Éducation comparée / nouvelle série, n°19, pp 123-157

A History of Information Literacy Instruction in the United States and Canada

Dianne OBERG
University of Alberta,
Canada

ABSTRACT

School librarians and academic librarians share a commitment to information literacy instruction but to a large extent, in the United States and Canada, they have approached their work from different theoretical foundations and with different practical strategies. Some of these differences have arisen through differences in their professional education. Across the United States and Canada, most academic librarians (and many school librarians as well) are educated through master's programs in library and information science accredited by the American Library Association (ALA); some school librarians, however, are educated through master's programs in education, not all of which are ALA-accredited. This article compares the approaches to information literacy instruction commonly used in school libraries and academic libraries over the past 50 years. Despite differences in their education and working environments, some convergences in school library and academic library instructional practices are appearing, demonstrated through a number of shared guiding principles of pedagogy: a process approach; attention to the learner's experience; integration of information use with discipline content; collaboration between librarians and teachers; and emphasis on metacognition and reflection.

Introduction and Context

The United States and Canada are about the same size geographically but the population of Canada is only one-tenth of that of the United States. Although colleagues from other parts of the world may see the United States and Canada as being quite similar, the two countries have developed in distinctly different ways, historically, politically, socially and culturally. Canada is a bilingual country, and library development in the anglophone and francophone areas of the country has followed different traditions. The history of information literacy and information literacy instruction in the United States is well documented, but that history for Canada is much harder to access. In this article, the author limits her discussion of information literacy instruction to its English-language context in the United States and Canada.

Both countries were once British colonies. The United States of America won its independence from Britain in 1776; Canada continued its colonial relationship with Britain until 1867. The development of libraries and of the library profession occurred later in Canada than in the United States. One example of that is the development of library associations in the two countries. The American Library Association (ALA), the world's largest and oldest library association, was founded in 1876, a century after American independence from Britain. ALA currently has about 55,000 members. The Canadian Library Association (CLA) was founded in 1946, and in 2016 it had about 2000 members. From its beginning, CLA attempted to serve the needs of both anglophone and francophone librarians, but in 1973 francophone librarians formed l'Association pour l'avancement des sciences et des techniques of documentation (ASTED). ASTED provides a national voice for francophone librarians, primarily in Quebec but also in other Canadian provinces.

The Canadian Library Association (CLA) was, for most of its history, predominantly an English-language organization, serving both individual and institutional members nation-wide. CLA, like ALA, served different library sectors through a system of divisions and special interest groups. Recently, however, CLA was dissolved in favour of creating a federation of library associations. The new

Canadian Federation of Library Associations / Fédération canadienne des associations de bibliothèques (CFLA-FCAB) is in the process of being formed. Some Canadian librarian groups have established networks within the new federation; other groups are exploring the possibilities of establishing themselves as independent entities.

Information literacy has been a core interest of two library groups within the United States and Canada, the academic library sector and the school library sector. Both sectors are (or have been) represented by divisions within their national library organizations. ALA's Association of College and Research Libraries (ACRL), established in 1938, had its beginnings in the College Library section (established in1890) and the College and Reference Library section (established in 1897). Today ACRL is ALA's largest division with about 12,000 members. ACRL has 44 local chapters, one of which includes Ontario, a province of Canada. Canada's closest ACRL equivalent was the Canadian Association of College and University Librarians (CACUL), a division of the Canadian Library Association, with about 600 members. CACUL did not promote information literacy concerns in the same way as ACRL; as a result, many members of the academic library sector of Canada have drawn on the ACRL's work for guidelines for their instructional practices.

The American School Libraries Association, founded in 1951, had its beginning in the ALA School Libraries Section in 1914; the Canadian School Library Association was founded in 1962. The Canadian School Library Association (CSLA), like CACUL, was a division of the Canadian Library Association. Members of CSLA gave close attention to the work of the American School Libraries Association in developing Canadian school library standards.

Development of Academic Libraries and School Libraries

From the establishment of colleges and universities in colonial times in the United States and Canada, the importance of libraries in higher education has never been questioned. Most college and university libraries in the 18th and 19th centuries focused their attention on acquiring materials, but some university administrators and library educators did advocate for the role of the librarian as educator.

However, despite numerous experiments in "bibliographic instruction" and extensive debates within the library profession about the wisdom and practicality of providing such instruction in colleges and universities, the standard library instruction practices of library lectures and library tours, mostly for undergraduate students, continued through the first half of the 20th century.

School library development was part of the development of the public school system in both the United States and Canada. In the United States, legislation supporting the development of school libraries was passed in five states in the 1830s; by 1876, 21 states had such legislation in place. In Canada, the earliest legislation supporting school libraries was the Common Schools Act of 1850 enacted in the largest English-speaking colony, now the province of Ontario (Oberg & Wright, 1991). The Constitution of 1867 gave responsibility for education in Canada to the provinces, and each province and territory of Canada established its own system of public schooling. In the 19th century, in both the United States and Canada, school libraries were initially received with enthusiasm, but their development was undermined by the rapid development of public libraries and by the lack of library standards, adequate supervision, and trained personnel as well as by the limitations of a textbook-oriented curriculum.

In educational communities in both countries, the first half of the 20th century was marked by discussions and reports about the need for educational approaches that were child-centered and focused on active learning. These calls for educational reform created support for the idea of the school library as a separate unit in the school, with a centralized collection of audiovisual and print materials, which would provide both library services and instruction. However, in practice, classroom libraries in elementary schools, literature collections in secondary English departments, and service-provision from local public libraries was more often the norm.

In the post-World War II period, a number of factors spurred renewed interest in the development of school libraries. In the United States, the launching of *Sputnik* by the Russians in 1957 focused attention on school quality; the following year, the National Defense

Education Act offered matching funds to school districts for the purchase of instructional materials and for the professional development of staff. The 1965 Elementary and Secondary Education Act provided additional funding for school library materials and facilities, but it did not mandate having qualified librarians staffing school libraries.

The post-World War II period in Canada was also a time of school library development, spurred by an expanding population, an expanding economy, and concerns about reforming education to meet the needs of a changing society (Oberg & Wright, 1991). However, unlike in the United States, there was no national legislation in Canada supporting school libraries because the Canadian constitution delegates K-12 educational matters to the provinces. However, a number of provinces set up Royal Commissions in the 1950s and 1960s to review future goals of education, and many of the commission reports made specific mention of the importance of school libraries in achieving the goals of education.

Information Literacy Concepts and Models

In the field of information science, the concept of information literacy fits within the second of the field's "Three Big Questions":

1. The physical question: What are the features and laws of the recorded information universe?
2. The social question: How do people relate to, seek and use information?
3. The design question: How can access to recorded information be made most rapid and effective? (Bates, 1999, p. 1048)

To understand the history of information literacy and information literacy instruction in the United States and Canada, it is necessary to trace its development through the separate and quite different literatures of academic librarianship and school librarianship. The term 'information literacy' did not appear until the 1970s, but LIS researchers were interested in how people use information long before that, and LIS practitioners in K-12 schools and in colleges and

universities were involved in library use instruction as well. However, some of the earliest examples of library use instruction in the United States come from the public libraries sector in the United States in the 1850s as an outgrowth of the "personal assistance" provided to users by Reference Services librarians (Thomas, Crow, & Franklin, 2011, p. 1).

LIS researchers have been considering how people relate to, seek and use information, since the 1930s in terms of information needs and uses and, since the 1970s in terms of information seeking and searching. Of the many models that have been developed in the United States, in response to the social question, the Kuhlthau Model has had the strongest influence on the practice of information literacy instruction, both in school libraries and in academic libraries. First developed in the 1980s, the Kuhlthau Information Search Process Model draws on the educational theories of John Dewey and Vygotsky as well as Kelly's Personal Construct Theory. The Kuhlthau Model is based on the individual's experience of using information for learning and considers the thoughts, feeling, and actions of the individual in an integrated way.

Definitions of Information Literacy

The first formal use of the term 'information literacy' is widely believed to have occurred in the United States, in a 1974 report by Paul G. Zurkowski, written on behalf of the National Commission on Libraries and Information Science. The National Commission on Libraries and Information Science (NCLIS) was the permanent independent agency of the United States government, responsible for studying and advising the federal government on its national library and information system. The NCLIS had its origins in the National Advisory Commission on Libraries appointed by President Lyndon Johnson in 1966. The activities of the NCLIS were consolidated later into the Institute of Museum and Library Services, formed in 1996.

Zurkowski was the President of the Information Industry Association, formed in 1968, by a group of non-government non-library-based information industry companies in the United States. In

1999, the Information Industry Association merged with the Software Publishers Association, founded in 1984, to form the Software & Information Industry Association. The primary purpose of these associations was and is to promote, protect and inform the software and digital content industry.

Zurkowski's paper discussed the relationship of the National Program for Library and Information Services to information literacy and to the information industry and gave examples of situations where the traditional roles of libraries and private sector information activities were in transition. Zurkowski used the phrase information literacy to describe the "techniques and skills" learned by the information literate "for utilizing the wide range of information tools as well as primary sources in molding information solutions to their problems" (p. 6).

Zurkowski estimated that in 1974 one-sixth of the American population was information literate (primarily those individuals working in the medical, governmental business, and science and technology sectors). Zurkowski suggested that the top priority of the National Commission on Libraries and Information Science should be directed toward establishing a major national educational program to achieve universal information literacy by 1984. Today Zurkowski (2013) looks to the next four decades for the possibility of a Golden Age of Universal Information Literacy, based on three new opportunities for humanity: The Emerging Global Information Economy (through continuous product innovation); Group Information Literacy (using indigenous ways of thinking together to meet business, government and social goals); and an Information Code of Ethics (finding the element of truth within alleged information and gaining a deeper understanding of what is data, information, knowledge and wisdom).

Information literacy definitions in the 1970s

In 1974 Zurkowski considered information literacy in terms of techniques and skills that could be applied within the workplace for problem solving. Other definitions of information literacy appeared in the 1970s. In librarianship, information literacy was linked with

locating and using information efficiently and effectively for decision-making (Burchinal,1976) and with active citizenship (Owens,1976). By the end of the decade, discussions of information literacy were frequently part of discussions of the future of libraries and librarianship. Taylor (1979) suggested that a definition of information literacy should include these elements:

- that solutions to many (not all) problems can be aided by the acquisition of appropriate facts and information;
- that knowledge of the variety of information resources available (who and where) is a requisite of this literacy;
- that the informing process, which is continual, is as important as the spot information process, which is occasional; and
- that there are strategies of information acquisition. (Taylor, as cited in Behrens, 1994, p. 311)

Information literacy definitions in the 1980s-1990s

In the 1980s, 'computer literacy' began to be an important aspect of information literacy, and increasingly those without technological skills were likely to experience difficulty with accessing information resources. The application of computers to the manipulation of information gained ground rapidly, and these new technologies had a strong impact on the work of library user education, particularly in academic libraries, but soon in school libraries as well. This appears to have been the time when library user education and information/computer literacy began to converge and when information literacy became a dominant issue in librarianship.

In 1987, the American Library Association (ALA) took up the information literacy challenge. ALA President Margaret Chisholm appointed the American Library Association's Presidential Committee on Information Literacy. The Presidential Committee had three purposes: (1) to define information literacy within the higher literacies and its importance to student performance, lifelong learning, and active citizenship; (2) to design one or more models for information literacy development appropriate to formal and informal learning environments throughout people's lifetimes; and (3) to determine

implications for the continuing education and development of teachers (American Library Association, 1989, Background to Report).

The Final Report of the ALA Presidential Committee on Information Literacy examined the importance of information literacy to student achievement, quality of life, business, and citizenship in a democracy and stated that "to be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (American Library Association, 1989, para. 3).

In 1989, the National Forum on Information Literacy (NFIL), a coalition of over 65 national organizations that represented business, government, and education, was formed under the leadership of the American Library Association with the purpose of carrying forward the recommendations of the 1989 Final Report. The NFIL and its member organizations promoted information literacy initiatives in schools and in college and universities in the United States. Many of the initiatives of the NFIL, as reported a decade later, focused on the education of teachers and librarians and on the integration of information literacy outcomes into curricula and into continuing education of the workforce (American Library Association, 1998).

Information literacy definitions in the 2000s

At the end of the 20th century, academic librarians in the United States and school librarians in both the United States and Canada included information literacy definitions and specific IL skills in their standards (see Table 1). The AASL *Information Literacy Standards for Student Learning* (ALA/AECT, 1998) was organized around three themes: information literacy, independent learning and social responsibility. The Canadian document, *A Framework for Information Literacy Programs* (CSLA/ACET, 2003), addressed these three themes as well. Each of the national standards has some unique aspects: e.g., for the United States, the concepts of contributing to a learning community and understanding the importance of information to a democratic society; and for Canada, the concept of using information from diverse perspectives and values with respect.

Across the United States and Canada, academic librarians relied upon ACRL's longstanding guidelines for information literacy instruction, the *Information Literacy Competency Standards for Higher Education* (ACRL, 2000). The 2000 *Standards* were based on a behaviouristic view of information literacy (Johannssen, 2017), emphasizing measurable skills that are not subject specific, but generic and transferrable. Each of the five competencies in the *Standards* included a number of performance indicators or measurable learning outcomes (22 in all).

Table 1

Information Literacy Standards for Students K-20 – 1998-2003

Information Literacy Competency Standards for Higher Education (ACRL, 2000)	*Information Literacy Standards for Student Learning* (ALA/AECT, 1998)	*A Framework for the Information Literacy Program* (CSLA/ATLC, 2003) – (Summary)
Determines the nature and extent of information needed	Accesses information efficiently and effectively (Information Literacy)	Demonstrates an appreciation of the creative arts, literature, various media formats and other aesthetic representation, and of the value of lifelong learning
Accesses needed information effectively and efficiently	Evaluates information critically and competently (Information Literacy)	Uses information responsibly and ethically for individual and collaborative learning activities
Evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system	Uses information accurately and creatively (Information Literacy)	Uses information from diverse perspectives and values with respect
Individually or as a member of a group, uses information effectively to	Pursues information related to personal interests (Independent Learning)	Uses information critically to evaluate the relevance, authenticity, and validity of

accomplish a specific purpose		information and its source
Understands many of the economic, legal, and social issues surrounding the use of information, and accesses and uses information ethically and legally.	Appreciates literature and other creative expressions of information (Independent Learning)	Uses information strategically to process, organize, and select information to meet individual or collaborative learning need
	Strives for excellence in information seeking and knowledge generation (Independent Learning)	Consciously uses information for making personal and group learning decisions
	Contributes positively to the learning community and to society and recognizes the importance of information to a democratic society (Social Responsibility)	Uses information expressively to modify, revise, and transform information and to communicate newly created information with an intended audience
	Contributes positively to the learning community and to society and practices ethical behavior in regard to information and information technology (Social Responsibility)	Demonstrates competence and proficiency in the technical uses of traditional and digital information and media tools
	Contributes positively to the learning community and to society and participates effectively in groups to pursue and generate information (Social Responsibility)	

Current information literacy definitions

The current definitions of information literacy published by ACRL, AASL/AECT, and CLA are outlined in Table 2. In 2007, the American Association of School Libraries (AASL) published new standards, *Standards for the 21st Century Learner.* Each of the four standards is addressed in terms of skills, dispositions, responsibilities and self-assessment strategies. AASL is developing new learning standards and program guidelines (launch anticipated for November 2017). The 2003 information literacy definition for Canadian school libraries was not revised for the 2014 *Leading Learning: Standards of Practice for School Library Learning Commons in Canada.*

Table 2

Information Literacy Standards for Students K-20 – 2007-2015

***Framework for Information Literacy in Higher Education* (ACRL, 2015) - Summary**	***Standards for the 21st Century Learner* (AASL, 2007)**	***Leading Learning: Standards of Practice for School Library Learning Commons in Canada* (CLA, 2014) ***
Authority Is Constructed and Contextual- various communities recognize different types of authority, information need may help to determine the level of authority required.	Inquire, think critically and gain knowledge	Demonstrates an appreciation of the creative arts, literature, various media formats and other aesthetic representation, and of the value of lifelong learning
Information Creation as a Process- iterative processes of researching, creating, revising, and disseminating information vary.	Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge	Uses information responsibly and ethically for individual and collaborative learning activities
Information Has Value- a commodity influenced by legal and socioeconomic interests, a means of	Share knowledge and participate ethically and productively as members of our democratic society	Uses information from diverse perspectives and values with respect

education, influence, negotiating and understanding the world.		
Research as Inquiry- iterative, depends upon asking increasingly complex or new questions whose answers in turn develop additional questions or lines of inquiry.	Pursue personal and aesthetic growth	Uses information critically to evaluate the relevance, authenticity, and validity of information and its source
Scholarship as Conversation- communities engage in sustained discourse with new insights and discoveries occurring over time, varied perspectives and interpretations.		Uses information strategically to process, organize, and select information to meet individual or collaborative learning need
Searching as Strategic Exploration- often nonlinear and iterative, requiring the evaluation of information sources, mental flexibility to pursue alternate avenues as new understanding develops.		Consciously uses information for making personal and group learning decisions
		Uses information expressively to modify, revise, and transform information and to communicate newly created information with an intended audience
		Demonstrates competence and

		proficiency in the technical uses of traditional and digital information and media tools
*Canada's 2003 information literacy definition was adopted as part of the 2014 school library standards.		

In 2016, ACRL rescinded the 2000 *Standards*, in favour of the new *Framework*. The 2015 ACRL *Framework for Information Literacy in Higher Education,* is built around six core concepts, or frames. Each core concept is illustrated through knowledge practices and dispositions. Knowledge practices are ways in which learners can demonstrate their understanding and use of the core concepts, or frames, while dispositions are related to the attitudes and values that underpin the core concepts. For example, one of the frames, Searching as Strategic Exploration, states that **"**Searching for information is often nonlinear and iterative, requiring the evaluation of a range of information sources and the mental flexibility to pursue alternate avenues as new understanding develops." Learners who are developing their information literate abilities "utilize divergent (e.g., brainstorming) and convergent (e.g., selecting the best source) thinking when searching" [a knowledge practice] and "exhibit mental flexibility and creativity" [a disposition] (Association of College and Research Libraries, 2015, p. 9). Not all academic librarians have been supportive of the newer more theoretical approach, some claiming that it is less applicable to the needs of instructional librarians and their clientele than the 2000 *Standards* (see, for example, Reed, 2015).

Approaches to Information Literacy Instruction

Many different "labels" have been applied to services for assisting library users: in K-12 schools, common terms include library skills, inquiry-based instruction, and Guided Inquiry; and in colleges and universities, bibliographic instruction, library use instruction, and informed learning instruction. The term, information literacy instruction, is used in both school and academic libraries.

Librarians have helped library users to locate and use information and materials for many decades, but programs of formal instruction were rare, even in colleges and universities, until early in the 20th century. For many years, there was a debate around what was appropriate role for librarians in assisting library users: to provide the information the user needed, or to educate the user so that he or she would be able to find the information he or she needed (Thomas, Crow, & Franklin, 2011).

Library instruction in colleges and universities began earlier in the United States, but Canada's emphasis on outreach and process occurred earlier than it did in the United States (Wallingham, Carder, & Millson-Martula, 2006). Programs of library orientation and instruction were common in higher education in both countries by the 1960s, and they grew more similar with the advent in the 1970s of cross-border professional networking and publications targeted at librarians with instructional responsibilities (see, for example, Rader, 2000).

During the 1980s, there were discussions worldwide about the impact of computer technology in the Information Age. Several reports focusing on the need for educational reform in the United States, such as *A Nation at Risk* (1983), had ignored or overlooked the role of the library profession in the educational reform process. For librarians who wanted to play a role in the learning process in schools and in colleges and universities, the concept of library skills instruction seemed too limiting. In 1987, a national symposium on "Libraries and the Search for Academic Excellence," was held to consider the role of academic libraries in educational reform in the United States. One consensus of the symposium was that in order to improve undergraduate education, libraries would have to be integrated fully into the learning process (Breivik, 1987). That is, information-handling skills (including incorporating new technologies) would need to be taught at the undergraduate level and taught within existing academic courses rather than in separate user education programs. Students would need to become information-literate lifelong learners who:

- Understand processes for acquiring information, including systems for information identification and delivery.
- Can evaluate the effectiveness of various information channels, including libraries, for different kinds of needs.
- Master skills in acquiring and storing their own information …
- Are articulate, responsible citizens in considering public policy issues relating to information … . (Breivik, 1987, pp. 46-47)

Information Literacy Instruction in Library Standards and Guidelines

Examining library standards and guidelines documents gives some indication of the interest in information literacy instruction (ILI) in academic and school libraries in the United States and Canada (see Table 3). School library standards in the United States and Canada have generally given significant attention to the instructional role of school librarians. Until recently, academic library standards have tended to focus more on standards for facilities, collections, and funding than on the instructional role of academic librarians. Academic librarians in Canada have tended to utilize ACRL standards; an information literacy instructor researcher characterizes the standards as "predominant and influential" in Canada (S. Polkinghorne, personal communication, January 17, 2017).

Table 3

Standards for Academic Libraries and School Libraries in North America

	Academic Libraries	**School Libraries**	**School Libraries**
	USA/Canada	**USA**	**Canada**
1920s-1930s		*Elementary School Library Standards* (ALA, 1925)	
1940s-1950s	*Standards for College Libraries* (ALA, 1959)	*School Libraries for Today and Tomorrow* (ALA, 1945)	
1960s		*Standards for School Library Media Programs* (AASL, 1960)	*Standards of Library Service for Canadian Schools* (CLA, 1967)
1970s	*Standards for College Libraries* (ACRL, 1975)	*Media Programs: District and School* (AASL/AECT, 1975)	*Resource Services for Canadian Schools* (CLA, 1978)

1980s		*Information Power: Guidelines for School Library Media Programs* (AASL/AECT, 1988)	*Guidelines for Effective School Library Programs* (CLA, 1988)
1990s		*Information Power: Building Partnerships for Learning* (AASL/AECT, 1998)	
2000s	*Information Literacy Competency Standards for Higher Education* (ACRL, 2000)	*Empowering Learners: Guidelines for School Library Programs* (AASL, 2009)	*Achieving Information Literacy: Standards for School Library Programs in Canada* (CLA, 2003)
2010s	*Framework for Information Literacy in Higher Education* (ACRL, 2015)	New "learning standards and program guidelines" to be launched November 2017	*Leading Learning: Standards of Practice for School Library Learning Commons in Canada* (CLA, 2014)

The focus on creating centralized library collections in schools dominated much of the first half of the 20th century. However, the Knapp School Libraries project (1963-1968), which created demonstration libraries at 10 schools across the United States and contributed to the growth of centralized school libraries, also disseminated Knapp's ideas from her work on improving bibliographic instruction in academic settings: library instruction should be integrated into ongoing course work, and library-based practice and problem-solving activities should be directly related to classroom requirements.

During the 1980s and 1990s, the American Association of School Librarians issued two school library standards documents: *Information Power: Guidelines for School Library Media Programs* (AASL/AECT, 1988) and *Information Power: Building Partnerships for Learning* (AASL/AECT, 1998). Both documents called on school librarians "to replace fixed-schedule stand-alone lessons delivered in a pre-determined sequence with fully integrated information skills instruction, planned in cooperation with classroom teachers and conducted as needed" (Thomas, Crow & Franklin, 2011, p. 15). The expectation that

information literacy instruction be integrated into the curriculum was also stated in the Canadian document, *Students' Information Literacy Needs in the 21st Century: Competencies for Teacher-Librarians* (CSLA/ATLC, 1997), which is provided as Appendix C in *Achieving Information Literacy: Standards for School Library Programs in Canada* (CSLA/ATLC, 2003):

The competent teacher-librarian is committed to:

- The principles outlined in the Students' Bill of Information Rights;
- Implementing curriculum with colleagues;
- Initiating collaboratively planned and taught programs to integrate information literacy in the context of the curriculum; and
- The effective use of information technologies. (p. 79)

By the end of the 20th century century, the ALA Presidential Commission on Information Literacy had completed its work, and ACRL published *Information Literacy Competency Standards for Higher Education* (2000). The 2000 *Standards* were based on a behaviouristic perspective of information literacy, emphasizing measurable skills that are not subject specific, but generic and transferrable. The 2000 ACRL *Standards* reflected the content and approach of conventional information literacy instruction in most academic libraries and many school libraries at the time.

The 2015 ACRL *Framework for Information Literacy in Higher Education* rejected the behaviouristic perspective of information literacy in favour of two quite different perspectives:

- phenomonological - emphasizing information users' experiences, how they understand and make use of information, situated not generic, varied by context, situation and content; and
- socio-cultural - emphasizing social interaction, learning in a community of practice, how information users locate and use information in a particular context and community. (Johannssen, 2017)

These two perspectives aligned with the theory-based approaches to information literacy instruction (e.g., Kuhlthau's Information Search

Process Model) that had been advocated in school librarianship since the 1990s (although not always evident in ILI practices in school libraries).

Modes of Information Literacy Instruction

In a review of approaches to library instruction, Kuhlthau (1987) identified three modes of instruction in school libraries (which are also relevant to discussions of library instruction in colleges and universities): a source approach; a pathfinder approach; and a process approach.

The source approach focuses on teaching the organization, location and use of library materials. Often lessons are presented in a sequence of increasing complexity. This approach, although logical and thorough, fails to meet the needs of individual students and is rarely integrated into the curriculum-related learning activities planned by teachers/faculty for their students. Information skill lessons taught in isolation from learning activities are difficult for students to remember and apply at the time of need.

The pathfinder approach focuses on teaching a pathway, from general to specific resources, beginning with general resources such as encyclopedia and atlases, then using indexes and databases to find books and articles specific to the topic. Often pathfinders are prepared as printed guidelines for topics frequently being investigated by library users. This approach, also logical and thorough, works best when the students begin with limited knowledge of the topic being investigated and when students have the time and motivation to follow the pathway.

The process approach focuses on embedding information skill lessons on particular sources and pathways within the students' learning activities. The emphasis is on teaching at the point of need, within a context of critical thinking and problem solving. Because students need for support or 'intervention' varies (Kuhlthau, 2003), the process approach to information literacy instruction does not lend itself to one-shot instruction or to a sequence of lessons pre-planned by librarians.

Information Literacy Instruction: From Skills to Process

As Carncross (2015) notes, information literacy instruction which is based on the 2015 ACRL *Framework* requires a shift in the focus of instruction from skills to process. This is well illustrated by comparing the definitions of information literacy of the *Standards* and the *Framework*:

> Information literacy is a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information. (ACRL, 2000, p. 2)

> Information literacy is the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning. (ACRL, 2015, p. 3)

The frames or core concepts in the 2015 *Framework* are not intended to be taught as standalone skills or in a specified order. Instead, these core concepts of information literacy are to be developed as part of an integrated approach to information literacy instruction, as part of disciplinary or content learning, not taught in isolation from content. In school libraries, this process approach to information literacy instruction is exemplified in the United States by the *Guided Inquiry* model (Kuhlthau, Maniotes, Casperi, 2007) and in Canada by several inquiry-based learning models such as Alberta's *Focus on Inquiry* (Alberta Learning, 2004).

Information Literacy Instruction: Assessing Learning Outcomes

ACRL's commitment to a new approach to information literacy instruction is reflected in its work related to assessment of learning outcomes attributable to library instruction. In September 2012, ACRL was awarded a National Leadership Demonstration Grant of $249,330 by the Institute of Museum and Library Services (IMLS) for the program "Assessment in Action: Academic Libraries and Student Success." Assessment in Action (AiA) is being undertaken in partnership with the Association for Institutional Research and the

Association of Public and Land-grant Universities. ACRL has selected over 100 institutional teams to participate in the three-year program. The teams represent all types of institutions of higher education from 29 states in the United States and from three provinces in Canada. The findings from the first two years of the assessment program in academic libraries (http://www.ala.org/acrl/AiA#summaries) include the following:

- Library instruction builds students' confidence with the research process.
- Students who receive library instruction as part of their courses achieve higher grades and demonstrate better information literacy competencies than students who do not receive course-related library instruction.
- A library's research and study space fosters social and academic community among students.
- Multiple library instruction sessions or activities in connection with a course are more effective than one-shot instruction sessions.
- Collaborative instructional activities and services between the library and other campus units (e.g., writing center, study skills and tutoring services) promote student learning and success.
- Information literacy instruction strengthens general education outcomes, such as critical thinking, ethical reasoning, global understanding and civic engagement.

The AiA findings related to college and university library instructional programs are consistent with the findings of school library assessment programs. The quality and impact of school libraries and school library programs has been widely investigated at the state level in the United States since the 1990s and, more recently, in Canada as well. Overall, the school library research shows that students in schools with well-supported, resourced, and professionally staffed school libraries achieve higher levels of academic success, especially in writing and reading scores (see, for example, Haycock, 1992; Kachel, 2013; Klinger et al., 2009, Library Research Services, n.d.).

Information Literacy Instruction: Seeing Assets, not Deficits

In 1974, Zurkowski estimated that only one-sixth of the American population was, by his definition, information literate, that is, able to efficiently and effectively use techniques and skills to manage the information needed to solve work-related problems. Since then, our understanding of the concept of information literacy has broadened substantially, and today "it is difficult to say that someone is information-literate or information-illiterate" (Johannessen, 2017, p. 103). Each individual is likely information literate in some areas of work, study or leisure, and information illiterate in other areas. In K-12 schools and in post-secondary institutions, information literacy 'deficits' may seem large at times of transition, e.g., when students move from elementary school to secondary school and from high school to college and when students begin a graduate program or prepare to write a comprehensive examination or a thesis or dissertation. Individuals cannot escape times of feeling (and being) information illiterate unless they stop learning new things.

Many researchers and practitioners have identified the deficits in the information literacy-related knowledge of students entering colleges and universities in the United States and Canada (see, for example, Smith, Given, Julien, Ouelette, & DeLong, 2013). In point of fact, students bring many assets to the information literacy table—confidence in using technology, for example. Models of pedagogy suggest assessing the learners first—to help them as well as their instructors to discover what they already know about their topics and about the sources they might access to find out more about their topics. Collaboration between teaching faculty and librarians starts with assessing the learners so that both are prepared to offer the kind of instruction--whole group, small group, and individual—tailored to the learners' needs. Because students work through an inquiry project at different speeds and encounter different obstacles along the way, the one-shot instructional system does not work very well. Teaching faculty and librarians should coordinate their in-class and in-library instruction.

UNESCO's identifies educator preparation and professional development as one of five priority area for improving information

literacy and lifelong learning outcomes, and recommends this Action Item D:

> Seek ways to change the entrenched attitude and behavior of some teachers and information specialists who seem to be professionally inclined to treat students and clients simply as "information users" or "patrons," rather than "whole human persons" who oftentimes desperately need information to solve problems in their everyday lives, but need to learn it in ways that do not threaten their self-respect or demean their motives, needs, and wants. (Horton, 2007, p. 18)

The models of information literacy instruction advocated for school libraries and academic libraries today are based on student-driven inquiry models of information literacy that bring together the research on inquiry-based learning, information literacy and student motivation (Buchanan, Harlan, Bruce, & Edwards, 2016). For maximum impact on student learning outcomes at all levels of education, librarians need to work in partnership with their teaching colleagues to develop information literacy instruction programs that take into consideration the affective (emotional) aspects as well as the cognitive (thinking) and physical (action) aspects of learning from information.

Information Literacy Instruction in Practice

Best Practice Guidelines

ACRL has developed best practice guidelines for programs in information literacy instruction in academic libraries; these guidelines are consistent with expectations for ILI programs in school libraries. The guidelines address ten best practice categories: mission; goals and objectives; planning; administrative and institutional support; articulation within the curriculum; collaboration; pedagogy; staffing; outreach; and assessment/evaluation. A best practices evaluation rubric with three performance levels for category (emerging; advancing, significant; and model program) and descriptions of exemplary programs are provided to support the development of strong ILI programs (see

http://www.ala.org/acrl/aboutacrl/directoryofleadership/sections/is/iswebsite/committees/bestpractices).

Professional Development

Several cross-sectorial organizations of librarians interested the practice of information literacy instruction have existed since the 1970s. The Library Instruction Round Table (LIRT), established within ALA in 1977, invites "librarians, from all types of libraries, to become better teachers through sharing best practices, leadership and professional development, and networking" (http://www.ala.org/lirt/). Every year the LIRT Top Twenty Committee reviews the library instruction literature from the previous year and identifies the 20 best instruction articles for that year. The Library Orientation Exchange (LOEX) is a self-supporting international organization, established in 1971, that provides information on all aspects of instruction and information literacy to libraries and librarians who are institutional members (http://www.loex.org/). The Workshop for Instruction in Library Use (WILU), established in 1972, is Canada's self-supporting conference devoted to library instruction, information literacy, and information fluency. Sessions explore both research-based and applied subject matter, and are attended by librarians from Canada, the United States, and beyond (https://wilu2017.library.ualberta.ca/).

Research Studies

There are few examples of comprehensive national studies conducted anywhere in the world on information literacy instruction (ILI) in school or academic libraries. However, since the 1970s, there have been surveys of Canadian college and university libraries related to library instruction (Beristain, 1988; Laidlaw, 1978). More recently, beginning in 1997, Heidi Julien and colleagues have conducted longitudinal analyses of information literacy instruction in Canadian academic libraries. The fourth of the studies (Julien, Tan, & Merillat, 2013) indicates that most college and university libraries in Canada offer formal ILI instruction, but a minority of libraries articulate formal instructional objectives or engage in formal evaluation of instructional quality or outcomes. Of eight IL competencies, based on the 2000 ACRL IL competencies, the two competencies most frequently identified by study participants as elements of IL were: understanding how to locate and use efficiently and effectively information from

many sources (both at the 90% and over level). "Teaching students to find information is the highest priority of instruction … and complex relationships with teaching faculty continue to challenge librarian instructors" (p. 81). Data is now being collected for the fifth of the studies to be conducted in the past 20 years. The 2015 ACRL *Framework* appears to be well known in Canadian academic library circles (see, for example, the Information Literacy home page of Augustana Campus of the University of Alberta http://guides.library.ualberta.ca/augustana/information-literacy); the question arises as to whether or not the 2017 survey data will indicate if there has been any noticeable implementation and/or impact from the new ACRL *Framework* in the practice of information literacy instruction in Canadian academic libraries.

No comprehensive surveys of information literacy instruction appear to have been undertaken for academic libraries in the United States, but there have been a number of studies looking at ILI across a particular states or in relation to particular aspect of ILI. A 2006 survey of attendees at a LOEX conference (Willingham, Carder, & Millson-Martula) showed some differences between Canadians and Americans but, to a large extent, academic librarians in the two countries are working in parallel ways. This is likely due, in no small part, to the cross-border sharing of ideas and programs through LOEX and its sister conferences.

Convergences between ILI in Academic Libraries and School Libraries

The 2015 *Framework for Information Literacy in Higher Education* signaled some significant changes in how academic librarians in North America were thinking about information literacy and information literacy instruction. There are some convergences in their thinking with conceptions already well established in the school library sector (Oberg, 2017).

Twenty years ago, the journal *School Libraries Worldwide* was launched with a theme issue on "Learning from Information." In that

issue, school library researcher Ross Todd laid out five principles of effective information literacy instruction:

1. Instruction is a conversation
2. Effective teaching of information literacy consists of four essential component processes: discursive, adaptive, interactive, and reflective.
3. Action without useable feedback is not productive for the learner.
4. The design of information literacy programs should be open.
5. Establishing an effective learning environment is critical to successful information literacy instruction. (Todd, 1995a, pp. 65-67)

These principles describe information literacy instruction as an intellectual endeavour, one that is not routine and technical, but that engages students in pursuing deep understanding. Teaching for understanding is more than transmitting information: it is a dialogue, not a monologue, and it is about creating meaning. Information literacy skills are process tools that enable students to arrive at a conceptual understanding of the topic they are studying. The discursive process is about conversations between student and teacher, each sharing their conceptions of the topic, which allow the diagnosis of learning needs (opportunities for knowledge and process interventions). The adaptive process involves the teacher helping students to interact with new information (locating, selecting, evaluating information resources). The interactive process involves embedding information literacy skills within familiar and authentic situations, providing opportunities for students to make connections with their previous knowledge which will prepare them to use new information and skills in unfamiliar problem-solving situations. The reflective process provides opportunities for students to learn about themselves as learners and to prepare them to be able to use what they have learned in future learning situations (metacognitive skills). Students need to receive, generate and act on feedback so that they can correct their mistakes and learn to diagnose their own misunderstandings. Programs of information literacy instruction should seek and use input from the students in order to continuously improve. The learning environment for information literacy

instruction needs to be one of challenge and motivation, of mutual trust and respect for individual differences, and of social justice and equity.

These principles of information literacy instruction are consistent with the guidelines for information literacy instruction in higher education based on the 2015 ACRL *Framework*. The *Framework* is not prescriptive; instead it "redefines the boundaries of what librarians teach and how they conceptualize the study of information within the curricula of higher education institutions" (ACRL, 2015, Appendix 1: Implementing the Framework). The *Framework* is intended as a guide to support instruction. The *Framework* cannot be taught in a one-shot instructional event; it needs to be taught developmentally and systematically over the course of a student's academic career.

The convergences in the approaches to information literacy instruction for school libraries and academic libraries are demonstrated through a number of shared guiding principles: a process approach; integration of information use with discipline content; attention to the learner's experience; collaboration between librarians and teachers; and emphasis on metacognition and reflection.

A Process Approach

Current models guiding information literacy instruction emphasize teaching the process of using information to learn, not teaching standalone generic skills. The process of using information to learn is not linear, but highly individual, flexible and more recursive than might be suggested in traditional models outlining how to use information for learning. The core concepts or frames of the 2015 ACRL *Framework* suggest important shifts that need to be made in the conceptualization and practice of information literacy instruction. Frames such as 'Information Creation as a Process,' 'Research as Inquiry,' and 'Scholarship as a Conversation' resonate strongly with those in the school library field familiar with the Kuhlthau Information Search Process Model. Kuhlthau's model emphasizes that learning from information is "a process incorporating a series of feelings (affective), thoughts (cognitive) and actions (physical)" (Kuhlthau, 2013, p. 92).

An Integrated Approach

Research has shown the power of teaching skills and concepts within a meaningful context, within courses and across programs (see, for example, Klinger et al., 2009; Thompson, 2002; Todd, 1995b). An integrated approach involves the simultaneous consideration of information use and disciplinary content. For starting points in the design of curriculum-integrated information use activities, school librarians can turn to the plethora of curriculum documents provided to educators in K-12 schools; academic librarians, on the other hand, must generally turn to their teaching faculty for that information. Here is where the one-shot approach to information literacy instruction entrenched in many institutions presents difficult challenges: skills taught in isolation from meaningful disciplinary content are soon forgotten. ACRL emphasizes building upon discipline-based threshold concepts, that is, the specialized information skills critical to each discipline, and encourages academic librarians to seek out opportunities to contribute their expertise to institutional curricular initiatives (see, for example, Flierl, Maybee, Riehle, & Johnson, 2017).

A Collaborative Approach

Librarians and teachers bring different expertise to information literacy instruction. Collaboration is critical but often difficult to explain and even more difficult to implement. Montiel-Overall (2005) proposes four models or levels of TLC, or teacher and librarian collaboration: A Coordination; B Cooperation; C Integrated Instruction; and D Integrated Curriculum. The levels of collaboration, from A to D, appear to have increasing potential for positively affecting learning, especially where there is attention paid to: (a) interest; (b) level of involvement; (c) improved learning; (d) innovation; and (e) integration in teacher and librarian collaboration. Finding a place to start with collaboration is often difficult. Inzerilla (2017) explains how Bruce's *Informed Learning* approach (2008) supports finding a starting place by offering conceptual frames for identifying the views that librarians and teachers bring to the learning design table.

Attending to the Learners Experience

Instructional design needs to start with awareness of students' background knowledge and experience. This includes drawing from research about the feelings, thoughts and actions commonly experienced by individuals involved in inquiry activities. Here Kuhlthau's 2003 *Seeking Meaning* text is an invaluable resource for academic librarians, both for vivid descriptions of the phenomenon of inquiry but also as a source of practical advice and strategies for interventions in the difficult stages of the inquiry or 'using information to learn' process. The 2007 *Guided Inquiry* text (Kuhlthau, Maniotes, & Casperi) is an important resource for school librarians. Although teaching faculty may expect that college and university students have the 'library skills' they need to be successful, they and their students may benefit from consideration of the 2015 ACRL frames such as 'Authority is Constructed and Contextual' and 'Searching as Strategic Exploration.'

Supporting Metacognition and Reflection

Instructional design needs to consider the importance of the learners or inquirers thinking about their personal learning processes. At all levels of education, students should be given opportunities to understand that inquiry is a personal and highly individual learning process. Reflecting on their process in writing or in conversation with others (peers, faculty, librarians) will help students to develop their metacognitive skills—thinking about their thinking and thinking about their feelings--and to develop strategies for monitoring and enhancing their personal learning process. Building assignment-related opportunities for students to consider their Knowledge Practices and Dispositions helps students to assess themselves as learners and to develop their information literacy capabilities.

Conclusion

Both academic librarians and school librarians in the United States and Canada are committed to helping their clientele to use information for learning. Academic librarians in colleges and universities are being expected to work in collaboration with teaching

faculty in ways that have long been an expectation for librarians and teachers in schools. Academic librarians and school librarians face similar challenges in developing programs of information literacy instruction.

Convergences in the foundational theories and best practices of the school library sector and the academic library sector suggest opportunities for learning with and from each other.

Références bibliographiques

A nation at risk: The imperative for educational reform. A report to the nation and the Secretary of Education. (1983). Washington, DC: The National Commission on Excellence in Education.

Alberta Learning. (2004). *Focus on learning: A teacher's guide to implementing inquiry-based learning*. Edmonton, Canada: Alberta Learning. Available at http://open.alberta.ca/publications/0778526666

American Association of School Librarians and Association for Educational Communications and Technology. (1988). *Information power: Guidelines for school library media programs.* Chicago: American Library Association.

American Association of School Librarians and Association for Educational Communications and Technology. (1998). *Information power: Building partnerships for learning.* Chicago: American Library Association.

American Library Association. (1989, January). *American Library Association Presidential Committee on Information Literacy: Final Report.* Chicago, Illinois: American Library Association. Available at: http://www.ala.org/acrl/publications/whitepapers/presidential

American Library Association. (1998, March). *A Progress Report on Information Literacy: An Update on the American Library Association Presidential Committee on Information Literacy: Final Report.* Chicago, Illinois: American Library Association. Available at: http://www.ala.org/acrl/publications/whitepapers/progressreport

Association of College and Research Libraries. (2000). *Information literacy competency standards for higher education.* Retrieved from http://www.ala.org/acrl/standards/informationliteracycompetency

Association of College and Research Libraries. (2015). *Framework for information literacy in higher education*. Retrieved from http://www.ala.org/acrl/standards/ilframework

Bates, M. J. (1999). The invisible substrate of information science. *Journal of the American Society for* ***Information Science***, 50(12), 1043-1050.

Behrens, S. (1994). A conceptual analysis and historical overview of information literacy. *College and Research Libraries, 55*(4), 309-322.

Beristain, M. (1988). Bibliographic instruction methods and aids currently used in Canadian academic libraries: A survey. In E. Frick (Ed.), *A place to stand: User education in Canadian academic libraries*. Ottawa: Canadian Library Association.

Breivik, P. S. (1987). Making the most of libraries in the search for academic excellence. *Change, 19*(4), 44-52.

Bruce, C. S. (2008). *Informed learning*. Chicago: Association of College and Research Libraries, A Division of the American Library Association.

Buchanan, S., Harlan, M. A., Bruce, C., & Edwards, S. (2016). Inquiry based learning models, information literacy, and student engagement: A literature review. *School Libraries Worldwide, 22*(2), 23-39.

Burchinal, L. G. (1976). The commnications revolution: America's third century challenge. In *The future of organizing knowedge: Papers presented at the Texas A & M University Library's Centennial Academic Assembly, September 24, 1976.* College Station, TX: Texas A & M University Library.

Carncross, M. (2015). Redeveloping a course with the *Framework for Information Literacy for Higher Education*: From skills to process. *College & Research Libraries News, 5* (76), 248-250, 273.

Flierl, M., Maybee, C., Riehle, C. F., & Johnson, N. (2017). IMPACT lessons: Strategically embedding media and information literacy through teacher development in higher education. In S. Ingvaldseen, & D. Oberg (Eds.), *Media and information literacy in higher education: Educationg the educators* (pp. 119-133). Amsterdam: Chandos.

Haycock, K. (1992). *What works: Research about teaching and learning through the school's library resource center.* Vancouver, BC: Rockland Press.

Horton, F. W., Jr. (2007). *Understanding information literacy: A primer*. Paris: UNESCO.

Inzerilla, T. (2017). Teaching faculty collaborating with academic librarians: Developing partnerships to embed information literacy. In S. Ingvaldsen & D. Oberg (Eds.), *Media and information literacy in higher education: Educating the educators* (pp. 67-88). Amsterdam: Chandos.

Johannssen, H. (2017). Teaching source criticism to students in higher education: A practical approach. In S. Ingvaldsen & D. Oberg (Eds.), *Media and information literacy in higher education: Educating the educators* (pp. 89-105). Amsterdam: Chandos.

Julien, H., Tan, M., & Merillat, S. (2013). Instruction for information literacy in Canadian academic libraries: A longitudinal analysis of aims, methods, and success. *Canadian Journal of Information and Library Sciences, 37*(2), 81-102.

Kachel, D. E. (2013). School library research summarized (rev. ed.). Mansfield, PA: School Library and Information Technologies Department. Mansfield University. Available at http://sl-it.mansfield.edu/current-students/school-library-impact-studies-project.cfm

Klinger, D. A., Lee, E. A., Stephenson, G., Deluca, C., & Luu, K. (2009). *Exemplary school libraries in Ontario*. Toronto, Canada: Ontario Library Association.

Kuhlthau, C. C. (1987). An emerging theory of library instruction. *School Library Media Quarterly, 16*(1), 23-27

Kuhlthau, C. C. (2003). *Seeking meaning*: A *process approach to library and information services* (2nd ed.). Westport, CT: Libraries Unlimited.

Kuhlthau, C. C. (2013). Rethinking the 2000 ACRL Standards: Some things to consider. *Communications in Information Literacy,* 7(3), 92–97.

Kuhlthau, C. C., Maniotes, L. K., & Casperi, A. K. (2007). *Guided inquiry: Learning in the 21st century*. Westport, CT: Libraries Unlimited.

Laidlaw, S. M. (1978). Progress and recent developments in library instruction in Canadian [academic] libraries. In J. Lubans (Ed.), *Progress in educating the library user* (pp. 198). New York: R. R. Bowker. New York.

Library Research Services [Colorado State Library]. (n.d.). *School library impact studies*. Retrieved January 15, 2017, from https://www.lrs.org/data-tools/school-libraries/impact-studies/

Oberg, D. (2017). Convergences of and for media and information literacy instruction in higher education. In S. Ingvaldsen & D. Oberg (Eds.), *Media and information literacy in higher education: Educating the educators* (pp. 1-12). Amsterdam: Chandos.

Oberg, D., & Wright, J. G. (1991). Canada. In J. E. Lowrie & M. Nagakura (Eds.), *School libraries: International developments* (2nd, ed., pp. 339-354). Metuchen, NJ: Scarecrow Press.

Ontario School Library Association. (2010). *Together for learning: School libraries and the emergence of the learning commons*. Toronto, Canada: Ontario Library Association.

Owens, M. R. (1976). State government and libraries. *Library Journal*, 101(1), 19-28.

Rader, H. B. (2000). A silver anniversary: 25 years of reviewing the literature related to user instruction. *Reference Services Review, 28*(3), 290-297.

Reed, K. L. (2015). Square peg in a round hole? The *Framework for Information Literacy* in the community college environment. *Journal of Library Administration, 55*: 235-248.

Smith, J., Given, L. M., Julien, H., Ouelette, D. & DeLong, K. (2013). Information literacy proficiency: Assessing the gap in high school students' readiness for undergraduate academic work. *Library & Information Research, 35*(2), 88-96. http://dx.doi.org/10.1016/j.lisr.2012.12.001

Thomas, N. P., Crow, S. R., & Franklin, L. L. (2011). *Information literacy and information skills instruction: Applying research to practice in the school library media center* (3rd ed.). Santa Barbara, CA: Libraries Unlimited.

Thompson, G. B. (2002). Information literacy accreditation mandates: What they mean for faculty and librarians. *Library Trends, 51*(2), 218-241.

Todd, R. J. (1995a). Information literacy: Philosophy, principles, and practice. *School Libraries Worldwide, 1*(1), 54-68.

Todd, R. J. (1995b). Integrated information skills instruction: Does it make a difference? *School Library Media Quarterly*, 23(2), 133-138.

Willingham, P., Carder, L., & Millson-Martula, C. (2006). Does a border make a difference? Library instruction in the United States and Canada. *The Journal of Library Administration, 32*(1), 23-34. http://dx.doi.org.login.ezproxy.library.ualberta.ca/10.1016/j.acalib.2005.10.002

Zurkowski, P. G. (1974, November). The information service environment: Relationships and priorities. Related Paper No. 5. National Commission on Libraries and Information Science. Available from: https://eric.ed.gov/?id=ED100391

Zurkowski, P. G. (2013). Towards universal information literacy: The economic and social building blocks. In S. Kurbanoğlu, E. Grassian, D. Mizrachi, R. Catts, S. Akça, & S. Špiranec (Eds.), *Abstracts of the European Conference on Information Literacy* (p. 5), October 22-25, 2013, Istanbul, Turkey. Available at http://www.ilconf.org