Mary Cavanagh
University of Ottawa, Ottawa, Ontario, Canada

Dianne Oberg
University of Alberta, Edmonton, Alberta, Canada

Heather Buchansky
University of Toronto, Toronto, Ontario, Canada

Marc d'Avernas
Mount Royal University, Calgary, Alberta, Canada

Kate Johnson-McGregor
Brantford Collegiate Institute, Brantford, Ontario, Canada

Sarah Roberts
Ontario Library Association, Toronto, Ontario, Canada

Information Literacy from High School to University: Report of the Ontario School Library Impact Project (OSLIP)

Abstract

The Ontario School Library Impact Project (OSLIP) investigated the impact of school libraries on the development of key information literacy skills in students entering post-secondary education, using online surveys and qualitative interviews. The project found that first-year university students are challenged by the demands of post-secondary course research assignments. These findings support previous research indicating first-year university students are challenged by new demands for research skills. Unfortunately, opportunities to develop those skills are inconsistent among school boards in Ontario. This is a multifaceted problem confronting both school librarians and academic librarians as well as their teaching partners.

1. Introduction
The Ontario School Library Impact Project (OSLIP), an initiative of the Ontario Library Association (OLA), investigated the impact of school libraries on the development of key information literacy skills in students entering post-secondary education. The positive impact of quality school library programs on student achievement has been thoroughly investigated within the context of elementary and secondary schools, but the long-term impact (that is, beyond high school graduation) of high-quality school library programs has been rarely examined. Universities provide one context within which to examine the long-term impact of high school library programs.

2. Literature Review

Thirty years of research in the United States and elsewhere has established that school libraries and school librarians make a positive impact on student learning, student graduation rates and students' mastery of academic standards. The active presence and participation of qualified librarians and the form and content of their classroom support are what make the most significant differences (Klinger, et al., 2009). Smith (2013) found that "curricular mandates are insufficient to ensure information literacy (IL) is incorporated into instruction and teachers are ill-prepared to instruct IL effectively" (p. 216). Many students arrive at university, "lack[ing] the IL proficiency required to succeed in the post-secondary educational environment, and the [academic] libraries are not prepared to effectively address this gap" (Smith et al, 2013, p. 88).

The long-term impact of high-quality secondary school library programs on students' success in further education, in work, or in personal life has been rarely examined. Universities provide one context within which to examine this impact. A few studies related to the long-term impact of school libraries and librarians have been conducted in the United States:

- Smalley (2004) – the mid-year grades of college students were substantially higher for those who had completed high school with the benefit of librarians and library programs than those who did not.
- Latham and Gross (2008) – when asked about their K-12 IL experiences, low-performing college students identified peers as sources of knowledge while high-performing identified librarians and teachers.
- Head (2013) – first-year students found college course research both exciting and overwhelming – they faced libraries that were large and complex (19 times the number of databases and 9 times the books as their high school libraries), and their high school research competencies were inadequate for the demands of college work.
- Farmer and Phamie (2021) – the GPAs of first-year university students were significantly correlated with the presence of a librarian employed at least half time in the students' high schools.

School librarians and academic librarians share similar concerns and challenges regarding IL instruction (Ingvaldsen & Oberg, 2017), but few studies have examined the impact of academic librarians' work on student learning. Academic skill deficiencies in first-year university students have been documented, but researchers examining this problem often do not include libraries and librarians in their recommendations for addressing this problem (Grayson et al., 2019).

3. Methodology

The study was designed using a mixed methods approach. Research participants were first-year university students. Three university libraries were approached using convenience sampling, with an effort to achieve geographic distribution in the province and variability in total student population. Once institutional approval was given, IL librarians agreed to recruit participants. At the largest campus, survey links were distributed to first year IL classes for which librarians had previous access. At the two smaller campuses, recruitment for survey and focus group participants to all first-year students occurred via email. OSLIP strategy was designed around three main

elements: literature reviews to determine where the current research gaps exist and to inform the study design; questionnaires for first-year post-secondary students in order to gauge their IL skills; and focused interviews of first-year university students to determine what IL is being taught and how it is being taught. Due to COVID-19 there were lower-than-expected responses to the second questionnaire administered in the Winter 2020 term.

Closed and open-ended questions included on the questionnaire were informed by the key information literacy skills as defined by the Ontario Ministry of Education (Ontario School Library Association, 2010). An open-ended question in the Fall 2019 questionnaire gave respondents the opportunity to share their high school library experiences from a personal perspective. The follow-up questionnaire added open-ended questions which asked respondents to comment upon and compare their experiences with library staff and resources during high school and during their first year at university. Both questionnaires provided a screening question to identify students who had completed their secondary education in a publicly-funded Ontario school.

Two specific research questions guided the OSLIP investigation:

1. What information literacies do first-year Ontario university students have at the start of their academic careers?

2. How do first-year university students' experiences of information literacy / inquiry-based learning and instruction via their secondary school libraries (staff, collections, spaces) influence their information literacy/inquiry-based learning assessment in first-year university?

4. Analysis and discussion

All open-ended survey responses were thematically coded by student research assistants with advanced research methods training. Following discussion of themes with the project investigators, a subsequent analysis was completed where final themes were confirmed. The same process was used for coding four transcribed open-ended interviews. The final dataset for both questionnaires was just under two hundred responses with only one institution responding to the Winter 2020 Questionnaire (31 responses). Table 1 shows response totals and distribution for the Fall Questionnaire.

Table 1 Number of First-Year Students Responding to the Fall 2019 Questionnaire

University	Total No. of Students Responding to Questionnaire	No. of Students Responding to Open-ended Question (Qu. 13)
University #1	86	66

University #2	29	23
University #3	50	32
Total	**165**	**121**

Analysis of mean scores from the questionnaires showed that there were no meaningful differences in the scores for self-assessment of skills by respondents from across the three universities in Fall 2019 and from one university in Winter 2020. Answers of students' skills based on their self-assessment using a scale of 1-7, with 1 being "Strongly Disagree" and 7 being "Strongly Agree", were almost all between a 5 and a 6. Comparing the Fall 2019 and Winter 2020 scores for self-assessment of skills by respondents from one university suggested that students were less confident about their abilities after completing their first term at university. Overall mean scores for all questions combined were 5.28 (Fall) and 4.55 (Winter).

Responses also showed that there were no meaningful differences in the self-assessment of skills of respondents between those who answered Yes, No, or N/A in relation to whether they received instruction from a teacher-librarian in their last year of high school. However, when the respondents' responded to the open-ended question about experiences in learning how to use libraries across their high school years, some differences can be seen: respondents who benefited from instruction from a teacher-librarian in their last year of high school made more positive comments about their library experiences and more frequently mentioned learning core skills related to research, writing and citation.

To gain insight into the questionnaire responses, four first-year students from one participating university were individually interviewed by the project's graduate student research assistants. These students all noted differences in expectations of instructors between high school and university specifically related to the types of sources supporting their work. They found that the research and selection strategies applied in senior high school instruction have less application and relevance in a university environment of information overload, where the library's vast digital and physical collections easily overwhelm a novice searcher. Students also noted the valuable assistance they received from various human intermediaries in both high school and university contexts, including their teachers and professors, teaching assistants, and library staff.

5. Conclusion

The findings of both questionnaires were consistent with the findings of larger and more in-depth studies such as those conducted by Project Information Literacy (Head, 2013) in the United States. First-year college and university students are challenged by the demands of post-secondary course research assignments—assignments for which students must select a topic, define a topic focus, and locate and use resources from a large and complex information environment. Unfortunately,

the opportunities for students entering post-secondary in Ontario to develop those skills are inconsistent both across and within Ontario school boards.

Reference List

Farmer, S. J. L., & Phamie, S. (2020). Transitioning to college: Impact of high school librarians. *The Journal of Academic Librarianship*, 47(1). https://doi.org/10.1016/j.acalib.2020.102262

Grayson, J. P., Côté, J., Chen, L., Kenedy, R., & Roberts, S. (2019, April). *A call to action: Academic skill deficiencies in four Ontario universities* [York, Western, Waterloo, Toronto]. https://skillsforuniversitysuccess.info.yorku.ca/files/2019/04/04-26-2019-AcademicSkills.pdf

Head, A. J. (2013). *Learning the ropes: How freshmen conduct course research once they enter college.* Washington, WA: Project Information Literacy, Passage Research Studies. Retrieved from https://www.projectinfolit.org/publications.html

Ingvaldsen, S., & Oberg, D. (2017). *Media and information literacy in higher education: Educating the educators.* Cambridge, MA: Chandros.

Klinger, D. A., Lee, E. A., Stephenson, G., Deluca, C., & Luu, K. (2009). *Exemplary school libraries in Ontario*: *A study by Queen's University and People for Education*. Ontario Library Association.

Latham, D., & Gross, M. (2008). Broken links: Undergraduates look back on their experiences with information literacy in K-12 education. *School Library Media Research*, 11.

Ontario School Library Association. (2010). *Together for learning: School libraries and The emergence of the learning commons*. Available at: http://www.togetherforlearning.ca/t4l-vision-document/

Smalley, T. N. (2004). College success: High school librarians make the difference. *Journal of Academic Librarianship*, *30*(3), 193–198. https://doi-org.login.ezproxy.library.ualberta.ca/10.1016/j.acalib.2004.02.008

Smith, J. K. (2013). Secondary teachers and information literacy (IL): Teacher understanding and perceptions of IL in the classroom. *Library & Information Science Research*, 35(3), 216-222.

Smith, J. K., Given, L. M., Julien, H., Ouellette, D., & DeLong, K. (2013). Information literacy proficiency: Assessing the gap in high school students' readiness for undergraduate academic work. *Library & Information Science Research,* 35(2), 88–96.