Canadian Academic Librarians as Online Teachers

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ABSTRACT[1]

In 2020 major changes took place at Canadian colleges and universities in response to the pandemic, one of these being a shift toward offering all courses online. Before the pandemic, many higher education institutions were already on a clear trajectory to offer more online learning. According to a public report, by 2018, 80% of colleges and 90% of Canadian universities offered distance education, and 98% offered online courses. Changes to online learning have required changes for the roles of academic librarians – not the least of which are new pedagogies for online and open learning.

This paper describes findings from a survey of Canadian academic librarians capturing the realities of their online roles, including the pedagogical knowledge and technology skills required. Research findings indicate that academic librarians have varied online learning roles, working across a range of online learning environments and teaching with technology, which requires significant technology and pedagogy competencies. This research has led to the development of a competency framework for academic librarians which indicates that librarians needed blended skills to teach on a continuum from physically co-present to fully online environments. This research identifies key pedagogical and instructional design skills needed as online learning alternatives in post-secondary institutions expand.

Keywords: online; academic librarians; technology; blended librarian; instructional design; pedagogy

1. INTRODUCTION

In response to a global pandemic, many but not all, Canadian universities moved classes online or hybrid starting in March, 2020 and for the subsequent 2020-2021 academic year. While the events of the pandemic were unsettling, the reality is that the increasing shift to online learning at Canadian universities is not a new phenomenon. A 2019 public report [1] details that most universities and colleges in Canada (90%) were already offering what they termed *distance learning*, and 98% of those offerings were online learning courses in 2016. Most of the online courses at that time were offered through video lecture capture and 22% were print-based [1].

Growth in online learning at post-secondary is approximately 10% year over year [1]. A recent survey reveals that approximately one in five Canadian post-secondary students take online courses for credit, representing 8% of registrations at responding universities and colleges [1]. The majority of students who take these online courses live in the same province as the university, indicating that online learning meets the needs of a segment of the post-secondary population who are local and not necessarily international, and most post-secondary institutions anticipate that online learning will continue to grow [1]. As more higher education courses become available online, there are implications for the students and their instructors, but also others in higher education, such as academic librarians [2],[3],[4]. Blended courses combine both online and face-to-face (f2f) or physically co-present, teaching in some combination [1]. The transition to blended and online learning requires new skills that blend technology and instructional design [5].

Shifts to online learning tell only part of the story of the changing role of the academic librarian. Another change has been the reimagining of the spaces where libraries operate and the services they offer [5], [6], [7]. New models of blended learning and online learning are being developed where digital technology and pedagogy intersect, and this requires academic librarians to have a presence in both physical and online spaces. Academic librarians, who have long met the needs of specific subjects or disciplines, are now moving to meet users at their point of need [8] either f2f on campus, online or in blended courses.

The study presented here describes research undertaken to reveal Canadian academic librarians' perceptions of their role in 2019 with respect to online learning. The survey findings reveal that academic librarians have a range of online learning roles, work across a wide range of learning modalities and employ a significant range of digital tools. Based on the findings of this study, a competency framework that reflects the present realities for Canadian academic librarians is presented which indicates that new technological and pedagogical competencies are required for Canadian academic librarians in the present day. Overall, this study finds that the role of Canadian academic librarians is growing to include more online teaching.

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2. ACADEMIC LIBRARIANS' CHANGING ROLES

Education in post-secondary institutions is changing with the emergence of online learning in most colleges and universities. New technologies, new types of course delivery and new forms of credentialing are expanding the options available to students, and practices at most institutions are also changing and evolving [1]. Teaching and learning, which at one time occurred mostly f2f in brick and mortar classrooms, is now offered across a range of models of delivery that include blended learning and fully online learning [9]. Because of their increased teaching role, academic librarians now work across a variety of learning environments from f2f learning to online modalities [2],[3],[4],[10],[11]. These changes to new online learning spaces and the use of new technologies impact academic librarians' instructional practices [3],[12] and the roles of academic librarians are shifting to accommodate these changes.

Studies over the past two decades provide a picture of academic librarians' emerging blended roles, suggesting that there is a need for librarians to have both technology and teaching skills to work across a variety of learning environments. The *blended librarian* role includes a combination of traditional librarian skills, instructional design skills, and information technology skills, along with the ability to integrate technology into the teaching-learning process effectively [5]. In their examinations of academic librarian roles, other scholars identify *librarian as teacher* and *embedded librarian* as emerging roles [12],[13]. One study based on interviews with librarians and students as well as a job posting analysis, identifies *blended librarian* as a future role [12]. Library administrators see instruction as an essential role of the library and they think that learning to teach should be a skill that librarians learn in pre-service [14]. In addition, library deans and directors in the United States anticipate hiring more librarians for library instruction and instructional design positions in coming years [15].

There is a mixed pattern of research findings on blended librarianship. Few studies delve into the skill requirements or expectations of these blended positions and none explore the specific blended skills required in online teaching roles for librarians. Shank [16] examined job postings for Instructional Design librarians and found that they all required web, multimedia and instructional technology skills, concluding that librarians in these positions would be expected to create a range of online instructional resources. Library administrators view teaching and presentation skills as significantly more important than educational technology and instructional design skills [17]. Raju [11] finds that job postings do not yet reflect the blended nature of academic librarians' roles because they continue to exclude skills such as instructional technology and developing online learning resources. The literature on the instructional practices of academic librarians suggests, however, that these skills may be increasingly important as academic librarians shift to online roles.

Online learning and related technology use impact library instruction [2],[3],[4],[10]. Online learning is viewed as emergent and important, and many libraries are developing online services. In a 2011 survey, Canadian academic librarians were reporting that technology was impacting their work significantly [10]. A longitudinal study (over 20 years) shows that Canadian academic librarians' instructional practices are changing as a result of online learning [4],[10].

More librarians are developing web tutorials and new methods of online instruction such as creating modules for a learning management system (LMS) [10]. A 2017 survey shows that librarians report new roles such as: 1) embedded librarianship and flipped instruction; 2) recording video and preparing library guides [4]. American librarians report similar findings [3]. Details regarding the online teaching methods used and the specific technologies employed in online instruction in Canada remain undocumented, indicating a gap in the literature.

3. METHODOLOGY

The study described here responds to gaps in the literature and explores the following research questions:

1. How do Canadian academic librarians report their roles in online learning environments?
2. Which instructional skills, pedagogical knowledge and technological skills are employed by academic librarians in their online instructional roles?

The research employed a largely qualitative approach to explore the perceptions of the participants, with the use of quantitative data as supportive or complimentary in nature [18]. In this regard, the study resembles an embedded mixed methods design, nesting one method into a larger research strategy [19]. Overall, a grounded theory approach was used to determine key concepts suggested by the perspectives of Canadian academic librarians on their roles in online learning environments.

The online survey was sent out via the Canadian Association for Professional Academic Librarians (CAPAL) listserv and the eLearning in Libraries Collective listserv, targeting academic librarians of all job titles working across Canadian colleges and universities who identify as having an online instructional role. An online survey was selected because of its ability to reach a large number of academic librarians across Canada and for its ability to be analysed both qualitatively and quantitatively. The survey consisted mostly of open-ended questions to capture the participants' first-hand experiences with online learning. An assurance of respondent anonymity was provided and the study received approval from the university's research ethics board.

The survey was developed using content analysis of job advertisements for academic librarian positions in North America and findings from recent international studies on online learning in academic libraries [11],[20] and the instructional practices of academic librarians [3]. Academic librarian positions posted on the University of Toronto's Faculty of Information jobsite between 2006 and 2016 were

viewed with specific permission granted to access older posts via the jobsite archive. These sources provided insight into the specific technologies and pedagogies used by academic librarians in online learning initiatives and informed the creation of the survey categories. A Google Form selected for the survey had six sections: the letter and question of consent; institution and position; online instructional role; pedagogical knowledge; technology for online learning and preparation to teach online.

Six librarian volunteers piloted the survey. The informal review was meant as a measure of content-related validity [21] of the online survey to assess how well the research questions aligned with the survey questions. After some modifications, the survey was re-reviewed by three of the initial librarians who confirmed its clarity and appropriateness for distribution. The survey was sent to academic librarians via email through the two listservs in mid January 2019 and remained open for a total of 37 days. Reminders were sent during weeks four and five and the survey closed late February 2019. A more detailed account of the findings is available in the Master's thesis [22] which is accessible via the university's institutional repository e-Scholar. Each open-ended question was analysed separately to identify common themes or topics in the respondents' answers. The data were first extracted into individual tables and then assigned primary codes, leading to the identification of the themes reported in the findings.

In sum, 45 librarians employed at universities and colleges in Canada who identified as having some degree of online learning responsibilities in their job completed the survey. Respondents included librarians working in a range of positions with diverse titles and instructional roles. Most of the respondents were university librarians (66%) with the majority working at comprehensive universities offering undergraduate, Master's and Doctoral programs (60%). Most librarians were either from Ontario (33%) and Alberta (31.1%). No one from Newfoundland and Labrador, New Brunswick or Manitoba responded to the invitation to participate in the research. The experience of respondents varied, with more responses from early career librarians. The largest number of respondents (57%) have been working in their current position for less than five years. Fewer (24.5%) have been in their positions between six and ten years and the smallest group of respondents (13.4%) indicate that they have been in their current role for eleven years or more.

4. FINDINGS

There were a number of key findings from Canadian academic librarians' perceptions of the pedagogical knowledge and technologies used in their online practice. First, academic librarians hold a broad range of position titles across different aspects of academic librarianship from general librarians to library administrators as well as some more specialized e-learning positions. Few held positions that directly corresponded to online learning. Job categories were created to ensure participant anonymity in reporting as some academic librarians have unique job titles. Table 1 shows this breakdown. Most participants hold either

generalist positions, subject and liaison positions, and public services or information access positions.

Table 1: Canadian academic librarian positions

Position (*categorized*)	*N*
Librarians (General)	*10*
Subject and Liaison Librarians	*9*
Public/Information/Access Services Librarians	*7*
Teaching, Learning and Curriculum Support Librarians	*5*
E-learning Librarians	*3*
Chief and University Librarians	*2*
Instruction and Reference Librarians	*2*
Non-Librarian Positions	*2*
Not Specified	*2*
Student Success Librarians	*2*
Digital Projects Librarians	*1*
Total	**45**

Academic librarians have multiple roles associated with online learning, including as designers, creators, teachers, and leaders, while others seek ways to be involved. As *designers*, academic librarians design synchronous and asynchronous learning experiences in support of blended and online learning initiatives. While less common, some design at the program level, developing components of classes or entire e-learning courses, and some oversee the development of online tools to augment on-campus learning. Design at the program level is often in partnership with other campus groups. As *creators*, librarians create a variety of online instructional materials, including video tutorials, learning objects, modules and online tools.

Academic librarians are also *teachers*, providing instruction to mostly undergraduate students (68.8%) and graduate students (40%), but some have a role in teaching the faculty (28.8%) and other librarians (13.3%) as well. Librarians report that they support the integration of educational technology into instruction for faculty. For other librarians, they provide blended and online information literacy instruction. Much of their teaching takes place through blended or online classes via one-session seminars and workshops, including synchronous instruction via video conference. In some cases, they teach blended and online for-credit courses.

Many contribute to teaching by being embedded via the LMS. This *embedded role* is held by just over half (51%) of the academic librarians and varies from teaching partnerships (22%) to teaching a single course module (24%). Fewer (4%) are involved in managing discussion boards, video conferencing and instant messaging with students. This same number of librarians (4%) are currently developing embedded initiatives at their college or university.

Ten librarians (22%) identified as online learning or educational technology *leaders* within their institutions; leadership takes several forms. They report that they are early adopters of technology, often the first to use and test

technologies, as is the case with one librarian who reports making "the first video module for a Bachelor program distance learning project." Some report that they are experts in online learning supports, such as open educational resources or LMS. The leadership role is also apparent in their participation in the library committees or institutional online learning committees. Some academic librarians define leadership as teaching and supporting faculty and librarians in the use of technology-enabled instruction and instructional design. Some report that they lead by developing library-wide online programming.

Four librarians (8%) indicate having no opportunities for online learning at their institutions. Five others express that their online role is minimal and two of these five are seeking ways to be involved. One librarian identifies that the provision of online learning is supplemental and the other reports that they are "not asked to teach online for courses." This group, however, represented a minority of Canadian academic librarians responding.

5. A CHANGING ROLE

The time devoted to online instruction varies among academic librarians but in many cases, they report that online responsibilities are increasing over time. The majority (73.3%) spend up to 25% of their time on online learning, including teaching online and preparing instructional materials to be accessed online. Six librarians (13.3%) indicate they spend no time on online learning.

These responses reflect a change in the online role, as 28.9% of librarians indicate that online learning was not formerly a part of their job but that it is currently. An adjacent finding is that two-thirds (62.6%) of academic librarians report an increase in online responsibilities over time. Academic librarians identify three areas that contribute to the increase in online responsibilities: 1) teaching support beyond library instruction; 2) personal initiatives; and 3) institutional changes. Specific examples are as follows:

Teaching and support beyond library instruction
1. To provide institutional-wide instruction through the Teaching and Learning Centre;
2. To co-teach an online course; and
3. To provide technological support on the LMS.

Personal initiative
1. Additional work due to interest in the subject of online learning;
2. Recognition of a need to integrate online learning in libraries to provide more flexible learning options to students; and
3. Equal opportunity for distance learners.

Institutional changes
1. Libraries recognize the need to provide online options to accommodate students and faculty;
2. Online library instruction is seen as more efficient method than in-person in some cases;

3. More online learning opportunities are offered in general;
4. Graduates are increasingly involved in online learning;
5. More faculties are offering online learning options; and
6. There are more requests for online instructional support from librarians.

Librarians work across a variety of learning environments that span from on-campus to completely online and provide instruction via multiple modes. Their primary mode of online instruction is asynchronous (55%) and involves tasks such as creating learning materials for students to access on their own time. A lesser number of librarians provide primarily synchronous learning (20%) such as live online instructional sessions via videoconferencing software. Most academic librarians (80%) provide on-campus instruction using learning technologies while slightly less (71%) identify they are involved in blended or hybrid learning. Less than half (42%) work in completely online environments.

Academic librarians experience many challenges teaching online, many of which are associated with time constraints, a lack of teaching or instructional design experience, student engagement, learning assessment and technology. Details of the challenges expressed are as follows: There is a lack of time to dedicate to online learning: instructional design and learning object creation; to experiment with new tools and instructional approaches; to stay up to date with new technologies; and to deliver content in allotted instructional sessions. With respect to student engagement, librarians report that they experience difficulty fostering discussion and creating meaningful participation in online forums; that they do not know how to incorporate active learning or how to make engaging recorded modules. They also report that it is difficult to assess whether students understand the content or if they are benefitting from the learning objects. Technology can create communication challenges leading to student misunderstandings and it is challenging to match the teaching tools to the learning objectives.

Academic librarians report a range of instructional strategies and delivery methods, showing that an understanding of teaching and learning practices or pedagogical knowledge is helpful. The most widely used instructional strategies reported include the use of lectures (51%), demonstration (53%) and self-directed student methods such as projects (55%). Active learning methods (46%) (e.g. activities) are slightly less popular and other forms of participatory learning are used much less such as discussion (31%), collaborative learning (25%) and small group work (25%). This might be attributed to the asynchronous or single-session learning opportunities they report that can limit participation.

The use of instructional strategies and delivery methods amongst the respondents is wide-ranging. The most widely used delivery methods are library guides (75%), video tutorials (71%) and single-use library instruction (55%). Providing instruction via the LMS, text and image tutorials, slides decks, presentation software, workshops, and the delivery of credit courses are methods used by at least 30% of librarians. Fewer librarians use web-based modules (28%), embedded librarianship (24%), individual instruction

(24%), video conferencing (22%), flipped instruction (22%), webinars (17%), instant messaging (15%), lecture capture (11%), social media (11%), non-credit course (4%) and learning objects (2%).

Librarians report that they apply learning principles and theories to their online instructional practice. More than half (68%) view instructional design principles as the most important for online. Half (50%) report that assessment and evaluation skills are important to their role. Fewer (40%) view self-directed learning, teaching with technology, universal design and learning theories in general as important. Less view adult learning theory (35%), critical reflection (26%), digital pedagogy (20%) and critical and feminist pedagogy (11%) as important.

Academic librarians use a wide range of software applications in their online instruction to deliver and produce content for various modes of online learning including web and e-learning authoring tools. Librarians use various asynchronous and synchronous online tools as well as technologies in on-campus learning environments to deliver content. (See Appendix 1 for a summary.) The LMS is most widely used: most (80%) use the LMS at least some of the time; 20% report that the LMS is important to their practice. Learning technologies and wikis are used sometimes by over half (60%) of the academic librarians, while 26% report that they never use them. Just over half of academic librarians (53%) report the use of video conferencing and gamification tools and 40% do not use these technologies.

Librarians use production tools: screen capturing software, video production tools and presentation software, primarily to create instructional materials for asynchronous instruction. This supports an earlier finding that the majority (55%) of academic librarians identify their primary mode of online as asynchronous. Screen capturing software is used by most librarians (77.7%) and video production tools by

51%. Presentation software is used most frequently for production; nearly all librarians report at least some use. Canadian academic librarians report the use of e-learning authoring tools and web development software as part of their online instructional practice. Most librarians (86.6%) use web development and authoring tools like content management systems and LibGuides, with 57.7% reporting that these tools are important to their practice. Less than half (40%) report using e-learning authoring tools but 15.5% see these tools as important to their practice. Appendix 1 provides a detailed explanation of the digital tools that Canadian academic librarians use and the activities associated with these digital tools.

6. SUMMARY OF FINDINGS

In sum, the research findings indicate that the online role of academic librarians in Canada is growing. While few have specific online learning titles, in general Canadian academic librarians report that they have multiple online learning roles, and they use diverse technologies for a range of teaching and learning activities. One exciting role that emerged was that of the academic librarian as a leader and early adopter of technology. Academic librarians voluntarily take on additional online learning tasks prompted by personal initiative as well as emerging student needs.

Based on this study's findings, a competency framework for academic librarians as online teachers (See Figure 1) was developed that summarizes the reported online delivery methods and modalities, as well as the teaching knowledge and technology skills they report. The competency framework shows a baseline of skills for academic librarians to develop in their online practice. The online teaching role requires skills in educational technology and instructional design, along with expertise in areas of librarianship. This expertise includes digital skills and technology tools to be used in conjunction with instructional design principles to
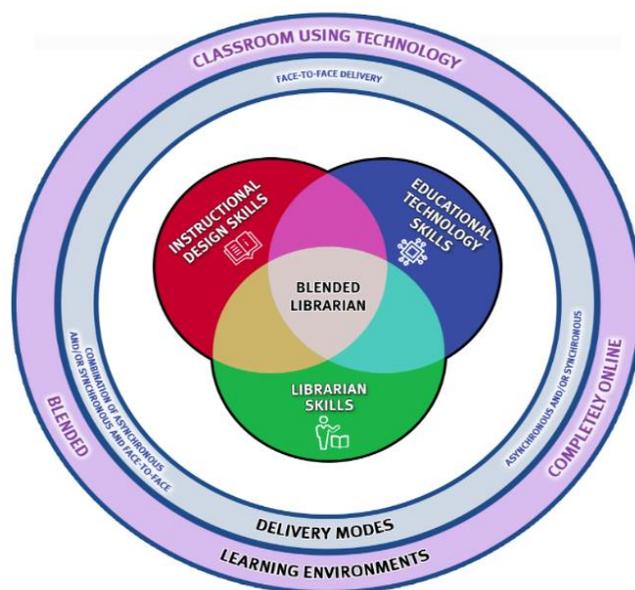

Figure 1. Blended librarian roles across learning modes.

increase the online learning opportunities academic librarians can provide.

Academic librarians with online teaching roles are *blended* in that they design and deliver instruction across various learning environments. Therefore, in addition to their subject knowledge and expertise in areas of librarianship, they also require instructional design and educational technology skills to work across the continuum of learning [9]. These skills include the ability to move between on-campus instruction using technological tools to completely online environments, and design for and deliver instruction via both asynchronous and synchronous modes.

Academic librarian roles such as Subject and Liaison Librarians, Instruction and Reference Librarians, or Teaching/Learning and Curriculum Support Librarians have an implied teaching role in their title. Yet, regardless of job title, academic librarians in Canada who responded to the survey indicate that they have an online teaching role. These roles associated with online teaching are more widely distributed across the profession and confirm the *blended* role [5] across academic librarianship.

7. DISCUSSION

This research took place before the closing of colleges and universities in March 2020 due to the global COVID-19 pandemic. The findings are perhaps more relevant now as academic librarians, along with other teaching faculty transition from brick and mortar classrooms to emergency remote teaching and to online learning as the future requires. The teaching role of academic librarians will predictably grow and require academic librarians to further develop their expertise in teaching with technology. They report challenges with online teaching that require changes to pedagogy and assessment and they indicate an emergent understanding of how teaching differs in online environments. Findings from this study identify critical areas for professional development for academic librarians during this transition and beyond.

Previous studies have shown that the teaching or the educational role of academic librarians is one that is developing along with other blended roles [12],[13] but have not investigated the details of how the teaching role intersects with online learning, or how it is distributed across the profession. In this study, the role of the academic librarian as *teacher* is confirmed and extended to online learning environments. Academic librarians have online teaching roles and they teach via both blended and online modes of delivery. The accompanying role of instructional *designer* also emerges, which extends academic librarians' online teaching role further, designing for synchronous and asynchronous learning environments. Similarly, librarians have an *embedded role*, from teaching partnerships and teaching course modules. Activities such as designing content and managing discussion boards show a diversity of involvement of academic librarians as online teachers.

The role of e-learning or educational technology *leader* is a new role not previously identified in the literature on the teaching role of academic librarians. Those who identify as e-learning or educational technology leaders have a significant educational role within their institutions, specifically related to online learning transitions. Through their early adoption of technology, participation in e-learning committees, work supporting faculty and developing online learning programs, they are helping to guide e-learning and related technology initiatives in their libraries and sometimes at the institutional level.

Academic librarians in this study show a range of pedagogical knowledge through a wide range of instructional strategies and learning theories, as well as a diverse use of technology for instruction and this has not been previously reported.

The effect of COVID-19 on academic librarians' teaching roles is unknown but the librarians who identify as online learning or educational *leaders* within their institutions or libraries may be in a better position to support and work through this transition than others. They might have a further role supporting both faculty and other librarians in instructional design and the use of learning technologies than this study finds. Similarly, those with no previous role in online learning and those seeking opportunities to be more involved in online learning initiatives may find new teaching opportunities.

Academic librarians and library administrators can look to the competency framework to guide the professional development initiatives of those with emerging online roles. Similarly, it can be used by Information Studies and Library Science programs to develop course offerings to prepare future librarians. One of the critical challenges facing Canadian librarians is the need to acquire pedagogical and technical skills while on the job. The reports that they are taking on these challenges show that they are adapting as the nature of work and its expectations are changing.

8. LIMITATIONS

This research was undertaken for a Master's thesis, which limited the timeframe. One academic librarian expressed concerns about the data not being open to future researchers and there was insufficient time to revise the REB and resend the survey. The survey method was, in part, chosen for its ability to reach many people in a short time. It did not, however, allow academic librarians to ask clarifying questions. Future studies might mitigate potential misunderstanding by providing operational definitions in the survey or by including semi-structured interviews.

9. CONCLUSION

The online roles of Canadian academic librarians are far-reaching and suggest that teaching is an integral part of academic librarianship, regardless of job title. Canadian academic librarians are designers, creators and leaders who

are guiding the advancement of online learning in their institutions. In these varied roles, librarians work in multiple learning environments, applying pedagogical knowledge and technology skills to their practice. A competency framework for librarians with online roles [22] was developed based on the information that Canadian academic librarians provided in the survey. This framework may be a guide and a starting point for those looking to develop their online instructional practice.

There will be many more opportunities for future studies surrounding the online teaching role of Canadian academic librarians as it is a relatively new realm of inquiry. As more Canadian courses transition to online as a result of the pandemic, it will be valuable to document the experiences of Canadian academic librarians and how their teaching roles adapt and change as required.

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Appendix 1: How Canadian Academic Librarians use Technologies for Online Learning

Learning Management Systems	
Blackboard	Moodle
BrightSpace	eClass
Canvas	Sakai
D2L	Omnivox
Uses Identified	

- Course management
- Post course materials (links to information resources, slides, handouts, videos and modules)
- Delivery of lessons
- Build and post quizzes
- Build learning modules
- Hosting library resources
- Chat and messaging
- Assignment submission using the quiz function (D2L)
- Marking student work
- Audio feedback for response to student submissions (D2L)
- Discussion forums
- Supporting online course development of other faculty

Collaborative Software Employed	
Padlet	G Suite
Google Docs	Nearpod
Uses identified by Canadian Academic Librarians	

- Collaborative activities (such as brainstorming)
- Creating slides, forms, and quizzes

Video Conference software	
Zoom	Blackboard Collaborate
Adobe Connect	Skype
ReadyTalk	Google Hangouts
WebEx	BlueJeans
Uses	

- Meeting with faculty
- Delivering webinars
- Connecting with students for remote information literacy consultations
- Online instruction
- Remote instruction
- Distance reference interviews

Gamification	
Mentimeter	Socrative
PollEverywhere	Qualtrics
Kahoot	
Uses	

- Quizzes
- Fun activities
- Pre and post assessment

Formative assessment

Screen Capturing	
Camtasia	Snagit
Quicktime	Screencast-O-Matic
Uses	

- Create online videos/tutorials
- Create walkthrough or how-to video content
- Screencast videos
- Image capture

Video Production	
VoiceThread	Adobe Rush
PowToon	Adobe Premiere
iMovie	Jing
Uses	

- Create online videos/tutorials
- Videos for asynchronous instruction
- Recording video
- Video editing

Presentation Software	
Google Slides	Prezi
Adobe Spark	Sway
PowerPoint	
Uses	

- Create slides to be included in course pages/LMS
- Create presentations for online and in-person
- Online module creation

E-learning Authoring Tools	
Softchalk	Articulate Storyline
Adobe Spark	iSpring Solutions
Adobe Captivate	
Uses	

- Creation of online tutorials
- Interactive videos and tutorials
- Create Modules
- Videos/screencasts
- Learning object creation
- Creation of e-learning modules for embedding in LMS or LibGuides

Web Development and Authoring Tools	
LibGuides LibApps	Google Sites
Uses	

- As a platform to deliver content
- Tutorial sharing
- Subject and topic guide creation
- Resource sharing (syllabus, links, lessons, assignments, handouts and slides)
- Create online modules and information sites
- Support IL in curriculum and special topics
- Delivering instruction for specific courses and general instruction
- Providing content in person and to distance students

In lieu of being embedded in the LMS

Additional Tools Identified (General)

Wikis Social Media Animated Gifs Free online gaming tools Web-based javascript games - for personalized games	Video camera for live action videos Teleprompter app with webcam - for lecture capture and instructional Green screen room - for lecture-style video

Specific Software identified

Gantter MatterMost - for classroom discussion and communication Visio Online video device Photoshop YouTube - for hosting 'on the fly' instructional and student response videos	PressBooks - to co-edit an online textbook as a class GarageBand - for recording audio Hypothes.is - to annotate live websites and online content Panopto lecture capture