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

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Abstract

The Ontario School Library Impact Project (OSLIP) is an initiative of the Ontario Library Association. The mandate of OSLIP is to conduct a research study that investigates the impact of school libraries on the development of key information literacy skills in students entering postsecondary education. The OSLIP strategy consists of 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 information literacy skills; and focused interviews of staff and students to determine what is being taught and how it is being taught.

Background

In 2019, the Ontario Library Association (OLA) conducted its first School Library Inventory to gather data on the state of school libraries in Ontario. The OLA data complements the data that is collected annually by People for Education, an independent non-partisan group that has been working to support and advance public education since 1996. The OLA data will be used to capture a snapshot of school libraries and school library staffing models across the province and to support future research, notably the Ontario School Library Impact Project.

The results of the OLA School Library Inventory mirror the trends shown by People for Education data:

- Both elementary and secondary schools in northern Ontario are less likely to be staffed by professional library staff (teacher-librarians or library technicians) compared with the rest of the province.
- While at most school boards elementary school libraries were staffed by just one staff member, many secondary school libraries are staffed by a combination of teacher-librarian and library technician.

The results underline the diversity in school library staffing models across the province. This diversity is not only between school boards but also between individual schools within a single school board. This suggests that while some boards have a policy regarding how their school libraries are staffed, this is not consistently the case across the province. The result is that students across the province do not have consistent access to trained library professionals and library instruction in their schools.

The OLA School Library Inventory initiative faced a number of challenges. As a library association, most of their contacts are school library staff. Reaching school boards with no school libraries, or with limited school library staffing, was a challenge. Some school boards have closed their school libraries, but the Inventory does not capture this reality. Additionally, there are a wide variety of staffing models at Ontario elementary and secondary schools across the province. This poses challenges for both gathering data and for aggregating data in a meaningful way.

The People for Education 2019 survey was completed by 1224 principals, from 70 of the province's school boards. The OLA School Library Inventory received 551 responses, from 57 of the province's school boards. Data was reported in both surveys, according to the same five regions, defined by postal code:

- K Eastern Ontario
- L Central Ontario (excluding the GTA)
- M Greater Toronto Area
- N Southeastern Ontario
- P Northern Ontario

Because the OLA Inventory is only in its first year, it cannot be used to make comparisons with staffing in past years. However, People for Education reported that across Ontario, in the past two decades, staffing of elementary school libraries with at least one full or part-time teacher-librarian has dropped from 80% in 1998 to 54% in 2019. Staffing varies considerably across the five regions of the province:

Three-quarters of elementary schools in Central Ontario and the GTA are staffed with only a teacher librarian, while 67% of those in Eastern and 58% of those in Northern Ontario are staffed with only a library technician [and] 27% of elementary schools in Northern Ontario have neither a library technician nor a teacher librarian. (People for Education, 2019, p. 9)

The OLA School Library Inventory also indicated that school boards in regions L and M (Central Ontario and the GTA) employed a higher percentage of teacherlibrarians; approximately 65% of the elementary schools in regions L and M reporting on the OLA Inventory had a full or part-time teacher-librarian.

Literature Review: School Library Impact

The positive impact of high-quality school library programs on student achievement has been thoroughly investigated within the context of elementary and secondary schools, but the long-term impact 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. What we know about the impact of school libraries:

- high-quality library programs and librarians who share their expertise make a positive impact on student learning, on student graduation rates and on students' mastery of academic standards (Kachel, 2013; Lance & Kachel, 2018) – studies from 26 states in the USA & 1 province in Canada (ON)
- investments in school libraries and in school librarians make a difference in student achievement (Haycock, 2011) one study from BC
- many first year university students exhibit academic skill deficiencies and this remains unchanged for fourth year students (Grayson et al, 2019) four universities in ON [York, Western, Waterloo, Toronto]
- academic libraries and librarians often are not prepared to or able to address the needs of university students with academic skill deficiencies (Smith, Given, Julien, Ouellette, & DeLong, 2013) -- AB
- libraries and librarians are rarely featured in recommendations for addressing academic skill deficiencies in schools and universities (see, for example, Grayson et al, 2019; 21st Century Competencies [Ontario], 2016) --ON

"When schools have high-quality library programs and librarians who share their expertise with the entire school community, student achievement gets a boost" (Lance & Kachel, 2018, p. 15). Researchers generally use these library measures in assessing the quality of school library programs:

1. Access - library hours of access per week.

2. Staffing - staff headcount and hours per week.

3. Paid staff activities - total time per week spent on leadership,

administrative, instructional, information support and other typical library activities.

4. Usage - by individuals or groups, scheduled or unscheduled, and circulation of materials.

5. Information and communication technology access - Internet and catalogue access via the library and elsewhere; computers under library supervision; computers located elsewhere with Internet access; catalogue and library database access.

6. Library resources - holdings by format (books, CD-ROM or disk reference titles, periodical subscriptions, software, audio and video materials).7. Annual budget and expenditures - amount spent on print and other resources, estimated district purchases, budgets from school and parent fundraising.

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, on student graduation rates and on students' mastery of academic standards. Qualified librarians and what librarians do is what makes the most significant difference. Smith (2013) found that "curricular mandates are insufficient to ensure IL [information literacy] 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).

Multiple studies have found that test scores tend to be higher in schools where librarians spend more time:

- Instructing students, both with classroom teachers and independently,
- Planning collaboratively with classroom teachers,
- Providing professional development to teachers,
- Meeting regularly with the principal,
- Serving on key school leadership committees,
- Facilitating the use of technology by students and teachers,
- Providing technology support to teachers, and
- Providing reading incentive programs. (Lance & Kachel, 2018, p. 17).

School librarians and academic librarians share similar concerns and challenges regarding information literacy instruction (Ingvaldsen & Oberg, 2017), but few studies have examined the impact of academic librarians' work on student learning.

The longterm impact of high-quality high 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 longterm impact of school libraries and librarians have been conducted in the United States:

- Smalley (2004) -- 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 CA, USA
- Latham and Gross (2008) when asked about their K-12 information literacy experiences, low-performing college students identified peers as sources of knowledge while high-performing identified librarians and teachers USA
- 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.

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 (see, for example, the 2019 study of undergraduate students in four Ontario universities by Grayson et al). This omission can be seen as well in Ontario Ministry of Education documents such as 21st Century Competencies: Foundation Document for Discussion, Phase 1: Towards defining 21st century competencies for Ontario (2016). The first mention of school libraries appears late in this document under Implications, "Physical Space: Research supports the notion that where we learn affects the quality of how we learn"; this Ministry document makes no mention of librarians at all.

Ontario School Library Impact Project (OSLIP)

OSLIP is a research initiative of the Ontario Library Association (OLA). The purpose of the Ontario School Library Impact Project is to conduct a research study that investigates the impact of school libraries on the development of key information literacy skills in students entering post-secondary education.

The six core members of the research team come from OLA and from school boards and universities. The co-chairs of the team are Mary Cavanagh (University of Ottawa) and Marc d'Avernas (originally Waterloo Region District School Board, now Mount Royal University, Calgary). The other members are Sarah Roberts (OLA), Dianne Oberg (University of Alberta), Heather Buchansky (University of Toronto), and Kate Johnson-McGregor (Grand Erie District School Board). The team is supported by a 15 member Advisory Committee, chaired by Courtney Lundrigan (University of Toronto), which provides ongoing feedback and guidance on all stages of research. This group represents diverse stakeholder groups, including school libraries and academic libraries (colleges and universities), from small and large communities, distributed across the regions of Ontario.

Research context and problem

A recently completed literature review prepared for the Ontario Library Association on research related to school libraries in Canada references trends in the reduction of funding, fewer teacher-librarians, and more school library closures (Fiore, 2017). There is a lack of research on the impact of school libraries on information literacy (IL) skills and competencies of K-12 students in Canada. Measuring the impact of both school libraries and teacher-librarians in those school libraries on the educational performance, specifically IL skills of students leaving the K-12 system is a difficult challenge and one that has not been addressed with specific attention to the provision of IL through secondary school libraries and teacher-librarians.

OSLIP goals

The primary goal of OSLIP is to discover whether a staffed secondary school library has a discernible impact on first-year post-secondary students' information literacy skills. The sub-goals of the project are:

- 1. To create preliminary research findings by examining the connection between the skills and competencies of first-year university students and their prior access to and use of their Ministry of Education funded secondary school library (in Ontario).
- 2. To design a rigorous mixed methods research framework and methodology meeting requirements for validity and reliability that would be able to be

replicated in other provincial and territorial jurisdictions in Canada.

Research questions

- 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?

Study design and timeline

The work of designing the study started in November 2018, growing out of the work of the core research team in advising OLA on the design of OLA's school library inventory. The core research team worked to design the OSLIP mandate, research questions, and research methods. The responsibilities of the advisory group involved supporting the core group in their work. Mary Cavanagh, as principal investigator, took the lead in connecting with three academic librarians at three Ontario universities who would be willing to administer the OSLIP questionnaire to their first year undergraduate students. Obtaining research ethics was a major responsibility also undertaken by the principal investigator, first at her home institution, the University of Ottawa, and then in collaboration with academic librarians at the partner universities, Nipissing University, University of Windsor, and University of Toronto.

The study was designed using a mixed methods approach, with the project to be completed including a final report by Fall 2020. Research participants come from three groups: first year university students, academic librarians, and secondary teacher-librarians.

Questionnaires are being administered online to first year undergraduate university students at two points in the academic year, September 2019 and March 2020, followed by in-depth interviews with select respondents. The September 2019 questionnaire focused on the students' experience with their secondary school library staff and resources. The questions were informed by the 12 key information literacy skills as defined by the Ontario Model of Discovery and Inquiry (2007). The Ontario Model of Discovery and Inquiry was the framework most likely to be used in information literacy instruction since it was developed and authorized within Ontario. Because of the possibility of the OSLIP research being replicated elsewhere, models used in other provinces were examined for alignment. Finally, the penultimate version of the questionnaire was piloted with local Grade 12 students. Open-ended questions at the end of the questionnaire gave the respondents the opportunity to share their high school library experiences from a personal perspective.

The March 2020 questionnaire will be developed depending on the results of the September questionnaire. It may be informed by either or both of the Interdisciplinary Studies Curriculum (Gr. 11-12) - Ontario Ministry of Education's Ontario Model of Discovery and Inquiry (2007) and the ACRL Framework for Information Literacy for Higher Education. Figure 1 presents the connections between these two frameworks and the questionnaire design.



Figure 1 Concept Map for the OSLIP Research

Preliminary Results: Research Impressions

Number of Respondents to the Questionnaire

Because respondents to the questionnaire constituted a convenience sample, no response rate can be calculated for this study. Table 1 reports the number of students responding from each university to the questionnaire as a whole and the number of students responding to the invitation in Question 13, "Please tell us about your experiences in learning how to use libraries for learning during your high school years (Grades 9-12)." About half of each group of students wrote about their secondary school library experiences.

The small number of respondents is a serious limitation of the study. The design of future studies will need to address how to increase responses.

University	No. of Students	No. of Open-ended	
	Responding	Responses (Qu. 13)	
Nipissing	114	66	
Toronto	44	23	
Windsor	64	32	
Total	222	121	

 Table 1 Number of First Year Students Responding to the Questionnaire

Analysis of Responses to Questionnaire (close-ended questions)

Questions 2-5 explored the four aspects of the inquiry process: Exploring (E), Investigating (I), Processing (P), and Creating (C). Respondents were asked to rate their abilities (i.e., "I feel I am able to:") from "1-Strongly Disagree" to "7-Strongly Agree" on 14 phases of the inquiry process (see Table 2). "Decline to Answer" was offered as an eighth option. Responses are reported as weighted averages for each university. Weighted averages take into account differences in the number of responses for each question. For example, while 64 students may have responded to the questionnaire as a whole, only 51 students may have responded to one item and only 44 may have responded to another. Weighted averages reduce the impact of extreme outlier responses.

Information Literacy Abilities	Nipissing	Toronto	Windsor
(E) 1. Select a content area suitable for an in-depth	5.18	5.14	5.02
investigation.			
(E) 2. Choose a topic from that content area that is	5.49	5.51	5.61
interesting to me.			
(E) 3. Develop meaningful questions to guide my	4.94	5.03	5.02
investigation.			
(I) 4. Design a plan and timeline for my investigation.	4.94	4.93	4.75
(I) 5. Locate reliable information.	5.49	5.33	5.34
(I) 6. Formulate a clear focus for my investigation.	5.15	5.23	5.11
(P) 7. Select information that is relevant to the focus of my	5.59	5.04	5.38
investigation.			
(P) 8. Make connections between my ideas and the ideas	5.67	5.22	5.46
that I have found in information sources.			
(P) 9. Organize my findings in a logical way.	5.59	5.04	5.41
(C) 10. Create an informative final product and use it to	5.43	5.00	5.27
present the results of my investigation.			
(C) 11. Assess the quality of my final product.	5.19	5.04	5.18
(C) 12. Reflect on what I have learned about my personal	5.23	5.04	4.94
learning process.			
(C) 13. Identify ways in which I could improve my process	5.16	5.22	5.24
for conducting other investigations.			
(C) 14. Generate ideas that could lead me to future	4.90	4.78	5.33
inquiries.			

Table 2 Student Ratings of Information Literacy Abilities

Question 8 asked "Did you receive library instruction from a teacher-librarian in your last year of high school? Table 3 reports the responses of the first year students by university.

Table 3 Respondents Reporting Teacher-Librarian Instruction

University	Total No. of	No. Responding	Percent Responding
	Respondents	"Yes"	"Yes"
Nipissing	68	24	35.29%
Toronto	23	9	39.13%
Windsor	33	3	9.09%

Analysis of Questionnaire (open-ended questions)

Two questions in the survey explored the respondents experiences related to school libraries and school librarians: Question 8 focused on instruction provided by the teacher-librarian in the respondents' final year of high school (Table 3 reports response numbers), while Question 13 invited students to comment more broadly on their experiences across their secondary school years, from Grades 9-12 (Table 1 reports response numbers).

Across the three university groups, 36 of 124 respondents reported that they had received instruction from a teacher-librarian in their last year of high school. Of that 36, 21 provided comments on their library-related experiences across their secondary school years (Nipissing 18 out of 24; Toronto 4 out of 9; and Windsor 1 out of 3). The total number of respondents making comments (Table 1) was 121: the summary that follows represents only the comments of the 21 respondents who reported that they had received instruction from a teacher-librarian in their last year of high school.

The respondents valued the library as a quiet place for study, as a resource for completing assignments and projects, and as a source of materials related to personal interests (10 comments). They found librarians to be helpful and friendly (6 comments); teachers also helped with library-related activities (2 comments). The respondents reported that they learned how to find reliable sources; how use databases and library catalogues; and how to avoid plagiarism and to cite sources (22 comments). A few respondents reported that they had learned how to "formulate research questions" and how to use books and academic articles as resources for projects and assignments. A few respondents reported less positive experiences, e.g., "never really used the library for help" (2) and "very boring but helpful to learn" (1).

The open-ended comments were also examined for affective tone, that is, how the respondents characterized their feelings related to their library experience: Positive; Neutral; Negative (see Table 4). Positive tone included concepts such as "helpful," "useful," "friendly," or "met my needs." Negative tone included concepts such as "not helpful," "not useful," "not friendly," or "did not meet my needs." Neutral included information as to the presence/absence of a library, of resources, of staff, and so on.

Table 4 milletive Tone Related to School Libraries				
University	Positive	Neutral	Negative	
	Tone	Tone	Tone	
Nipissing	20	21	20	
Toronto	3	7	5	
Windsor	9	9	14	
Total	32	36	39	

Table 4 Affective Tone Related to School Libraries

Next Steps, Looking Forward

This paper is a first report of the development and administration of the first OSLIP questionnaire. A second questionnaire and a small number of in-depth interviews will be administered in March-April 2020. Data analysis is and will be ongoing.

The small number of responses to the survey, as mentioned earlier, poses a serious limitation to the study. Consultation with the OSLIP Advisory Committee will be needed to assist in the analysis of the questionnaire data and the design of future research. Each university partner will have access to the data which should offer opportunities for insight and reflection related to the work of information literacy instruction with the first year undergraduate students in their institutions.

Overall, the preliminary findings of the first OSLIP questionnaire seem to be 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 postsecondary 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, many students entering postsecondary education have had no or very limited information literacy experiences in their high school years. This situation is a multifaceted problem facing both school librarians and academic librarians as well as their teaching partners.

References

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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

Haycock, K. (2011). Connecting British Columbia (Canada) school libraries and student achievement: A comparison of higher and lower performing schools with similar overall funding. *School Libraries Worldwide*, *17*(1), 37-50.

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.

Kachel, D. E. (2013). *School library research summarized: A graduate class project.* Mansfield, PA: Mansfield University. Retrieved from https://issuu.com/dkachel/docs/impactstudy Lance, K. C., & Kachel, D. E. (2018). Why school librarians matter: What years of research tell us. *Phi Delta Kappan, 99*(7), 15-20. Retrieved from http://www.kappanonline.org/lance-kachel-school-librarians-matter-years-research/

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.

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

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References List with Annotations/Abstracts

21st century competencies: Foundation document for discussion, Phase 1: Towards defining 21st century competencies for Ontario. (2016, Winter). Toronto, ON: Ministry of Education.

EXCERPT: Ontario is committed to helping every child and student achieve success and well-being. The primary goal of the province's education system is to enable students to develop the knowledge, skills, and characteristics that will lead them to become personally successful, economically productive, and actively engaged citizens. ... What's new in the 21st century is the call for education systems to emphasize and develop these competencies in explicit and intentional ways through deliberate changes in curriculum design and pedagogical practice. The goal of these changes is to prepare students to solve messy, complex problems – including problems we don't yet know about – associated with living in a competitive, globally connected, and technologically intensive world. This document will provide a focus for discussions among ministry and external education, policy, and research experts about how best to shape provincial policy to help students develop the 21st century competencies they need to succeed. These discussions will build on the consultations to renew Ontario's vision for education that took place in the autumn of 2013. Key findings from in-depth literature reviews on 21st century competencies, completed by the Ministry of Education in 2014, are summarized in this foundation document.

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 SUMMARY: It is generally assumed that certain academic competencies are essential for university graduation, occupational success, and democratic citizenship. Unfortunately, many university-based instructors find that a good number of their students are weak in terms of key academic skills, such as analysis and research. Instructors' assessments are similar to those of some prominent Canadian employers. ... (Grayson and Kenedy) ... surveyed students from all disciplines and levels of study enrolled in the faculty of Liberal Arts and Professional Studies at York University. ... 50 questions focusing on skills were asked of nearly 1,000 students. ... The skill questions focused on abilities in writing, taking tests, analysis, time and group management, research, giving presentations, and elementary numeracy. Students were asked to rate their ability with these skills when completing tasks requiring them. ...

Grayson and Kenedy ... invited colleagues at Western University, the University of Waterloo, the University of Toronto Mississauga (UTM), and the University of Toronto Scarborough (UTSC) to replicate the study. ... only 44% of survey participants could be classified as functionally prepared to do well in their university studies. An almost equal percentage (41%) were identified as at-risk. The remaining 16% were classed as dysfunctional. Family background did not make a difference: neither first-generation university attenders nor international students were more likely to be dysfunctional or at-risk. ... the percentages of students in various skill groupings did not vary by year of study: apparently large numbers of students enter, and leave, university without having mastered some very basic academic skills. ... Our results suggest that large numbers of unprepared graduates of Ontario high schools enter the province's universities. Moreover, their deficiencies are often not remedied over the course of their studies. As a result, it is likely that many employers end up with new employees who are unable to live up to expectations regarding their ability to process more abstract types of information.

What is to be done? Most importantly, steps need to be taken to ensure that, consistent with provincial objectives, graduates of the Ontario's secondary schools possess the basic academic skills necessary for university success, future employment, and democratic citizenship. Once these skills are established, they need to be further honed at the university level. At the same time, hopefully as an interim measure, universities themselves could consider ways of utilizing the curriculum to reduce their students' skill deficits. Consistent with this possibility, in our study, 69% of students felt the need for a "compulsory, first-year credit course that would cover subjects such as university standards, criteria, and procedures; critical thinking; effective studying; time management; improving writing; and jobs in the field in which you are majoring." Such a course could be based on, and be a remedy for, some the skill deficiencies identified in this report.

Haycock, K. (2011). Connecting British Columbia (Canada) school libraries and student achievement: A comparison of higher and lower performing schools with similar overall funding. *School Libraries Worldwide*, *17*(1), 37-50.

ABSTRACT: Research over time has established associations between components of the school library and student achievement. This study was designed to investigate these associations in schools in British Columbia (Canada) where the government provides equitable funding of public schools while allowing individual school districts and schools to determine individual funding priorities. Findings replicated what numerous previous studies have shown: higher student standardized test scores were associated with a school library that is more accessible, better funded, professionally staffed, managed, stocked, integrated and used. Findings moreover pointed to higher student achievement in those schools where greater resources, from the same limited allocation, were assigned to school libraries. Results of this study are of practical interest to policy makers, school and library administrators, and educators with a vested interest in student achievement and the future of school libraries.

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 <u>https://www.projectinfolit.org/publications.html</u>

EXCERPT: According to the first year students we interviewed, completing college-level research assignments was both "exciting" and "overwhelming." Many relished their newfound freedom to explore topics of their own choosing. But most were intimidated by the plethora of print and online sources their college libraries offered and uncertain how to access or use them. We found a majority of first-term freshmen faced challenges in both locating and then searching through research information systems and services on their new campus. Moreover, most found it difficult to figure out the critical inquiry process while developing competencies, practices, and workarounds for evaluating, integrating, and applying the sources they found. Of course, not all new college students were "terrified" about getting through their first year; some simply stuck to Google and the other strategies they had used in high school. Others were interested in going beyond these strategies, but were worried about getting mired in the weeds of research. Librarians and faculty could steer these students in the right direction—but this got them only so far.

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

KEY POINTS:

- Examines the intersecting roles of academic librarians, teacher educators, and library educators in preparing library students and teacher education students to use the library
- Looks at how libraries can contribute to the promotion of civic literacy within higher education institutions and society more broadly
- Brings new perspectives from both teacher educators and library educators
- Focuses on libraries as efficient tools in education and learning
- Written by an international group of authors with experience of teaching MIL

Kachel, D. E. (2013). *School library research summarized: A graduate class project.* Mansfield, PA: Mansfield University. Retrieved from https://issuu.com/dkachel/docs/impactstudy

EXCERPT: [Indexes the] school library program components and the states/province in which they were found

to have a positive association with student achievement. [Includes 2006 Ontario study.] ... Clearly, the studies confirm that quality school library programs with full-time, certified librarians and library support staff are indicative of and critical to student achievement. In fact, quality school library programs may play an even greater role in providing academic support to those students who come from economically disadvantaged backgrounds. In closing the achievement gap and assuring that all students are prepared with the 21st century skills they need to succeed, school leaders and librarians need to embrace this body of research and foster school library programs that can make a difference in student learning. Schools that support their library programs give their students a better chance to succeed.

Lance, K. C. & Kachel, D. E. (2018). Why school librarians matter: What years of research tell us. *Phi Delta Kappan, 99*(7), 15-20. Retrieved from http://www.kappanonline.org/lance-kachel-school-librarians-matter-years-research/

EXCERPT: In these statewide studies, the most substantial and consistent finding is a positive relationship between full-time, qualified school librarians and scores on standards-based language

arts, reading, and writing tests, regardless of student demographics and school characteristics. ... losses of librarians are associated with declines or inferior gains in reading scores, while gains of librarians are associated with improved scores (Lance & Hofschire, 2011a). ... In a Pennsylvania study (Lance & Schwarz, 2012), nearly 8% more students scored Advanced on the Pennsylvania System of School Assessment in reading in schools with a full-time, certified librarian than in schools without. Where part-time support staff was added to the full-time librarian, almost 9% more students achieved Advanced scores. The effect of staffing on writing scores was even greater: Students with full-time librarians were almost three times more likely than those without librarians to have Advanced writing scores. ... Reading and writing scores tend to be higher for all students who have a full-time certified librarian, and when it comes to reading, students in at-risk subgroups tend to benefit more than all students combined.

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

ABSTRACT: Many students who enroll in a California community college Information Research course come from three local school districts. Of those three districts, only one has librarians. Through examining grade rosters, this study demonstrates that student achievement is substantially higher for students who come from high schools that have librarians and library programs. However, The results provide evidence that students from high schools with library media teachers are more familiar with basic library use concepts, fundamental ideas about how information Is organized and made accessible, and how to use online catalogs to advantage than are students from high schools without librarians—they achieve better [academic scores] by the midpoint check."

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.

ABSTRACT: In the past decade information literacy has received increasing emphasis in K-12 and postsecondary education, yet the information literacy skill levels of high school and college graduates continue to vary considerably. This report compares findings across a subset of data collected in three independent research studies focusing on students' conceptions and perceptions of how they have learned what they know about information literacy. Competency theory, which posits that low-skilled individuals in some knowledge domains are often unable to recognize their deficiencies and therefore tend to overestimate their abilities, is used as the theoretical framework in each study. Data on participants' previous experiences with information literacy instruction was collected through surveys or interviews. A majority of students reported that they were largely self-taught, but some also reported having received instruction from school library media specialists (SLMSs) and, to a lesser degree, public and academic librarians. Overall, low-performing students tended to identify peers as sources of knowledge while proficient students tended to identify SLMSs and teachers as sources of knowledge. These findings have important implications for researchers and practitioners in developing information literacy instruction for low-performing students.

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.

ABSTRACT: This study examines how high school students' information literacy (IL) skills prepare them for academic work in the digital age. The project included: (a) an audit of university IL

practices; and (b) the administration of the James Madison University (JMU) Information Literacy Test (ILT) to 103 twelfth grade students in Alberta, Canada. Due to the low stakes of the test, there was concern about the reliability of the results. Rapid guessing, response time effort, and motivation filters were applied to confirm the reliability of the results. Results indicate a gap between expectations of high school students and their skills. Using a standardized test, potential incoming undergraduate IL proficiency was identified, including student strengths and weaknesses. The audit identified IL policies and practices at the university, indicating discrepancies in the IL instruction students may receive. Findings indicate that students lack the IL proficiency required to succeed in the post-secondary educational environment, and the libraries are not prepared to effectively address this gap.

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.

ABSTRACT: Secondary teachers have the opportunity and the curriculum mandates to teach information literacy skills, yet students enter post-secondary studies with low information literacy proficiency. In many cases, teachers present the only opportunity for students to develop information literacy proficiency. With semi-structured interviews, this study explored eight secondary teachers' perceptions of information literacy and their experiences with IL as educational professionals. Confusion around the phrase information literacy was a dominant theme as participants were unfamiliar with the term and were inconsistent in defining the scope of what it might mean. Although there are references to information literacy skills in the core curriculum and support documents, participants varied in their instruction and understanding of this skill set. Participants unanimously agreed that information literacy skills, as explained using the Association of College and Research Libraries Information Literacy Standards for Higher Education (ACRL, 2000), were important for their students. However, the extent of IL skills required varied by student. Pursuing post-secondary studies warranted advanced IL, and these students were more likely to be taught higher-level skills. IL skill development was also assumed to be the responsibility of the student, and passive acquisition was anticipated. Assumptions regarding student need and ability informed instruction. These results suggest that the current curricular mandates are insufficient to ensure IL is incorporated into instruction and that teachers are ill-prepared to instruct IL effectively.