The everyday life information behaviour of visually impaired students at Stellenbosch University

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Abstract

This article investigated the everyday life information behaviour of students with visual impairment at Stellenbosch University (SU). Ten students with sight disabilities from various faculties completed a questionnaire administered by the University's Braille Office. The key findings revealed that students with visual impairments consulted friends, family members and lecturers for both personal and academic information, relied heavily on the support and services of the Braille Office, used assistive technology to find websites, online full text journal articles and e-books. The everyday behaviour of students with visual impairments at Stellenbosch University conformed to McKenzie's (2003) everyday life information behaviour model.

Keywords: Students and sight disability, information behaviour, Stellenbosch University, assistive technology, McKenzie's everyday life information behaviour model

Introduction

The South African Council for the Blind (2010) defined a person with visual impairment as somebody who has a defect of sight ranging from total blindness

to partial sightedness, implying physical reasons for not being able to read regular sized words. The prevalence of sight disability in South Africa is the highest of all disabilities (32%) followed by physical disability (30%) and hearing disability (20%) (South African Council for the Blind 2010).

Only five to ten percent of people with visual disabilities become Braille literate. Considering that currently only one to seven percent of all published books are converted into differently accessible formats, the blind, visually impaired or print disabled face a huge book scarcity. Scarcity of accessible information is partly due to copyright laws, something the Marrakesh Treaty is trying to remove (World Blind Union 2014).

Both Majinge and Stilwell (2013) and Bagandanshwa (2006) concurred that access to information is a fundamental human right which should be enjoyed regardless of social or physical status. Many countries promulgate laws to ensure the protection of the basic needs and rights of people living with visual disabilities. In South Africa information provision to people with visual impairments is guided by the White Paper on the rights of people with disabilities (South Africa 2015) as well as the South African Library for the Blind Act (1998).

Although some studies on students with visual impairment have been published, it is still a neglected topic, especially in South Africa. The study by Coetzee (2016), from which this article is drawn, was motivated by the conclusion of Greyling (2008) that there is a vital need to continue to seek out, listen to and act upon the voices of students with disabilities in an attempt to make higher education more inclusive – a sentiment echoed by Seyama (2009). Coetzee's study focused on their information behaviour.

In an overview of human information behaviour, Wilson (2000: 49) argued that information behaviour covers all aspects of human information behaviour including information seeking, searching and use. Information seeking is defined as the purposive seeking for information to satisfy an information need (Wilson 1997: 552), while information searching is regarded as the interaction of the searcher with the information system (Wilson 2000: 49). Information use entails the incorporation of retrieved information into the knowledge base (Wilson 2000: 49).

This study's purpose was to investigate the information behaviour of students with visual impairment at SU. It attempted to answer the following questions:
• What are the personal information needs of the SU students with visual impairment?

- What are the academic information needs of the SU student with visual impairment?
- What facilities do students with visual impairment use to find information?
- What resources are utilised?
- What role does technology play?
- What barriers to accessing information do the students with visual impairments experience?
- How can information provision to students with visually impairments be improved?

Theoretical framework

Various theoretical frameworks have been used to study the information behaviour of a particular user group. Among them are the Sense-Making theory (Dervin 1999) applied in a study at the National Taiwan Library Services for visually impaired people (Chang and Chang 2010), the Savolainen (1995) model used to examine the ways in which individuals monitor daily events and seek information to solve specific problems, Chatman's (1999) Small World theories framing, and Wang and Yu's (2017) study on every day information behaviour by the visually impaired in China. McKenzie's (2003) everyday life information behaviour model framed this study as the researcher wanted to research the theory of active seeking and scanning as well as the role of gatekeepers.

Every person's information behaviour is different. According to the everyday life information behaviour model (McKenzie 2003), it may vary from actively seeking information from a known source or planning a search strategy, to serendipitously being contacted by a previously unknown person with relevant information or being given unasked-for advice. A person will first connect with an information source and then interact with it. The model as explained in Table 1 covers the information behaviour of a person in its totality.

The different modes of information practice are as follows:
- Active seeking is the most directed mode of information practice. Accounts on this type of seeking mention practices such as specifically seeking a previously identified source, conducting a systematic, known-item search, asking a pre-planned question, and planning or employing active questioning strategies.
- Active scanning involves practices such as semi-directed browsing or scanning in likely locations (libraries, bookstores), systematic observation of physical characteristics or behaviour, identification of opportunities to

> ask questions and active listening to conversations or questions in likely locations.

- Non-directed monitoring involves serendipitously encountering and recognising a source in an unlikely place (finding an item at a book sale) while not seeking information at all, or while monitoring information sources (reading a newspaper) with no intent other than to become generally informed.

- By proxy refers to those occasions when people connect with or interact with information sources through the initiative of another agent, either the information source or some other gatekeeper or intermediary. They can include such instances as being identified as an information seeker by a close friend, an acquaintance or stranger, being referred to a source through a gatekeeper or being given advice, information or prescription (McKenzie 2003: 19-40).

Table 1: Everyday life information behaviour model (McKenzie 2003: 26)

Modes	Connecting	Interacting
Active seeking	Actively seeking contact with an identified source in a specific information ground	Asking a pre-planned question; active questioning strategies, e.g. list-making
Active scanning	Identifying a likely source; browsing in a likely information ground	Identifying an opportunity to ask a question; actively observing or listening
Non-directed monitoring	Serendipitous encounters in unexpected places	Observing or overhearing in expected settings, chatting with acquaintances
By proxy	Being identified as an information seeker; being referred to a source through a gatekeeper	Being told

Studies like that of Yeoman (2010) reflected the transferability and flexibility of the McKenzie model to different groups making it a suitable framework for this study.

Literature review

Literature regarding students with visual impairments, their information behaviour and the role of assistive or adaptive technologies was reviewed.

Students with visual impairments

Students who are visually impaired need both internal and external support from the university (Greyling 2008). This includes orientation and mobility training in order to locate student services, buildings, classrooms, and the library on campus; proper accommodation; academic support such as having class notes in appropriate formats, adequate lecturing structures, alternative arrangements for completing assessment tasks and examinations, as well as access to assistive technology (Middlesex University 2006; Pillay 2009; Appiah 2017).

Information behaviour of visually impaired students

Although daily information needs are interwoven with academic information needs in a complex way, the most common and pressing need of students with visual impairments is to find the information they need for academic tasks (Given 2002; Agosto and Hughes-Hassell 2005; Epp 2006; Seyama 2009; Ali, Bashir, Fatma, and Baber 2016; Appiah 2017). They need information to cope with life activities (Williamson, Schauder and Bow 2000), medical and health information related to their disability (Beverley, Bath and Booth 2007), and information regarding careers, curricula, study demands, social issues, government affairs as well as information for self-improvement, self-assessment and spiritual growth (Chang and Chang 2010).

In accessing academic information, students with visual challenges rely more heavily on the support of sighted people like librarians (Fatima and Kumari 2017), volunteers and fellow students, and on assistive technology to access information (Harris and Oppenheim 2003; Onatola 2007; Wang and Yu 2017). Barriers impeding information seeking are individual disability, human relations problems, lack of information resources in alternative formats, environmental limitations, misunderstood information needs, out-of-date information, the cost of more accessible formats of information, and websites not meeting the accessible standards for the visually impaired (Williamson, Schauder and Bow 2000; Forgave and McKenzie 2001; Saumure and Given 2004a; 2004b; Adetoro 2010; Chang and Chang 2010; Fatima and Kumari 2017). These challenges result in students with visual impairment feeling that they are not independent information users and that they are often not understood. They also struggle with time constraints and limited access to information resources.

The choice of information sources and formats is influenced by the degree of visual impairment, level of study, format of resources on offer, and the nature of the task (Seyama 2009). Consequently, information already in electronic form is accessed and utilised more effectively than conventional sources (Saumure and Given 2004a; Seyama 2009). Friends and family and electronic media such as

the internet, telephones, television, computers and radios have been identified as preferred information sources (Saumure and Given 2004b; Agosto and Hughes-Hassell 2005).

Role of adaptive technologies

Adaptive technology has become critical in the academic lives of visually impaired students (Alves, Monteiro, Rabello, Gasparetto, and Carvalho 2009; Kleynhans and Fourie 2014; Fatima and Kumari 2017). A wide range of constantly evolving assistive or adaptive technology devices enables visually impaired students to perform sight-related tasks independently (Tinerella and Dick 2005; Smith and Kelly 2011). These devices include screen magnifiers, screen readers (used to read textual information), voice recognition software (used to simulate the keyboard), alternative pointing devices (used to simulate mouse pointing and button activation), optical scanners, optical magnifiers, note-taking devices and technology that produces large print, Braille or speech (Abner and Lahm 2002; Saumure and Given 2004a). Recent developments include Job Access With Speech (JAWS) and Microsoft Windows-Eyes which are screen readers which can be downloaded free of charge (Microsoft Office 2010).

Visually impaired students have to search the internet in a linear manner, spend more time with the query formulation, navigation and browsing and need to be experienced in using assistive technology to find specific information within a web page (Craven and Brophy 2003; Sahib, Tombros and Stockman 2011). In order for websites to be accessible to the visually impaired, Oppenheim and Selby (1999), Schmetzke (2001), Shneiderman (2014), and Shaver (2011) emphasised that the correct interfaces and site designs offering enlarged text, contrasts, and colours for action items, keyboard shortcuts to aid navigation, immediate feedback, error preventions, easy reversal of actions, speech synthesis to convey the content of the page, and reduced short-term memory load should be provided.

Particularly useful in libraries is technology assisting students to access the online public access catalogues (OPAC) and to find and download full-text journal articles (Brophy and Craven 2007; Ali et al. 2016).

The literature review points to the significance of knowing the information needs and behaviour of students with visual impairments for tertiary education institutions and academic libraries to offer an effective and satisfactory service to them.

Research design and methodology

The study adopted a descriptive survey research design and a mixed methods research methodology. It had a concurrent transformative design as quantitative and qualitative data were gathered concurrently by means of a questionnaire guided by the theoretical perspectives of information behaviour and the study's research questions (Creswell 2003; Teddlie and Tashakkori 2010). The population and sample comprised the 26 visually impaired students registered at Stellenbosch University during the 2015 academic year (Wileman 2015).

A limitation of the study was that as the data gathering was conducted during the #feesmustfall campaign[1] of 2015, and respondents were either unavailable or afraid to participate. This unrest meant that only ten completed copies of the questionnaire were received (a response rate of 38,5%) and the envisaged follow-up interviews could not be done.

The data collection instrument was a self-administrated questionnaire consisting of both dichotomous and open-ended questions. It was used to collect biographical details and information regarding students' everyday information behaviour. The Braille Office staff converted the questionnaire into an accessible format, and to ensure confidentiality and anonymity they acted as the intermediary sending and receiving copies of the questionnaire using the university's SURvey software. The quantitative data from the ten copies of the questionnaire were captured and analysed using an Excel spreadsheet to compute descriptive statistics. The qualitative data were analysed thematically using AtlasT.

Results and discussion

Data received from the information gathering tools were interpreted against the background of the study's purpose to investigate the information behaviour of students with visual impairment at SU and were supported by the everyday life information behaviour model as well as relevant literature and document analysis.

Demographic profile of respondents

Gender, age, programme registration and accommodation were the demographic characteristics gathered. Although it did not reflect the overall enrolment of visually impaired students at Stellenbosch University, the respondents were predominantly female (six out of ten). Their ages ranged from 19 to 27 years, corresponding with the fact that four of the respondents were undergraduate

students while six were enrolled for postgraduate studies. A wide range of degree enrolment was recorded with a single student for each degree (MA Psychology, PhD Electrical Engineering, MSC Computer Science, Honours in Political Science, BA Social Work, BA Language and Culture, BA Humanities, and BA International Studies), bar the Honours in Psychology which had two students. Of the ten respondents, eight stayed in university residences, while two made use of private residences in Stellenbosch. This resonated well with the fact that there are four undergraduate women's residences, two undergraduate men's residences, two mixed gender residences for senior students, and one mixed gender undergraduate residence available at Stellenbosch University (Stellenbosch University 2014). Of the respondents, two were blind, one almost blind, three had 40% to 60%, one had 20% and three had 10% visual disability respectively. All respondents admitted to the inability to read normal font size on paper or screens.

Personal information needs

Eight students confirmed the need from time to time for information of a personal nature. The type of personal information identified by respondents is captured in Table 2. It can be categorised into four themes, namely health information, financial information, news and leisure time reading:

Table 2: Personal information needs

Theme	Responses
Health information	Health issues; information relating to people with other disabilities; medical aid
Financial information	Financial information; banking; insurance; jobs; medical aid; medical aid plans; official documents from institutions like banks
News	News; topics of interest for conversation
Leisure time reading	Personal interests; fiction books; non-fiction books; leisure time reading material; things of interest

The personal information needs identified corresponded with studies by Adetoro (2010), Ali et al. (2016), Appiah (2017), Chang and Chang (2010), Fatima and Kumari (2016), and Wang and Yu (2017). Factors such as medical and health related problems, career, employment, study, social issues, government affairs, and others, such as information for self-improvement, self-assessment, knowledge for specific areas and spiritual growth, influenced these personal information needs. Findings also reflected those of Beverley, Bath and Booth (2007) and Williamson, Schauder and Bow (2000) that the blind or visually impaired expressed greater need for information on their disability, the

available visual aids, mobility, and psychological assistance. The fact that one respondent in this study mentioned "information required for daily living" as a personal information need, corresponded with the need for information on coping with life activities identified by Williamson, Schauder and Bow (2000). It also corresponds with information needs influenced by life situations as found by Given (2002) as well as the foundation of McKenzie's everyday life information behaviour model (McKenzie 2003).

Academic information needs

All the students indicated the need for academic information to achieve different academic tasks, namely to find academic information, to complete academic work and to make academic decisions, as indicated in Table 3.

Table 3: Academic needs

Theme	Responses
To complete academic work	Complete assignments, my thesis and research essays
To find academic information	To find journal articles, papers and books in my field of study, credible journal articles, research data relating to my thesis, study material, non-fiction books, question papers
Academic decisions	Programme advice

Difficulty in obtaining academic information

Two respondents indicated that they regarded finding academic information to be easy whereas two others experienced difficulties in obtaining academic information. Five students responded that it was both easy and difficult to find academic information.

Similar difficulties were recorded by Saumure and Given (2004b) and Wang and Yu (2017) who found that the visually impaired students had to rely on librarians and friends to find academic information. The results also echoed findings by Majinge and Stilwell (2013) and as Seyama, Morris and Stilwell (2014) indicating visually impaired students' struggle to find relevant information for academic purposes. It can also be compared with McKenzie's (2003) use of an agent (by proxy) to find information.

Barriers in obtaining needed academic information

In response to an open-ended question, barriers in obtaining needed information were recorded and categorised as the information being available only in printed

format, information not being available in time, time constrains regarding conversions, determining the relevance of information, the inaccessibility of scientific information and lack of availability of information which has been converted into suitable formats, as shown in Table 4.

Table 4: Barriers to finding academic information

Theme	Responses
Information only in printed format	• Not all academic books are available in electronic form • If I want to use a good book, I have to ask someone to look for me through the hard copy books in the library • If I want to use the book, I need to scan it first • I cannot access any library books from the library itself • No electronic books in my field available to my knowledge • Some materials are only available in print • Scientific information often not available in an accessible format • I cannot access physical books • I can also not take books from the library, because they are printed
Information not available in time	• Sometimes my work isn't available in time • Lecturers don't send textbooks on time • If I want to use the book, I need to scan it first
Time consuming	• Some PDFs are inaccessible, however, so it takes me longer to get them in an accessible format • It takes longer, much longer, especially on a computer which burns my eyes • It takes me a bit longer to find relevant articles
Determining relevance	• It is also difficult to know whether an inaccessible article will be useful or not, as I can only read it once it is converted into an accessible format • I need to ask somebody to read the book to me to determine if it is relevant to what I am looking for • It takes me a bit longer to find relevant articles
Scientific information not accessible	• Mathematical symbols in electronic text are often not read well by screen reading software • Scientific information is often not in an accessible format • Limited scientific e-books
Conversion into accessible formats	• Facilities for conversion of such materials are limited in South Africa • Lecturers don't send textbooks on time • If I want to use the book, I need to scan it first

The results corresponded with the studies which indicated that information sources are not presented in suitable formats (Williamson, Schauder and Bow 2000; Craven and Brophy 2003; Saumure and Given 2004b; Seyama 2009; Chang and Chang 2010; Majinge 2014). Support by libraries was limited to providing audio materials and adaptive equipment for using the internet.

Factors supporting access to information

The type of support recorded as the reason for students finding academic information easily could be categorised as the availability of search engines to retrieve online articles, availability of e-books and the role of the Braille Office, as indicated in Table 5.

Table 5: Support in obtaining needed academic information

Theme	Responses
Obtaining online articles using search engines and databases	• It is easy to find journal articles online • I find valuable articles by using search engines and databases on the internet, including those I can access through the Stellenbosch University library • I find useful articles online • Using Google Scholar which has the link to Stellenbosch University makes it easier • Search engines make it easy to search through material that is accessible • Sites like Google Scholar, JSTOR etc. are also useful, and sometimes accessible depending on the material. • Some accessible articles are available online
Obtaining e-books	• A lot of material can be obtained from Bookshare, online digital library for print-impaired users
Braille office	• The Braille Office converts academic information for me so that it is accessible with my screen reader • Braille Office makes course work accessible

Some students learned to use the library's databases and the internet to find electronic information easily. Studies by Adetoro (2011), Ali et al. (2016), as well as Armstrong and Murray (2010) have shown that accessible e-learning environments with accessible and comprehensible material would assist adults with visual impairments. This corresponds with the aspect of the study by Klinkosz, Sekowski and Brambring (2006) that all the visually impaired students coped well with their studies and passed their examinations in the expected timeframes.

People consulted for information

Eight of the visually impaired students relied on family members, friends and lecturers respectively, five relied on fellow students, while one relied on a librarian to find needed academic information.

The findings corresponded to an extent with those of Agosto and Hughes-Hassell (2005), Majinge (2014), Onatola (2007), Saumure and Given (2004a), as well as Wang and Yu (2017), who identified friends and family as information sources of choice. It also conformed to the aspect of the everyday life information behaviour model addressing finding information by proxy when people connect or interact with information sources through the initiative of another agent or gatekeeper (McKenzie 2003: 19-21).

Facilities used for accessing academic information

All the respondents found academic information via the internet, seven with the help of the Braille Office, two via Dis-Maties, the Association for Students with Disabilities, and one used the Stellenbosch University Library. No student used a public library, the Division for Academic Counselling, or the Office for Students with Special Learning Needs.

It is noteworthy that one of the visually impaired students indicated a need for academic advice – implying that s/he was not aware of the academic counselling service offered by the University. An objective of the Office for Students with Special Learning Needs is to provide a research service but it can be deduced from this finding that the student was not aware of this service. That students did not make use of a public library even though they expressed a personal information need for leisure reading. It seems that respondents were unaware that public libraries such as Stellenbosch Public Library have, as part of their collections, audio books, and offer, in cooperation with the National Library for the Blind, a service to visually impaired South Africans (Nassimbeni and De Jager 2014).

The reasons why most, seven of the ten visually impaired students, made use of the Braille Office can be related to the services the Office offers to cater specifically for their needs. The Braille Office promotes awareness of students who are visually impaired, transcribes lecture notes and class materials into Braille and provides around-the-clock access to a computer room equipped with six computers with assistive technology and additional specialised software like text to voice programmes, Braille keyboards and embossers, enlargers, additional speakers and sound equipment (e.g. headphones). The services include converting learning material into accessible electronic formats or Braille, Braille printing, and binding of documents (Stellenbosch University 2011).

The reason for only two students indicating using Dis-Maties, the Association for Students with Disabilities, might be that the association serves as a forum

for the discussion of campus-related issues and aims to promote students' integration into university life, not really providing academic information.

The results, however, corresponded with findings by amongst others Ali et al. (2016), Seyama (2009), Shaver (2011), and Yu (2009), who concluded that students with visual challenges used the internet more often if it was accessible to them by means of enlarged text, contrasts, colours for action items, browsing mobile sites and keyboard shortcuts to aid navigation. Students' dependence on the internet as an information resource corresponded with the tendency by sighted Generation Y students to use the internet for all their information needs as shown by many scholars (Kleynhans and Fourie 2014). Using the internet to find information is in line with active seeking as a step to find information as described in the everyday life information behaviour model (McKenzie 2003: 19-20).

Library resources utilised

Nine students acknowledged using the SU library electronic resources. The resources utilised were Databases A-Z (7), Sun Scholar – the link to Google Scholar (5), e-journals (3), Open access (3) and Library guides (1). None of the respondents used SunSearch (the library catalogue), Short loan (reserved books), Research support, Inter library loans and the library commons. The non-use of the library catalogue is in contrast with the literature review of Mutula and Majinge (2016), indicating the OPAC as an information source for students with visual impairments. Reasons for non-use might be unawareness of what the services entailed, assumption that services offered were limited to printed resources, lack of orientation and information literacy training (Fatima and Kumari 2017), or that students did not see the need to visit the library as lecture notes are converted into alternative formats (Saumure and Given 2004b).

Assistive technology

All the respondents owned assistive technology. Nine students with visual disability used screen readers, five used voice synthesisers, three utilised Braille or tactile displays and special navigation strokes or mouse settings while two students used both screen magnifiers and audio formats.
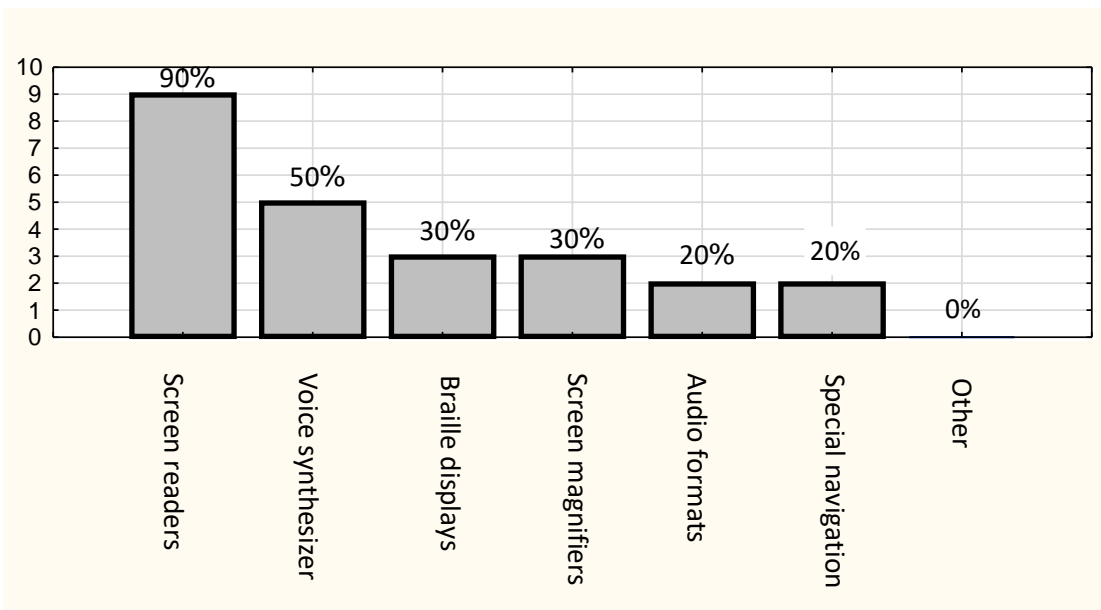
Figure 1: Types of assistive technology

Seven students gained access to assistive technology in the Braille Office, one student made use of the services of the Office for Students with Special Learning Needs while another student used the computers dedicated to students with visual impairment in the SU Library.

The use of assistive technology is in line with Bridgeland and Blanchard (2001), Majinge and Stilwell (2013), Sahib (2011), and Tinerella and Dick (2005), indicating the use of screen readers and screen magnifiers by students. Sahib, Tombros and Stockman (2011) and Schiff (2007), however, determined that only some students engaged effortlessly with technology enabling them to interact with web pages in the same way a sighted individual would, while Bagandanshwa (2006) concluded that visually impaired students need a combination of specially designed information technologies and specialised services to access and utilise information effectively.

Improved information services to the visually impaired

The suggestions made by respondents to improve information provision could be categorised into four main themes, namely availability of alternative book formats, additional library services, training and orientation as well as improved conversion options. They are presented in Table 6.

Table 6: Improved information service

Books in alternative formats	• Maybe try and get some of the text books in Braille or in audio or electronic format
	• I also want to read a book from time to time and it is difficult to get those
	• Library books could be made available in electronic format in categorised folders etc. on computers at the library with assistive technology
	• Braille books and larger font books
	• Documents should be available in more accessible formats at the library and online
Additional library services	• A section for visually impaired students
	• Larger signs so that I can at least know where I'm going
	• Make the route to the library more friendly to blind people
	• Ways to make orientation in library easier
Orientation and training	• I believe that training can play a big role, specifically for disabled students
	• Make the search for information on the internet more specialised, like when I search for something to do with language, I don't want something to do with how prostate cancer develops
	• Training in how blind people can access all services
	• Visually impaired students should be given training on how to use online resources
	• Training about library facilities and other information gathering methods are usually presented in a visual way not relevant to visually impaired students
	• A training course specifically aimed at visually impaired students is needed and will make the lives of these students much easier.
	• Currently, visually impaired students have to train themselves, and many of them struggle
	• An all-encompassing course for disabled students might be a good start
Improved conversion	• Facilities for converting mathematical and scientific material to accessible formats
	• There should be more staff working in the Braille Office to get the work ready faster
	• Lecturers need to be made aware of the fact that it is important to send work on time

The suggestions are in line with the barriers experienced while finding and accessing academic information by students with visual challenges. The need is for a safe place dedicated specifically to the visually impaired to address the physical barriers related to needs identified by the University of Malay Library and the consequent successful implementation of carrels and assisting student

volunteers (Bodaghi and Zainab 2013). The provision of transcribed library materials for better utilisation by the visually impaired was identified by scholars like Adetoro (2011), Harris and Opperheim (2003), Idreers and Raza (2010) as cited by Mutula and Majinge (2016), and Williamson, Schauder and Bow (2000). Suggestions by respondents also corresponded with time constraints, feelings of dependence, lack of human understanding and limited access to electronic resources identified by Saumure and Given (2004a) as well as by Seyama (2009). Brophy and Craven (2007) with Power and LeBeau (2009) listed many suggestions, amongst others, an informative accessible library website, to make academic libraries more user friendly to the visually impaired.

Conclusion and recommendations

Although visually impaired students at SU needed both personal and academic information, they regarded finding and evaluating information to complete academic work as their primary everyday life need. They consulted friends, family, lecturers and the internet for academic information. Barriers in finding information were books only in printed format, unavailability of information in accessible formats on time, time spent in finding and accessing information, difficulty in determining the relevance of information, unavailability of scientific information in accessible formats, time constrains, and impossibility of converting information into accessible formats. Respondents utilised mainly online full text journal articles and e-books obtained via the internet, SU library's databases, SunScholar (link to Google Scholar), and e-journals. All the students with visual impairment made use of assistive technology and relied heavily on the support and services of the Braille Office for additional academic information.

The everyday behaviour of students with visual impairments at Stellenbosch University conformed to McKenzie's everyday life information behaviour model as these students sought actively to make contact with sources, identified likely sources, were identified as information seekers, and made use of people as gatekeepers to be referred to a source.

It is recommended that:
- visually challenged students be introduced to all the SU units (especially the library) offering services aimed to support students with disabilities;
- needed information is converted into accessible format timeously;
- SU provides consultative support to lecturers in order to provide an effective learning environment to students with visual disabilities;

- collection development should incorporate the needs of the visually impaired; and
- marketing of services is offered by public libraries and the South African Library for the Blind so that students with visual impairment may meet, amongst others, their leisure time reading needs.

Continuing research on how to improve the services to visually impaired students is recommended. The researchers are in agreement with the suggestions by Greyling (2008) as well as Seyama, Morris and Stilwell (2014) indicating a vital need to continue to seek out, listen to and act upon the voices of students with disabilities in an attempt to make higher education and, in particular, library services, more inclusive.

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Endnote

[1] This campaign was characterised by widespread protests on South African university campuses with students protesting against increased study fees and demanding free study opportunities for all previously disadvantaged students (Jansen 2017: ix-xii).