

Critical Information Literacy in Ontario K-12 Education

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LIS 9410

Individual Study

Wednesday 31 May 2017

Overview

Information literacy as a concept has existed within the field of librarianship for many years. With the increase in technological advances in the late eighties, Western society entered what is known as the information age, with citizens having improved and increased access to large quantities of information resources. The American Library Association (ALA) officially released a statement on information literacy as a critical aspect of the library profession in 1989, emphasising that information literacy involves the ability to understand a need for information, and possessing the skills to find, use, and evaluate the information. This statement led the Association of College and Research Libraries to develop the Information Literacy Competency Standards for Higher Education in 2000 (hereby known as “Standards”).

Information literacy is a critical skill for effectively navigating the wide range of information that students encounter, evaluate, and use throughout their academic careers, and personal and professional lives. Part of being “information literate” as defined by the Standards is the ability to address the challenge of evaluating the relevancy, authority and credibility of filtered and unfiltered information across a range of technologies, whether through databases, search engines, popular news sources or scholarly resources (American Library Association, 2000).

Information literacy is also an important concept within the field of K-12 education, viewed within “multiple literacies”, such as digital literacy and media literacy (Koltay, 2011). Digital literacy is the ability to use information and communication technologies (ICT) to access, create and share information through applying cognitive and technical skills (UNESCO, 2011). Media literacy is similar to digital literacy, with an emphasis on evaluating media messaging from both print and digital forms (e.g. television, internet, newspapers, books, etc.). The

literature often uses the terms “digital literacy” and “media literacy” interchangeably, as both literacies focus on fostering critical thinking and collaboration in a digital age, supporting citizens in actively participating and contributing to social media and global communities.

The concept of *critical* literacy in both education and librarianship is a relatively new and evolving aspect of information abilities. Critical information literacy, which “takes into consideration the social, political, economic, and corporate systems that have power and influence over information production, dissemination, access, and consumption” (Gregory & Higgins, 2013), is quickly becoming an established practice in academic librarianship. This concept is at the heart of the ACRL Information Literacy Framework for Higher Education (American Library Association, 2015), replacing the earlier Standards, which have now been rescinded by the ALA and ACRL Board. The critical aspect of information literacy has mainly evolved out of a response to the rapidly-changing and current socio-political influences on scholarly communication and discourse in Western societies (Seeber, 2015).

Critical information literacy is a lifelong ability that prepares students to both consume and create information; therefore, it can be argued that the development of critical information literacy abilities should begin in elementary and especially secondary school, as students transition to higher education. It is in post-secondary environments where they are expected to not only apply information literacy skills in the research process, but use a critical lens to reflect and participate in information creation and scholarly discussion (Varlejs, Stec, & Kwon, 2014). Overall, the goal of fostering multiple literacies in both K-12 and higher education settings is to support lifelong learning and develop a more informed society of learners. Therefore, this first report will discuss the meaning of critical information literacy (as digital and media literacies) as represented in education and library-related literature, and examine why critical information

literacy is important in K-12 education. The report will also explore whether critical information literacy, as well as digital and media literacies, have been integrated in the Ontario K-12 curriculum. Finally, the report explores how Ontario teachers can incorporate critical pedagogy to facilitate and foster critical information literacy skills with their students.

Critical Digital and Media Literacies in K-12 Education

As mentioned previously, critical information literacy in K-12 education is often discussed in the literature as digital or media literacy, with the term “critical information literacy” appearing in library-related literature. Digital literacy is “the capability to use digital technology and knowing when and how to use it” (Rubble & Bailey, p. 21). There are seven important facets of digital literacy in K-12 education: ethics and empathy, privacy and security, community engagement, digital health, consumer awareness, finding and verifying, and making and remixing (Hoeschmann & DeWaard, 2015). Students are successfully capable of using multimedia formats to find, access and use information, images and sound. Examples of digital literacy include using video-editing software, Wikis, blogs, and web browsers to demonstrate learning, evaluating resources for accuracy, using interactive media during classroom lessons, and creating online content. It also involves the ability to evaluate information to extract and build meaning. Literacy education focuses on facilitating students’ use of technology and media formats to create their own meaning based on their learning needs and curriculum objectives. There is also a strong emphasis on using media to create and share information, as students are active digital citizens creating and disseminating content to a global society (Lankshear & Noebel, 2008). Students in the 21st century are digital natives who may actually understand how to use technologies better than their teachers; therefore the teacher’s role is to guide students

through experiential learning with media and technology to foster critical thinking skills (Ng, 2012). Teachers also play a role in supporting students in learning how to use technology effectively and appropriately, as well as how to evaluate the information they encounter (e.g. fake news, political and social biases, context of authority, etc.) (Hobbs, 2010).

In a report on digital literacy policies and practices in Canadian education, Hoeschmann and DeWaard (2015) discuss the progression of digital and media literacy skills and needs over time as students progress through elementary and secondary education. Through kindergarten to grade 3, critical thinking skills regarding technology and online environments (e.g. social media platforms, forums) are not yet developed, and information gleaned from these networks are accepted as is. At this point in their academic careers, they are already independently finding and using information online as part of their daily lives. In grades four to six, students' online activities are largely unsupervised, and it is at this point that guidance on privacy and internet safety is needed from significant adults, such as parents and teachers (Gainer, 2010). By the time students near the end of elementary education in grades seven and eight, more importance is placed on strategies for evaluating relevancy, accuracy and authority, as well as the ability to consider ethical and social perspectives on digital activities and information. Throughout secondary school (grades nine to 12) social networking encompasses a large part of online activities (Avila & Moore, 2012), therefore critical digital literacy skills are very important as students engage in meaning-making to understand how they fit into and contribute to these social environments.

Therefore, digital and media literacy is an essential aspect of being a digital citizen in a technology-driven global community. It involves responsibility for using various technologies to interact with others. Furthermore, higher education and professional settings require the use of

digital literacy skills and abilities, such as using media to create and present research, pursuing digital scholarship and analysing data. Based on the literature and on the development of students' critical digital literacy skills through K-12 education, it can be argued that acquiring digital and media literacy skills is a precursor providing the necessary foundation to think, view and analyse information in academia through a critical lens.

Critical Literacies in the Ontario Curriculum

Digital and media literacies have been embedded in past and present versions of the Ontario Curriculum for Grades K-8 and 9-12 across different subjects. This report focuses on whether a *critical* perspective for these literacies are incorporated in curriculum documents or policies. Bearing in the mind that the last revisions of the Ontario curriculum documents for grades one to eight and nine to 12 took place in 2006 and 2008 respectively, some aspects of critical literacy are mentioned but not always explicitly referred to as “critical”. Furthermore, discussions of critical literacies have evolved over the past few years, therefore the concept of critical literacy is found in Ontario education policy documents after 2008. The shift from applying critical thinking as a means to decode and understand information, to evaluating diverse viewpoints, questioning the authority of information and considering underlying biases, has occurred in response to the Ontario government's priority to create safe and caring learning environments (Roberge, 2013). In both levels of education, critical literacy skill development may support students in developing empathy through reflecting on social justice and equity issues in their daily learning (Burgert et. al, 2017). Therefore, safe learning environments in K-12 education is an added factor influencing the need for critical literacy to be adopted into the Ontario curriculum.

A report by the Ontario Ministry of Education (2009) argues that critical literacy is not an specific knowledge objective that must be added to literacy programs, rather it is a lens from which teaching practices should be viewed. The Ontario Ministry of Education recognises that critical contexts are deeply rooted in western thought and social activism, and as such, it is an approach to teaching literacy skills in both elementary and secondary school classrooms. The important concepts of critical literacy in curriculum policy are quite similar to those within the ACRL Framework for Information Literacy in Higher Education. These key points include: “all texts are constructions; all texts contain belief and value messages, each person interprets messages differently; texts serve different interests and each medium has its own language to position viewers/readers in certain ways” (Literacy and Numeracy Secretariat, 2009). Clearly, these concepts aim to provide students and teachers with an understanding of how authority is constructed in texts, with the author’s values as an inherent part of the information. These concepts recognise that readers approach information, whether consciously or subconsciously, with their own interpretations based in their own beliefs and perspectives, and that information is produced for ideological or political purposes, whether obvious or not to the consumer. The media literacy strand of the Ontario language curriculum for Grades 1-8 incorporates these concepts (Ontario Ministry of Education, 2006); students are expected to “critically interpret messages through various media” and consider the “power and pervasive influences” inherent in information sources (p. 13). While not directly referred to as “critical literacy”, these expectations are rooted in a critical context.

However, to what extent are students expected to assume a critical lens in learning at the elementary level? In a review of the literature on critical literacy in the primary classroom by MacDonald, Halvorsen & Wilcox (2009), it appears that students are not as deeply involved in

the process of analysing and evaluating alternative explanations of an author's purpose for producing information, or the power relations that may exist between readers and authors. Considering the fact that critical literacy is not explicitly mentioned in Ontario elementary curriculum documents, this may serve as a reason for why young students are not as engaged as secondary learners in assuming critical perspectives. It therefore makes sense that curriculum policy documents and reports post-2008 stress the need for teachers and teacher candidates to apply critical pedagogies, complete with practical approaches for integrating critical literacy across all curriculum subject areas.

Contrastingly, the curriculum documents for grades nine to 12 explicitly mention critical literacy in various subject areas, such as English, English as a Second Language (ESL), science, and social sciences and humanities (Ontario Ministry of Education, 2008). All of these subject-specific curriculum documents define critical literacy as a part of critical thinking, focused on evaluating for meaning and the author's intent and biases. It also places strong emphasis on issues related to fairness, equity, diversity and social justice, with critically literate students analysing the world perspectives that a given piece of information advances, and what is thought of such perspectives. In addition, one of the goals of the ESL curriculum are for students to use critical literacy skills to interpret the world around them. It therefore seems that critical literacy focusing on social activism in particular is expected of students in secondary education, whereas students at the elementary level are building the foundation for this kind of thinking. One main reason for the direct integration of critical literacy skills in Ontario secondary curriculum documents may be to prepare students for higher education settings, where critical information literacy abilities are crucial to conducting research and engaging in scholarly discourse.

Overall, the Ontario curriculum documents at the secondary school level from 2007-2008 integrate critical literacy skills, with several policy reports on critical literacy published after 2009. As these documents were revised and have been in use to inform teacher education and pedagogy across the province, it is recommended that the Ontario Ministry of Education update the curriculum documents at both the elementary and secondary levels to consolidate the information from various reports and incorporate critical literacy across all curriculum areas.

Critical Literacies in Teacher Education and Pedagogy

Teacher education programs in Ontario base their courses off the Ontario curriculum, and teacher candidates use the curriculum extensively in preparation for service in a variety of educational settings. As discussed in the previous section, the Ontario Ministry of Education has published many reports on the need for teachers to integrate critical literacy skills in the classroom. Teacher candidates enrolled in intermediate/senior (secondary) divisions will see specific mentions of critical literacy in the grades 9-12 curriculum, and as Luke, O'Brien and Comber (2001) note, critical literacy is not only meant to be taught at the secondary or post-secondary levels. This section of the report focuses on critical *pedagogy* based on the literature as well as Ontario education reports.

These information sources provide elementary teachers and teacher candidates with practical approaches for incorporating critical pedagogy in the classroom, although critical literacy is not explicitly mentioned in the Ontario grades 1-6 curriculum. These practices can be applied to pedagogy at any level (secondary and post-secondary included). As critical literacies focus on inequality and biases within information, it has been suggested that the best place to start incorporating critical literacies is in teaching social sciences. In an article by Soares &

Wood (2010), social studies curriculum provides opportunities for examining social justice issues, with students examining their own values and responsibilities in the process. Students are also encouraged to think about the political, sociocultural, historical, and economic influences in a given piece of information. It appears that the purpose of incorporating critical literacy in social studies education is to support students in responding to social justice issues and encourage social activism. It is important to help students become socially aware as young learners have the ability to think about injustice and potential solutions; teachers need not wait until students enter secondary school.

Similarly, a study by Pittman (2016) argues that critical pedagogy starts from creating social change in educational settings in order to support students in becoming socially-responsible citizens. Active learning strategies facilitate critical pedagogy, such as inquiry-based and experiential learning. Although opportunities to critically examine information are part of active learning strategies, experiential learning also involves give and take in classroom dynamics. It can be argued that critical pedagogy cannot always be preplanned, as this learning is shaped around discussions amongst students and teachers, with teachers facilitating instead of leading the experience. While the Ontario curriculum mentions critical literacies, it can be difficult to deliver and assess how students are developing these abilities and awareness throughout experiential learning experiences. Assessing learning around critical literacies may involve an approach that provides students with the opportunity to share their own points of view or take the perspective of marginalised or historically-oppressed groups. The success criteria (assessment) should focus on students articulating their own social realities and sharing their thoughts on such matters (Jones & Enriquez, 2009). Therefore, critical pedagogy with younger

students does not involve the teacher delivering knowledge or teaching hard skills, rather, it is rooted in students' perspectives, opinions and questions.

Conclusion

The purpose of this report was to reflect on the meaning of critical information literacy in K-12 education, and examine how critical literacies have been integrated in the Ontario K-12 curriculum and education policy reports. The Ontario curriculum incorporates critical thinking in the elementary curriculum, with critical literacy as a bigger focus for the secondary curriculum. This report recommends that the Ontario curriculum update the elementary documents to involve critical literacies as these abilities must be fostered with young learners if the Ontario education sector wishes to achieve their goal of creating safer learning environments. Furthermore, the goal of fostering critical literacy skills with students of all ages is not just to create space spaces, but to develop lifelong socially active and responsible citizens, and challenge Euro-centric biases in information. Based on the findings of this report, critical pedagogy in teacher education involves experiential learning opportunities that engage students in examining and critiquing social issues from their perspectives and the perspectives of others. The next report will examine whether any initiatives and strategies exist (developed by both teachers and librarians) to shape a vision of critical information literacy within Ontario education.

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Critical Literacy Initiatives in Ontario Classrooms and Libraries

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Thursday 29 June 2017

Overview

Facilitating critical information and literacy abilities in education is important for students to think critically and develop a more robust understanding of the messages they receive and create through education, peers and the media. Critical literacy is a lifelong ability that will allow students to make informed decisions and become informed citizens. In Ontario education, critical literacy initiatives exist at the curriculum document and policy-level. The first report of this larger study examined the extent that critical information literacy is integrated into Ontario Ministry of Education policy, curriculum documents and teacher education programs. The Ontario Ministry of Education has published several reports on the need for critical literacy in the elementary and secondary school learning environment, as it promotes safer learning spaces. This second report will aim to answer the following question: What initiatives and strategies, from both teachers and librarians, exist to develop a vision of critical information literacy within their classrooms? This report will examine available literature on this topic to explore what teaching and library professionals are doing within their local environments to foster critical literacy abilities with young learners. This report will also recommend strategies for partnerships between teachers and library professionals to facilitate critical literacy initiatives for K-12 students within libraries, schools, and the Ontario education sector as a whole.

Critical Literacy Initiatives

Ontario Teachers

There are a few case studies in the literature that focus on the specific methods and strategies used by Ontario teachers to promote and foster critical literacy in learning environments. A case study by Pittman (2016) analysed how elementary school teachers incorporate critical literacy in their practice to provide challenges to which learners may critically respond. The researcher looked into what critical literacy programs were like at the classroom level. One teacher explained that critical literacy strategies include questioning students' positions on various topics and helping them to think about ways they identify amongst the opinions of their peers. This teacher incorporated this method into the grade six global issues social studies unit, as he saw a "natural tie-in" (p.34) to critical abilities. Similarly, a grade seven/eight teacher interviewed in the Pittman (2016) study described how she incorporated critical literacy activities in the social studies curriculum by asking students to deconstruct news reports of historic events, and analyse the biases and perspectives in whose stories were and were not being told in such reports. Another teacher describes the process of allowing students to position themselves within a given text in order to help them establish personal connections with the authors' viewpoints. This strategy promotes critical abilities by allowing students to understand how the text positions their own opinions, and support students in responding to such a position. The methods used here by these teachers promote inquiry-based and collaborative learning, which are part of critical literacy pedagogy.

In another research study by MacDonald, Halverson & Wilcox (2009), explored critical literacy instructional strategies in the primary education classroom, specifically grades one to three. One such strategy is the anticipation strategy, which provides a basic statement on a topic

that encourages awareness and discussion for reading activities. In this collaborative exercise, students take turns assuming a character in a story and ask each other to explain their viewpoints as that character. Another strategy allows students to “vote with their feet” by walking to designated areas of the classroom that represents different perspectives of the text, then talk to peers with similar and opposing viewpoints. These two strategies enable a deeper understanding of one’s opinion and view on a topic, with the opportunity to understand another person’s perspective. This increases empathy and awareness in young learners, which fosters critical abilities and promotes safer learning environments in the long-term (2009).

The literature examined in the first two reports of this individual study mainly focused on strategies for teachers to implement critical pedagogy; one additional strategy that MacDonald et al. (2009) noted is the importance of engaging in teacher reflection. Teacher reflection is an essential part of critical literacy pedagogy for young learners. In this action research study, teachers reflected on critical literacy as a broad concept, and the need to narrow certain aspects of this concept to make it developmentally-appropriate for younger learners. A curriculum report by Literacy GAINS (2009) also suggested that narrowing critical literacy concepts to specific questions is effective in encouraging young students to critically respond to social justice and equity issues raised in the learning environment. Comber (2001) also discussed critical literacy strategies such as providing students with sentence starters (e.g. “I think-because”) and asking them to support their reasoning with evidence found in the text. In these examples, reflection on specific instructional strategies and methods support teachers in thinking through exactly how critical literacy can be applied in the classroom.

Critical literacy in the classroom also extends to the wider learning environment. In one case study on critical literacy with “at-risk” youth in a secondary school (McLeish, 2011),

teachers coordinated a student-centered critical literacy organisation aimed at incorporating media awareness into lesson planning. The organisation allowed students the opportunity to discuss issues that personally affected them, such as racism, gang involvement and peer pressure, as well as actively respond and reflect on media messages surrounding such issues. Teachers engaged students in discussions regarding the explicit and implied biases in media messages, with connections to anti-oppressive and critical literacy education. This particular initiative was successful in promoting critical literacy abilities amongst their students, as well as in drawing connections to the Ontario media studies curriculum.

In all three of these case studies, teachers allowed students to reflect on their identities and equity issues within the social context of their classrooms and the school environment. Opportunities were given for students to engage in meaning-making and build upon their own understanding, which is reflective of both constructivism (a part of critical pedagogy) and the Ontario Literacy and Numeracy Secretariat (2013) recommendations to integrate critical literacy with social studies curriculum. It is clear that the teachers' strategies to promote critical literacy align with the Ontario Ministry of Education policy recommendations to guide their practices within their classrooms. This may suggest that these policy reports have been helpful in supporting teachers' critical literacy practices in the classroom, however this link to Ontario education policy documents is not explicitly stated in these case studies. It is also interesting to note that teaching professionals have been implementing their own critical literacy practices, seemingly ad-hoc within their own schools, without mention of collaboration with library professionals. Librarianship, particularly school, public and academic librarianship, is another area in which critical literacy is an important concept. This shared interest and investment in fostering lifelong critical literacy might be a natural opportunity for partnerships between

teachers and library professionals to develop a unified vision of critical literacy within Ontario education, or to at least connect on issues surrounding critical literacy with 21st-century digital learners. Therefore, it is helpful to also examine the practices of library professionals to determine the strategies and initiatives that are used to foster critical literacy or critical information literacy with students.

Ontario Librarians

The Ontario School Library Association has collaborated with the Literacy and Numeracy Secretariat (Ministry of Education) to produce a document, “Together for Learning” on the school learning commons, which encourages teachers and librarians to work together in various ways to prepare students to be digital and media literate. In examining this document, there are several strategies that mention the need for critical thinking and reflection to be applied in the use of social media and other technologies, however, critical literacy is not explicitly mentioned. As discussed in the first report of this study, digital and media literacy is often described as a part of critical literacy within the education sector. One example of a critical literacy strategy is for students to use social media to develop an environment that allows students to question their beliefs and explore other’s opinions in relation to media messages (Ontario School Library Association, 2010). Therefore, the authors of this document have taken the use of social media a step further into critical inquiry by not only mentioning social media as a tool in itself for generating classroom discussion, but to also reflect and respond to the messages that students encounter (what perspectives are being communicated through these social platforms?). Furthermore, the Ontario Library Association (2010) has also stated that the implications for developing critical literacy abilities extends beyond inclusive spaces; it is also

important for students to think of themselves as critical consumers and creators of information. This is an essential point that links to lifelong learning, one that is not mentioned as explicitly within Ontario education policy and curriculum documents, with safer and more inclusive learning environments being the main focus.

Librarians are also developing critical literacy plans for school learning environments. Rocheleau (2015) discussed the integration of critical literacy abilities with Ontario report cards. Teacher collaboration facilitates this connection; one strategy is for the teacher-librarian to team teach the literacy program with the homeroom teacher. This allows both professionals to develop shared learning outcomes, focused on collaborative learning opportunities for students to engage in critical thinking, reflection and discussion. These outcomes could then be used in assessments which are linked to the learning skills on the report card. Rocheleau's (2015) recommendation could be successful, however, other factors need to be considered to truly achieve a shared goal of promoting critical literacy within Ontario classrooms, and the education sector. In addition to teachers and teacher-librarians collaborating to plan and teach literacy lessons, other professionals, such as administrative staff, principals and board members need to be involved in the process of developing a strategy that facilitates critical literacy abilities with students. Loertscher et al. (2008) stated that staff across the school board, including educational assistants, specialists, and students themselves, must collaborate to create environments that support excellence in literacy. Therefore, connecting critical literacy skills to learning outcomes beyond the classroom, such as provincial standardised assessment of learning (i.e. Ontario report cards), must involve key stakeholders within the Ontario educator sector, including library professionals.

Recommendations

As discussed above, both teachers and librarians are working to develop strategies for fostering critical literacy skills and abilities with students within their own professions. The following collaborative initiatives may support a shared vision of critical literacy in Ontario education:

1. Teaching and library professionals continue to partner to develop critical literacy programming within schools and public libraries.
2. Ontario Ministry of Education should consider reinstating previously eliminated school librarian and library technician positions within district school boards to facilitate teacher and library professionals partnering to plan and implement critical literacy learning opportunities within long-range unit planning, daily lesson plans, standardised literacy test preparation and library visits.
3. Collaboration between Ontario Literacy and Numeracy Secretariat, education policy makers, school administrative staff, school board committee members, teachers and library professionals to develop policies on critical literacy, as well as the explicit incorporation of critical literacy abilities in upcoming revised Ontario curriculum documents for grades 1-6 and 9-12.

Conclusion

The purpose of this report was to examine the strategies and initiatives that Ontario teaching and library professionals implement to foster critical literacy and critical information literacy abilities with students. Through a review of the literature, a few case studies and reports discussed the specific methods that professionals use within their local classrooms and libraries.

This report recommends that teaching and library professionals work together and with Ontario education policy makers to promote critical literacy skills in library programming, lesson planning, and Ontario curriculum documents. These collaborative partnerships would support the development of a shared and unified vision of critical literacy in Ontario education, especially considering that creating safer learning environments is a main goal for the Ontario education sector (Ontario Literacy and Numeracy Secretariat, 2013). Based on the findings of this report, teachers are working to promote critical literacy within their own classrooms, and library professionals, specifically teacher-librarians, have outlined strategies to connect critical literacy with learning skills assessments for K-12 students. Collaborations on a shared vision of critical literacy in the school environment are already in progress, such as the Ontario Library Association and the Ministry of Education; however further partnerships between the K-12 education and library sectors would support students in developing critical literacy abilities as a part of lifelong learning. The next report will analyse best practices in library-related literature for fostering partnerships between K-12 teachers and academic (higher education) librarians to facilitate the development of critical information literacy abilities, especially in supporting students in the transition from secondary education to higher learning.

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Critical Information Literacy in Higher Education

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LIS 9410

Tuesday 25 July 2017

Overview

Critical information literacy, which “takes into consideration the social, political, economic, and corporate systems that have power and influence over information production, dissemination, access, and consumption” (Gregory & Higgins, 2013), is quickly becoming an established practice in academic librarianship. This practice builds on information literacy skills, as the Association of College and Research Libraries (ACRL) defines information literacy (IL) as 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 Board, 2015). This concept is at the heart of the ACRL Information Literacy Framework for Higher Education (American Library Association, 2015). The critical aspect of information literacy has mainly evolved out of a response to the rapidly-changing and current socio-political influences on scholarly communication and discourse in Western societies (Seeber, 2015). Critical information literacy is a lifelong ability that prepares students to both consume and create information; therefore, opportunities to develop critical information literacy abilities should be provided in secondary school, as students transition to higher education. It is in post-secondary environments where they are expected to not only apply information literacy skills in the research process, but also use a critical lens to reflect and participate in information creation and scholarly discussion (Varlejs, Stec, & Kwon, 2014). This report will examine best practices for fostering partnerships between secondary school teachers and academic librarians in post-secondary environments, to facilitate the development of critical information literacy abilities with students. Although this final report of the individual study views critical information literacy from an educational perspective, both at the secondary and post-secondary

levels, critical information literacy abilities extend beyond the formal learning environment. Therefore, this report will identify recommendations to assist librarians in fostering lifelong critical literacy learning with students. Strategies for embedding critical information literacy and the ACRL Information Literacy Framework in higher education settings will also be discussed.

Secondary School Teacher and Academic Librarian Partnerships

The partnership between the librarian and the teacher is an important best practice for fostering lifelong critical information literacy skills with students. Lewis (2013) noted the importance of building a good working relationship with teaching staff and other potential collaborators before establishing a collaborative partnership. Emmons et al. (2009) also found that the best way to build such a relationship was to formulate an outreach plan to market and promote instructional services. This best practice is crucial for generating interest in the library's information resources and services. The authors suggest a variety of methods for contacting teachers to tailor instruction and learn more about their students' information needs. These methods include sending emails, attending school board meetings and one-on-one conversation to market library instruction services, including information on the benefit of such services. A study by Buck et al. (2006) on the librarian-faculty partnership focused on higher education settings found that librarians who attended faculty meetings came to be recognised as "equal partners in the teaching mission of the university" (p. 70). If librarians are considered as partners amongst faculty, perhaps faculty would be likely to use library instruction services. This would apply to secondary education settings as well; the University of Wisconsin-Madison library's high school program has successfully connected with 500 high schools to teach

information literacy sessions to grade 12 students, in partnership with the school's teaching staff. The university, in turn, has showcased the value of the library to not only the community and incoming students, but to their own faculty and instructional staff (UW-Madison, 2014). Moreover, in a study on the best practices for embedded librarianship, Johnson (2014) found that ongoing student and teacher/librarian interaction was an essential factor in bolstering student participation, discussions and inquiry in library instruction sessions. Ongoing interaction facilitates support for everyone involved: librarians, teachers and students. A collaborative partnership with teaching staff also allows the librarian to save time and effort, as both parties contribute to planning shared pedagogical approaches to delivering instructional content (Hartman & Fial, 2015).

Instructional librarians must first understand the needs of their audience in order to create meaningful critical information literacy lessons, and likewise, Johnson (2014) argued that "instruction should be planned to meet the needs of all students, as "good practice respects diverse talents and ways of learning" (p. 41). It is important to note that common learning preferences of adult learners include self-directness, competency-based and experiential (e.g. discussion, problem-solving) activities, and application to real-life tasks (Courtney & Wilhoite-Mathews 2015). The best way to understand how to address students' needs and learning styles is by conducting a needs assessment. Conducting a needs assessment is a common best practice in the research consulted for this review. As stated previously, meeting with teaching staff is a crucial aspect of the needs assessment, as it allows the librarian to gain a deeper understanding of students' critical information literacy abilities and lived experiences in relation to the course objectives and curriculum. Martin, Garcia, & McPhee (2012) found that user surveys, focus groups, and anecdotal evidence were some of the most effective methods of receiving feedback

from students and teaching staff. Martin et al. (2012) also studied the needs of secondary school students transitioning to California State University, and found that most students felt unprepared and lacked the ability to conduct critical research; their information literacy abilities varied greatly. The authors also found that student learning of critical information literacy skills was most effective when the partnership took an interdisciplinary, not multidisciplinary approach; that is, the secondary school teacher collaborated (not just cooperated) with the academic librarian to develop shared goals, plan information literacy sessions, and assign projects that allowed students to engage in the research process using critical thinking and reflection with their peers. The results of this study demonstrate that collaboration between teachers and librarians is essential to the development of critical information literacy abilities, as well as to support students in using these abilities throughout the research process in higher education.

Framework for Information Literacy in Higher Education

The Association of College and Research Libraries (2015) has developed the Framework for Information Literacy in Higher Education (also called “the Framework”) to replace the older Information Literacy Competency Standards. The goal of this new Framework is to apply a critical approach to information and library instruction within academic libraries, as many library professionals have cited a greater need to understand the information ecosystem in which libraries and their users operate. The Framework offers core concepts instead of standards to support instruction librarians in implementing and using the Framework to facilitate critical literacy abilities with their library users. The Framework is composed of six frames: Authority Is Constructed and Contextual, Information Creation as a Process,

Information Has Value, Research as Inquiry, Scholarship as Conversation and Searching as Strategic Exploration. As the Framework is relatively new and libraries are working to understand best practices around its implementation, ACRL recommends that librarians should read and discuss the implications of using the Framework to develop a new approach to information literacy instruction (ACRL, 2015). Some literature exists on how librarians are implementing this recommendation and using these frames to support critical pedagogy.

An article by Bauder & Rod (2014) discussed practical strategies for librarians to use the Framework in their instruction, with the goal of supporting students in gaining a deeper understanding of information and research. At one university, a librarian invited students to examine U.S. Census classifications of race and ethnicity over several years as part of their research; both independently, and in consultation with library staff and resources. By incorporating this activity into students' research processes, students built an understanding that categories were re-evaluated over the years based on who is and is not included within these categories. This activity connects to the "Authority Is Constructed and Contextual" frame, as students analyse how these categories have changed over time based on social and political situations in the country. Similarly, another librarian uses Wikipedia during one-shot information literacy sessions where students compare the Wikipedia article and another article from a different resource. During this comparison, students examine the authority of the information from each source and contribute new evidence to the Wikipedia article using the "talk page" feature. This process allows students to debate the accuracy and relevancy of information with other Wikipedia users, thereby gaining insight into how authority is constructed based on the context of different communities. In both of these examples, librarians have used active learning activities that incorporate peer collaboration to engage students in

critical thinking, and in developing an awareness of the social and economic influences within information used for research purposes.

Another librarian examined the experiential aspect of critical information literacy and pedagogy by discussing methods for librarians to view themselves as students in the lifelong learning process, and implement the Framework from this perspective (Burgess, 2016). Considering the “Research as Inquiry” frame, one method for applying a critical approach to instruction involves the flipped classroom, in which students view a how-to video for a database, and the in-class instruction session is used to engage in complex discussion, such as asking students to think about the types of information presented (and not presented) in the database, or to search for different perspectives within the database to answer their research question. The activity outlined in this article allows students to move past a database demo- a typical information literacy activity that involves passive, surface learning- to critically analysing the information in the database, which develops a deeper understanding of how their research connects to an existing information structure. These questions challenge students to think critically about the information they encounter and refine their own research questions. The flipped classroom involves not only active learning, but allows the librarian to be a facilitator in an experiential learning opportunity.

Experiential learning can also be used in helping students to understand issues of copyright, plagiarism and academic integrity. A hands-on activity from Heldt (2017) based on the “Information Has Value” frame encourages students to explore and address the issue of fake news, through the lens of considering themselves as content creators. Through this process, students develop an understanding of the difficulty surrounding the issue of fake news creation, as well as gain the needed skills to identify fake news sources. By viewing themselves as

owners of their intellectual property, students also understand when copyright belongs to others, as well as the value of that information. Similarly, a librarian at the University of Illinois asks students to discuss their opinions around others using their work, and encourages them to find and review Creative Commons licenses by using and adapting open textbooks and educational resources. This activity exposes students to different license restrictions, copyright law, and helps them to develop an understanding of fair use policies.

In all of these examples, academic librarians have used the new Framework as an opportunity to assess their pedagogical approach and evaluate whether their approach meets the goals of information literacy education in higher learning settings. These strategies value student knowledge and actively engage the librarian as an educator (and student) in the lifelong learning process. These suggestions and strategies also encourage librarians to continue analysing and discussing the Framework with colleagues, and with the wider field of librarianship, through professional conversation and scholarly activities. As the discussion around the Framework shifts and evolves over time, the next step is for critical approaches to instruction to become widely adopted, thereby assisting librarians in fostering critical information literacy abilities and supporting library users in becoming socially responsible users and creators of information in academia and beyond.

Critical Information Literacy and Lifelong Learning

The following recommendations and best practices as identified in library-related literature may be used to support librarians (and teachers) in applying a critical approach to instruction and facilitating opportunities for students to develop their critical information literacy abilities. As mentioned above, library partnerships with teaching staff in their

institutions, as well as within the community allow educational institutions to better support their students in lifelong learning. The major themes in the literature focused on active learning, problem-based inquiry and peer collaboration.

Active and Authentic Learning

The use of active and authentic learning activities is another important and common best practice for critical library instruction, as it requires students to actively engage with the content. Finch & Jefferson (2012) studied the use of the practical inquiry model as a best practice to guide the creation of active and authentic learning tasks in critical information literacy learning. The inquiry model involves four components: challenge, exploration, integration and solution. In their study, the authors provided a citation assignment as the challenge. Students explored and applied the citation style to their sources, and lastly, understood how to use the citation style for subsequent research. Similarly, Czerwaski (2014) argued that deeper learning experiences include projects through which students are required to explore a topic, produce a deliverable, and engage in group work or peer-to-peer evaluation. Discussion forums proved to be one of the most efficient tools to facilitate student engagement in critical reflection (Johnson, 2014). Some examples of cooperative learning exercises could involve creating a personal portal of resources or an annotated bibliography connected to coursework, which can be completed in a course management system forum, or an open-access resource like Google Groups. These exercises can be used to assess student learning.

The assessment of learning is an essential best practice for critical instruction, however, it can be difficult to assess how students are developing critical abilities as they engage in the research process at the higher education level, especially as much of the student's work is

completed outside of instructional time. Furthermore, critical abilities and awareness are based on activities such as group discussions and individual reflections; these are unplanned, as the teacher is a facilitator (not the leader) in the learning experience. Active learning exercises through which students receive *immediate* feedback, such as responses and questions from peers and the librarian, peer evaluations, self-assessments, projects, portfolios, quizzes and discussion forum question responses, provide opportunities for both formative and summative assessment during library instruction sessions (Johnson, 2014). Ongoing feedback throughout the active learning process informs assessment. In a review of the literature on the best practices for teaching information literacy courses conducted by Tobin (2004), a lack of instructor feedback was found to be a significant barrier to learning, whereas continual student-instructor interaction was associated with positive learning achievements.

Problem-Based Inquiry

Active and authentic learning experiences facilitate not only greater student engagement with the content, but also allow for the application of skills to problem-solve in meaningful contexts. Czerwaski (2014) stated that learning should include problem-based tasks set in situational contexts, as it facilitates a movement beyond surface learning through solving and reflecting on real-life issues. Problem-based inquiry for critical information literacy includes connecting information literacy abilities to a course assignment so that students develop the thinking, reflection and research skills to address social justice and inequity issues in both their personal and professional lives. In York & Vance's (2009) study of 159 academic and/or distance librarians who were integrated or embedded into specific courses via a course management system, problem-based tasks proved to be the best way to encourage dialogue

amongst students. Finch & Jefferson (2012) also found problem-based activities to be the most effective way for students to learn new concepts and skills. Therefore, the librarian should provide many opportunities for collaborative problem-solving in critical instruction.

Problem-based tasks can also be completed individually, and as mentioned previously, the librarian should ask students about preferred learning styles before planning their instructional strategies. Students should have the option to work in pairs or alone, at least occasionally, in order to cater to all learning styles, as the accommodation of learning styles is a best practice for implementing critical library instruction. Examples of assignments that can be completed independently or in pairs include discussion forum question responses, peer evaluations or one-minute reflections connected to the instructional content (Lietzau, 2012), which allows for assessment of student learning, and provide feedback that the librarian can use to inform future instruction sessions and their critical pedagogies.

Peer Collaboration

Deeper learning exercises cater to a range of learning preferences; providing opportunities for collaboration in critical library instruction is a major theme in the literature. Interaction with other people's opinions and perspectives is crucial for students to develop a critical awareness of the social, political and economic systems inherent in the knowledge they use and create. The librarian, therefore, needs to create opportunities for student interaction during instruction sessions and the online learning environment. Research conducted by Skagen et al. (2008) studied group activities in an online tutorial that allowed students to produce different types of texts in relation to their own research. The authors found that group activities facilitated the use of critical thinking skills, as students collaborated in choosing the strategies

and courses of action to complete group projects. This argument is supported by Burgess (2016) who recommended the use of group exercises in tutorials as it facilitates meaningful discussion through problem-solving.

Peer collaboration provides students with the ability to engage in self-directed learning, which is a common learning preference for post-secondary students. Lietzau (2012) found that self-directed learning can be facilitated by engaging in self-reflection, inquiry-based learning, and small and large group discussions. York & Vance (2009) conducted a survey with 159 academic librarians to find out the best practices for serving students through distance learning; a majority of instructional librarians provided opportunities for small group collaboration in online library instruction. Collaborative learning caters to a wide variety of learning styles and preferences, offers flexibility, and facilitates the use of critical thinking skills, which are important aspects of critical pedagogy.

Conclusion

The purpose of this report was to examine best practices for incorporating critical approaches to information literacy instruction in higher education. Through a review of the literature, several librarians working in academic have applied a critical approach to their instruction using the Framework for Information Literacy in Higher Education, and universities have extended their information literacy outreach to their communities to support incoming secondary school students. The partnership between librarians and faculty, and librarians and teachers, is crucial to facilitating the development of critical literacy abilities with students. The next steps for fostering lifelong critical information literacy abilities with students will involve continued collaboration between professionals in librarianship and the field of education, as

well as the institutionalisation of critical approaches in higher education settings extending to information access and discovery (Bauder & Rod, 2014); that is, continuing to develop practices around connecting critical information literacy to critical librarianship as a whole.

Furthermore, students themselves should be brought into the conversation as they are also stakeholders in the discussion on critical information literacy; Scott (2016) noted that students should be invited to respond to the complex concepts and language in the Framework, as their responses will help guide the way in which librarians use the six frames to support students' critical information literacy needs. Through involving all of the key players (students, teachers, faculty, librarians and higher education professionals) in the discussion around critical information literacy, both teachers and librarians will be able to better support their students in developing critical literacy abilities to navigate the power structures and social issues inherent the information they encounter in academia and in society.

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