



Chapter 7: Smart or Smarting: Student-library engagement in online distance education

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Abstract

This small-scale mixed methods study used surveys and focus groups to investigate the challenges faced by a cohort of online learners at the University of Waikato when seeking and referencing information for course assessments. The research also investigated the type of library support students value, as well as the barriers to their engagement with library information services. Findings revealed half the cohort reported they seldom used the library or library services during their degree; nearly three quarters of the cohort reported problems finding information; and over three quarters of the cohort did not seek help from the library. However, over three quarters of students reported they engaged with library referencing resources. This chapter makes observations about what it means to be ‘digitally smart’ in an academic library context, and suggests ways that library information services can be better provided and promoted to an information-saturated and time poor student audience.

Introduction

As the information world has become increasingly digital, students’ needs and the ways they access resources have changed. With the development of blended, distance and online learning, library services have evolved in order to better serve the specific needs of these learners. It is no secret that many students find libraries hard to use; many prefer to Google rather than navigate the physical or online resources of their institutional library. That said, librarians frequently encounter exasperated students who say, “I’ve just spent *ages and ages* on the Internet and I couldn’t find anything” and then, after assisting a student to the gold of a library database, frequently hear the lament, “If only I’d known about this last week/semester/year”. That is the motivation for this study.

The University of Waikato supports the learning, teaching and research needs of staff and students and serves a population of 12,500, students and 1500 staff (University of Waikato, 2013) with a collection of approximately 1 million physical and 250,000 electronic resources. While there is consistent anecdotal feedback over time from both staff and students about the value of librarian support, little recent research has been conducted at the University of Waikato on the engagement of online distance students with library services.



The University of Waikato offers an applied three year Bachelor of Teaching (Primary) degree which prepares students to become primary school teachers. Students who live remotely undertake the blended or Mixed Media Programme (MMP), which is delivered through multiple channels, including online forums, on-campus block courses and placements in students' local schools. The programme requires students to refer to scholarly literature in formative and summative assessments. Students are expected to source academic information independently as they progress through the degree. For instance, in year two, assessment activities require students to find and use scholarly articles.

The library has supported the MMP programme since its inception in 1997, and this cohort was chosen to explore online distance students' engagement with library services¹⁴ because of this special relationship. Students of the programme are diverse in age, ethnicity, socio-economic background and educational experience. Many have young children and are involved in their local school communities. Early on, the value of having a designated librarian who understands the needs of the MMP students and staff was noted as an essential learner support (Campbell, 1997; Donaghy, McGee, Ussher, & Yates, 2003). This programme specific support continues with designated MMP librarians, a suite of seven tailored tutorials delivered during the on-campus periods, and a virtual reference desk (VeRD) in Moodle. VeRD provides synchronous and asynchronous services to support information finding and referencing needs. It emulates a face-to-face information desk as much as possible, with additional features such as online quizzes, video guides, FAQs and ask-for-help forums. It is a repository for slide presentations and resources co-constructed during the on-campus library tutorials, and is open to any University of Waikato student or staff member.

Digital Smarts & MMP

Digital and information literacy are underpinned by critical thinking and evaluation (The Open University, 2012). To succeed on the MMP programme, students need to develop “digital smarts” which are a composite of both information and digital literacies allied with problem-solving skills and adaptive help-seeking behaviour. Information literacy involves the ability to identify a need for, and to find, critique and use information effectively and ethically (Bundy, 2004), and digital literacy is the ability to navigate electronic environments and harness electronic tools effectively. Students also need problem-solving skills, which involve the application of logic, curiosity, persistence and resilience; and finally, adaptive help-seeking behaviour, which involves not just a willingness to seek help but also requires an awareness of the appropriate places to find that help (Newman, 2002). The development of digital smarts is likely to be an ongoing process which requires deliberate attention by learners, teachers, librarians and learning advisors.

The skills MMP students are expected to demonstrate when completing assignments involve defining the task, locating and selecting suitable resources to cite, and applying the relevant information to the assignment brief (for example, an essay question or research problem). Library

¹⁴ The term library service refers to any resource or service provided by the library including electronic or print materials (and the access to or delivery of); human assistance (face to face, phone, email, instant messaging, online forum); search tools (library catalogue, databases, discovery layer software); guides (e.g., webpages, PDF documents, video, FAQ).



support is often sought throughout this process, from how to identify search terms, how to use electronic databases to retrieve scholarly content, and how to reference. This points to the recognition by some students that there is a gap between the knowledge they possess and the knowledge they need, and that library services can bridge this gap.

Students learning to be teachers must be able to teach their own learners how to find, critique and use information effectively and ethically in order to solve problems and make decisions. Increasingly, these processes involve smart use of digital technologies. Critical and information literacies are therefore vital skills for this increasingly digital environment and educational institutions are key in assisting students to develop these attributes (Brabazon, 2006; Holt, Smissen, & Segrave, 2006; Kwon, 2008; Ramsey, 2008; Zimerman, 2012). As librarians, my colleagues and I seek to provide students with the support necessary to become more digitally smart. But how effective is our support in practice? Do students access the support available, and to what extent do library services meet their needs? When asked to contribute to this project, I welcomed the opportunity to learn more about the experiences of MMP students, specifically to answer these questions.

Literature review

Previous research has examined the concerns for students when seeking and accessing information for academic study, and has outlined issues for learners in making sense of what they find. This includes sources mediated by the academic peer review process or information that is unmediated by such quality assurances. Factors that promote or inhibit use of academic libraries have also been identified, as well as research related to student behaviour when acknowledging the information they use in course assessments. This literature has informed the identification of challenges for learners when seeking and citing information, and factors promoting and inhibiting library use.

Challenges for learners when seeking information

Mass amateurization of publishing makes mass amateurization of filtering a forced move.
 (Shirky, 2008, p. 98)

There are many indications in the literature of challenges for learners when seeking information for course-related learning. Paradoxically, the Internet (aka the free-web) makes information both more accessible and more obscure. Before the Internet, libraries were the default search engine and quality was assured through the publishing and selection processes. On the free-web where anyone can publish, quality assurance no longer exists. This requires much more vigilance on the part of the reader not just to find, but to sift, select and critique this information, since the library filter does not universally apply.

Research indicates a lack of awareness of the importance of academic publications. Many students fail to select academically appropriate sources (Brabazon, 2006; McClure & Clink, 2009; Tricot & Boubée, 2013). In order to discern and evaluate quality information, students need digital smarts, but do not necessarily know that they need them. The failure to discriminate high quality from low quality information presents problems. Easy access to low quality information has created a Google Effect where university students, having ‘Googled’ their way through high school, lack the skills to interpret higher-level work (Brabazon, 2006). Ramsey (2008) observes how the net blurs



distinctions between amateur and expert, opinion and evidence. Brabazon (2006) also suggests that the value of individual opinion has been elevated by blogs and wikis, with the result that tertiary educators have to convince students of the value of other people's evidence-informed ideas. She also argues that many students have not been taught how to identify and use scholarly information and emphasizes the need to scaffold literacy and interpretive skills within programmes of study.

Although the embedding of digital smarts and academic skills development is occurring in some courses (Derakhshan & Singh, 2011; Zanin-Yost, 2012), this is not yet common practice (e.g., Gunn, Hearne, & Sibthorpe, 2011). Research by McGuinness (2006) demonstrates that often these skills are not explicitly taught in tertiary education, as many faculty believe students will pick them up over time. Teaching staff may also assume that students already have the skills to filter what they find, regardless of the source (Macauley & Green, 2008), yet library staff are acutely aware that this is often not the case (Ellis & Salisbury, 2004). Writers such as Zimmerman (2012) consider the sooner students are disabused of the notion that the free-web provides all, the better for their studies and their professional futures. Students who have become digitally smart realise that much of the scholarly information needed for academic endeavour is available only through proprietary databases to which academic libraries subscribe.

Last stop library? Factors inhibiting library use

Studies of university students' information-searching behaviour reveal a preference for the free-web over library resources. In their study of academic library non or low use, Goodall and Pattern (2011) found that 50% of all undergraduate students did not use any library services during the four years of their study. Mi and Nesta (2006) found that 89% of university students start searches on search engines compared with 2% starting on the library website. Even after tuition, students still find library databases hard to use (Tricot & Boubée, 2013). It appears that convenience, which comprises familiarity, perceived ease of use and physical proximity override all other factors in information-seeking processes (Liu & Yang, 2004; Macauley & Green, 2008; Mi & Nesta, 2006; Oblinger & Oblinger, 2006; Toner, 2008; Tricot & Boubée, 2013). This tendency is not unique to the net generation (Becker, 2009).

Other factors identified in the literature as inhibiting library use were

- lack of familiarity with the library and its resources and the need for support to use the library (Horn, Owen & Currie, 2012; Tricot & Boubée, 2013);
- reluctance to seek help from teachers and librarians (Marshall, Burns, & Briden, 2007; Pellegrino, 2012; Valentine, 1993);
- library anxiety (Kwon, 2008; Mellon, 1986);
- students' assumption that their difficulty finding relevant results indicates that the information they need is not in the library (Brooke, McKinney, & Donoghue, 2013; Horn et al., 2012);
- a limited view of librarians' skill and knowledge (Foster & Gibbons, 2007; Horn et al., 2012); and
- the time and effort required to use the library (Brooke et al., 2013; Matthews, 2013; Zimmerman, 2012).



Socio-economic factors are also implicated, as students from lower socio-economic backgrounds tended to demonstrate lower levels of persistence, poorer research skills, less awareness of library services and difficulty in finding relevant results in a search (Horn et al., 2012).

Factors promoting library use

While there is evidence that some students are bypassing the services of their institutional libraries, students who are digitally smart typically access library resources independently and seek support from librarians when necessary. Donaghy et al.'s (2003) study of University of Waikato blended learners noted library use increased as students advanced through their degree. Other studies of distance students found that highly motivated students used library resources (both print and online) more than less motivated students (Horn et al., 2012; Liu & Yang, 2004). The building of interpersonal relationships promotes student library engagement (Becker, 2009; Connaway, Radford & Dickey, 2008; Pellegrino, 2012; Zimerman, 2012). This rapport results from “just in time” user education, which engenders positive feelings towards the library and generates continued use (Becker, 2009; Pellegrino, 2012).

Technology is another significant feature reducing barriers to the library. Vondracek (2007) found students used online library resources if they knew about them and were patient enough to navigate to them. Becker (2009) considers that the growing complexity of libraries is offset by specialized information sources and discovery tools. These tools provide a Google-like search experience and access to most of the library's print and digital collections through a single search box. Additionally, and of particular use to distance students, screencasts and synchronous online information skills sessions can assist them to access library resources (Brooke et al., 2013). Other factors enabling library use include:

- academic preparedness (Horn et al., 2012; Ismail, 2010);
- digital literacy (Horn et al., 2012);
- feeling connected to the university (Horn et al., 2012); and
- user education to assist students in overcoming the complexities of finding and using information (Kramer, 2010; Ismail, 2010).

Macauley and Green (2008) have noted that library services for distance students are often at the cutting edge, and advise that any institution offering distance learning should engage stakeholders to ensure that curriculum, faculty, library, information technology and other services work together effectively. Librarians have long called for enhancements to information literacy training with Becker (2009), Feekery (2011) and Oakleaf (2010) advocating for faculty and librarian collaboration to provide embedded, cross-curricular information literacy instruction. In their study of distance learners, Brooke et al. (2013) also recommend librarians be present when courses are being planned or discussed. However, the experience of MMP librarians is that embedding opportunities have been ad hoc and dependent on individual relationships between academics and librarians.



Challenges in citation practice

Academic libraries play a key role in providing referencing support to students. They create guides to the main referencing styles used by their institutions; provide answers to ‘how do I reference this?’ questions, and teach the basic principles of referencing, including the use of referencing software such as Endnote and Zotero. There are three broad issues within the referencing sphere: the discipline of academic writing; plagiarism and academic integrity; and the mechanics of applying a citation style. Anecdotal evidence indicates the latter is the most common type of student referencing query encountered at the University of Waikato Library.

Stagg, Kimmins and Pavlovski (2013) identify that many Australian students were not explicitly taught referencing prior to tertiary education, and did not fully understand the purpose of referencing. This is consistent with anecdotal evidence from the University of Waikato. Learning how to use a citation style is an essential part of academic literacy, and for instruction to be effective it needs to be integrated into courses and taught in the broader context of academic writing (Stagg et al., 2013). As well as getting to grips with inconsistencies within particular referencing styles, students encounter differences in the ways individual lecturers reference. Referencing is time consuming and difficult for many students who struggle to know when and when not to reference, how to incorporate their own voice, and are afraid of plagiarising (Neville, 2010). In addition students encountered difficulty organising and formatting reference lists, managing and referencing quotations, and using electronic and secondary sources, as well as working with different referencing styles across different faculties (Neville, 2010). Lack of formal tuition has also been identified as a factor inhibiting referencing ability which persists to postgraduate level (Lampthey & Atta-Obeng, 2012).

While this review of the literature has identified factors that inhibit and promote library use, as well as the challenges students encounter accessing and citing information, the specific needs of distance initial teacher education students have not been addressed. This study sought to explore the experiences of MMP students in particular, in order to support their digital smarts and academic literacy. Its purpose was to address the following questions in order to improve library practice:

1. What challenges do online learners face when seeking and referencing information?
2. What assists online learners to meet these challenges?
3. How could the library services provided to online learners be enhanced?

Methodology

An invitation is defined as an intentional act designed to offer something beneficial for consideration. (Purkey, 1992, p. 9)

According to invitational theory, developed by educators in the early 1970s (Purkey, 2013), the people, places, policies, programmes and processes of organisations either contribute to or detract from the lives of the people who participate or interact with them. People participate by working for and using the services and products an organisation offers. Invitational theory is underpinned by four assumptions: respect (people are able and responsible); trust (educational relationships should be co-operative); optimism (people have untapped potential); and intentionality (being intentionally inviting and offering something beneficial) (Purkey & Novak, 1999). In terms of invitational theory, library services for distance students should strive to support their participation by creating a supportive



environment based on the assumption that they will trust that the services will benefit them. We are optimistic that students can overcome their library challenges as they progress through their degree and develop trust that library services will meet their learning needs.

This study is interpretive as it seeks to understand human experience by attempting to see the world through the eyes of the student participants (Cohen, Manion, Morrison, & Bell, 2011). It is the “understandings and perceptions” of the students that are of interest in this research (Berg, 2004, p. 7). The students, as potential and actual library users, are in a position to provide feedback that can inform the improvement of library services. Thus there is an evaluative and developmental element to the research intent.

In terms of research design, data were generated by mixed methods. I wanted to find out both quantitative information (what library resources students use and how often they use them) and qualitative information (what challenges students face when seeking information). Mixed methods research acknowledges that the world is both qualitative and quantitative, and seeks to harness the strengths that both approaches offer (Cohen et al., 2011; Creswell, Shope, Plano Clark, & Green, 2006). It is pragmatically driven in the sense that “what works to answer the research question is the most useful approach to investigation” (Cohen et al., 2011, p. 23), and, as such, the research questions drive the methods of research.

With reference to the qualitative data, thematic analysis was used to identify themes that were significant to the research question (Braun & Clarke, 2006). This was iterative, as some codes became main themes while others were discarded as I moved between the data, refining coding and themes.

Method

To investigate the experiences of students in the MMP programme, I created a questionnaire to elicit both qualitative and quantitative responses as the primary source of data. The questionnaire comprised five closed and six open questions and took 15–20 minutes to complete. It was administered by a non-library staff member during a library class tutorial. Three of the closed questions asked students to rate multiple items on a four-point scale (never, seldom, usually, always). The questionnaire was supplemented by a focus group discussion and an interview with one student who was unable to attend the focus group. Data gathering took place between September and November 2012. Students were asked questions about where they sourced information, the challenges they had in finding this information, where and how often they sought help with their problems, and what (if anything) prevented them using library services. They were also asked to explain what they did about referencing, and where they sought help. Lastly, they were asked whether library services could be improved.

The six focus group volunteers were drawn from Year 3 MMP students. These discussions took place during their on-campus time. Both the focus group and one-to-one interview took approximately one hour. They were semi-structured and used the open questions from the survey to guide the discussion. All data gathering for the study took place at the University of Waikato, and was approved by the Faculty of Education Research Ethics Committee.

The cohort

Access to participants was obtained through my role as a librarian at the Education Library at the University of Waikato, part of which is to provide information services and information literacy



education to MMP students. Students from all years of the programme were asked to participate voluntarily in the survey. Of the 186 members of the target cohort, 176 (95%) completed the survey (see Table 1).

Table 1: Survey participants by gender and year of study

	Female	Male	Total
Year 1	51	5	56
Year 2	56	4	60
Year 3	40	6	46
Year 4	13	1	14
TOTAL	160	16	176

Analysis

For each of the six open-ended questions, responses were initially coded into broad patterns and items of significance. Smaller codes were later discarded, while others were incorporated into other themes. These preliminary themes were then refined into broader themes. Where it served to better illustrate the results, the main categories and the frequency of responses in relation to these categories were presented quantitatively as graphs.

When analysing the five closed questions, the categories Never and Seldom were combined, as were Usually and Always and the responses were described as percentages and numbers with results rounded to whole numbers.

Once the data from the surveys had been collated and analysed, the focus group interview and the one-to-one interview were transcribed. Themes that had been previously identified were coded and the transcripts were analysed to seek additional themes that had not emerged previously. The transcripts also provided richer and deeper insights into students' experiences.

Findings

The research questions have been used as a guide to group findings in order to inform library practice. Themes developed during qualitative analysis and results of quantitative analysis have been supplemented with quotations from participants to provide a richer understanding of MMP students' experiences finding and referencing information.

Current library use by MMP students

Almost half the cohort reported frequent library use (see Figure 1). When separated into year groups the data reveals more information about student-library engagement (see Figure 2). Consistent with previous research, library use increased with level of study (Brooke et al., 2013; Donaghy et al., 2003)



with the exception of Year 4 students, who tended to use library services slightly less than Year 3 students. Informal discussions with teachers of some Year 1 papers revealed there are assignments which require students to independently source information, but many Year 1 papers require students to source information from their prescribed texts only. This may explain data which shows they use the library least. There is also an expectation that students will increasingly engage in independent scholarly research as their studies progress.

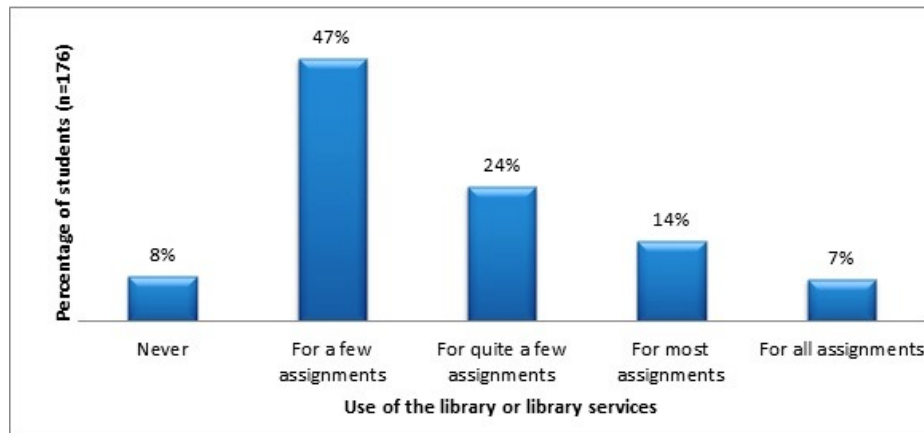


Figure 1:
Frequency of
library usage
during degree
study (n=176)

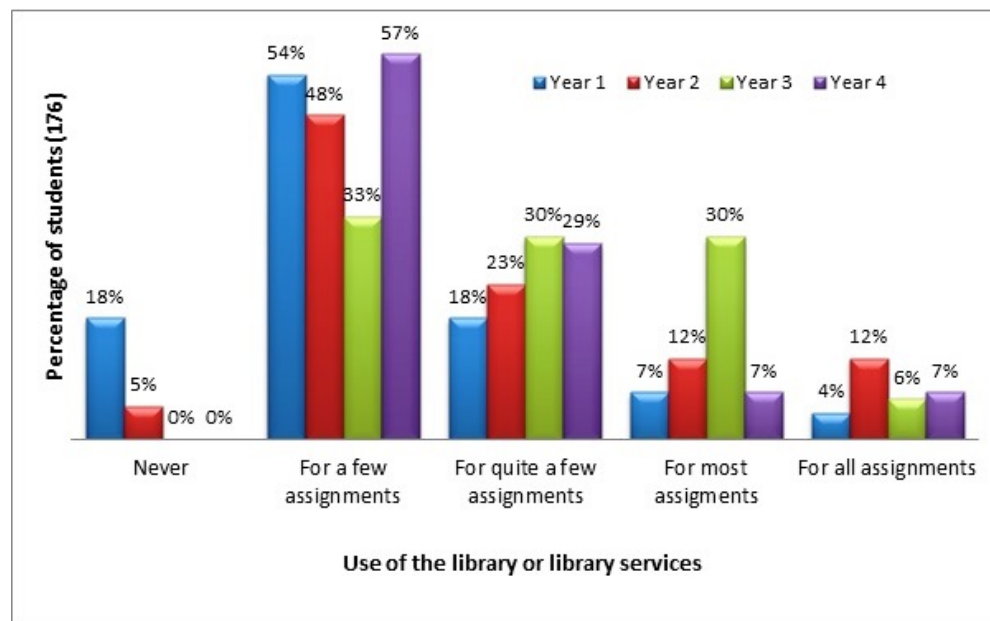


Figure 2: Frequency of library usage during degree study by year of study (n=176)

As mentioned in the literature, university students are more likely to bypass library resources and go straight to the free-web (Macauley & Green, 2008; Mi & Nesta, 2006; Oblinger & Oblinger, 2006;



Toner 2005). This is borne out in the findings from this study. Of the options provided in the questionnaire, these were the ones most frequently used by students:

- Course readings 98%
- Set text 84%
- Google 65%
- Library Search (a tool which provides a Google-like search experience) 53%
- Library databases 52%
- Google Scholar 30%
- Wikipedia 6%

When searching online 65% of students used Google while only 30% used Google Scholar and only 6% used Wikipedia. After prescribed readings, Google was the most frequently used information resource, but it is heartening to note that over half were also frequently using library resources.

Challenges MMP students face when seeking information

Just under 70% of students reported challenges relating to finding information (see Figure 3).

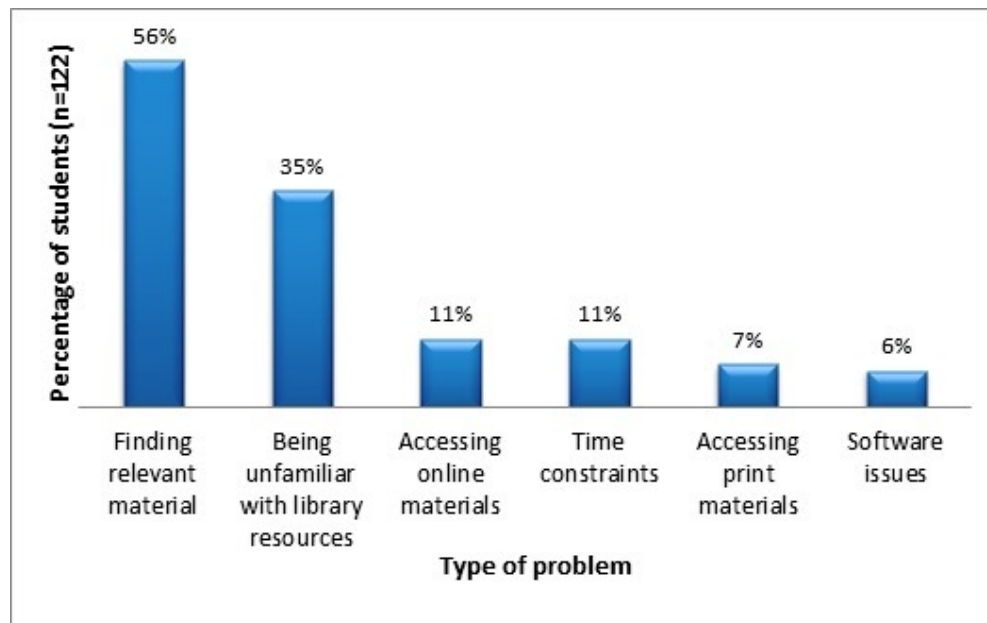


Figure 3: Problems encountered when seeking information for discussions or assignments

The two most significant difficulties were finding relevant material, identifying key words and refining searches (56%); and being unfamiliar with library resources, which involves knowing where to look for information and how to use the particular resource effectively (35%). Students reported:



There are too many options / results from a search on the net or on the library search. I have tried to refine the search but I haven't yet found it helpful. (Year One)

[Being] unable to access journals or articles online i.e. usually required to sign up to something or pay?? (Year One)

Anecdotal evidence suggests that those who struggle when seeking information lack the interpretive skills to determine relevance, and do not know how to amend searches to find relevant material. Three quarters of the cohort reported not seeking help from the library, which is consistent with other research (Brooke et al., 2013; Pellegrino, 2010; Vondracek, 2007). While this is perplexing, given the targeted support on offer, it fits with Newman's (2002) observations regarding students' need to develop adaptive help-seeking behaviour, which is an important aspect of being digitally smart.

Challenges MMP students face when seeking information using the library

Students were asked what prevented them from using the library. Just over one third of participants responded (n=63) (see Figure 4). The reasons they gave included:

- lack of confidence or know-how,
- distance from the physical university library,
- librarian availability,
- the time needed to learn or re-learn library resources,
- the time required to source items, and
- the time required to receive physical items by post.

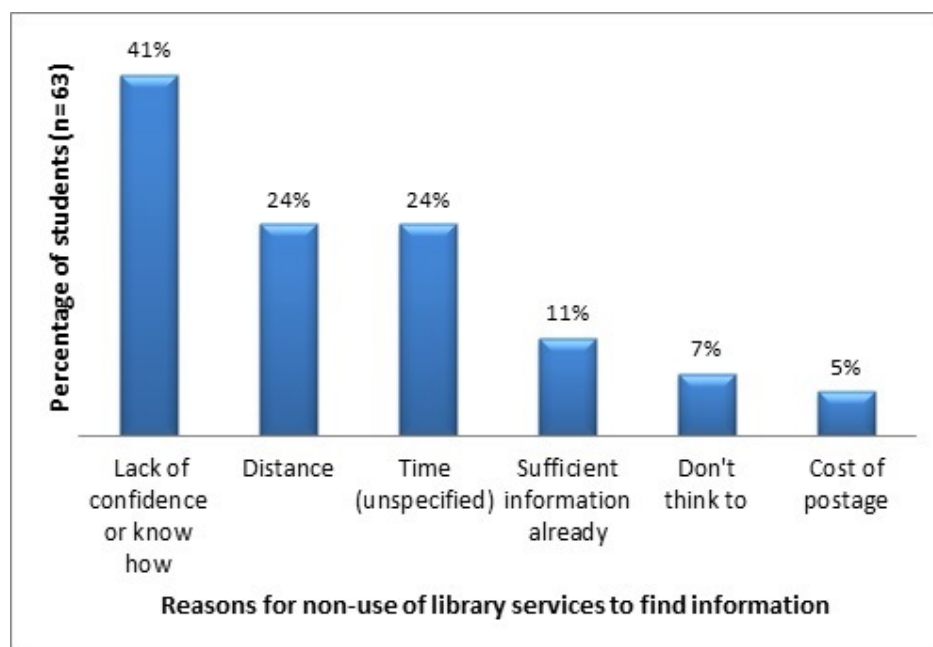


Figure 4: Reasons for non-use of the library for information for discussions and assignments



Some of these issues were consistent with findings in the literature, specifically, lack of confidence, know-how or familiarity with library resources (Becker, 2009; Mi & Nesta, 2006; Zimmerman, 2012) and the cost in terms of time required to learn or relearn how to use library resources (Matthews, 2013).

Lack of familiarity and practice using library resources despite having been introduced to them in library tutorials was also cited by students, and is consistent with Ismail's (2010) observation that difficulties often persist despite students having received explicit instruction on how to use library resources.

Because I don't use it often (i.e. weekly) I tend to forget the process and then spend a little time working out how to find a book ... and then order it.... I recognise it is my issue rather than the system. (Year One)

Remembering which education databases to use and the terms they use - * or ? etc. (Year Three)

I don't know how to work the library website. I always forget after the on-campus sessions. (Year Three)

When searching through the library it is hard to know the search words that will help you find what you actually need. (Year Three)

Narrowing search fields—takes time I do not have. (Year Three)

The findings also suggest that students were prepared to forgo more relevant material from the university library (either print or electronic) for the certainty, comfort and convenience of visiting a physical library closer to home:

I'm not organised enough to order books online and then send them back. I live in [name of city], and although the [local] library is nowhere near as good in terms of supply, I use it a lot. (Year One)

Of less significance (11% or fewer respondents) were problems related to the availability of or access to online materials, the time required to find relevant materials, the need for assistance outside of library opening times, and a last minute approach to accessing resources, which is consistent with Brooke et al. (2013). Students expressed a desire for the right information to be available instantly with minimal effort, and reported sacrificing information quality for convenience as they managed competing pressures of work, family and study.

Online material (electronic books) not included in topic matter. (Year One)

Time consuming downloading and skim reading to see if suitable despite abstract. (Year Two)



I usually leave things until the last minute or the weekend so librarians are not available. I make do with what I can find. (Year One)

If I hit a barrier while trying to find an item online I'll give up on that item. (Year Three Focus Group)

We have so much else going on. I finish work, I have 2 or 3 hours to study and get my assignments done. I don't want to have to ask questions on how to find stuff, I don't have time for that. I'd rather get less marks for my assignment for not having as many readings. (Year Three)

Challenges online learners face when referencing information

Just under three quarters (70.5%, n=124) of participants reported problems with referencing, indicating that crediting sources is as difficult as finding them. Three themes were identified related to the requirement to use the American Psychological Association (APA) referencing style in assignments. They were formatting, referencing electronic resources, and referencing in general.

Formatting

In line with Gill (2009), students commented extensively about aspects of formatting, identifying three particular concerns. The first was the different formatting requirements for each type of source (journals, books, chapters in edited books, books of readings, webpages, etc); the second was the inconsistent use of APA in the table of contents of print books of course readings; and the third relates to individual lecturers' preferences and interpretations of APA style.

Students expected that the information cited in course materials would be correctly formatted in APA, and were frustrated when there was inconsistency between what was modelled and what was expected. Variations in understandings and interpretations of APA have a cost in terms of the energy and time students spend getting it 'right', particularly if they experience that there is 'no right way'. One student lamented:

Not knowing what the RIGHT way of APA is because each lecturer likes it a different way. (Year Four)

Comments also indicated that students sometimes lost marks for incorrect referencing, although others suggested this was not a significant issue:

Be pedantic as you lose marks for this being incorrect. (Year One)

Realising referencing is worth so few marks. (Year Three)

Referencing electronic resources



Students had particular difficulty with electronic resources. Just over 14% (n=25) specifically mentioned challenges both in identifying the correct format and in determining required citation details:

I'm not sure how to reference websites. I don't know where to find information that is needed e.g. date of website, author. (Year One)

Referencing in general

Previous research indicates that students find crediting sources time consuming and difficult (Neville, 2010). Just over 14% (n=25) found the general concept of APA referencing was a challenge. Their comments related to being unsure of the rules, forgetting what to do, and generally not understanding the level of detail required. One student commented:

The whole process was daunting!! We need to be more spoonfed!! Provide us with a tutorial that applies the knowledge (in text referencing etc). (Year Two)

This acknowledgement of a lack of formal tuition is consistent with Lamptey and Atta-Obeng's (2012) research. Conversely, despite a lack of formal instruction other students did find their way to assistance:

I have been able to find what I need from VeRD or by asking the lecturer. (Year One)

For some students the ability to reference information correctly in APA influenced the information selected:

Sometimes I will avoid putting in something really good because I can't figure out how to reference it. (Year Three Focus Group)

To a much lesser extent, students mentioned issues related to referencing software, the time and effort required, and knowing where to seek help. Referencing problems were addressed through seeking help from peers, seeking help from librarians and lecturers, and using the library APA guides.

Factors that assist online learners to meet challenges when seeking and referencing information

Survey and focus group comments indicate students sought help from their peers, with immediate and complete answers being highly valued. The social networking site Facebook was mentioned by only two survey respondents as a place where students sought help; however, the focus group interview revealed that students frequently asked referencing questions there.

A lot of referencing questions happen on Facebook. (Year Three)

Have you got a reference for this? Yip. Bang. There it is and then you put it in your assignment. (Year Three)



Students reported feeling more comfortable asking questions of their lecturers because of their connection with them. Immediacy and expediency also influenced the help-seeking behaviour of some students.

Usually I'm doing it at 2.30 am so there's no one to ask, so that's why I Google it. (Year Three)

I'd rather get less marks for the assignment and get it done than ask a question and wait for the answer. (Year Three)

Of the students who sought library help (25%), the online resources, which are available 24/7 and require no student-librarian interaction, were used most. The FAQ and print guides were used more than the 'ask for help' forums and video guides. Resources which required human contact (both synchronous and asynchronous) were used least, with only 15% of students using email, instant messaging or the phone to seek library help (see Figures 5 and 6).

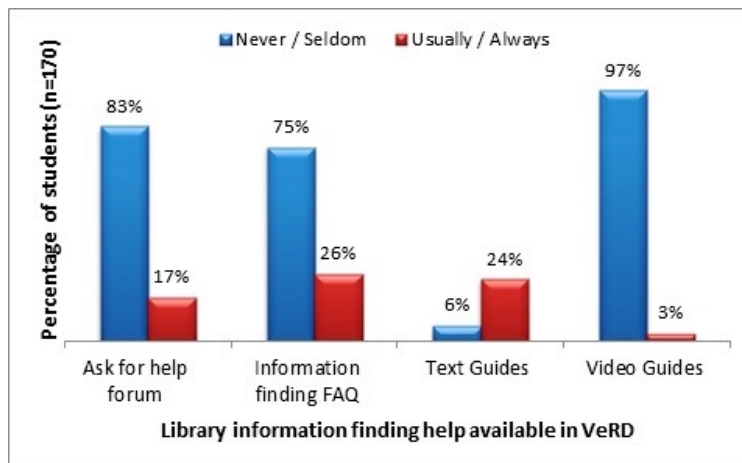


Figure 5: Student help-seeking methods using VeRD (n=170)

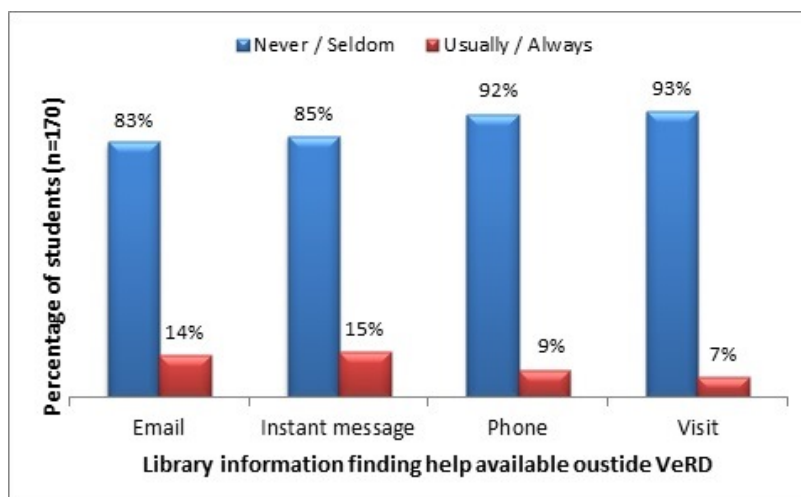


Figure 6: Student help-seeking methods outside VeRD (n=170)



The most popular referencing resources were the APA Quick Guide (84%), Online APA Guide (42%) and the FAQ (35%) :

You just Google APA and the first item that comes up is the Library's APA guides.
(Year Three Focus Group)

Some responses indicated a high level of satisfaction with library support for finding and referencing information:

I find the directions for APA very clear and Library Search is great. (Year One)

I feel you [library staff] are always approachable. Have always gotten quick feedback.
(Year Two)

I have found the new system user-friendly, easy to navigate around and video tutorials and screen shots very beneficial. (Year Three)

I think you guys are great! Always approachable and willing to help :-). (Year Three)

I have found all parts of VeRD to be easy to access and answer all problems I have had.
(Year Four)

Take my advice, I'm not using it!

When asked what advice they would give to new students about finding and referencing information it is noteworthy that the majority of the 124 respondents advised students to seek help from and to use the library (see Figure 7)

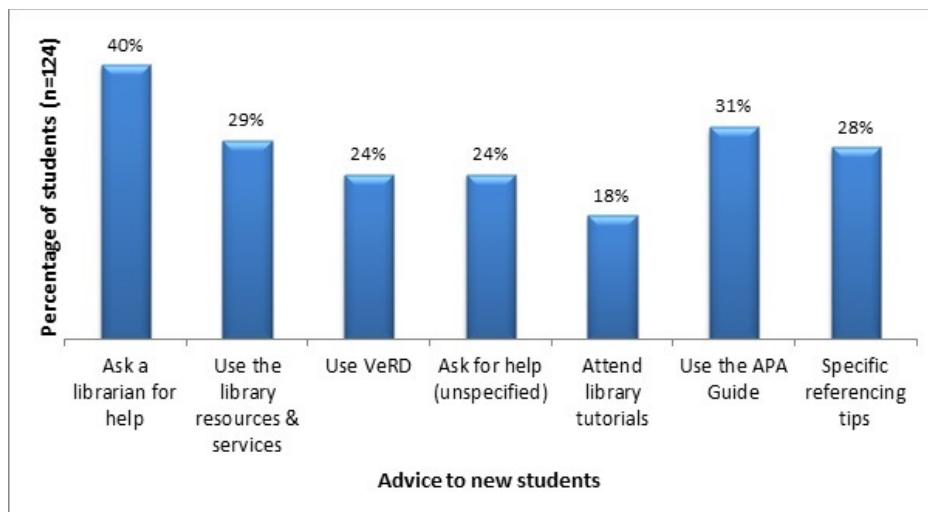


Figure 7: Advice for new students about finding and referencing information for assignments (n=124)



Focus group participants recommended that new students use library services and commented that their lecturers wanted them to use the library to access recommended readings:

Take your time and try and learn, cos I wish I had in the beginning and then I wouldn't have gotten off track, trying to find other articles that were easier but weren't right. (Year Three)

Students who reported not using the library or library services at all (n= 14) did in fact seek library help for referencing, and seven of these self-identified 'non-users' would recommend that new students use library referencing resources or ask the library for referencing help. This suggests that the referencing guides and help are not perceived by some as library services.

Factors prohibiting students seeking help from the library

While equal numbers of students (69.5% and 70.5% respectively) commented about information-finding problems and referencing problems, the majority reported they did not seek library help (see Figures 5 to 8). Comments from the focus group gave insight into students' reluctance to seek help from library staff, such as feeling embarrassed, not wanting to be a nuisance, not knowing how to ask, and the importance of relationships.

Recommendations to enhance library services for online learners

Students were asked how librarians could improve the help offered. Of the respondents to this question (n=82), 42 (51%) indicated that they were extremely happy with existing library services (most of these respondents had indicated that they were frequent library users). Slightly fewer respondents suggested improvements (n=36, 44%), including:

- more easily navigable library resources;
- a tutorial in APA referencing; and
- longer library tutorials to allow more time to get to grips with the content.

Implications

Invitational theory is based on respect, optimism, intentionality and trust (Purkey, 1992). The findings of this study indicate that most MMP students had high levels of trust and respect for the library and librarians, which was reflected in their willingness to participate in this study. However this trust and willingness to engage appeared to dissipate when students were off campus and did not translate into sustained problem-solving or adaptive help-seeking behaviours when seeking and using information. Personal relationships have been identified as a factor influencing library use (Connaway et al., 2008; Kwon, 2008; Pellegrino 2012; Zimmerman 2012). It is understandable that the two or three times a year MMP students attend workshops with librarians is not sufficient to develop connectedness, and that for many, librarians are simply 'out of sight, out of mind'.



While students engaging in an online programme may be assumed to possess the information literacy, digital literacy, problem-solving skills and adaptive help-seeking behaviours associated with digital smarts, this study has identified areas where further development is needed. The majority of students (69.5%) found it difficult to find relevant information, irrespective of whether they used Google or the library, and many lacked the skills and confidence to use the library effectively, although improvements were apparent in later years of study. For most students (70.5%), correctly acknowledging sources using the APA referencing style proved problematic despite making high use of the library's print APA guide. A majority of students did not seek help from the library for their information seeking and referencing needs, and 50% claimed to rarely use the library, which compares favourably to Toner's (2008) research that found 70% of distance students did not use the library.

To address these issues, the following strategies are recommended:

Build a bridge to the library

To promote adaptive help-seeking behaviour we need to capture the hearts and minds of our non or low users by challenging outdated notions about the library. This can be achieved by connecting with them personally, supporting them to develop information literacy, and building a bridge between the free web and the library.

Make the horse thirsty

It is not enough to point students in the direction of quality information and expect them to use it. We also need to make the horse thirsty through the scaffolded development of critical thinking, which teaches learners how to engage intelligently and discerningly with information wherever they find it, and why it is important to do so. This will require working with faculty to better embed critical, digital and information literacies as key competencies across the curriculum, particularly when courses are being planned or reviewed.

Wag the tail not the dog

Finally, the disproportionate amount of time spent on the minutiae of the APA referencing style could be addressed by teaching APA to first year students and promoting the use of citation generators and referencing software, as well as the video tutorials to accompany them. Furthermore, to address inconsistencies between papers, librarians could work with faculty to develop a more uniform interpretation of APA, and offer a "quality control check" across the books of course readings to ensure they are accurately referenced. Given the heartache that referencing seems to cause for so many students, this is certainly something that academics and librarians involved in course design need to consider.



Limitations of the study

This study investigated the experiences of a specific cohort of distance students from an initial teacher education programme. As such, it does not attempt to represent the experiences of students from other disciplines, or the perspectives of academic staff involved in the programme. The research did not seek demographic data such as age, ethnicity or prior level of education, nor did it attempt to assess how students determine the relevance of the information found. While this data would have allowed a deeper analysis, it was beyond the scope of the time and resources available. These limitations could be addressed in future research.

Conclusion

This study endeavoured to find out what challenges MMP students encountered when seeking information and referencing sources during their initial teacher education. Despite designated librarian support, on campus tutorials and ongoing online access to support services, nearly three quarters had problems finding information and referencing it throughout their degree. Half the cohort seldom used the library to find information; and the majority did not seek help from the library ‘help services’ despite their apparent awareness that this help was available and their recommendation that other students use it. Lack of confidence, skill and time, combined with distance from the physical library and a reluctance to seek help, were principal factors in low student-library engagement. Many participants therefore demonstrated a lack of digital smarts—in particular, they lacked problem-solving strategies and adaptive help-seeking behaviour. There were many “shoulda woulda coulda” moments in the findings, which were exemplified by the advice which the majority of students gave but did not take: use the library and seek help in order to use it.

Although half of the MMP students who participated in this study had highly positive things to say about the library, it is clear that as librarians we need to build on this sentiment, so that 100% of them use our services to gain the support they need to engage with relevant quality sources that will lead to better educational outcomes. The library strives to be intentionally invitational and to create an environment that assists (invites) students to make use of our resources and services in order to thrive as learners. Based on the findings of this study, there is more work to be done. Three main ideas have emerged from this research which could be used to develop interventions: build a bridge to the library, make the horse thirsty, and wag the tail not the dog. If educational institutions are to assist learners to develop digital critical and information literacies, faculty and librarians must partner to capture the hearts and minds of these students to assist them in developing digital smarts in order to become effective 21st century learners.

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