encounter with regard their information seeking activities?

The literature review confirmed that task-based information needs give rise to information activities, which are usually information needs for specific information. Information seeking activities require the application of problem-solving skills.

When individuals have to carry out certain tasks in an unfamiliar environment for which they are not prepared, and the tasks must be carried out in accordance with the rules and regulations of a specific context, the chances are good that the individuals may experience certain difficulties. It can be concluded that the empirical study confirmed that this was indeed the case for the FG respondents. Their difficulties originated from an everyday life environment, with which they were familiar– their environment's low social and cultural capacity. However, to carry out tasks in an academic context required a high social and cultural capacity. Applied to the empirical study, the following difficulties were encountered:

a) Information seeking

Information seeking involves actions to access information by utilising information resources, which may be electronic or human systems. In an academic context students are required to be able to use technology efficiently to access relevant information. It can be confirmed that FG respondents experienced difficulty in seeking information owing to inadequate information seeking skills. Because of inadequate ICT skills and problem-solving skills, the respondents were unable to bridge their information gaps. Difficulties encountered with information seeking activities affected them emotionally. They experienced feelings of disappointment with their information seeking outcomes. In addition, they encountered difficulties with alternative information seeking strategies. They consequently returned to old information seeking habits of their everyday life environment. Thus, the respondents found it difficult to separate information seeking practices relevant to the two contexts in which they functioned.

b) Information searching

The information literature review confirmed that information searching involves purposive actions of applying search strategies to retrieve relevant information through the use of information retrieval systems. To search for information requires information literacy as well as ICT skills. The empirical study confirmed that the FG respondents experienced difficulties in applying ICT skills to access a variety of electronic resources they could use to search for information. Owing to the respondents' inadequate problem-solving skills, as well as their information literacy and ICT incompetence, they were unable to distinguish which information retrieval system suited the information needs problem best to search for relevant information. Identifying suitable keywords and combining keywords with Boolean operators to compile a search strategy were some of the difficulties they experienced. They could therefore not access or retrieve information from electronic databases and the library catalogue, and were left with

feelings of frustration, uncertainty and low self-confidence. They consequently reverted to searching for information through other individuals, to avoid the risk of experiencing discomfort through searching for information.

c) Information use

The literature review confirmed that information use can be viewed as the application of information with intended outcomes. However, the nature of the information problem normally determines what type of information is relevant to specific information tasks and activities, how much information is required and when a specific type of information should be applied. Empirically it was found that FG respondents experienced difficulty in effectively evaluating or sifting retrieved information. They could not distinguish between ephemeral information and information relevant to a specific task or activity. They also did not know that credible and peer-reviewed information should be used to deal with an assignment topic. Furthermore, they were initially insensitive to the required academic standards. When they were introduced to information literacy skills training, they were eventually able to apply information effectively.

9.2.1.4 Summary of information activities

Finally, it can be concluded that the theoretical knowledge of information seeking activities did in fact manifest in the empirical study, which contributed to understanding of the difficulties the FG respondents experienced with their information activities. Therefore, the theoretical knowledge contributed to determining the empirical difficulties more accurately, which was the aim of the research question (to determine the difficulties the FG respondents encountered in their information seeking activities).

9.2.1.5 Research question 3: What are FG students' information literacy capabilities?

According to the literature, it can be confirmed that an information-literate person is able to recognise when information is needed and know how to bridge an information gap by applying intended strategies to find and retrieve relevant information and use the information to achieve anticipated outcomes. Furthermore, an information-literate person is able to take existing knowledge and generate new knowledge from it. In the case of students, an information-literate student is able to apply acquired information literacy skills across different disciplines and regards information literacy as a lifelong learning process. Information literacy skills are influenced by individuals' cognitive and social development, as well as their ability to apply information literacy skills. It can thus be concluded that when users' information literacy skills

are not of the required standard, they will not be able to access all possible information sources and resources and will not be able to use information optimally.

Empirically it can be confirmed that the FG respondents had inadequate information literacy skills to deal with information. This was indirectly exacerbated by their low social and cultural capacity in their everyday life context and lack of academic support from their parents. The following required competencies were applied ineffectively:

a) Determining the extent of information needed

The FG respondents were able to recognise the scope of their information needs to complete their assignments successfully, but they did not know how to express and solve their information need problems. As a result, they displayed poor information literacy and information seeking skills.

b) Accessing the needed information effectively and efficiently

Accessing information effectively and efficiently is one of the prerequisites for being information-literate. The study showed that in this respect FG respondents were unable to access information effectively and efficiently. This resulted in ineffective information decisions they made in terms of their source preferences, their perceptions of sources of information and dissatisfaction with attempts to bridge information gaps. Their everyday life context did not prepare the FG respondents to equip themselves to use ICTs on a regular basis so that they could get the chance to become proficient in using ICTs in an academic context. This resulted in them searching Google ineffectively. Their inadequate ICT skills left the FG respondents with negative feelings of inadequacy, frustration, anxiety, fear and uncertainty when they had to use unfamiliar information retrieval systems. Because of the negative feelings they experienced, they rather stopped using information systems or even asking other people to solve their information problems for them. It can be confirmed that the empirical study showed that through this conduct they weighed their egos against the risk of being exposed as incompetent against asking experts for assistance, thereby forfeiting the opportunity to satisfy their information needs. This resulted in the risks outweighing the rewards of their information needs being satisfied.

c) Evaluating information sources critically

The FG respondents' inexperience with using academic sources of information showed in their source preferences and their perceptions of the sources' value. They could not distinguish between reliable academic sources of information and everyday life informal sources of information.

d) Incorporating selected information into the students' knowledge base

The FG respondents' poor information literacy skills capacity prevented them from using the information they found for their assignment tasks efficiently. They tended to retrieve irrelevant information that could not satisfy the requirements of their assignment topics and did not meet their information need expectations. This left them feeling frustrated with their information use outcomes. The retrieved information thus did not serve to bridge their knowledge gaps.

e) Understanding the economic, legal and social issues related to the use of information

The FG respondents' inexperience with the use of academic information did not prepare them for using information in an academic environment. Therefore, they lacked understanding of the consequences of trusting informal sources of information such as friends and peers in an academic environment.

Poor information literacy capabilities resulted in some respondents continuing to rely on friends and peers for information, resulting in their inability to resolve information-related problems and thus their failure to bridge an information gap.

9.2.1.6 Summary of FG students' information literacy capabilities

It can be concluded that theoretically, information literacy has a fixed set of criteria with which users have to comply in order to access information wherever it may be and to accomplish information tasks effectively and efficiently. Empirically, it can be concluded that the FG respondents initially had inadequate information literacy skills and ICT competences that affected all aspects of their information seeking, processing and use activities negatively. This had a snowball effect, which affected their source preferences, perceptions of sources of information and self-confidence. The empirical study also confirmed the lack of information literacy skills, restricting the FG respondents from growing as students, and generating new knowledge from existing knowledge. Finally, it can be concluded that the aim to determine what the FG respondents' information literacy capabilities are was successfully achieved.

9.2.1.7 Research question 4: How effective is the existing information literacy course in enhancing FG students' information literacy skills?

The literature review confirmed that worldwide FG first-year students when entering tertiary education at university level struggle to master information literacy skills. At UJ the MAPS in Humanities department saw the benefits of an information literacy training course to set these students on a sure footing. The literature study also confirmed that FG students' parents had a profound influence on their academic performance. This has been confirmed by this empirical study.

As the FG respondents' information literacy abilities improved, their information needs became task-based; these needs became more focused, to satisfy specific information requirements. Their information requirements also corresponded with their task-based information needs and they integrated academic resources into their information seeking processes.

Empirically, it can be confirmed that with the intervention of information literacy training, the FG students' abilities to master information literacy skills improved. After completing the MAPS information literacy training course, their confidence increased. It can be confirmed that they were able to identify where their information literacy competence needed improvement, in particular how to search for the required information to accomplish academic tasks. The information literacy training course made them reflect on information and taught them to use information differently and to recognise that they could apply information literacy skills to any subject. The FG respondents realised that there was a connection between how and where they should look for information, and their learning abilities also improved. Initially the FG respondents' attempts to satisfy their information needs and to seek information ended in failure – their information needs remained unresolved. After completion of the MAPS information literacy training programme, they were able to apply search techniques and use electronic information retrieval systems to find the required information to complete their assignment tasks.

From the empirical study, it can be concluded that the FG respondents' information seeking behaviour underwent two phases. The first phase was when they arrived at UJ with no experience of how to function in an academic context. This unpreparedness and inexperience were reflected in their dissatisfaction with their information processing outcomes, their personal experiences of displaying feelings of discomfort and their attitude to sources of information and

judgements of these sources of information. The second phase reflected their growth and development. They became able to function effectively in an academic context by keeping up with the demands of that context. Their cognitive development showed that they had become able to meet their information requirements.

9.2.1.8 Summary of the effectiveness of the existing information literacy training course in enhancing FG students' information literacy skills

After careful consideration, it can be concluded that the literature review and the empirical study enabled this researcher to gain insight into the value of information literacy training. It also enabled the researcher to observe that FG students' information seeking behaviour evolved over time in response to the intervention of information literacy skills training. Such an observation has never before been reported in the literature on information seeking behaviour research. Finally, it can be concluded that the aim of this research has been achieved successfully.

9.2.2 Overall conclusion on research questions

Through the discussions in the literature review chapters (2, 3 and 4) and the empirical study, an overall conclusion has been reached that contextual components and elements of the personal domain can to a large extent influence the information seeking behaviour process. In the case of the FG respondents taking part in this study, the two contexts exacerbated the demands made on the person-in-context, especially the influence of the parents in students' everyday life context. It can be concluded that the parents' influence in the FG respondents' everyday life environment, being unable to support the FG students in their academic needs, served as a barrier that initially restricted their information needs and information seeking outcomes.

Furthermore, it became evident from this study that although the influence of peoples' inner experiences is not necessarily observable, this can have a profound impact on individuals' information seeking behaviour. Library services should take cognisance of this and adapt their training courses accordingly. In terms of this study, it can finally be concluded that information literacy training can serve as a catalyst in the development of information seeking behaviour.

9.3 LIMITATIONS OF THIS STUDY

This study has limitations pertaining to the literature study, as well as the empirical component of the study.

9.3.1 Limitations of the literature study

A thorough literature review was conducted, which explored all aspects of FG students' behaviour. As a result, much insight was gained from the literature about FG students' personal characteristics and how these characteristics influenced their academic development.

One aspect in the literature study that could have been explored in more depth is follow-up sessions on information literacy programmes, to benchmark whether existing information literacy training programmes proved to be successful, for example how FG students applied reference skills to information sources or to specific assignments.

Despite these limitations, an in-depth study of FG students' information seeking behaviour revealed the important role of the contextual components and personal experiences in this behaviour.

9.3.2 Limitations of the empirical study

The limitations regarding the empirical component of the study that could be identified were the sample, research methods and interview schedule.

9.3.2.1 Sample

This study was restricted to a single university and was limited to first-year FG students, who can be categorised as a specific type of student. Therefore, the results cannot be generalised to other universities, because not all institutions have the same type of students. The FG students in this study were extended degree students in the MAPS programme in the Humanities, whose enrolment requirements were different from those of first-year students who enrol for degree programmes. Other higher education institutions might not have the same extended degree programmes.

The focus of this study was on MAPS in the Humanities first-year students because the information literacy training course was compulsory for these students. The information literacy training course is not compulsory for all first-year students at UJ. Therefore, the results cannot

be generalised to other students who did not form part of the information literacy training course or who did not qualify as FG students.

9.3.2.2 Research method

This study followed a qualitative research approach employing the phenomenological research method. A feature of the phenomenological research method is that it explores real-life experiences of individuals in real-life situations and their experiences of their real-life world (Merriam & Tisdell 2016:33). In this study real-life experiences were examined from the FG students' perspective in terms of how their real-life experiences influenced their information seeking behaviour, which might result in some kind of bias on the part of the respondents' interpretation of their real-life experiences during the interview process. Other data-collection instruments to overrule bias – such as checking application of skills mastering in assignments – might counter bias.

9.3.2.3 Interview schedule

A limitation of an interview schedule is that it is time-consuming. This study's interview schedule comprised open-ended questions, to give the respondents the opportunity to describe their experiences in their own words. Therefore, the information obtained might not be standardised from one person to the next. The interviewer in her capacity as the information literacy librarian who was steering the information literacy training course was known to the respondents, which might have influenced their responses. (All the respondents completed the information literacy training course before the interviews. They were familiar with library and information seeking terminology.) In this study all the respondents came from a low socioeconomic background. In the presence of the interviewer, sensitive topics concerning the respondent's everyday life environment might therefore have influenced their responses.

9.4 RECOMMENDATIONS

The recommendations relate to the objectives set out in chapter 1. The objectives were to establish the information needs of FG students and to gain better understanding of the factors affecting FG students' information seeking behaviour and giving rise to their unique information needs. It is therefore recommended that the effectiveness of the current information literacy course for MAPS FG students be re-evaluated. Recommendations are also made on further research in terms of improving the information literacy training programme. This includes the

best way to accommodate the FG students' information needs and to provide academic support in terms of library services and information literacy training.

9.4.1 Library services

It is recommended that the UJ library services carefully consider the fact that all students do not always have the same needs. It was concluded that first-year FG students' information seeking behaviour is influenced by contextual and personal experiences, as well as their information literacy capabilities. These influences determine their information needs and library use. Factors affecting the FG students' information literacy competences indicated that not all the students' skills were on the same level. The library should take cognisance of the fact that an information literacy training course is not a 'one size fits all' endeavour. The findings also revealed that there is a need to train FG students in the use of technology for academic purposes early in the students' academic year.

9.4.2 Information literacy training course

The research findings revealed that not all FG students were on the same level of competence and that they had different information needs. Hence it is suggested that

- the current information literacy course be revised and reviewed to improve FG students' information literacy skills by using the face-to-face mode of instruction with the use of technology;
- the online component of the information literacy training course be reviewed to make it more user-friendly for FG students;
- the MAPS mentors receive information literacy training before the FG students' course commences so that they can fully assist the FG students;
- separate additional training sessions are offered to the FG students in the library's training facilities to assist the students in getting skilled in the use of technology and library practices; and
- librarians are educated on the information seeking behaviour as well as specific type of information needs of FG students so that they can understand how to assist FG students in their information needs.

Involving FG students in the information literacy course early in their academic year and teaching them early how to solve information problems will avoid damaging their self-confidence and enhance their academic experience. Information literacy is the most important contribution

to steering students to academic success and the information literacy training course is a technical resource that can help FG respondents to bridge their information seeking and information use gaps.

9.5 FUTURE RESEARCH

Based on the findings, the following recommendations for future research could be identified:

9.5.1 Other students

This study focused on first-year FG students' information seeking behaviour. An extension to compare the information seeking behaviour of first-year FG students and other first-year students could provide insight into first-year students at tertiary education level or information seeking competencies in general.

9.5.2 Senior FG students

Since this study focused only on first-year FG students, a further study into senior FG students' information seeking behaviour and information literacy competence could provide comprehensive insight into FG students' information seeking behaviour.

9.5.3 Degree FG students

Chapter 1 pointed out that 62,5% of UJ's students are FG students. Further studies into the information seeking behaviour of FG students who enrol for degree programmes might provide insight into the differences between extended programme FG students' competencies and degree FG students' competencies.

9.5.4 People as information sources

The findings revealed that people as information sources played an important role in FG respondents' information seeking behaviour. Further studies into the role of people as sources of information might provide further insight into why people are preferred as sources of information.

9.6 VALUE OF THIS STUDY

The contributions of this study are theoretical and practical in the development of a conceptual model to understand FG students' information seeking behaviour better and to make recommendations on the improvement of the FG students' information literacy training course.

9.6.1 Theoretical contribution

As reported in the literature review, little is known about FG students' information seeking behaviour. This study contributed to understanding of the factors influencing FG students' information seeking behaviour. The study revealed that both contextual (environmental) and personal experiences influenced FG students' information seeking behaviour and their level of information literacy competence. In addition, it contributed to researchers' understanding that the FG students' personal environment, namely their everyday life environment, influences their cognitive skills, experience, emotions and feelings, information source perceptions and preferences. Furthermore, this study showed that the FG students' everyday life environment influenced how they functioned in an academic context. There is also significant evidence that the intervention of information literacy training can bring about change in the information seeking behaviour and inner experiences of users.

An insightful observation made in this study showed that FG students' information seeking behaviour evolved over time, depending on the influences of diverse factors. Understanding of FG students' information seeking behaviour enabled the development of a conceptual model that can contribute to reviewing the current knowledge on information seeking behaviour of FG students and to scholarly literature.

9.6.2 Recommendations for practitioners

This study provided insight into how research into information seeking behaviour can support information literacy training and how the information literacy training course can be adjusted to enhance FG students' information seeking competencies, which in turn can result in a positive academic experience. Information literacy librarians should take cognisance of the fact that different user groups are affected differently by unknown variables and that a standard information literacy training programme should be evaluated regularly to ensure that user groups' information needs in terms of information seeking are met. The findings of this study can be used to guide other academic librarians to develop similar frameworks to support their FG users.

9.7 SUMMARY AND FINAL COMMENTS

In this chapter the main findings were discussed by combining results from previous chapters. The overall research question was answered and the limitations of the research, opportunities for further research, recommendations for the tertiary institutions and practitioners were

discussed. Finally, the value of the study for theory and practice was highlighted. This study could be regarded as a stepping stone towards conducting more insightful and significant research to assist tertiary institutions to invest in the potential of FG students at an early stage to ensure lifelong learning. Information seeking behaviour cannot be regarded as static, since by means of interventions such as information literacy training as an enabler, it is possible to change individuals' information seeking behaviour for the better.

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APPENDIX A

Form for research subject's permission

Title of research project: **Information seeking behaviour of first-year first generation students at the University of Johannesburg**

I……

hereby voluntary grant my permission for participation in the project as explained to me by Ms Elize du Toit (Department of Library Services of the University of Johannesburg). Participation will include an in-depth individual interview. I agree to the interviews being recorded for transcription.

The nature, objective and implications have been explained to me and I understand them.

I understand that the project is aimed at acquiring an insight into the information seeking behaviour of first-year first generation students. The intention at this stage is not to provide first generation students with the actual information required.

I understand my right to choose whether to participate in the project and that the information furnished will be handled confidentially. I am aware that the results of the investigation may be used for the purposes of publication or conference presentations.

Upon signature of this form you will be provided with a copy.

Signed ……

Date …….

Researcher …….

Date …….

APPENDIX B
INTERVIEW SCHEDULE

DEMOGRAPHIC INFORMATION

1 Gender

2 Age

3 Spoken language

Area of study: MAPS in the Humanities

RESPONDENTS' SOCIO-ECONOMIC ENVIRONMENT

4 Describe your library experience prior to university?

5 Do you have access to a computer and Internet at home?

6 If your answer is yes, what do you use it for?

7 If your answer is no, what are the reasons for not having a computer or Internet at home?

8 Do you feel that being the only member in your family going to university restricts you from getting all the information you need regarding academic matters? In other words, do you feel that you had a disadvantage coming to UJ because you are the first in the family to attend university?

9 Did your knowledge of technology influence your use thereof when you arrived at UJ?

INFORMATION NEEDS

10 Can you describe a typical situation in which you need information?

11 If you cannot find the information you need, how do you go about solving that information problem?

12 For academic assignments, what are your information requirements?

13 Who helps you to seek information for your assignments?

14 Why did you decide to consult this specific source(s)?

15 To what extent do you ask family members to help you with information you need for academic assignments?

INFORMATION SEEKING ACTIVITIES

16 Describe the steps you take to look for information.

17 Why did you take these steps?

18 How did you use the information?

19 Were you happy with the results?

20 Describe the difficulties you encounter with finding the information that you have to use for your assignments?

INFORMATION SOURCES

21 What sources do you use to find information that you need?

22 Why do you consult them?

23 Do you experience any difficulties in accessing the required information source(s)

24 How do you feel about consulting humans as information sources?

ACADEMIC INFORMATION SERVICES

25 Where do you conduct most of your academic information searches? (Library, off-campus, home)

26 Which information services are most important to you and why (library, Internet)?

27 How often do you use the library?

28 What is your opinion on the nature of the support and guidance that you receive from library staff?

29 Do you find most of the information needed for an assignment in this library?

30 Are there additional services that you wish to be offered by the library?

INFORMATION LITERACY

31 Do you see any connections between your learning and where and how you look for information when needed?

32 Generally when you try to search for a particular piece of information yourself (i.e. without receiving assistance or guidance, etc. from anybody) how long does it take you to find the required information?

33 How familiar are you with consulting an electronic library catalogue?

34 How familiar are you with using a full-text electronic journal database?

35 What more would you like to learn regarding the searching and finding of information?

36 How do you decide whether the information obtained is relevant for the purposes of your assignment (or any other task)?

INFORMATION LITERACY COURSE

37 After completing the course, did you think you can apply what you have learned to your other subjects?

38 Did this course provide you with the opportunity to practice the skills you learned?

39 Were you satisfied with your efforts in this course?

40 Did you find the online course user friendly?

41 What aspects of the course should be improved?

ADDITIONAL QUESTIONS ADDED?

42 How did you feel when you first arrived at UJ?

43 Have you now found your feet?

I thank you for your willingness to participate in my study and giving up your precious time.

APPENDIX C

UNISA university of south africa

DEPARTMENT OF INFORMATION SCIENCE RESEARCH ETHICS REVIEW COMMITTEE

Date: 16 August 2017

Ref #:
2017_GE DuToit_32526830_001
Name of applicant: GE Du Toit
Student #:X
Staff #:

Dear Ms GE Du Toit,

Decision: Ethics Approval

Name: Title and name of principle applicant, address, e-mail address, and phone number Ms GE Du Toit, Unisa Information Science, 32526830@mylife.unisa.ac.za; and 084 406 9715

Proposal: Information-seeking behaviour of first generation undergraduate students: with reference to the University of Johannesburg.

Qualification: D Litt et Phil in Information Science

Thank you for the application for research ethics clearance by the Department of Information Science Research Ethics Review Committee for the above mentioned research. Final approval is granted for *4 years.*

For full approval: *The application was reviewed in compliance with the Unisa Policy on Research Ethi cs by the Department of Information Science Research Ethics Review Committee on 16 August 2017.*

The proposed research may now commence with the proviso that:

1) *The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*
2) *Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Department of information Science Ethics Review Committee. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.*

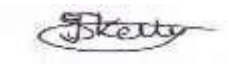
3) *The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.*

Note:

The reference number 2017_GEDuToit_32526830_001 *should be clearly indicated on all forms of communication [e.g. Webmail, E -mail messages, letters] with the intended research participants, as well as with the Department of Information Science RERC.*

Kind regards,

Signature



Dr Isabel Schellnack-Kelly
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Research Ethics Review Committee

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APPENDIX D

18 November 2019

Elize du Toit
UJ Library
University of Johannesburg

Dear Elize

PERMISSION TO CONDUCT RESEARCH AT THE UNIVERSITY OF JOHANNESBURG

The proposal and research instruments for the research study titled *Information-seeking behaviour of first generation mastering academic and professional skills in the humanities students at the University of Johannesburg* were reviewed. Full permission is granted to the conduct this study at UJ.

Sincerely

Dr Carol Nonkwelo
Executive Director: Research and Innovation
Email: cnonkwelo@uj.ac.za