

Article Title: “What do you mean I can’t just use Google?” Information Literacy in an Academic Setting

Abstract: Information literacy has become one of the most crucial skills for the twenty-first century, yet many Canadians, including university students, are not information literate. Universities in Canada aim to prepare students not only as professionals in the workforce, but also to be responsible, informed citizens; however information literacy is often overlooked when developing curricula and program goals. The responsibility of information literacy instruction often falls to academic librarians, as many professors do not have the time or interest. This paper will outline many of the methods used by librarians to teach information literacy skills to undergraduate students, also discussing the barriers and challenges faced by libraries and librarians when it comes to information library instruction. To conclude, potential future steps that can be taken in Canada, specifically by librarians, but also by universities, faculty, and national professional organizations, are identified and discussed.

About the Author(s): Laura Thorne is currently enrolled in her second year of the Masters of Library and Information Studies at Dalhousie University. Originally from Ontario, she completed her Bachelor of Arts with a double-major in history and anthropology at the University of Guelph. This paper developed from an interest in the role of librarian as instructor. Laura hopes to conduct further research in the near future on information literacy programs, specifically within Canada. This paper was originally written for the Information in Society course from the School of Information Management at Dalhousie University.

Introduction

We are drowning in information but starved for knowledge.

- John Naisbitt, *Megatrends*, 1982, p. 24

Three decades after publishing his book *Megatrends*, John Naisbitt's words continue to be relevant. In December 2011, a Google search of the phrase "information literacy" produced approximately 11,900,000 results. However, it is important to scrutinize the quality of each of these results and how the information can be used. In order to answer these questions, one must be, to some degree, information literate. With massive amounts of information becoming more and more accessible every day, information literacy has become an important skill for Canadians in the twenty-first century. This paper will examine information literacy and its importance in post-secondary institutions, specifically universities, in Canada. Discussing information literacy initiatives aimed specifically at undergraduate students, this paper will explore the role of the university library and librarians in developing students' information literacy skills. An examination of some of the traditional and contemporary techniques employed when teaching information literacy as well as the challenges librarians face when developing information literacy programs will also occur. To conclude, this paper will discuss the future of information literacy in universities, arguing that though the prevalence of information literacy projects in universities has risen in the past two decades, more needs to be done to integrate information literacy into the curriculum. Future steps that will be discussed include: the development of unique Canadian information literacy standards, the potential role of Canadian library organizations and associations, and the necessity for further research to create additional discourse in the information literacy debate.

Defining Information Literacy

Before delving into the information literacy initiatives in Canadian universities, it is important to discuss what is meant by "information literacy" and how the term will be used within this paper. Though the widespread recognition of the importance of information literacy in post-secondary institutions is relatively recent, information literacy itself is not a new concept (Julien, 2005; Saunders, 2011). It is librarians who have led the way in defining and promoting the concept of information literacy in both post-secondary institutions and society in general (Saunders, 2011). In 1989, the American Library Association (ALA) published the *Presidential Committee on Information Literacy*, a report which can be viewed as a turning point in the advancement of information literacy (Rockman, 2004). For the purposes of this paper, the definition of information literacy is one developed by the ALA's *Presidential Committee on Information Literacy* (1989) and reinforced by the Association of College & Research Libraries (ACRL) in its *Information Literacy Competency Standards for Higher Education* (2000). In both of these documents, information literacy is defined as the ability to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information"

(American Library Association, 1989; Association of College & Research Libraries, 2000). It should be acknowledged that this is a basic definition for the concept of information literacy; however, it is the definition accepted by most professionals, specifically within North America. The Canadian Association of Research Libraries (CARL) does not have a unique definition of information literacy, but instead accepts the ACRL definition and standards. However, for others, information literacy is not just about finding information or even finding the “right” information; more is required to be information literate. Cory Laverty, Head of the Education Library at Queen's University in Kingston, Ontario, argues that being “information literate requires more than the ability to work analytically with information, it also demands that we know how to interpret and internalize information in creative and meaningful ways” (2009, p. 90). However, for the purposes of this paper, the ALA and ACRL basic definition of information literacy will be used.

The Importance of Information Literacy

It is hard to overstate the importance of information literacy in today's society. It has been argued that in order to fully participate in both public and private life, citizens need to be able to access information effectively (Julien & Boon, 2003) and information literacy has been described as a key skill for the information age (American Library Association, 1989). Information literacy is also increasingly important in the contemporary environment of rapid technological change, whose escalating complexity creates diverse and abundant information choices for individuals (ACRL, 2000). Leaders in the knowledge-based economy also recognize the value of information literacy. In 1999, former president of the Bank of Montreal, Anthony Comper, advised a graduating class at the University of Toronto:

Whatever else you bring to the 21st century workplace, however great your technical skills and however attractive your attitude and however deep your commitment to excellence, the bottom line is that to be successful, you need to acquire a high level of information literacy. What we need in the knowledge industries are people who know how to absorb and analyze and integrate and create and effectively convey information—and who know how to use information to bring real value to everything they undertake (as cited in Rockman, 2004, p. 8).

Information literacy is especially important in post-secondary institutions. Teaching students to think critically, an important aspect of information literacy, is a major goal of post-secondary institutions (Kwon, 2008). As institutions where the focus is on skill development and knowledge building, universities have a responsibility to their students to provide them with the key skills required to succeed in future academic, professional, and personal endeavors. Information literacy training improves student research abilities and critical thinking skills, boosts employability, promotes lifelong learning, and prepares students to be informed citizens (Labelle & Nicholson, 2005). Individuals who are knowledgeable about searching, evaluating, analyzing, integrating, managing, and disseminating information to others efficiently are held in

high esteem (Rockman, 2004). As organizations responsible for preparing the next generation for the workforce, universities need to ensure their graduates are equipped. Like other individuals in the information age, university students tend to become lost among the abundance of information choices, unable to effectively access or determine quality information (Cull, 2005; Rockman, 2004). The ability to confidently identify and analyze information, while also avoiding becoming paralyzed by information overload, is essential for success in academics, professional situations, and in one's personal life, making information literacy a necessity for everyone, including students (Rockman, 2004). The recognition of the significance of information literacy has impacted higher education institutions, both in Canada and across the globe.

Information Literacy and the University Library

For some, information literacy may seem like a natural fit for librarians, while others may argue that information literacy is the responsibility of the teaching faculty. In the modern academic environment, with many students turning to the internet instead of the library, it can be a challenge for library services and for librarians to remain relevant (Simard, 2009). The development of information literacy strategies may be one of the ways libraries can continue to be a relevant and crucial part of the undergraduate experience. A common question that has been discussed in library associations (both the ALA and the Canadian Library Association), in committees, conferences, and workshops has been: what role should librarians play in developing information literacy skills in their patrons? (American Library Association, 1989; Canadian Library Association, 2011; Workshop for Instruction in Library Use, 2011). In the contemporary world, the answer could very well be that librarians should be (and are) the leaders in teaching information literacy (Cull, 2005; Simard, 2009).

Academic librarians, specifically, can see the need for information literacy instruction through the observation of students' difficulties in conducting research (Labelle & Nicholson, 2005). For academic librarians, one of their traditional duties has been to introduce their patrons to the various information resources available, while also providing training in the effective use of information tools. However, in the past decade, academic librarians in Canada have shifted their focus from the use of information tools in order to specifically teach broader information literacy skills (Julien & Boon, 2003). Academic librarians have continued to work toward developing and implementing information literacy instruction programs as part of an effort to prepare their students better with the appropriate skills and knowledge required for them to succeed in finding, evaluating, and using information effectively (Labelle & Nicholson, 2005). Librarians and libraries have the opportunity to play an important role in the development of students as life-long learners. Librarians can help ease the potential feelings of unease or apprehension, often referred to as "library anxiety." This anxiety is increasingly prevalent among university-age students and can lead to complete avoidance of the library and its services (Kwon, 2008). Students experienced "library anxiety" as they attempt to navigate

through the complex and, at times, confusing maze of information research available in the academic library or elsewhere (Labelle & Nicholson, 2005). As service-providers who have regular face-to-face encounters with students, librarians have the opportunity to make students feel more comfortable using the resources in the library and this extra effort by librarians is valued. The appreciation and gratitude of the students they help, as well as a consciousness of their role in the learning process, has motivated many academic libraries to develop extensive information literacy programs (Whitehead & Quinlan, 2003). Canadian academic librarians, like their counterparts in the United States, have many differing approaches to information literacy (Whitehead & Quinlan, 2002). For the most part, university libraries and their staff in Canada have embraced the role of providers of information literacy training for their students, using a myriad of methodologies, which have had varying rates of success.

Teaching Information Literacy

In the past decade especially, Canadian academic librarians have developed numerous approaches to teaching information literacy to undergraduate students. Moving away from the traditional, stand-alone or “one-shot” lectures, academic librarians have pursued a more embedded approach for teaching information literacy by integrating the librarian into courses, developing online information literacy tools, organizing workshops on research strategies and plagiarism, and designing entire courses based on information literacy skill development (Deiss & Petrowski, 2009; Whitehead & Quinlan, 2002). The target demographic of these information literacy instructions methods has also changed. Previously first-year students were often the most popular targets of instruction, however, recent approaches have involved integrating information literacy instruction into all four years of undergraduate degree programs or using a discipline-specific approach (Harrison & Rourke, 2006; Polkinghorne & Wilton, 2010; Reed, Kinder, & Farnum, 2007). The number of resources allocated by academic libraries specifically for information literacy has also somewhat increased. In Heidi Julien’s *A Longitudinal Analysis of Information Literacy Instruction in Canadian Academic Libraries* (2005) the proportion of full-time instructional librarians increased significantly (compared to previous studies from 2000 and 1995). Julien also reported that in 2005, of the Canadian universities who participated in her study, 87.3 per cent offered formal instructional classes and 95.7 per cent offered informal instruction (Julien, 2005). However, the specific techniques used for both the formal and informal information literacy instruction varies from institution to institution.

Specific Tools and Methodologies for Information Literacy Instructions

Stand-Alone Library Lecture

The so-called “one-shot,” stand-alone group instruction session is the most common information literacy technique used in academic libraries in Canada (Galvin, 2005; Julien,

2000). These conventional single-class visits tend to be course-specific and (hopefully) involve input from the instructor (Polkinghorne & Wilton, 2010). The introductory sessions largely occur at the beginning of the academic year. In Julien's study, she found that of the librarians surveyed, 26 - 50 per cent of their time on instructional activities occurred at the start of the year, while during the remainder of the academic year, the proportion of time spent on instruction was less than 25 per cent (2005, p. 294). On their own, these "one-shots" do not provide enough instruction for students to become information literate; they only provide a basic introduction and understanding of information literacy skills. Introductory sessions continue to be most popular, despite a growing body of research that suggests that stand-alone sessions are not the most effective way to integrate information literacy into the classroom (Bowler & Street, 2008). However, these initial sessions can be used as an effective method to introduce first-year students to the resources available at the library, drawing them into the library for additional instruction.

Subject Guides and Finding Aids

Most academic librarians have developed subject guides and finding aids to assist students as they begin their research. Candice Dahl's study, in which she looked at forty-five finding aids in nine Canadian universities, revealed that subject guides are used in many academic libraries to make library users more aware of the resources available as well as how these resources can be used (2001). Dahl found, "[a]s more and more sources of information are made available, librarians strive to facilitate the use of such resources by library users through pathfinders" (2001, p.227). Subject guides are an accessible form of library instruction as they allow library patrons to learn how to use the resources at their own pace (Galvin, 2005). Though these guides have traditionally existed in the form of paper handouts, most libraries are making them available to their patrons online as well (Dahl, 2001; Galvin, 2005). To be beneficial to students, subject guides need to be readable, free of library jargon, address a specific need, and be accessible and easy to locate on a library website or in the library itself (Galvin, 2005).

Web-based Tutorials

Information and communications technology has changed the ways information literacy can be delivered (Julien, 2005). Academic librarians have taken advantage of the advances in technology by developing new and improved methods of information literacy instruction. For many students, the Internet has replaced the library as the primary research tool, so it is important for libraries to have a strong web-presence to reach their students (Rockman, 2004). Using the library website as a starting point, librarians have developed online tutorials to teach users a wide-range of library-related skills. The librarians at the Schulich Library of Science and Engineering at McGill University in Montreal, Quebec developed web-based strategies, such as instructional "How-to" webcasts (Simard, 2009). The librarians found that web-based videos were effective to deliver basic instruction to undergraduate students (Simard, 2009).

Though this was not an approach the librarians at McGill took, many of today's innovative information literacy programs also take advantage of Web 2.0 technologies, such as Facebook, Twitter, blogs, and wikis, to reach their audience (Simard, 2009). As of 2000, 36 per cent of academic libraries were using computer-assisted instructional methods (Julien, 2000), a number that has grown in the past decade (Simard, 2009). Academic librarians are embracing the changing technologies in order to remain accessible and current to their users.

Embedding Information Literacy

Another instructional approach that has become popular in the past decade is to integrate information literacy into a course, or in some instances, into a degree program. This method can be challenging, as it requires more resources and increased collaboration and support from faculty and university administrators; however, multiple Canadian universities have implemented integrated information literacy instruction, with varying rates of success (Bowler & Street, 2008; Harrison & Rourke, 2006; Polkinghorne & Wilton, 2010; Reed, Kinder, & Farnum, 2007; Simard, 2009). For example, the librarians at Mount Royal College in Calgary, Alberta conducted a series of experiments by embedding a librarian into undergraduate classrooms at a variety of levels to determine if different degrees of librarian embedment correlated with an improvement in students' information literacy skills (Bowler & Street, 2008). The librarians collaborated fully with faculty members, provided input for assignments, presented three lectures, and shared responsibility with the professor for information literacy education. The researchers concluded that the level of embedment does impact students' information literacy development: when information literacy is embedded consciously and emphasized as a specialized element of the course, students' performances empirically improve (Bowler & Street, 2008). Meanwhile, at the Augustana Campus of the University of Alberta in Camrose, Alberta, librarians worked with faculty to develop a new activity-based, discipline-specific undergraduate research methods course, designed to improve undergraduates' information literacy skills (Polkinghorne & Wilton, 2009). The assessment of the course was positive and the librarians concluded that the classes enabled students to not only develop their information literacy, but also to demonstrate and reinforce their skills through course work (Polkinghorne & Wilton, 2009).

In Toronto, Ontario, Ryerson University librarians conducted a study examining a course where university librarians and teaching faculty collaborated in all aspects of the course including: curricular development, assignment creation, in-class teaching, and support for individual student development, in the form of office hours (Reed, Kinder, & Farnum, 2007). This collaborative approach led to noticeable improvements of participants' information literacy skills. Following the course, 85 per cent of students passed an information literacy test, compared to only 29 per cent prior to instruction (Reed, Kinder, & Farnum, 2007). Another successful integration initiative took place at the University of Guelph in Guelph, Ontario, where an information literacy curriculum was developed in collaboration with the new Bachelor of Arts and Sciences degree program. The librarians worked closely with the students and

faculty to integrate information literacy lessons, assignments, and goals into each year of the four-year degree program (Harrison & Rourke, 2006). The information literacy instruction also went beyond the classroom, as each student was paired in a formal mentorship with a librarian with whom they had to meet on a regular basis throughout the semester to discuss their research projects. This unique approach to information literacy instruction proved successful and was enjoyed by both students and librarians; however, the challenges presented by large workloads, scheduling, and staffing constraints prevented the mentorship program from becoming a regular information literacy initiative in the university (Harrison & Rourke, 2006). While these initiatives to embed information literacy into courses and programs have been deemed largely successful, more than one library has argued that the way information literacy instruction is currently being integrated is not sustainable (Bowler & Street, 2008; Whitehead & Quinlan, 2003). Many of the challenges and barriers faced by librarians prevent information literacy training, especially embedded library instruction, from being continued.

Barriers to Information Literacy Instruction

Academic librarians face many challenges when it comes to developing and implementing information literacy initiatives, no matter what method they choose to employ. They face challenges from the stakeholders of the institution, including the students, the faculty, and the administration, and have to overcome barriers when it comes to resources, such as staff constraints, technological challenges, and heavy workloads.

The students and their views on research can be a large barrier for anyone teaching information literacy skills. Numerous studies have found that students comfortable with technology, the so-called “digital natives,” often overestimate their ability to conduct research properly (Julien, 2005; Polkinghorne & Wilton, 2010; Simard, 2009). It is argued that despite their self-assurance, “The gadget-savvy Millennial students do not fully comprehend the complex networked information world” (Deiss & Petrowski, 2009, p. 6). The false confidence students possess leads them to believe there is little need for instruction and can cause them to undervalue librarians. Julien (2005) reported that some librarians have found that students only show up if sessions are mandatory or are linked to an assignment because they do not believe there is a need or value for information literacy instruction. Another librarian noted that a main challenge to information literacy instruction is “students who believe everything they need can be found by ‘googling’” (Julien, 2005, p. 304). In order to create successful information literacy programs, the importance of information literacy must be made clear to students, not only by librarians, but also by their curriculum, faculty, and university administration.

However, the faculty and administration can also be barriers to the development of information literacy instruction. A librarian who participated in the study by Julien (2005) found it difficult “to educate faculty that library instruction can take many forms – it does not HAVE to be a 50-minute one-shot” (p. 306). Despite research suggesting one-shot sessions are not the most

effective way to integrate information literacy into the classroom, librarians have found that many faculty members are reluctant to “give up” classroom time to anything more than a brief, general introductory library session because they are often unwilling to replace discipline-related content or surrender control in the classroom (Bowler & Street, 2008). Many librarians have noted that even when faculty members are willing to participate in more than the one-shot session, collaboration with faculty is often difficult. Librarians at McGill University found that although there is evidence that class-integrated sessions yield the highest average attendance by students, collaboration with faculty has proven difficult and much work remains to build partnerships with faculty members (Simard, 2009). A librarian who took part in Barry Cull’s survey on information literacy instruction in Atlantic Canadian universities described her relationships with faculty as “hit and miss,” noting “[i]t’s always hot and cold for faculty. Either they are on our side and they want us in their classrooms and we cannot do enough for them, or they do not want to come near us, and they do not think we are important, and they think they can teach it themselves” (Cull, 2005, p. 15-16). Another participant in Cull’s study reported that faculty often voice their support of library instruction, but fail to follow through (Cull, 2005). This lack of support from faculty creates a need for university administration to step up and facilitate collaboration between teaching faculty and librarians.

Though teaching faculty are not always supportive of information literacy instruction, many of them acknowledge its importance. A study from York University in Toronto, Ontario found that despite little success in faculty-librarian collaboration, a very large majority of faculty (78.7 per cent) believed that faculty and librarians should approach information literacy education collaboratively (Bury, 2011). To help increase collaboration between librarians and teaching faculty, academic libraries are developing materials to outline the need for information literacy instruction. For example, the University of Toronto Libraries have developed a document outlining the outcomes of information literacy instruction for both students and faculty. This document is used to market library services to teaching faculty, explicitly stating what faculty can gain by integrating information literacy into their courses and how easy it is to do so (University of Toronto Libraries, 2005). The librarians at Mount Royal argued that to be taken seriously by both students and faculty “[i]nformation literacy should be identified in the academic classroom on an equal footing to the discipline-specific knowledge presented in the classroom” (Bowler & Street, 2008, p. 448). This requires contributions from university administrators to integrate information literacy into the curriculum of all undergraduate programs. This has occurred sporadically at some universities in Canada, such as the University of Alberta’s Augustana Campus which has recently incorporated information literacy into the core curriculum as a required skill expected of all graduates; however, it needs to be integrated into the curriculum at more institutions across the country (Polkinghorne & Wilton, 2010). A participant in Cull’s study summed it up well, stating “Across Canada, information literacy has to become a priority at the university level, but at this point, our only connection is through the faculty. [We have to] build that, then hopefully we can sell it to higher administration... To work, it has to be a partnership, university wide” (2005, p.17). If university

administration, teaching faculty, and librarians can collaborate, the promotion of information literacy skills will become an easier endeavor for all involved.

Resources, or more accurately a lack of resources, are also an immense challenge for information literacy instructors. Julien (2005) argued that, prior to 2005, university libraries faced an era of significant constraints on resources, with provincial and federal governments decreasing support, the cost of collections and technological infrastructure increasing dramatically, escalating student enrolment, and the number of staff declining. Since 2005, these tough times have continued for Canadian universities as the recent recession has hit post-secondary institutions hard, with declining endowments and an increased demand for financial aid (CBC News, 2009). Developing new initiatives, planning courses, and creating resources requires a large amount of time and staff. Piling more instructional duties on to the librarians' roles adds another demand for their already limited time. Cull's study of six university libraries in Atlantic Canada found that for most of the librarians surveyed, even though instruction was a significant part of the workload counting for 30-75 per cent of their overall responsibilities, they all had important additional duties, such as collection development, reference services, Web site management, and administration (2005). Often instructional duties have to be dropped or are limited in order to complete other duties. At the University of British Columbia, some library branches received such a large number of requests for in-class instruction or the development of online tutorials they were unable to complete them all, as the library did not have the resources to meet the demand (Whitehead & Quinlan, 2003). In Julien's study, respondents mentioned a lack of staff and insufficient technological resources and support as barriers to delivering effective library instruction (2005). However, on a positive note, this lack of resources has led to libraries being increasingly creative and innovative in developing programs and tools and marketing themselves (Julien, 2005). Despite the challenges academic librarians face when developing and implementing information literacy initiatives, there have still been immense successes across Canada and the future of information literacy instruction looks promising.

Future of Information Literacy

It is clear that information literacy programs in Canadian academic settings have come a long way and there is much to celebrate in terms of achievements and progress; however, further steps are still required and there are more challenges to face (Julien, 2005; Whitehead & Quinlan, 2003). Future endeavors for information literacy instruction are plentiful. Three specific areas for future possibilities include the development of Canadian information literacy standards for academic libraries; the collaboration of library organizations with universities to integrate information literacy programs into undergraduate curricula; and continued research and experimentation using different instructional approaches in Canadian universities.

The development of information literacy instructional standards for Canadian libraries, specifically in post-secondary institutions, would be beneficial. Julien's study found that though

the CARL follow them, most Canadian academic libraries do not utilize or accept the ARCL standards for information literacy instruction (2005). Developing unique Canadian standards, instead of relying on American or international standards, may lead to a more harmonized approach to information literacy. Librarians should collaborate to develop these standards, which could lead to collaboration in the development of information literacy instruction. One librarian who participated in Julien's study argued "Librarians across the country should be working collaboratively on IL curriculum ideas" (2005, p. 307-308). The development of standards could lead to an increase in collaboration and an improved perspective of information literacy. The Canadian Association of Research Libraries (CARL) has an Information Literacy Portal and a statement on information literacy on the website; however, both only lead to dead links. Perhaps this is because "[i]nformation literacy initiatives in Canada remain on the margins of the education process... much to the detriment of Canada's workforce and economic potential" (Whitehead & Quinlan, 2002, p. 5). It is clear information literacy is still not being taken as seriously as it should be in Canada.

Canadian librarians and associations need to lead the way, taking serious steps to develop strategies to improve information literacy in Canada. Organizations and programs such as the Canadian Library Association (CLA), the CLA Information Literacy Interest Group (ILIG), the CARL, and the Workshop for Instruction in Library Use (WILU) are in a unique position as they have the ability to create opportunities for librarians to collaborate to fully integrate information literacy into the education system. Whitehead and Quinlan (2002) argue that "[a]t the root of the problem is the fact that information literacy is rarely addressed as an educational objective and therefore is not systematically covered in academic program curricula. . . . Information literacy instruction needs to be planned inside academic programs, not just in response to individual initiatives" (p. 11). Library organizations may work in collaboration with universities to further integrate information literacy instruction. It is important to note that this will not be an easy task, as discussed before; relationships with university administrators or faculty can be challenging because many may not view information literacy as a necessary addition to the curriculum. However, librarians may take on this role of spokesperson for information literacy, as they often already "represent the primary voice for information literacy instruction in academe and, by extension, are a key voice for information literacy within our wider communities" (Cull, 2005, p. 20). Librarians can play a key role in ensuring that information literacy is no longer just a library issue, arguing that information literacy "is *the* critical campus-wide issue for the twenty-first century, of keen importance to all educational stakeholders, including administrators, faculty, librarians, media and information technologists, assessment coordinators, student affairs personnel, and career development professionals (Rockman, 2004, p.1). If treated as a campus wide issue, information literacy programs would be more effective, as they would receive the support necessary to succeed. Librarians at the University of Guelph concluded that information literacy programs would work best if a charter was adopted by administration "to formalize the structure of such a project, in order to ensure institution-wide acceptance and enthusiasm, rather than starting with an idea and hoping for

the best” (Harrison & Rourke, 2006, p. 605). Librarians can be leaders in the institution-wide and nation-wide recognition of the need for information literacy skills.

While substantial studies have been completed on information literacy programs across Canada, much of the key research is becoming dated. It is important that further research is conducted as technological advances and changes in information access occur rapidly, changing both the information literacy needs of students and the methods of instruction. It has been a decade since Whitehead and Quinlan (2002) claimed “it seems in many ways that information literacy programs are still in their infancy” (p. 10). More research is needed to understand the barriers to library instruction and to monitor how current information literacy programs are developing and evolving. Research examining the role of students, library directors, university administrators, and faculty members in information literacy instruction would also be beneficial as they are all stakeholders in information literacy program development (Cull, 2005).

Conclusion

Canadian academic libraries have taken many approaches to reach their patrons and teach information literacy skills, using tools such as introductory lectures, online tutorials, subject guides, and library assignments; however, much more needs to be done before students are fully information literate. The development of a Canadian set of standards, a stronger position from Canadian library associations, and further research on information literacy strategies and results are all steps towards increasing the information literacy in Canadian universities. The development and implementation of information literacy training programs requires a collaborative approach in order to be successful. Information literacy skills development needs to be a major concern of universities, faculty, and librarians across Canada, to ensure Canadians do not continue to drown in information while being starved for knowledge.

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