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Library Experience and Information Literacy Learning of First Year International Students: An Australian Case Study

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Library Experience and Information Literacy Learning of First Year International Students: An Australian Case Study

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Abstract

This qualitative case study provides fresh understandings about first year undergraduate international students' library and information use at an Australian university, and their associated information literacy learning needs. The findings provide evidence to inform the development of library spaces and information literacy responses that enhance international students' transition and learning. The study was conducted in 2015 as part of a project that simultaneously investigated the same topic at three US universities.

This paper presents the case study context, reviews relevant literature and identifies gaps in research about international students' library use and information literacy, and outlines the qualitative methodology—questionnaire, interviews and thematic analysis. The findings reveal international students' lived experiences of using the library and information, in general and for assignments. After presenting the students' recommendations to the library, the paper discusses the wider implications of the findings for university libraries and information literacy innovation.

Keywords: international students; academic libraries; university libraries; library environment; information literacy; informed learning

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Introduction

Transitioning to university is an educationally and socially complex experience for many undergraduate students (Maunder, Cunliffe, Galvin, Mjali, & Rogers, 2013). This complexity is often intensified for international students by a simultaneous shifting between countries, cultural contexts, and academic environments. Although well recognised, this experience presents continuing challenges for international students and those who seek to support them, including the library.

This case study presents a detailed snapshot of first year international students' library and information use as they transitioned to undergraduate study at an Australian university in 2015. The findings enhance understanding of this experience and provide student-generated recommendations. Thus, they have educational and strategic significance for university libraries to inform the development of spaces and programs that enhance international students' transition.

This paper is in six parts that: set the case study context; review relevant literature; outline the qualitative case study methodology; present findings about international students' experiences of using the library and information; offer students' recommendations to the library; and discuss wider implications for university libraries and information literacy.

Case study context

Internationalised higher education

The internationalisation of higher education continues to increase and contribute to national economies (ICEF, 2015). In Australia, international education accounts for over \$19 billion annual export income, with a projected 45% rise in enrolments by 2025 (Australian Government, 2016b). Over 272,000 international students studied in Australian higher education institutions in 2015 and the top five represented countries were China, India, Malaysia, Vietnam, and Nepal (Australian Government, 2016a).

Sustained growth in the highly competitive international education market requires universities to provide high quality, student-friendly facilities with an international orientation (ACE, 2012, n.p.). Libraries contribute through the provision of services,

resources, programs and spaces that support learning across increasingly diverse student populations (Click, Walker Wiley, & Houlihan, 2017; Witt, Kutner, & Cooper, 2015).

Profile of QUT and the library

The case study site, Queensland University of Technology (QUT), is a large teaching and research university located in Brisbane, Australia. International students make up approximately 17% of the QUT student population. In 2015, when this study was conducted, QUT's 48,503 students included 8,218 international students across six faculties: business, creative industries, education, health, law, and science and engineering (QUT, n.d., 2016a). Of these international students, half were studying for undergraduate degrees. In addition, QUT International College (QUTIC) offers English language preparation and university pathway courses (QUT, 2017).

Help and information literacy learning provided by QUT Library

QUT Library aims to “connect, engage and support” (QUT, 2015b, p. 1) students in the areas of information literacy and academic skills development (QUT, 2015a). To enable students to make best use of its resources and services, QUT Library offers a range of help and information literacy learning options through an “integrated literacies” approach (Peacock, 2011) that includes the following: effective information searching, evaluation and management; and critical, creative and ethical use of information in academic writing, oral communication, reading and thinking. At the time of this research¹, all four branch libraries had general and information technology help desks. The library's 147 FTE professional staff included qualified librarians and educators who provided support to students via helpdesks, one-to-one appointments, online chat (Ask-a-Librarian), email, and phone.

The library also provided an extensive program of course-integrated and generic information and academic literacy education, in face-to-face and web-based modes, including individual consultations. International students make frequent use of these services, including 44% of individual study support appointments in 2015 (QUT, 2015a).

Literature review: University libraries and international students

First year students experience a variety of challenges and opportunities as they navigate new academic practices and social contexts (Maunder et al., 2013), and learn to use the library (Head, 2013). Transition to university can be emotionally challenging for new students who find themselves in an unfamiliar environment without their familiar support networks. The

effects of this social displacement can be particularly problematic for students from cultural backgrounds that are under-represented (Briggs, Clark, & Hall, 2012; Hellsten, 2007).

The complexity of this experience is often intensified for international students—undergraduates and postgraduates alike—who are transitioning between countries and cultural environments. They may encounter unfamiliar social and educational practices while negotiating life and study through a second or additional language (Karim, 2010; Montgomery, 2010). In addition to unfamiliar academic practices and information using conventions, the size and purpose of the library can also provoke uncertainties (Hughes, 2010, 2013; Liu, 2013; Witt, Kutner, & Cooper, 2015). Like many domestic students, some international students demonstrate information literacy imbalance between well-developed digital skills and less developed critical information use (Hughes, 2013).

Libraries are generally well used by many international students because they offer “a ‘perfect storm’ of academic, telecommunication, and social resources, with lengthy hours of operation as well as access to communication tools such as Skype, instant messaging, and e-mail” (Shaffer, Vardaman, & Miller, 2010, p. 111). International students tend to visit the library to use computers, work with a group, or find a quiet place to study (Datig, 2014; Knight, Hight & Polfer, 2010). The library also offers them a safe, central social gathering spot (Liao, Finn, & Lu, 2007). Despite frequent use of the library and high attendance at library orientations (Liu & Winn, 2009; Shao & Scherlen, 2011), international students are often unaware of the full range of services available, particularly research assistance and online chat (Jackson, 2005; Knight et al., 2010; Shaffer, Vardaman, & Miller, 2010; Sharman, 2017).

University libraries can play a significant role in supporting international students’ transition (Jackson & Sullivan, 2011; Witt, Kutner, & Cooper, 2015). Many already provide support services that aim to address language limitations, interpersonal uncertainties and unfamiliar information practices (Click et al., 2017; Datig, 2014; Jackson & Sullivan, 2011). However, libraries often adopt a deficit-based approach (Leask, 2015) that homogenises international students as if they came from the same country and cultural background (Ye, 2009). Library responses tend to reflect the perceptions of staff rather than the expressed needs of international students (Jackson, 2005).

Guides to practice suggest strategies for libraries to support international students, including cultural awareness training for staff, targeted instruction and help, and translated information guides and multi-language collections (Peters, 2010; Ye, 2009). While there is

debate around whether international students actually need or want separate services (Jackson, 2005), the importance of explaining and promoting services is often highlighted (Knight et al., 2010; Liu & Winn, 2009; Sharman, 2017). However, there is limited research to guide how and why this can be realised, or that considers international students' library experience or information literacy learning.

Research approach

This qualitative case study addressed three inter-connected research questions:

- How do first year undergraduate international students use the spaces, resources and support services of QUT Library?
- What are their information literacy learning needs?
- From the perspective of first year undergraduate international students, how could QUT Library's spaces and support services be enhanced?

Qualitative case study (Simons, 2009) allowed the authors to explore international students' experience of library and information use in the real life context of QUT Library. To capture fresh insights, we sought the views of international students in their first year of undergraduate study at QUT who were transitioning to study in a new country.

To recruit participants, the authors sent an email message via an official QUT international student e-list inviting first year undergraduates to complete an online questionnaire. The research goal was to recruit 100 students, and the questionnaire was closed after 110 valid responses were received. Thus, the initial participant group represented 6% of the 2015 international undergraduate intake (n=1770) and 0.6 % of QUT's whole first year cohort (Information Coordinator, QUT, personal communication, June 20, 2017). The final part of the questionnaire invited respondents to participate in a follow-up interview; seven students volunteered.

Data collection involved the aforementioned online questionnaire and semi-structured interviews with student volunteers (Hughes, Hall, & Pozzi, 2017). The questionnaire identified *what* library spaces, resources, and support services the international student participants had used. It also asked participants to provide recommendations for improvement. The interviews were conducted to gain an understanding about *how* the participants used library spaces, resources, and services. Following established qualitative practice, data analysis involved thematic analysis (Miles, Huberman, & Saldaña, 2013).

Triangulation of questionnaire and interview data ensured research rigor and yielded a rich array of factual and experiential data.

The questionnaire and interview questions used in this study were adapted from the Project Information Literacy study *Learning the Ropes*, which explored the information searching skills of freshmen (i.e., first year) students transitioning from high school to college in the United States (Head, 2013). This provided a model for investigating library use of first year undergraduate international students, who constituted a particular group within the wider population of freshmen. We added further questions about library spaces due to growing awareness of the library's importance as learning environment (Head, 2016). These added questions also aligned with the holistic conception of information literacy as informed learning (Bruce, 2008), where environment is integral to international students' experience of using information (Hughes, 2013). In accordance with QUT's research ethics conditions, the researchers provided written and verbal information about the study to participants and advised them of their rights to confidentiality and withdrawal. All participants formally indicated their consent.

A limitation of this study is its focus on a relatively small participant group at only one university, which reduces the generalizability of the findings. However, as a qualitative case study it aims to offer in-depth understanding of students' real life experience. The findings offer indicative insights to inform the evidence-based provision of international-friendly library services and inclusive information literacy approaches. The methodology described here would support further exploration of this still under-researched field.

Participants

The study's 110 participants were first year undergraduate international students who commenced their study at QUT in Semester 1, 2015. They were mostly aged between 18 and 25 years. The majority (82.7%) had been studying at QUT for less than one year, and over half were within their first six months. Some students (17.3%) had been at QUT for more than 12 months, having studied foundational academic and English language programs at QUTIC prior to their undergraduate program.

The participants' widely varied cultural and linguistic backgrounds reflected the diversity of QUT's international student population, who in 2015 were from 68 different home countries. Participants came from 29 different countries. Reflecting national trends in higher education (Australian Government, 2016a), the most commonly reported home

countries were China, Hong Kong and Malaysia. The principal spoken languages were similarly diverse, including Mandarin, Russian, Spanish, Hindi, Ibo, and Tetum. Sixteen students indicated English as their principal language. The participants' diversity was also apparent in the range of their undergraduate programs: architecture, business, creative industries, education, engineering, fine arts, health sciences, information technology, law, nursing, and science.

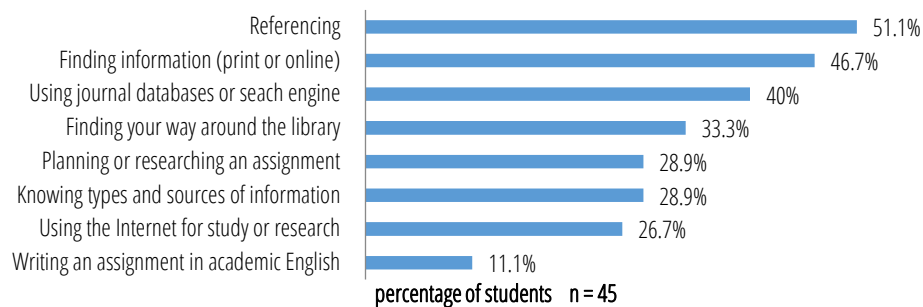
Questionnaire findings: International students' use of the library and information

General Use of library spaces and support services

The QUT Library appears to be a popular venue for study and socialising. All the participants had used at least one library space, while about two-thirds had used two or more different spaces. Computer labs were the most commonly used spaces (79%). Over half the students had used individual and/or group spaces, with a slight preference for individual spaces. Many students (59%) had also used social spaces such as the informal lounge areas. When studying, the students generally preferred quiet spaces that facilitate individual rather than group work. Of the 57 students who used group spaces, over three quarters used them for collaborative purposes such as working on assignments with other students (84%) or discussing study-related matters (77%). A few (16%) used group spaces for socialising.

With regard to support services, less than half of all participants had used the library's general help desk (41%) and/or the information technology help desk (42%). Their reasons for using the library help desk (Figure 1) give an indication of their support needs, the most common of which relate to difficulties associated with referencing, finding information, using journal databases, or physically navigating the library.

Figure 1: Reasons for using the general help desk



Use of information for a particular assignment

In order to gain insights about how international students use information for study purposes, participants were asked to select and describe an assignment they had completed at QUT, providing brief details of the topic, what was required, and which information resources were used. The findings show that the participants undertook a range of assignment types including research, essays, reports, presentations, annotated bibliographies, literature reviews, critiques, portfolios, computer programming, and mathematical problem solving. Subjects covered law, nursing, journalism, communication, engineering, accounting, and mathematics. The assignment topics were also varied and challenging, as the following questionnaire responses show:

“The assignment was about the creative industries and picking a creative career. The assignment needed us to highlight the challenges of emerging creative practitioners in the industry. I had to conduct research and gather information on the industry standards and industry status based on the availability of jobs (Q21).”

“We have to do research on a village named Bambui... a very small village of Africa and is very poor... Our class is divided into groups and we can choose any research area, which can help the community in proper way. As there was very less information about Bambui on Google I used information resources (books and journals) online (Q82).”

The variety of assignment topics and types reported by the participants indicates the flexibility required of library staff when supporting students' learning.

Student participants used a wide range of resources and search tools for their assignments. The most commonly used resource types were books, followed by journal articles. With all resource types, the students made significantly greater use of electronic than print formats, the only exception being personally owned print materials. When searching for information online, students used free Internet tools such as Google (77%) and Google Scholar (55%) considerably more than QUT Library's discovery layer tool (31.5%). Only a few participants noted the use of journal databases. Also, 44.5% of the respondents used Wikipedia, compared with 12.5% who used other online encyclopaedias.

Information using challenges

Overall, the students reported that using information for their assignments was relatively straightforward. Of 106 respondents, about one third (34%) reported it as an easy or very easy process, while 41% gave a neutral response. None found it very difficult. Despite this response, some reported a range of challenges when completing their nominated assignments. The more common challenges related to understanding their teacher's expectations (37%) and the assignment topic (24.5%). Some students noted the language-related challenges course readings, comprehending and summarising materials (22%), and academic writing (21.5%). Relatively few mentioned more basic information skills, such as identifying, selecting and locating sources (16%), or formulating effective online searches (14.5%). However, a greater number (25%) reported difficulty with the more complex process of using information critically and creatively.

Help and information literacy learning

Given the participant students' recent commencement at QUT and the range of reported challenges, it is unsurprising that all study participants gained help in using information from one source or another; however, the library was not often the source of that assistance. All but twelve students sought help for their assignments from other people, most often from lecturers (57%) or family and friends (46%). In contrast, only 41% of the participants consulted library staff and 13.5% consulted a library-based academic adviser. Participants seeking help from the library generally used the help desk in person; online use of the help desk was rare. Students provided a variety of reasons for not seeking help at the library: not knowing where to go (n=2), not knowing what help was available (n=5), and not knowing who to ask (n=3). Eight students independently resolved their difficulty.

Participation in library-run information literacy learning was low. Slightly less than half the students had attended a library orientation (47.6%) or an optional class (48.5%). Even fewer students (40.6%) had gained individual instruction. Many more students engaged in some independent information literacy learning. For example, 87 (79%) reported that they had used print or online learning materials provided by the library.

Interview findings: Experience of using the library and information

The 11 interview participants had varied backgrounds in terms of home countries, languages spoken, previous educational and professional experience, and current subjects of study. Participants included representation from China (Win), Singapore (Nic), India (Ken),

Russia (Len), Philippines (Cal), Malaysia (Fred), and East Timor (Jeff). While most had spent three-to-six months at QUT International College (QUTIC), two had entered straight into an undergraduate program at QUT.

The interview findings, arranged thematically below, illustrate international students' experience of QUT Library and the information literacy support offered to them.

Being an international student

Highlighting the cultural diversity of QUT's student population, Len stated that his university experience is both stressful and exciting because there is a "heap of cultures." The interviewees brought an array of strengths to study at their host university, similar to those reported by Hughes (2013). Participants noted the benefits of being able to "scan and scheme" (Len); being adaptable to "how students learn here" (Cal); already knowing how to search for information (Len); and drawing on previous study experiences in their home country (Cal and Nic). Len noted that "being sociable" enabled him to approach friends for help. Meanwhile, Jeff found learning a second language was useful to:

"... develop your brain skills. The way you think might be different ... I think it helped me analyzing different problems and exams."

Fred also highlighted the benefit of being part of a culturally diverse student population:

"I have different backgrounds and different culture and even languages, so I can...interact with others ... talk about my country and ... the comparison ... to Australia... I can share more about my ideas, my opinion, my experiences ..."

For Jeff, the broader experience was positive in educational and social ways:

"The experience itself is really amazing as you learn to increase yourselves not just in language but also in socialization and gaining more friends."

However, English language use was a common challenge, as Fred explained:

"You have to communicate ... and study in a new language. Compared to my country, English is hardly ever spoken by the people - so [here] you have to learn English, meanwhile adapting to the new surroundings."

Spatial preferences

The interviewees' responses to QUT Library as a physical venue were mostly favorable. They described it variously as "amazing" (Win), "comfortable" (Len, Jeff), "peaceful" and "well organised" (Ken), "helpful" (Len), and "convenient" (Fred). For Jeff, walking into QUT Library was "a dream come true":

"When I was in my country, I was struggling to find a place to study because ... you tend be with extended family so sometimes, you don't get privacy, respect. ... When I got here, I was so happy that I can find space to study."

Similarly, Nic preferred to study in the library rather than at home:

"Studying in the library is really, for me, more productive than studying at home because when I go to school at the library, it's a really nice environment and as soon as I'm here, I'm like, 'Okay, I have to do work 'cause I'm already here.'"

The participants were generally surprised, and even impressed, that QUT Library was larger than the libraries in their home countries. However, they were often troubled by overcrowding and noisiness.

The interviewees had marked personal preferences for particular spaces within QUT Library. The majority preferred less busy areas where they could concentrate. Nic drew an important distinction between a quiet library environment that is conducive to learning rather than a silent one, which she finds uncomfortable. Some liked the familiarity of having their own space, like a sofa in the corner (Win). Two liked the convenience of study spaces near computers and printers.

In general, the interviewees used the library as a place for serious study, as it was quieter and freer of distractions than where they lived. However, some also used the library as a social space. Fred liked to meet friends at the library, while Ken sought out fellow law students to discuss specialised resources and legal referencing.

Several participants expressed strong affective responses to the library: for instance, appreciation for an aesthetically pleasing study environment with a view. Friendly staff members helped some students (Win, Cal) feel at ease in the library, but small things like a "scary" electric stapler (Nic) could be unsettling.

Using information for assignments

The interviewees' responses about the resources available were generally positive. In particular, Cal appreciated having "advanced technology," 24 hour free Internet for study, and access to journal databases, which made it easier to find "reliable information and updated information ... that we can use." Similarly, Win commented about QUT Library's "huge database ... it's quite nice ... I can find whatever I want."

While the interviewees generally found it easy or very easy to find information for their assignments, they all mentioned some challenges that seemed to be associated with the unfamiliarity of the Australian academic environment. In particular, they were unused to independent researching. Ken reported that compared with India, he was experiencing "more self-study than spoon feeding." Similarly, Win commented that classes were managed differently:

"...[In China] you just need to follow them and in here you must do it yourself."

With regard to assessment, Win was unused to the emphasis on group work and assignments rather than exams. Ken noted that unlike in India, QUT assignments were "more practical than theoretical." The unfamiliar style and terminology of academic English was also a source of difficulty for some interviewees.

Most had used libraries in their home country, but those tended to be smaller and less well resourced. Four interviewees reported that their previous school libraries only provided textbooks; they had not used academic databases before, because either they were not available or they were pay-for-use. Even typing an assignment was unusual for Ken, who previously hand wrote his course work. Five interviewees noted that in their home countries library staff did not provide help; some were unused to staying in the library to study.

The most commonly reported difficulties were using QUT Library catalog, finding books on the shelves, using online databases, and identifying relevant resources. Len found "rare topics" with limited resources problematic. In contrast, several students found the volume of information challenging. Len referred to this as "information overload." Similarly, Nic said she struggled with researching "wider topics" that generate too much information. Even the library support structures were challenging for Cal, whose interview suggested an emotional impact:

“I’m preoccupied and anxious for the first semester on how would I get along with all of the new things that I had to go to. It was helpful, but it was like all information bombarding me at the same time.”

Learning to use information

Six of the interviewees had sought help with their assignments, most often from library staff. They reported positively about assistance they received at the library help desk. For example, Len commented:

“They don’t waste time, they just ask ‘How can I help you?’ and that is what I like.”

Two students were helped by talking with or observing friends. Cal indicated the benefit of asking domestic students because “they’ve been doing it forever since all through high school.” One sagely advised him:

“Take your time. Even if you’re not interested, just allow yourself to be interested. Because you would pick up a lot of new information with reading these kind of articles.”

All seven interviewees had participated in some form of information literacy learning, such as library orientations and generic classes. Still, their opinions about the usefulness of those sessions varied. Three students had attended a library orientation, but Nic complained that all sessions were full. Len stated that the timetabling was not convenient, and Jeff complained that the orientation only introduced the physical library without instruction on how to use it. In contrast, six participants indicated favourable responses to information literacy classes. For example, Nic said:

“Classes were very, very helpful. ... I wasn’t sure if things were being done the same way in Singapore and Australia, so once I heard how they were done here ... I got to adapt and do it the way it’s done here.”

Win’s one-on-one research appointment proved helpful because:

“I practice in my tutorial class but no one check it and I don’t know what is right or wrong. ...The [library] staff help me to pick up my grammar mistake and help me check ... what is annotated bibliography look like and help me to figure out which part I should write.”

With this example and guidance she was able to complete the assignment successfully as she knew ‘what I do is right - is on track.’

Most of the interviewees reported having learned new things by seeking library assistance or attending information literacy classes. For example, Fred stated:

“Before I using the QUT library database, I used to search my resources ... everything from Google...But I think Google is sometimes considered as not academic. So after I've been to the uni [QUT Library] I developed new skills like how to use sources effectively and where to find the academic sources.”

Recommendations from international students

Both the questionnaire and interview prompted respondents to give recommendations for enhancing QUT Library spaces and support. Of the 109 recommendations drawn from the two data sources, the most common ones related to:

- Multilingual library information, signage, and web site
- Multilingual librarians at the help desk
- More workshops and orientations for international students
- Flexible timing of information literacy sessions, including semesters, weekends, and holidays

Students' overall recommendations relate to four themes in their library and information using experience. First, recommendations about providing library services and materials in a range of languages reflect the international students' linguistic diversity. Respondents expressed their desire for a multilingual library staff, website, and help guides. Second, several students recommended personalised support for international students' educational and social needs. To this point, Fred recommended a help desk for international students “like in the library in Taiwan.” In contrast, some students preferred no differentiation with services provided for domestic students; as one respondent noted, “...we need to immerse with the Australian culture, no need to hide or have our own space.”

The third theme related to library space. Study participants requested additional individual spaces, more computers, and dedicated space for international students to meet, work together, and get help. Some also suggested rest spaces to lie down (Win) or to nap between lectures (Cal), which perhaps indicates a need for homely spaces for international students

who tend to spend many hours on campus. The fourth theme related to timeliness of library support for international students. Respondents expressed the desire for library orientations and information literacy classes beyond those characteristically offered for start-of-year programs: for example, different times of the semester, semester breaks, and weekends.

Many of the international students' recommendations align with current library strategies. However, the following suggestions deserve further consideration:

- A study support group or an online mentoring group for/run by international students and hosted by the library.
- An online tracking system of student searches and/or recommendations for other resources (similar to Amazon or Good Reads).
- Activities in the library during university breaks for international students who are unable to go home.
- Crash information literacy courses for international students once a month to help them use information effectively for their studies.
- Language workshops or conversational opportunities.

Study participants also offered peer advice for other international students. For instance, Ken said it is important to tell other international students that although QUT students are expected to do "self-study" and acquire knowledge through "their own practices," they should approach librarians for help. Ken also suggested that students need to make an effort to "know about the library," learn how to use the Internet, and be aware of QUT policy about online misconduct. Above all, he advised:

"Be communicative, make friends ... go out, talk with your tutor, talk with other students, take part in the activities, even extracurricular."

Discussion: Summary of case study findings and implications

This case study provides a snapshot of first year international students' use of QUT Library's spaces, resources, and support services. It provides an evidence-based understanding to support library initiatives for enhancing information literacy learning that respond to students' diverse backgrounds, and their wants and needs. Key findings and implications are summarised below.

International student experience

The study's findings illustrate the complexity of international student experience. The distinctive feature of the participants in this study is the diversity of their cultural, linguistic, social and educational backgrounds. For instance, the study shows that international students are not necessarily English as second language speakers, nor are they all unfamiliar with Western education conventions. Individuals may share common ground with domestic students in terms of transitioning to university for the first time or adjusting to a perceived strange new educational environment (Head, 2013). As a result, the social anxieties some international students feel when crossing geographic, educational, and cultural boundaries may be similar to those of domestic students. Furthermore, unfamiliarity with academic library sources and services is not the sole domain of international students; most domestic students have experienced smaller and less well-resourced libraries.

The diversity of international students poses challenges for libraries. As international students do not constitute a discrete cohort with uniform needs, the study cautions against generalising international student characteristics and making deficit-based assumptions about their and library and information literacy needs. Providing multilingual support in the library, as proposed by some participants, has evident merits. However, it would be unsustainable and even inequitable for most institutions, given the wide range of languages spoken. Conversely, international student diversity offers unique opportunities for libraries to generate cross-cultural learning and social connections. International students can contribute to initiatives that enrich wider campus life.

International students' response to the library environment

The study indicates a strong response among international students to the library environment. The extensive time they spend in the library, and the great number and constructive nature of their recommendations for improvement suggest that they feel a strong connection with the library as a learning and social venue hub. However, their recommendations indicate a need for ongoing evaluation of the library spaces and services to ensure they best serve diverse student populations.

While international students may be surprised by unfamiliar library spaces and services, they tend to make heavy use of library computers and value free Internet access. Their spatial needs within the library vary with purpose and personal preferences. In general, they

tend to prefer peaceful quiet, but not silent individual spaces where they are visually connected to other people. These students desire comfortable, safe, organised spaces where they can study and also rest. Their affective responses to the library environment can influence their perceptions and use.

These findings indicate how the library can contribute to first year international students' wellbeing by creating a welcoming, supportive environment to study and connect with each other. They also indicate the need for libraries to continue providing access to computing equipment and space for study purposes, despite students' use of personal devices.

It is important to recognise that the unfamiliarity, size and activity of the library is daunting for some, even for those who have attended tertiary institutions elsewhere. The popularity of the library brings noise and crowding problems. Despite the current design trends towards collaborative learning spaces, there is a continuing demand for quiet individual study spaces. It would be beneficial to include international students in library designing projects to ensure their voices are represented.

Information literacy learning

Despite international students' cultural and linguistic diversity, the study shows that their information literacy learning needs are often similar to those of domestic students. Their challenges in managing information overload, tendency towards more popular electronic resources, reliance on Google, and less critical information use reflect an evident information imbalance among wider higher education student populations (Head, 2013; Hughes, 2013).

The international student participants' tendency to seek assignment help from lecturers and friends may be related to unawareness of help and range of library services available to them. Low attendance at information literacy classes, infrequent consultation with librarians, and minimal use of online help further suggests a need for extensive, targeted promotion of the library to international students.

Limited participation appears to be connected with inconvenient scheduling. As shown in this study and previously (Hughes, 2010), international students require ongoing information literacy learning opportunities that coincide with particular assignment needs. The usefulness of information literacy classes would increase if they were held throughout the semester, including weekends, and during the breaks. An extended orientation period would suit many who arrive after the start of semester, due to visa or travel delays, or who must attend to other personal affairs.

The students' stated appreciation of library staff's friendliness and helpfulness emphasises the importance of creating a welcoming first impression that encourages students to return. Student peer advisers are also beneficial for providing practical knowledge and shared experience. However, some students still hold back due to lack of confidence or misunderstanding. For example, Fred said that he did not ask a librarian about using a database because he thought students are "expected to know these things." This prompts questions about why students form such opinions, and it shows how misunderstandings about the librarians' roles and students' rights can create unintentional barriers. It also illustrates the need to be aware of international students as individuals, and to respond to them in an assumption-free way.

The findings suggest the need for fresh approaches to the information literacy learning needs of international students. For example, informed learning (Bruce, 2008) embraces learner diversity as a strength and creates an inclusive environment for learners to use information critically, creatively, and wisely (Hughes & Bruce, 2013).. As informed learning aims to enhance the whole experience of using information, it would enable international students to widen their horizons by exploring different types of information to solve real-life problems within the context of their academic program. Thorough hands-on learning, collaboration with other domestic and international students, and reflection would develop information literacy capabilities that include cross-cultural understandings of information and its use. For international students, this approach supports a shift from deficit model responses (Leask, 2015), based on assumed difficulties and differences, to international pedagogy, "which is inspired by principles of effective pedagogy and professional excellence" (Hellsten, 2007 p. 88). It can also strengthen transition programs that seek to allow an interplay between the social and academic circumstances of students and institutional support systems (Briggs, Clark & Hall, 2012).

Conclusion

This paper presented insights concerning the ways first year international students use the library and information at their host university, QUT. The case study has drawn an intentionally limited focus on a relatively small group of participants at one Australian university in order to understand the lived experience of first year international students. Beyond QUT, these findings address gaps in information literacy research related to international students. The findings have potential for informing the development of

inclusive, informed learning responses to enhance the transition of international students at universities with culturally diverse populations.

Note

1. Student services and the library underwent major reform in 2017. This study relates to the 2015 structure.

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