Expanding digital academic library and archive services at the University of Calgary in response to the COVID-19 pandemic

James E Murphy
Libraries and Cultural Resources, University of Calgary, Canada

Carla J Lewis
Libraries and Cultural Resources, University of Calgary, Canada

Christena A McKillop
Libraries and Cultural Resources, University of Calgary, Canada

Marc Stoeckle
Libraries and Cultural Resources, University of Calgary, Canada

Abstract
Despite the uncertain challenges facing libraries of all types during the COVID-19 pandemic, new best practices and innovative ways of approaching services have emerged. Including the groundbreaking Taylor Family Digital Library in 2011, the University of Calgary Libraries and Cultural Resources has been contributing towards the ongoing development of the digital academic library. The COVID-19 pandemic has necessitated a rapid leveraging of digital skills, platforms, expertise, and models of service delivery to continue providing exceptional and transformative experiences for the University of Calgary community. The initiatives discussed in this article include online work teams, virtual 360-degree tours, the online library chat service, digital collections agreements, and remote services for archives and special collections.

Keywords
Academic libraries, digital libraries, reference services, COVID-19, archives and special collections

Submitted: 31 October 2020; Accepted: 3 May 2021.

Introduction
The university campuses of 2020 are profoundly changed since the World Health Organization (2020) declared the COVID-19 or coronavirus outbreak as a pandemic on 11 March 2020. Although concern about the coronavirus was mounting in North America throughout the winter of 2020, few recognized how radically the world would change. As the virus spread through Canada and the death rates climbed, swift action was taken at the national and provincial levels to slow the spread of COVID-19. On 22 March 2020, the province of Alberta mandated lockdowns, closing much of the province, including post-secondary institutions. The University of Calgary Libraries and Cultural Resources (LCR) closed its libraries, galleries, and museums, sending 170 staff members home and leaving only essential workers on-site.

The University of Calgary rapidly expanded its digital teaching, learning, and research in the following weeks and months. LCR, its librarians, and staff

Corresponding author:
James E Murphy, Libraries and Cultural Resources, University of Calgary, 2500 University Drive NW, Calgary, Alberta T2N 1N4, Canada.
Email: james.murphy2@ucalgary.ca
leveraged their skills and expertise in digital initiatives to support students, researchers, faculty, and the community at one of the busiest times of the academic year. This article focuses on the collection of operational adjustments, innovative solutions, and unexpected results thus far. These include seven types of digital library services, three physical library services, three changes to collections, and four changes in archives and special collections. Usage statistics are shown for each initiative if available, and Tables 1 and 2 display an overall summary of the initiatives, including the benefits and challenges. The staff at LCR were able to pivot to meet student, faculty, and staff information and research needs during the early months of the pandemic. The COVID-19 pandemic necessitated a rapid expansion of digital skills, platforms, expertise, and models of service delivery to continue providing exceptional and transformative experiences for the University of Calgary community, which will be shared in this article. A discussion of the limitations and plans for future service delivery will conclude this article. Additional

Table 1. Summary of library operations and initiatives during COVID-19.

| Initiative | Result of COVID-19 | Benefits | Challenges | Sustainable | Continue |
|------------|--------------------|----------|------------|--------------|----------|
| **Digital library services** | | | | | |
| Work teams | Yes | Impact | Added workload | Yes | Yes |
| myLibrarian | No | Engagement | Uptake | Yes | Yes |
| Virtual 360-degree tours | Yes | Engagement | New cost | Yes | Yes |
| Digital instruction | Yes | Flexibility | Technology | Yes | Yes |
| Library chat service | No | Effectiveness | Staffing Training | Yes | Yes |
| Tutorial videos | Yes | Accessible | Time Reach | Yes | Yes |
| FAQs | No | Effectiveness | Maintain currency | Yes | Yes |
| **Physical library services** | | | | | |
| Contactless pickup | Yes | Safety | Initial volume | Yes | N/A |
| Bookable study spaces | Yes | Collection use | Study spaces | Online setup | Yes | N/A |
| Outdoor tent | Yes | Safety Reference | Weather | Yes | Yes (during orientations) |
| **Collections** | | | | | |
| Field-of-study students | Yes | Student access | Yes | N/A |
| HathiTrust Emergency Temporary Access Service | Yes | Remote access | Print access | Yes | N/A |
| Leganto | No | Collection use | Promotion | Yes | Yes |

Table 2. Summary of ASC operations and initiatives during COVID-19.

| Initiative | Result of COVID-19 | Benefits | Challenges | Sustainable | Continue |
|------------|--------------------|----------|------------|--------------|----------|
| **ASC services** | | | | | |
| Digital instruction | Yes | Flexibility | Time | Yes | Yes |
| Collections | Yes | Engagement Promotion | Time | Yes | Yes |
| Reading room | No | Access Safety | Access | No | No |
| Digital exhibits | Yes | Engagement Access | Yes | Yes | Yes |
challenges facing the institution include an economic recession and reductions to provincial post-secondary funding, necessitating that any service changes be implemented at a low cost (Anderson, 2020).

**Background**

The University of Calgary is a medium-sized public research university with over 33,000 undergraduate and graduate students, and was established autonomously in 1966 in Calgary, Alberta, Canada. The university is a member of the U15 Group of Canadian Research Universities (U15, 2020) and typically ranks in the top 10 in Canada and top 200 in the world (University of Calgary, 2020). LCR comprises the Taylor Family Digital Library, High Density Library, six library branch locations, archives and special collections, two art galleries, a university press, a copyright office, a digitization unit, and more.

Since 2017, the University of Calgary has been implementing its Eyes High strategic plan and its three foundational commitments: (1) sharpen focus on research and scholarship; (2) enrich the quality and breadth of learning; and (3) integrate the university with the community. Two additional themes running through these three commitments are focuses on a safe, inclusive, and vibrant student experience and an engaging campus culture.

Student engagement is a sustained deep sense of belonging and community fostered through campus events, curricular and cocurricular activities, and collaborative learning opportunities, along with frequent interactions with peers and faculty members (Kezar, 2006; Kuh, 2009; Masika and Jones, 2016; Pike et al., 2008; Schaufeli et al., 2002; Webber et al., 2013). Studies have found student engagement to be positively correlated with academic performance, while also improving critical thinking and collaboration skills (Kuh, 2009; Masika and Jones, 2016; Schaufeli et al., 2002; Webber et al., 2013).

The library assumes a unique role in a student’s experience, as a library needs to connect with students in meaningful ways at a student’s point of need (Kezar, 2006; Snively, 2012). Connections, under normal circumstances, would typically occur at a physical library location and service desk, available for students to visit. With the shift to a digital environment, libraries have developed new services and methods to connect with students and ensure accessibility through online services, resources, and extended hours of operation (Kezar, 2006; Snively, 2012). The COVID-19 pandemic has affected how students experience the library, its services, and resources, as well as the delivery of those services and resources.

With the opening of the Taylor Family Digital Library in 2011, LCR has been a leader in digital library services and spaces (Clarke and Hoffman, 2012; Hickerson, 2010; Thomas, 2015). Since 2018, LCR has had a strategic focus on creating indispensable and transformative services for its users, and reimagining what it means to be a digital library in 2020 and beyond (Berstler et al., 2014; Hurrell, 2019). The notion of the library as a place and space for students, faculty, and staff at the University of Calgary has taken on new meaning during these months of the pandemic.

In the COVID-19 pandemic, the University of Calgary, like many institutions (Walsh and Rana, 2020), pivoted to scale up online teaching, learning, and digital engagement with its community. In North America, a large survey of academic libraries conducted by Ithaka indicated, as of October 2020, that “roughly half of libraries are only providing instruction virtually” and about 60% are “only offering reference via phone or online” (Hinchcliffe and Wolliff-Eisenberg, 2020). Academic libraries have initiated creative solutions such as virtual postcards for students, virtual displays, and the promotion of open textbooks (Mehta and Wang, 2020).

In an academic health and hospital library in Belgium, requests for support for researchers and medical staff “increased dramatically during the COVID-19 pandemic” and were delivered virtually (Pauwels et al., 2020: 68). Chisita (2020) and Babalola et al. (2020) have argued that the pandemic has necessitated an urgency for librarians and libraries to continue to provide access to high-quality information for health and policy decisions, as well as educate their users on the dangers of health misinformation. A survey of academic librarians in Zimbabwe during the pandemic found that many librarians quickly incorporated virtual technology and tools to provide services to users, despite some feeling unprepared. Although users were able to access resources remotely, they still needed training and support in this process. Also, all libraries should have an emergency crisis-response plan and be prepared to offer both physical and digital services to best reach library users (Tsekea and Chigwada, 2020). An academic library in Jamaica offered its tablet loaning service for extended periods and off campus to students, as well as reference services through WhatsApp (Harris, 2021).

Creating innovative digital services in cultural institutions such as galleries, libraries, archives, and museums (GLAM) is a challenge that has been accepted by the GLAM Lab initiative (Mahey et al.,...
A GLAM Lab should use “experimental methods to make cultural heritage collections available in innovative, engaging and unexpected ways” (Mahey et al., 2019: 33). The COVID-19 pandemic has intensified the need for this type of digital transformation.

Digital library service delivery

Seven types of digital library services were created or expanded during the first eight months of the pandemic. Of these, four were new and three were enhancements of existing services. Together, these initiatives worked towards the goals of remote staff teamwork, student engagement, collections access, remote information literacy instruction, and high-quality reference services. All have been sustainable to implement to this moment, and it is anticipated that they will continue to be utilized.

Work teams

In April 2020, the library senior leadership team initiated new interdepartmental digital work teams with mandates focused on creating transformative and indispensable services for the primary library user groups: undergraduates, graduates, and faculty. A fourth work team was established with a focus on broad online outreach and an enhanced social media presence.

All LCR staff and librarians were invited to join a team of their choice, and a team lead was also selected. The four work teams met in May 2020 to define terms of reference and goals in relation to their specific user group. An example mandate for the undergraduate support team was to (1) work collaboratively to establish user-centric, transformative, and indispensable programs and supports for undergraduate learners, and (2) respond to the need for increased digital content and resources due to the current and likely continued short-term surge in online and distance learning. Example priorities for the undergraduate support team were to better understand undergraduate needs during this disruption; expand online communication, promotion, and outreach; decrease barriers and hurdles that undergraduate students may encounter; and work thoughtfully, collaboratively, and with vision for the future.

The team leads were directed by the senior leadership team to involve all team members in brainstorming and discussing new approaches to current challenges and library service models. The teams continue to work digitally, using Zoom and Microsoft Teams to meet and collaborate on impactful user-centric projects. The combinations of team members representing a variety of library departments have culminated in creativity, innovation, and staff engagement, even while working from home.

myLibrarian

Personal librarian programs have demonstrated increased student engagement in academic libraries (Bisko et al., 2019; Moniz et al., 2014). A pilot group of LCR librarians had been investigating the implementation of a personal librarian program since 2019. In 2020, with students learning from home and feeling disconnected from campus, a new student engagement program offered online was a welcome initiative to connect with students.

The myLibrarian personal librarian program was piloted in a soft launch in September 2020 (Libraries and Cultural Resources, 2020c). It includes an opt-in program with newsletters, virtual events, and workshops, and new ways for students to be linked with a librarian or library staff member. Students can find “their librarian” by their discipline, which promotes the existing liaison librarian model with simpler personalized terminology. The program is the first of its kind to offer a way to connect with a librarian or library staff based on the student’s personal background (e.g. mature student, student parent, or transfer student) or primary language spoken (e.g. Spanish, Mandarin, or Tagalog).

The program and its content are focused towards, but not limited to, new incoming undergraduate students. It has been well received by new students and campus partners, and leverages existing subject-based support while offering new connections aimed at reducing the potential barriers facing students.

Virtual 360-degree tours

The newly formed undergraduate support team, as mentioned above, determined that one of its primary initiatives would be to create virtual 360-degree tours of library spaces. The goal was to highlight currently available digital services during the pandemic while also introducing new users to library spaces. LCR subscribed, at a modest cost, to an online tagging service from ThingLink (2020), which provides a user-friendly platform to create interactive 360-degree tours. The team used existing technology equipment available in the library to take 360-degree images, helping to keep the costs low. A Vuze+ camera and its software were used to take and edit the 360-degree picture files, which were then uploaded to the ThingLink platform.

The interactive tours link to online services (see Figures 1a and 1b) and current service information in the respective physical space in the library. Examples of tags include: the library chat service, computer workstation booking, contactless pickup information, research guides, relevant databases, and the librarian
consultation form. Experts, including the Emerging Technology Specialist based at Lab NEXT, the technology hub of the Taylor Family Digital Library, supported the project work. Branch library teams also supported determining the tags for their respective branch locations.

The virtual 360-degree tours have been promoted on the library’s home page, as well as on social media, in instruction sessions, and to other partners, including the university orientation teams. Since launching on 10 August 2020, the initial landing tour has had 1759 views (see Figure 2), while other tours typically have between 100 and 500 views. ThingLink includes detailed statistics on click rates, helping to determine what types of information are most in demand from library users. Figure 2 indicates a steady uptake in views prior to fall classes and a pattern of sustained level of online user engagement. In the future, the virtual 360-degree tours will be used to present art gallery exhibitions and virtual book displays.

**Figure 1a.** Virtual 360-degree tour of the Taylor Family Digital Library. Source: https://www.thinglink.com/mediacard/1348347513706381313.

**Figure 1b.** Virtual 360-degree tour of the Taylor Family Digital Library. Source: https://www.thinglink.com/mediacard/1348347513706381313.
Librarians, archivists, curators, and other LCR staff participate in a variety of instruction for the campus community. As with all teaching on campus during the pandemic, library instruction rapidly shifted online, using platforms such as Zoom, Microsoft Teams, and Desire2Learn (the university’s content management system). When comparing library instruction statistics from the COVID-19 pandemic time period with the same period in the previous academic year (see Figures 3 and 4), instruction has remained comparable, with a 13% decrease. There is likely a smaller difference than reported, as not all most recently delivered instruction sessions have been entered and therefore captured in the data. Interestingly, the first seven months of the pandemic (February to August 2020) had 16% more instruction than the equivalent time period in 2019, whereas the latter seven months of the pandemic had a 28% decrease over the equivalent time period from the previous year. Further research could explore what influences the pandemic had on instruction requests.
Further research might also explore differences in library instruction delivered digitally versus in-person. These statistics illustrate that librarians and staff adapted to online teaching and have maintained a capacity to promote and teach information literacy skill development on campus.

**Library chat service**

Remote work resulted in a significant change in the approach to the LCR chat service. Prior to COVID-19, the chat service was available for 43 hours, 7 days a week. The service was staffed exclusively by the Taylor Family Digital Library learning commons team, a group of eight support staff (Information Specialists) who also primarily staff the library information desk. The library chat service had a maximum of two operators and a minimum of a single operator at any given time.

In the pandemic transition, focus shifted to training librarians, support staff, and student workers from all library locations to expand the chat service. To create a consistent and positive user experience, an LCR “chat best practices” document was developed and distributed to all operators. The “best practices” document is designed to help operators provide a consistent, accurate, and beneficial interaction for each library user, and is organized into four sections: operator expectations, patron interaction best practices, referral best practices, and best practices for creating a ticket for follow-up. It includes the basics of conducting virtual reference interviews. A series of training sessions was provided to all staff to become familiarized with the chat interface, creating tickets, and referring users to other departments or individuals. LCR was able to leverage the subject knowledge of liaison librarians to train others on how to provide basic reference assistance for different subject areas and departments.

Numerous schedule variations were developed to determine the optimal number of staff working, while ensuring equity as to the number of shifts. All staff and librarians were able to work their chat shifts from home, using the LibChat feature of the LibApps platform. For fall–winter 2020, the chat service was available for 85 hours, 7 days a week, with between one and four operators.

There were 19,310 interactions on the library chat service during the first 12 months of the pandemic, which, when compared to 7846 interactions in the 12 months pre-pandemic, corresponds to a 246% increase (see Figures 5 and 6). The service has been popular and well used during the pandemic, although it has also been promoted more extensively as a remote option for connecting with the library. It should be noted that a portion of these increased statistics is likely due to several factors, including the activation of a proactive chat function (6 March 2020) and the HathiTrust Emergency Temporary Access Service material recall (30 September 2020).

**Tutorial-video production**

To provide more digital library instruction and way-finding help, librarians and staff created new short online tutorials. These are being added to YouTube
and social media, and embedded into FAQs (frequently asked questions) on the library website. To ensure the information in the videos is current to COVID-19 protocol, the undergraduate support team developed guidelines for standardized tutorial-video production. The Taylor Family Digital Library houses four audio/
visual editing suites, which were used to create screen recordings and professional-level audio (Libraries and Cultural Resources, 2020a). Intro and outro sequences, slides, and background music were created and approved to ensure a consistent look and feel for all the tutorial videos. All members of LCR were invited to narrate tutorials to create a diverse range of voices across the video collections.

The guidelines determined by the team included using QuickTime software to create screen recordings and capture the audio narration simultaneously. This allowed for the synchronization of video and audio, as well as the addition of slides and background music. The post-production of the video tutorials was done in iMovie or Final Cut Pro. These guidelines, as well as the production files, were shared in Microsoft Teams for other staff to access. The primary hosting platform is YouTube, which allows for easy embedding into other learning platforms, including FAQs and Desire2Learn, and sharing on social media. Staff will monitor the use of these videos over the next year to gain insights into their effectiveness for student learning.

**FAQs**

Over the past five years, LCR has developed over 350 short online FAQs, which are available on the LibApps LibAnswers platform. These are accessed by users on the library website or used by service desk staff and library chat operators to ensure the provision of consistent information across the entire library system. As FAQs are individual web pages, they are indexed by Google and therefore show in search engine results should users search specific questions in relation to the library. In 2019, managers began planning how best to streamline and reduce the overall number of FAQs to improve user experience and prevent duplication of questions.

An inventory of the FAQs was conducted at the beginning of the project, which led to the discovery that most of the questions had been last updated between 2015 and 2018. The FAQ team determined that all entries would be classified in one of the following categories: borrowing; directional; reference; citing and writing; printing and technology; open access and digitization; and copyright.

With the COVID-19 pandemic and the need to enhance online information about LCR services, the team seized the opportunity to update the FAQs to incorporate COVID-19-specific information and updates. The FAQs were also easy to integrate into the virtual 360-degree tours as information tags, and assisted in the development of the scripts for the tutorial videos. The team continues to consult with different departments to ensure that the FAQs are comprehensive and accurate. As illustrated in Figure 7, public views of the FAQs during the first 12 months of the pandemic totaled 25,125. As some FAQs are significantly more popular than others,
Figure 8 illustrates a sample of the most popularly visited questions.

**Physical library service delivery**

An early goal in the COVID-19 pandemic was for LCR to develop a strong and effective online presence to support the teaching, learning, and research of the university community. It became evident through interactions on the library chat service that students, faculty, and staff were disappointed by the unavailability of the physical space and materials. After extensive consultations between LCR’s senior leadership team and the university’s emergency management team, it was determined safe for the Taylor Family Digital Library to reopen for specific in-person purposes. Two physical services were identified as high priority, with the goal of having them operational prior to the start of the fall 2020 term: contactless book pickup and bookable study and computer spaces. To assist in the facilitation and safety of these services, a new approach was considered. The result was setting up a temporary outdoor tent and check-in desk that was staffed daily so that users could ask questions and obtain assistance at the point of need.

**Contactless pickup**

From the outset, use of the library and the contactless book pickup service has been restricted to current University of Calgary students, faculty, and staff. All
individuals entering the building are required to show proof of university affiliation at the check-in desk. The desk is positioned immediately inside the entrance of the Taylor Family Digital Library to assist in directing users to the book pickup and confirming computer and study space bookings.

The desk is equipped with a laptop for staff to confirm space bookings, a plexiglass barrier, face masks, a hand-sanitizing station, and a floor map of the bookable spaces. The purpose of the desk is not to answer circulation or reference questions, but to direct individuals to booked spaces or to requested material. This is to prevent lineups and extended exposure. Users are recommended to connect with LCR staff through the library chat service or at the outdoor tent if they have further queries.

On 6 August 2020, the contactless book pickup service started. After a user places a request through the library catalogue, the item is pulled from the shelf, signed out to the user’s account, and placed in a transparent bag with a hold slip positioned on top of the item(s). The requested items are placed on long folding tables and labeled corresponding to the users’ last names. The user receives an email notifying them that the item is ready and providing details of how and where to collect the item. The pickup and grace periods have been extended to seven business days to ensure that users have sufficient time to collect their items. High volumes of requests were anticipated at the launch of the service. To provide relief to the team fulfilling and preparing the requests, each authorized user was restricted to a maximum of 10 active requests on their account. The pickup service experienced overwhelming success, with 3683 requests being made between 6 August and 17 October 2020.

**Outdoor tent**

After the contactless book pickup service commenced, it soon became evident that students wanted to be able to discuss their library account or, if they were new to campus, talk to a university staff member to help navigate the campus and learn more about what services were available. At that time, no other university department was providing in-person services. To address the lack of in-person student support, the outdoor tent was established on the quad outside the Taylor Family Digital Library. The service was launched on 24 August 2020, two weeks prior to the first day of classes, and ran on weekdays from 10 a.m. to 2 p.m. Students, both new and returning, as well as staff and faculty, came to the desk and asked a wide variety of questions. On a typical day, staff answered from 80 to 150 questions over the four-hour period, indicating that the service was appreciated and filled a gap that was not addressed elsewhere on campus.

The outdoor tent was quick and simple to set up and take down daily. The service point consisted of a canopy tent, folding tables, a branded tablecloth, and chairs. iPads were used to look up information for visitors, as they were portable and easy to sanitize between uses. It was not possible to set up the tent on 2 of the 24 days the service was offered due to wind or cold temperatures. Despite the vagaries of the Canadian weather, staff readily agreed to take shifts, as they could see how helpful the service was to the campus community.

**Collections**

**Field-of-study students**

As a result of demand and through collaborative efforts between LCR and the Faculty of Graduate Studies and graduate program advisors, LCR was the first research library in Canada to offer a curated collections service to support field-of-study students as of April 2020 (UToday, 2020b).

Bibliographies required for field-of-study (candidacy) and PhD defense examinations were sent by graduate program advisors to the library collections supervisors and to the respective liaison librarian. Collections staff and the liaison librarian worked through the list of sources, determining what was available in physical and electronic formats. If an item was unavailable physically, the collections staff attempted to purchase an electronic version or the librarian suggested alternative options. Fulfilment staff gathered together the items and, once they were ready to be collected, arranged a pickup time with the

**Bookable study spaces**

Bookable individual study and computer spaces began on 10 August 2020 in the Taylor Family Digital Library. Of the six floors of the building, the first floor was made available with about 30 computer stations and 30 individual study spaces. In mid-September, after the first week of the fall term, the second floor was opened, offering additional study and computer spaces. With the second floor open, the library could offer a dedicated graduate study space in what was formerly a quiet reading room. On a typical day, approximately 15%–20% of the spaces are booked. For the December 2020 examination period, LCR removed all restrictions on the number of bookings an individual could make in a week, to provide students with additional access to study spaces.
graduate student. The service was received with appreciation by graduate students and their respective supervisors.

**HathiTrust emergency agreement**

In July 2020, the University of Calgary signed up to the HathiTrust Emergency Temporary Access Service. LCR has been a member of the HathiTrust Digital Library since 2012 and, in this agreement, approximately 1.2 million items in the physical collection have been made available online (UToday, 2020a). While the emergency online access service was in place for the fall and winter 2020–2021 terms, physical items were not loanable, and the loan policies for these items were updated to reflect this in the catalogue. Although some patrons expressed discontent with not being able to access print materials, the resulting increased online access was determined to be more equitable to students, staff, and faculty working from home or abroad.

**Leganto (Reading List Tool)**

In May 2020, LCR licensed Leganto, an Ex Libris course-reading-list software tool, to create online reading lists, as well as clear digital course reserve items, with the library’s copyright office more efficiently. The timing of this supported the library ceasing physical course reserves in response to the pandemic. A newly formed Leganto service design team promoted the software as the “Reading List Tool” to communicate clearly what the tool provides. It was made accessible via the University of Calgary’s learning management system, Desire2Learn.

The tool allows instructors to create reading lists entirely within Desire2Learn, reuse them, and link directly to sources in the library’s collections or subscriptions. The library attempts to acquire electronic versions of any additional physical materials that faculty request as reserve readings. The tool provides metrics, allowing instructors to track student engagement with assigned readings. Additionally, instructors can tag added materials to be digitized or purchased, which is sent directly to the library services platform, Alma, for processing.

To promote the Reading List Tool to faculty and instructors, the library collaborated with the Taylor Institute of Teaching and Learning at the University of Calgary. LCR held several online workshops to promote the new tool and created a research guide on how to use the tool and troubleshoot (Libraries and Cultural Resources, 2020b).

**Archives and Special Collections services**

Archives and Special Collections (ASC) at the University of Calgary has two locations and provides access to over 5 km of materials ranging from archival records to theses, yearbooks, and campus newspapers, as well as the private archives of influential Canadians. The collections include rare book holdings; significant literary, historical, musical, and cultural archives; collections of popular and science fiction; important works on the Arctic; the largest collection of Canadian architectural drawings and records in the country; and the corporate records of the University of Calgary. From comic books to the EMI Music Canada Archive, the Taylor Family Digital Library and Archives, the Canadian Architectural Archives, and the papers of Nobel Prize-winning author Alice Munro, the holdings in ASC attract researchers from around the world.

ASC is located in the Taylor Family Digital Library on main campus. A second site is located at the Spy Hill campus. The High Density Library is a specially designed facility for storing, processing, preserving, and conserving this physical and audiovisual collection (Government of Canada, 2019). This state-of-the-art building continues to have several staff experts on-site daily so that projects continue, materials are received and processed, and conservation projects stay on track. Since the beginning of the pandemic lockdown, some staff in the cataloguing department have been working from home and others split their time between on-site and home working. Very few staff are in on a daily basis, and those who perform essential duties, such as receiving and processing, conservation, and preservation.

**Moving services and teaching online**

ASC was also affected by the provincially mandated lockdowns that began on 22 March 2020. LCR refocused its services to primary users: students, faculty, and staff. The Glenbow Western Research Centre Reading Room, located in the Taylor Family Digital Library, was closed for in-person services. Information specialists for each of the repositories adapted their work to online delivery and began to work from home. Updates on the COVID-19 impact on services were regularly posted on the website. Patrons—students, faculty, staff, and community users—were directed to email addresses for support.

Prior to the pandemic, email contact had become a primary method of contacting ASC staff. This method of contact remains the primary way of obtaining reference services for users. In the September 2020 to March 2021 period, ASC staff answered 1009
importance of the digital collection and the crucial learning due to the pandemic has underlined the need for inclusion for instruction. The switch to online instruction for digital content revealed possibilities for teaching through the core concepts of conceptualization, access, summarizing, interpretation, evaluation, and incorporation.

Requests for scans and copies were able to be met. However, the response time was slower as fewer staff were on-site to perform these tasks. When the University of Calgary campus was open to essential staff only, this also meant that in-person tours were paused. Due to COVID-19 transmission concerns, in-person visits and large groups have not been permitted. In the future months, it is anticipated that in-person visits to the reading room and modified tours may be offered through a video link or by appointment.

Teaching and learning requests in the early months of the pandemic were limited in number as the academic year was shifting to final classes before examinations began. This meant that teaching requests did not come in until late spring 2020, which coincided with the announcement of summer 2020 classes being offered online. Teaching in the ASC’s purpose-built classrooms has enabled instruction to include archival materials and rare books as part of the student learning process for primary source literacy. Instruction in ASC follows the Association of College and Research Libraries’ (2018) “Guidelines for primary source literacy.” Prior to instruction being moved online, students would have a hands-on experience with archival and rare materials. Learning would take place in the classroom through the core concepts of conceptualization, access, summarizing, interpretation, evaluation, and incorporation.

Moving to an online teaching environment was a new experience for the librarians and archivists, as well as for the faculty members who requested instruction for their students. The question of how to deliver content online that has traditionally included the physical examination of archival materials and rare books was a challenge and opportunity to do things differently. Librarians and archivists have been pushed to incorporate the Association of College and Research Libraries’ core ideas into online instruction using digital content. Turning to the digital collections for instructional content revealed possibilities for inclusion for instruction. The switch to online learning due to the pandemic has underlined the importance of the digital collection and the crucial work needed to continue to add content. ASC instructional sessions moved online successfully for the fall and winter 2020–2021 terms.

Collections: digital content, gifts, conservation, and preservation

The physical collection continues to grow due to the recent addition of the Glenbow Library and Archive from the Glenbow Museum (Beaulne-Stuebing, 2020). This special collection, when fully moved from the Glenbow Museum in downtown Calgary, will add another 5 km of materials to ASC for researchers, students, and faculty. When the Glenbow Museum reopened in a limited capacity in summer 2020, the collection moves were safely able to resume. Collections staff were able to continue their work, whether on-site or at home, by adjusting workflows and handling.

The digital collection continued to grow during the pandemic, despite staff working at home and coming on-site on a limited basis. Now, more than ever, the importance of adding content to digital collections has taken on a new priority. LCR’s digitization unit continued to process materials. The launch of a new data asset management system was timely, as it has enabled work to progress in loading content and adding user-friendly features. The digitization unit’s staff have been able to curate several ASC digital collections during the pandemic period. Promotion of these online exhibits via social media platforms, as well as an online newsletter, has garnered interest. Creating digital collections and successfully promoting them broadly has been especially meaningful in connecting with the campus community and beyond.

Gifts were accepted for consideration prior to the pandemic. However, in late March 2020, new donations were transitioned to a case-by-case basis. With limited staff on-site to receive materials, capacity has been reduced for this activity. Furthermore, materials received from outside the University of Calgary environment are subject to quarantining protocols prior to handling. These protocols have been implemented based on the recommendations of Library and Archives Canada, the Provincial Archives of Alberta, and the OCLC’s REopening Archives, Libraries, and Museums (REALM) project.

Conservation and preservation work has continued since March 2020. ASC has a conservation laboratory, and the conservation advisor has been on-site daily as his work is considered essential, thus ensuring rare and fragile materials are being properly handled and treated.
**Glenbow Western Research Centre Reading Room**

The closure of the reading room in March 2020 as part of the University of Calgary’s response to COVID-19 shifted patrons to online services. However, preparations began in summer 2020 for a modified reopening. The health protocols of the province of Alberta, city of Calgary, and university, as well as best practices from archives and museums across North America and beyond, were reviewed and discussed in the context of local needs. The OCLC’s REALM test data for quarantining materials such as paper, leather, and plastic,\(^1\) as well as the recommendations of Library and Archives Canada and the Provincial Archives of Alberta,\(^2\) formed the basis to shape a document for reopening. Given the high-touch nature of the collections and interaction between staff and patrons with materials, extra caution and consideration have been factored into reopening plans. Logistics abound, with patron-safe entrance and exit, the safe storage of coats and bags, limiting the number of researchers in the reading room, arranging furniture for greater spacing between tables, and critical quarantine measures needing to be in place for safety. Discussions are ongoing about the timing and restrictions needed in order to open with minimal risk.

**Results**

As with our academic library colleagues across Canada and the world, LCR teams have endeavored to maintain a high level of service while complying with local safety measures to keep our staff and community safe. The COVID-19 pandemic has thrown into flux previous workflows and forced us to think creatively about new and innovative ways to continue providing indispensable and transformative services to our campus community. With an economic recession and reduced provincial post-secondary funding added to the scenario, it was necessary that the implementation costs of these initiatives remain low.

Despite these challenges, LCR has been able to work towards the university’s strategic goals of enriching the quality of learning and engaging our library users, whether new undergraduates, graduate students, or faculty. Starting from a tradition of embracing digital tools and technologies, LCR has been able to leverage and enhance new digital initiatives to meet and exceed user expectations.

Tables 1 and 2 present a summary of the initiatives created or enhanced during the COVID-19 pandemic, including: whether the initiative was a result of COVID-19; the key benefits of implementation; the key challenges of implementation; whether the initiative has been seen as sustainable; and whether the initiative is likely to be continued in a post-pandemic setting (if applicable).

**Discussion**

LCR has been able to leverage existing digital services and collections, as well as add additional ones, to meet demand. New digital methods of strategic teamwork and collaboration have proven successful. A tailored personal librarian program has enhanced student engagement, especially with new undergraduates. Adapting to digital tutorials and instruction has facilitated the building of information literacy skills for students.

Providing high-quality reference services has pivoted online through a greatly increased and promoted library chat platform, as well as targeted FAQs delivering quick answers and directional support to users. The chat service was utilized prior to the transition to the online environment; however, the intention is to continue with the chat service as a primary service point, while capitalizing on the expertise of all LCR staff to provide users with the best reference experience. FAQs will continue to be updated and maintained to reflect current services and policies.

Contactless pickup, bookable study spaces, and an outdoor information desk have supported these digital initiatives by allowing users to access print materials, use library spaces in a controlled manner, and seek assistance safely. As the physical space will be unable to reopen for 24-hour study, LCR is encouraged to offer the chat service for extended hours to assist the study and research of students, faculty, and staff. With the continued high usage of the chat service, the library is exploring implementing a chatbot service for times when there are no chat operators working—for example, in the evenings, at night, and during holidays. The chatbot would direct users to relevant FAQs or library web pages corresponding to their inquiries. With the success of the outdoor tent, a temporary service point will be made available at the beginning of the fall term in the years to come. The tent offers a unique opportunity to connect and engage with students and faculty in an informal manner outside of library spaces.

The services of contactless book pickup and bookable study spaces will continue for the duration of the pandemic. As more library locations reopen, the circulation of materials will return to operating procedures akin to those that were in effect prior to the shift online. Library users will be able to request items for pickup and sign out material for themselves, and eventually be able to physically search the collection.

Study spaces will revert to a first-come, first-served
basis, with workrooms and studios reopening and being the only bookable spaces in the libraries.

ASC users will be supported online and by telephone for reference and research assistance. It is anticipated that there will be a steady demand for instruction to be delivered online based on early successes in the online classroom. Adding to the digital collection is a priority task for staff, as it will provide enhanced online access to unique and rare items. Staff will continue to build web pages and add content to the ASC website, as well as add point-of-need information to the FAQ pages. Plans are underway to create digital exhibits drawn from the collections, which is an exciting new direction for outreach and community engagement. The Glenbow Western Research Centre Reading Room will reopen in a modified way that complies with all local, provincial, and federal COVID-19 health and safety protocols.

With the spread and persistence of the COVID-19 virus, the world will continue to be affected. It follows that post-secondary institutions globally, and their libraries, will be challenged in the ways that teaching, learning, and research are supported. The librarians, archivists, curators, and staff at the University of Calgary’s LCR have shown that, with imagination and creativity, and by leveraging skills and expertise in digital initiatives to support students and researchers, this adaptation can be successful. Through the initiatives discussed in this article, the University of Calgary’s LCR continues to play a critical role in the academy through creative and innovative academic library services to support students, faculty, and researchers in achieving their goals.

Acknowledgments

The authors gratefully acknowledge the contributions of the following LCR colleagues at the University of Calgary: Claudette Cloutier, Heather D’Amour, Leeanne Morrow, and Susan Powelson.

Declaration of conflicting interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

James E Murphy https://orcid.org/0000-0002-4113-2160

Notes

1. See the OCLC’s REALM project website at https://www.oclc.org/realm/home.html

2. See the Library and Archives Canada website at https://www.bac-lac.gc.ca/eng/Pages/home.aspx and the Provincial Archives of Alberta website at https://provincialarchives.alberta.ca/

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