

Investigating the influences of context on the information seeking behaviour of first-generation students

Gertruida Elizabeth du Toit, Madely du Preez and Hester Meyer

Abstract

Introduction. *This paper reports on a qualitative study investigating the information seeking behaviour of first-generation students enrolled at the University of Johannesburg, South Africa, in the Humanities' Mastering Academic and Professional Skills programme. The purpose is to determine the way in which their socio-economic situations influenced their ability to solve information problems. The target population come from low-income families with low social and cultural capacity in their home environment.*

Method. *A qualitative phenomenological research approach was followed. A purposive convenience sample was drawn from the target population. A total of 17 students participated in the study.*

Analysis. *Qualitative data analysis procedures were used with inductive reasoning as an open-ended approach. The data were collected using interviews with an open- and close-ended interview schedule.*

Results. *Both contextual (environmental) and personal experiences influence the information seeking behaviour of first-generation students. Information literacy as an intervention served as a catalyst to change the students' information seeking behaviour.*

Conclusions. *An understanding of first-generation students' information seeking behaviour can provide insights for librarians on the way in which to meet these students' information needs.*

Keywords: *context, first-generation students, higher education, information literacy, information seeking behaviour, person-in-context, University of Johannesburg*

Introduction

Upon entering university, it is expected of first-year students to apply the skills they acquire in high school to search and find text-based information sources. Conversely, the literature indicates that for many students, this ideal is not the case (Kimanij and Onyancha, 2015; Lannik and Mallek, 2017). Furthermore, students' experiences with technology do not always contribute to positive academic experiences (Šorgo, et al., 2017). Discussions about digital natives (students born into a digital world who do not know a world without digital media) indicate that they lack information skills (Kirschner and De Bruyckere, 2017).

In a South African context, the Department of Higher Education characterises first-generation students as: '*previously disadvantaged or minority students*' (Inman and Mayes, 1999, p. 3), and coming from a background with low social and cultural capacity (Heymann and Carolissen, 2011). Studies show an increase in student diversity in higher education in South Africa and that universities have redressed the inequality with numerous programmes to enhance the students' academic experiences. Although the concept of first-generation students is not new to South African universities, they have only recently acknowledged the challenges first-generation students experience when entering university. Van Zyl (2016) defines first-generation students as those who are the first in their families to attend university and whose parents did not attend university. Bryan and Simmons (2009) point out that this challenging environment induces a lack of confidence in many incoming first-generation students. Other situations include parents' inability to support the students academically, a lack of academic resources, and parents' inability to transfer cognitive skills to the students to enable them to apply themselves in an academic environment (Van Zyl, 2016). Mhinga (2021) found that, owing to uncertainty, many South African first-year students drop out of university before they enrol. Although Mhinga (2021) did not mention first-generation students as her target population, many of her participants included first-generation students coming from low-income families.

A study conducted at the University of Johannesburg (2007-2016) revealed that 62.5% of the university's first-year students are first-generation students (Van Zyl, 2016). Regarding first-year students' home literacy environment, the profile analysis also showed that almost 42% of students indicated that their household had 10 or fewer books and almost 63% of students had only read five or fewer books in the year before the study (Van Zyl, 2016). With regard to factors influencing users' information behaviour, these studies outlined a major problem that was not considered important before – especially with regard to information needs and information seeking to enhance first-generation students' understanding of subject topics. Van Zyl's (2016) study on first-generation students at the University of Johannesburg did not include information seeking behaviour, and little was known about the factors that give rise to the information needs and information seeking behaviour of first-generation students. The doctoral study of the first author of this paper redressed this gap. The purpose of this paper is to report on the findings of the first author's doctoral studies.

Background and context to the problem

The University of Johannesburg is a public university in South Africa with an annual intake of approximately 60 000 students, who can enrol in a variety of degrees and diplomas (Higher Education Data Analyzer Portal, 2019). Academic libraries play a vital part in enhancing students' academic experiences by providing efficient teaching, learning and research support to user groups with varying information needs. The Humanities Department of the University of Johannesburg has collaborated with the university's library to teach students, enrolled in the *Mastering Academic and Professional Skills* programme, information literacy skills. The library's information literacy course is compulsory for these students. Also, most of these first-year students are first-generation students. *Mastering Academic and Professional Skills* is a year-long bridging course, aimed at first-year students who did not qualify to enrol for degree programmes; after successful completion of this programme, the students are enrolled in the degree programme.

Considering Van Zyl's (2016) study, it seems possible that factors deriving from first-generation students' home environment could have a negative influence on their information seeking behaviour in an academic context. Also, little is known about the influences of everyday life and academic contexts on the information seeking behaviour of first-generation students. This study, therefore, aims to determine (i) the way in which these two contexts influence the information seeking behaviour of first-generation students; and (ii) the ways in which first-generation students seek information.

Literature review

Different researchers approach information behaviour from different perspectives. Consequently, the literature provides diverse definitions of information behaviour. For example, Meyer (2016) points out that researchers tend to highlight characteristics of information behaviour that are of importance in their respective research fields. To get a clear understanding of the information seeking behaviour of first-generation students, it was necessary first, to compare different definitions of information behaviour by different researchers, to determine which characteristics the researchers focused on in their respective disciplines. For example, Wilson's (2000) generic definition is approached from a holistic perspective, where information behaviour is linked to the relationship individuals have with information, sources of information and the different channels of communication used to process information. Wilson (2005) argues that information behaviour is not physically observable – only in information activities, for example browsing. The definitions of information behaviour by Case (2006), Bates (2009) and Fisher and Julien (2009) emphasise a different aspect of information behaviour, and regard information behaviour as essentially an interaction between the information user and the information.

Following Wilson's (2000) definition, Meyer (2016, p. 7) argues that information behaviour, in general, can be described as: *'a mental process which is not observable outside the human mind except in the information-related activities, for example seeking, searching, use, transfer'*. In addition, Meyer (2016) points out that this mental process is affected by several factors (she referred to them as components affecting information behaviour) such as context, information in itself, the individuals' inner experiences, including perceptions, existing norms and values, information needs requirements (for specific purposes) and information technology to access information, as well as information activities to achieve the required outcomes. It, therefore, appears that information behaviour can influence individuals' information activities. In this regard, Wilson (1984) asserts that users' information seeking behaviour can influence the outcomes of their information seeking. This literature review, therefore, aimed to establish the influence of context on users' information behaviour.

Information behaviour

Information behaviour relates to the way in which people react to information. Researchers encapsulate the intricacy of information behaviour by referring to information behaviour as the activities people engage in to seek, discover, use, transfer, share and exchange information (Fourie and Julien, 2014; Wilson, 2020). Wilson (2020) also regards people's decision to use or reject information and the sense-making of information as human information behaviour.

First-generation students share characteristics such as coming from low-income families, being members of racial or ethnic minority groups, being less prepared academically for university and being perceived to lack support from those at home (Darling and Smith, 2007). Regarding information seeking behaviour, Pascarella, et al. (2004) agree that from a cognitive development perspective, these characteristics can influence the way first-generation students interact with information. Meyer (2016) points out that a person's inner experiences can also influence people's information behaviour. In the context of first-generation students' home environment, their experiences with information in this environment and the

values, norms and beliefs formed in their home environment influence the way in which they deal with information outside their home environment (Torres, et al., 2006).

The influence of context on information seeking behaviour

Context plays a role in the way in which information behaviour evolves and consists of specific elements. Each element (which includes information searching) has certain requirements regarding information use (Meyer, 2016). It is also of note that any element in context might influence users' information seeking behaviour (Talja, et al., 1999). Context, therefore, has many layers which are complicated by its diverse elements (Sonnenwald, 1999). Meyer (2016) points out that the reaction of elements in context are initiated by the motivation to solve a problem or carry out a task. To emphasise the diverse elements of context, researchers refer to context as situations people find themselves in (Sonnenwald, 1999; Cool, 2001; Savolainen, 2006), specific characteristics of people, cultures and organisations (Dervin, 1997; Sonnenwald, 1999), and the active environment in which people seek information (Johnson, 2004). Furthermore, different contexts also have different demands on individuals' information seeking. (Case and Given, 2016).

Examples of context can be everyday life context in which informal information is used and subject-related context such as academic context in which more formal information is used. In an academic context the accuracy of information and source references are important. Subsequently, different situations are rooted in different contexts (Sonnenwald, 1999). To illustrate the diversity of context, Savolainen (2010) divides information seeking behaviour research into life experiences that are career-related and everyday life-related information seeking. Byström and Hansen (2005) divide the environment into an abstract environment and a concrete environment. In the abstract environment, norms, values and beliefs of people command the way in which they function and react in that environment. The concrete environment is the resources and sources of information accessible in that environment. These contexts have implications regarding first-generation students' access to information. This study approached first-generation students' environment from the physical environment in which they function.

Everyday life context

To examine the way in which first-generation students' informal background (before they transfer to an academic context) influence their information seeking behaviour, it is necessary to examine the way in which the everyday life context and academic context connect. Everyday life context (environment) relates to domestic activities carried out at home (Savolainen, 1995). For Wilson (1984) everyday life is different for every person. Ruthven (2022) asserts that certain life changes (he refers to *life transitions*) might be more challenging than others and individuals might find that information behaviour appropriate in one situation (for example, everyday life) might not be appropriate when transferring that behaviour to another situation.

Sonnenwald (1999) explains that people's customs, traditions and experiences in their everyday life context, guide their decisions (in what they regard as natural) in relation to their cultural groups and social classes. Sonnenwald (1999) also includes social spaces as part of individuals' environments. In the case of first-generation students, their everyday life context reflects a social nature, in that the conversations are informal and they socialise in these social spaces with people sharing similar characteristics (Darling and Smith, 2007). Their information seeking behaviour is therefore also of an informal nature. Also, in a South African context, Rantala, et al. (2019) found that South African students used social media as an information source more than search engines.

Ocepek (2018) maintains that reality is created in everyday life and understanding of this reality influences users' information behaviour. Chatman's (1999) *life in the round* theory, describes information behaviour with regard to social factors influencing information behaviour. She uses the term *life in the round* to describe people's experiences with information for everyday needs and states that individuals'

context is central to the way in which they perceive information. Similarly, Savolainen (2009) explains that people's *small worlds* are bound by their everyday life environment such as their physical spaces, people sharing those spaces and social and cultural characteristics in those spaces. As a result, seeking and sharing information are influenced by the roles of individuals in their own small worlds (Savolainen, 2009). Dalmer and McKenzie (2019) also argue that everyday life context cannot be positioned in one environment, as everyday life situations affect other contexts. Agarwal (2018), underlines that the way in which people interact with information is influenced by the role of context in information seeking behaviour. The literature (London, 1989; Inman and Mayes, 1999) shows that first-generation students' everyday life context is an example of the way in which social factors can influence their information seeking behaviour, if they find it difficult to connect their everyday life context with their academic context.

Academic context

Just as in an everyday life context, an academic context also has typical characteristics which apply to the elements of context in general. In an everyday life context, information is usually orally orientated, whereas in an academic context information is usually text-based and comprises peer-reviewed researched information. Anderson and Pešikan (2016) explain that depending on the situation, academic tasks might differ in purpose, scope and complexity. In addition, the information requirements will also differ, depending on the academic task (Sonnenwald, 1999). Willson and Given (2020) contend that changing from one environment to another goes with changes and can disrupt the person involved. These changes may require a person to take on or adopt a new role, new obligations and even having to transform personal identities (Willson and Given, 2020). This might have implications for first-generation students.

Students' success in an academic context depends on their information literacy competencies. Students must not only be able to think critically about information and solve information problems, but also be proficient in using information communication technology to retrieve and disseminate relevant information (American Library Association, 2000). Webber and Johnston (2017) 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. Information literacy can therefore serve as an intervening tool to empower students and prepare them for lifelong learning (Brent and Stubbings, 2011).

Studies in education suggest that when first-generation students are inadequately prepared for the demands of the academic context because of situations in other contexts, it will negatively influence their academic experiences (Pascarella, et al., 2004). When context is considered from an information behaviour perspective, Case and Given (2016) point out that issues such as individual situations, the motivation for seeking information, specific activities and individuals' environments should be considered. This of course has implications for first-generation students' information seeking behaviour. It seems possible that first-generation students might find it difficult to easily relate to the requirements of an academic context in information seeking activities.

Personal influence on information behaviour

Wilson's (2000) generic definition of information behaviour positions the role of the information user as central to the relationship between sources of information and the user's behaviour towards the sources. In this regard, to determine the way in which context can influence first-generation students' information seeking behaviour, it is necessary to examine the different views researchers have on the role of the personal influence in information behaviour. Johnson (2004) claims that the environment in which individuals function and the characteristics of the situation in which they find themselves influence their information seeking behaviour. Johnson (2004) refers to the personal influence in information behaviour as the person-in-context. Allen and Kim (2001) point out that a person-situation approach to information seeking behaviour occurs as a result of the interaction between contextual characteristics and individuals'

personal characteristics in a specific situation. The personal influence in information behaviour also relates to the cognitive and affective elements that influence people's information seeking behaviour, such as the need to make sense of a phenomenon, and stems from environmental circumstances (Wilson, 2020).

Meyer (2016) describes the link between context and the personal influence as when contextual elements determine the nature and scope of the information required to carry out a specific task and the elements of mental structures (personal influence) increase the understanding of the information and motivation to carry out the information task. This concerns the *inner person* and Meyer (2016) explains that the cognitive processing of information enables humans to make sense of information and they can therefore determine whether the information can be used for a particular purpose or not and tap into their existing knowledge store to judge the relevancy of a particular type of information. Wilson (1999) explains that sometimes intervening variables might cause to either motivate information use or prevent information use. For example, Wilson (1999) argues that when information needs are to be satisfied, motivational factors such as stress/coping and risk/reward theory apply, which might influence users' seeking and using of information. Wilson (1999) further explains that the risk/reward theory (where risks outweigh rewards or rewards outweigh risks) can be used to explain why some sources of information are used more than other sources or not used at all.

From an education perspective, Pascarella, et al. (2004) claim that as a consequence of situations in first-generation students' everyday life context, they can only use their home environment as a frame of reference to make sense of their academic context.

Information needs

Since information needs play such a cardinal role in the information seeking behaviour of first-generation students, it is important to learn more about researchers' opinions on this topic. The context of an information need may be described with regard to the situation in which the information need arises, and the characteristics of the information user needing the information, for example, their demographic, social, professional, educational and behavioural characteristics (Gaslikova, 1999). Researchers such as Taylor (1962), Wilson (1981) and Belkin, et al. (1982) state that information needs arise when users need to solve an information problem or to satisfy some goal. People experience information needs in different ways, and depending on their existing knowledge base, different influences (including those of context) give rise to different information needs (Allen, 1996). When information needs are considered from the personal influence on information behaviour, information needs arise when the internal senses of individuals recognise that their existing knowledge base cannot bridge their knowledge gap (Dervin and Nilan, 1986; Ingwersen, 1996). Also, when the concept of *need* is not understood, the need will not be fulfilled (Wilson, 2020). According to Torres, et al. (2006), because first-generation students do not understand their academic context, they have difficulty in conceptualising information needs for that environment.

Information activities

As with information needs, Wilson (1997) argues that information behaviour is only observable through the information activities carried out by individuals. For Meyer (2016, p. 11), it is in the information activities such as: '*seeking, searching, use and transfer, or communication*' where the mental acts in the information behaviour processes are transformed into observable activities. Meyer (2016) explains that the underlying flow of mental actions is responsible for the conception of information activities and these physical activities are carried out to achieve the desired outcome. Dervin (1983) asserts that sense-making is central to the success of information activities such as information seeking where people form their own opinions about the way in which they approach the information seeking process. Considering these views, Torres, et al.'s (2006) point seems apt that first-generation students' lack of cognitive skills, stemming from situations in their home environment, impedes their sense-making and information processes to bridge their knowledge gaps.

Wilson (2000) describes information seeking behaviour as users acting upon an information need, intending to satisfy that need. Information seeking behaviour can be regarded as an information activity process (Ajiboye and Tella, 2007) where individuals strategise to find, process, use and manage information to increase their knowledge and personal development. Concerning first-generation students' information seeking behaviour, Pascarella, et al.'s (2004) claim seems acceptable that there is a distinct connection between parental education levels and students' critical thinking skills. Torres, et al. (2006) found that in the Latino/a community, first-generation students did not receive adequate parental guidance, and therefore lacked essential skills to solve information problems themselves.

The literature so far showed that there is an interconnectedness between different contexts and different elements of context, and the personal influence in information behaviour from the perspective of different subject disciplines that might influence users' information seeking behaviour. All of which can have significant implications for first-generation students' information seeking behaviour from whom it is expected to successfully search, retrieve and apply information in an academic context. Willson and Given (2020, p. 1) note that: '*academic work requires disciplinary knowledge and expertise, and takes place within complex, knowledge-intensive organisations with complicated policy, procedural and regulatory environments*'. Since the academic context plays a major role in first-generation students' information seeking behaviour, it seems therefore important to examine the contextual influences in first-generation students' information seeking behaviour.

Methodology

We based this paper on the researcher's doctoral thesis (Du Toit, 2021). This study relied on descriptive data (as little was known about the information seeking behaviour of first-generation students). A qualitative phenomenological approach was applied to seek an understanding of factors influencing the information seeking behaviour of first-generation students in different contexts. The phenomenological approach examines the way people interpret their own real-life experiences in the world they live in (Merriam and Tisdell, 2016) and the qualitative research approach best captures the way in which people act in real-life settings (Yin, 2011).

In this study, the phenomena are first-year first-generation students enrolled in the *Mastering Academic and Professional Skills in the Humanities* programme at the University of Johannesburg who had completed the library's information literacy course. The participants shared the same characteristics as first-generation students in general as described in the introduction. A purposive convenience sample was drawn from the first-generation students enrolled in this course. A total of 17 students participated in the study. Sample size is not as important as when quantitative statistical data are collected (Creswell and Poth, 2018). The data were collected using interviews, consisting of a semi-structured interview schedule with open-ended questions. The questions covered different categories: the socio-economic environment; information needs; information seeking activities; information sources; academic information services; information literacy; and the information literacy course. Each interview lasted approximately 90 minutes and was recorded and transcribed verbatim.

Inductive reasoning formed the basis of the data analysis to gain an understanding of the participants' experiences and situations and the context in which they seek information. The participants' opinions were collected and analysed by sorting the data into different collections, reflecting different themes and subthemes; using the original research questions to interpret the data and draw conclusions. Triangulation strategies were applied to determine reliability and validity. The emphasis of qualitative data analysis is on producing rich descriptions; therefore, the data analysis was interpretive. The *ATLAS.ti 8.2* qualitative data analysis software was used to analyse the interviews.

Findings

The findings and the discussion of the results were analysed simultaneously. In qualitative research, it is possible to present the findings and the discussion of the results concurrently (Lune and Berg, 2017). The findings revealed that the participants were challenged with two contexts, namely, the home context and the academic context. For the participants, the two contexts represented the opposite ends of a spectrum with diverse characteristics and criteria to be complied with. Different themes emerged from the analysis of the interviews, relating to the participants' personal experiences in these two contexts.

Personal experiences

The finding showed that the participants' inner experiences fluctuated between their cognitive and emotional abilities, particularly, in the academic context. Situations in the participants' home context (coming from low-income families, lack of resources, parents' inability to assist them in their academic needs) were also reflected in their emotions and feelings when encountering the academic context.

Negative feelings

The findings revealed that in the participants' home context no one understood the demands of an academic context and could not assist the participants with their academic information needs, as participant R7 indicated: *'There is a lot of academic pressure because they [family] don't understand at home what you are going through'*. These home context situations brought about feelings of anxiety, low self-esteem, hopelessness, isolation, frustration in their attempts to fulfil their information needs, dissatisfaction with the outcomes of their information activities, and when the participants had to apply technology for academic purposes. Participant R15 expressed how she felt regarding the need to understand coursework: *'I don't want to ask because everybody knows them [course terminology] and when I come up with a question, they [tutors] look at you in a way that you are funny'*.

Trust in people

Trust or mistrust to a large extent shaped the participants' feelings. They associated feelings of trust with the familiarity and comfort of sources of information and resources, which in turn influenced their source preferences and judgement of information sources and resources. Owing to a lack of problem-solving skills, the participants relied on the opinion of friends and peers they regarded to be more knowledgeable for information. For example, participant R4 stated: *'I will ask someone who has already done what I am busy with now, like a senior'*. They would also rather seek information in group settings, as participant R11 stated: *'Because if you don't understand something or don't have a certain idea, someone in the group will have it'*.

The perceptions the participants had of professional staff such as librarians also lead to their mistrust in people. Participant R17 reflected his feelings: *'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. I would rather first ask my friends and peers'*. This finding seems to be an indication of the influence of the participants' home context on their information seeking practices.

The participants also revealed a need for clarification from people to explain and clarify information for them before they would look for sources. Since the participants' parents come from traditional communities where they often depend on other people's opinions and do not want to make their own decisions, it seems evident that the participants' behaviour reflects their parents' influence on their cognitive development that originates from their everyday life context.

It was only after the participants 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 they perceived sources of information in their informal environment.

Risk/reward

Risk/reward as an intervening variable served as a barrier when the respondents had to search for information for academic assignments. Some participants, after searching for a long time, gave up or moved on to doing something else, or completely stopped using complex search tools. Participant R12 indicated her experience when using the library's online catalogue: *'I tried but I didn't know where to go or how to look. I didn't know what to do. When I searched [library catalogue] it told me the book was on another campus, then I gave up'*.

The participants' dependency on their social network for information also outweighed the reward of asking professionals for assistance with information activities to get quality information, often with disappointing outcomes. These situations left them with low confidence in their own capabilities. They were also too afraid to ask professionals for assistance for fear of coming across as ignorant. This finding seems evidence of their risk/reward (Wilson, 2020) experience where the risk of being regarded as ignorant is too high and the reward to find something is too low. As a result, the searching activities are discouraged. In this instance, the participants weighed up the risks and rewards associated with the action and the risk of loss of self-esteem outweighed the benefits of the information they sought. This finding supports that by Kuhlthau and Cole (2015) and Savolainen (2016) that when individuals struggle to find information, they experience affective barriers such as failure.

Uncertainty

Uncertainty about solving academic information problems impeded the participants' information activities, such as coming up with solutions. They fell back on their old information seeking habits, consulting other people to solve their information problems for them with disappointing results. Participant R2 indicated: *'The last time I asked the tutor, and the information I got from the tutor was not the right information. The information was restricted'*. Participant R12's uncertainty is also portrayed in her search techniques: *'If it is not on Google then I give up'*. This finding is in line with Kuhlthau and Cole's (2012) finding that when students cannot solve an information problem, their uncertainty prevents them from moving forward to seek alternative options to solve information problems.

Gap-bridging

Where the participants' cognitive skills were inadequate to successfully solve information problems in an academic context, they could not move past their home context to bridge the gaps in solving academic information problems; they developed *tunnel vision* in bridging information need gaps. This resulted in the participants being unable to take action to satisfy their information needs and their information seeking practices became unstructured. Their habit of accepting assistance from any person regardless of the individual's knowledge and skills caused their gap-bridging attempts to stagnate. The participants in this study did, however, profess a need to learn how to solve their own information problems.

Effects of context

The findings revealed that the two contexts in which the participants functioned are their home context and academic context. Both contexts displayed characteristics and sets of criteria that were incompatible. Both made different demands on the participants' information seeking practices and they were faced with different types of information needs. Owing to first-generation students' unique home life environment as described in the introduction of this paper, *home context* is used here to refer to their everyday life

environment, which falls in the typical characteristics of an everyday life context. To demonstrate to what extent the characteristics of the respective contexts affect information seeking, the findings of the two contexts are compared in Table 1.

Table 1: Comparison of the respondents' home and academic contexts

Home context	Academic context
<ul style="list-style-type: none"> An informal context where information is related to domestic activities. The participants deal with people with similar characteristics to their own home context. 	<ul style="list-style-type: none"> A context which sets specific information requirements for students, such as recognising when information is needed; planning how to search, finding and applying relevant information; reviewing and considering information before use; organising and disseminating information by applying ethical and legal practices. (Brent and Stubbings, 2011)
<p>Resources</p> <ul style="list-style-type: none"> The participants lacked parental support and sufficient resources. Participant R11 stated: <i>'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'</i>. Informal (domestic) nature. Dependent on people (word-of-mouth) in the home informal network for information. Limited or no use of academic resources. 	<p>Resources</p> <ul style="list-style-type: none"> The participants were unable to apply formally tested information that is text-based and also accessible in digital format. The participants were unable to use sophisticated information retrieval systems to search and locate peer-reviewed information.
<p>Information activities</p> <ul style="list-style-type: none"> Information activities are informal and information is exchanged orally not text-based. The participants relied on themselves or people they connected with informally in their home context for information and they found it difficult to adapt to a new environment (academic). The participants were sources of information for their families, as indicated by participant R16: <i>'My family relies a lot on me for information because I am the first to go to university, I am much more upgraded than they are'</i>. The participants could not clearly distinguish between factual information and opinions that could be subjective and they seldom consulted textual resources for information. They relied on their parents as sources of information, because their parents had first-hand experience of being in a specific cultural or historical situation, instead of using peer-reviewed information. 	<p>Information activities</p> <ul style="list-style-type: none"> The participants were unable to apply information literacy skills to search, retrieve and apply relevant academic information regarding task-based activities. The participants transferred informal information activities they were accustomed to in their home context to their academic context, expecting the outcomes to adhere to academic rules. The participants could not initiate the information search process themselves. Participant R5 stated: <i>'You first need someone to explain to you what your research is about to get clarity about everything, then you need to find sources'</i>.

<i>Home context</i>	<i>Academic context</i>
<p>Information needs</p> <ul style="list-style-type: none"> • The participants could not stretch information needs beyond home context activities. They did not attempt to solve information needs themselves but relied on familiar informal resources to solve information problems. • The information needs arise in the home context and is transferred to the academic context. Participant R7 indicated: <i>'I need information on how transport works. I don't have money for taxis'</i>. 	<p>Information needs</p> <ul style="list-style-type: none"> • The participants realised that they needed information to successfully complete their assignments, but lacked the necessary skills to find relevant information to fulfil their information needs. Participant R4 stated: <i>'I don't always find the material I need for my assignments. Most of the time I don't find anything'</i>. • The participants could not make informed decisions and relied on others to decide for them. Participant R14 stated: <i>'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'</i>.
<p>Information literacy skills</p> <ul style="list-style-type: none"> • The parents could not transfer the necessary cognitive skills to the participants to solve complex information problems. • The participants' thought processes about information solutions were of an informal nature. • The participants were unfamiliar with the academic context in their home context. 	<p>Information literacy skills</p> <ul style="list-style-type: none"> • The participants lacked problem-solving skills to solve their academic information problems. Most participants stated that their information seeking outcomes were unsatisfactory. • After the information literacy intervention, the participants' thought processes changed and they started applying their skills to solve their information problems. • The participants could see a connection between how and where to look for information to improve their learning. They successfully practised their newly obtained skills, particularly the referencing of information sources. • As a result of the successful information literacy training, the participants used information differently and correctly.

Effect of technology

Information communication technology plays a crucial role in accessing information in a modern society. To access electronic resources and search and apply search techniques to retrieve relevant information, information technology skills are required. The findings revealed that the participants lacked the necessary skills to apply search techniques to locate and retrieve needed information, and an unfamiliarity with sources of information and resources. Participant R7 summed up her challenges with searching for information:

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.

This finding reflects Kuhlthau's (2012) explanation that during the exploration stage in the research process, students often experience difficulties and uncertainty because they expect to proceed immediately from selecting an assignment topic to locating and collecting information to complete the assignment.

It was only after the participants received information literacy training that their confidence in using electronic information retrieval systems increased and they were able to search and locate the needed information. Participant R4 stated: '*I usually use Ebsco [database] and Google Scholar. First Ebsco and then Google Scholar in that order*'.

The themes of negative feelings, trust in people, risk outweighing the reward, uncertainty and inability to bridge information problem gaps (before having received information literacy training) manifested repeatedly in this target population's information seeking behaviour. However, it should be noted that this behaviour would not necessarily occur in other groups of first-generation students and can therefore not be generalised. Generalisation is not the aim of qualitative research but rather to gain an in-depth understanding of a target population's information seeking behaviour.

Discussion

The findings indicated that there were two pertinent physical environments in which first-generation students functioned: their home context which is their parental home and the world in which they were raised and their academic context which was new and unfamiliar to them. In the participants' worlds, these two contexts showed to be incompatible, also owing to the lack of parental guidance. However, the influence of the interaction between these two contexts has not been discussed in the literature before. As explained by Ruthven (2022), certain life changes can cause disorders in individuals' lives in the way they normally function. Although the participants transferred to the academic context, they could not part with situations in their home context, and therefore kept going back to their familiar home context's information seeking behaviour. They were also confronted with unfamiliar new rules and regulations with regard to the type of information needed in an academic context, and the application of technology and information literacy skills required in academic coursework. The criteria of the participants' academic context were so demanding that they could not move past the requirements of the academic context to proceed to academic practices. Consequently, their inner experiences deriving from situations in their home context influenced their information seeking behaviour in their academic context. This is in line with Agarwal's (2018) argument that people's information choices, actions and information processing are based on contextual influences.

From a theoretical perspective, both contexts together with the participants' personal experiences and their level of information literacy competence influenced their information seeking behaviour to a large extent. However, the intervention of information literacy training caused the participants' information behaviour to evolve over time. Dervin's (1998) *sense-making* theory proposes that when individuals can bridge their knowledge gap, their reality changes. From a practical perspective, this study showed that an understanding of information seeking behaviour can support information literacy training. For example, understanding the information seeking behaviour of first-generation students can guide librarians to adjust standard information literacy training to enhance the academic experience of first-generation students.

This study was restricted to a single university and was limited to first-year first-generation students enrolled in the Mastering Academic and Professional Skills in the Humanities programme at the University of Johannesburg; these students can be categorised as a specific type of student. Therefore, the results cannot be generalised to other universities, because not all tertiary institutions may have the same type of students.

What we have learnt from this study is that academic librarians should consider that information literacy training is not *one-size-fits-all* training and not all students have the same information needs. Involving first-generation students in an information literacy course early in their academic year and teaching them timeously how to solve information problems will avoid damaging their self-confidence and contribute towards a positive academic experience.

Conclusion

The purpose of this study was to determine the way in which the two contexts in which first-generation students function, influence their information seeking behaviour and the way in which they set about to seek information. An overall conclusion has been reached that contextual components in both the first-generation students' home context and academic context influenced their information seeking behaviour. Furthermore, it became evident that the information seeking requirements of these two contexts were incompatible to such an extent that they served as a barrier to the information needs and information seeking outcomes of first-generation students. The incompatibility of the two contexts intensified the demands on the students' personal experiences, especially the influence of the situations in their home context.

It became evident that the intervention of an information literacy programme can serve as an enhancement of students' academic experiences, which can eventually turn negative academic experiences into positive outcomes. Hopefully, this study can guide other academic librarians to develop information literacy frameworks to support their first-generation students.

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About the authors

Dr Gertruida Elizabeth du Toit is the teaching and learning librarian at the University of Johannesburg, South Africa. She received her PhD in 2021. Her research focused on the information seeking behaviour of first-generation students. Her ORCID ID is: 0000-003-3541-8434. Contact details: elizedt@uj.ac.za

Dr Madely du Preez is a research fellow in the Department of Information Science, University of South Africa where she taught information organisation and retrieval. Her own research interests are information behaviour with a focus on social networking, social media and information literacy. She currently is a guest lecturer at the Department of Information Science, University of Pretoria for modules pertaining to her research interests and information organisation. Her ORCID ID is: 0000-0002-9425-820X. Contact details: madely@dupre.co.za

Prof Meyer has more than thirty years' experience in information services in various libraries and taught Information Science at tertiary level in open distance learning mode. She is a research associate with the Department of Information Science, University of South Africa for the past ten years. Research interests are in the field of information behaviour with special interest in information behaviour of people in developing communities, as well as the importance of information behaviour in information literacy training programmes at academic libraries. Her ORCID ID is: 0000-0002-0880-0438. Contact details: meyerhwj@gmail.com

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