Evidence Based Library and Information Practice

If You Build it, Will They (Really) Come? Student Perceptions of Proximity and Other Factors Affecting Use of an Academic Library Curriculum Collection

Madelaine Vanderwerff and Pearl Herscovitch

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Article abstract

Objective – This study investigated student perceptions of an undergraduate university library's curriculum collection, before and after a move to a new library building. The objective was to identify how factors such as proximity to program classrooms and faculty offices, flexible seating, accessibility, and other physical improvements to the space housing the collection impacted students' perceptions.

Methods – This longitudinal study conducted between 2016 and 2017 used a combination of methods to examine whether library use of a specialized academic library collection was impacted by a significant space improvement and change in location. A cohort of education students was surveyed before and after the construction of a new building that housed both the library and their department and co-located the curriculum collection with departmental teaching spaces. The students were surveyed about their use of the space and resources. The researchers then compared the survey results to circulation data. The researchers ground this study in Lefebvre's spatial triad theory, applying it to library design and collection use (Lefebvre, 1992).

Results – Researchers identified proximity to classrooms and general convenience as the dominant factors influencing students' use of the collection. Survey results showed an increased awareness of the collection and an increase in use of the collection for completion of assignments and practicum work. Circulation data confirmed that between 2016-2019, there was a steady increase in use of the curriculum collection.

Conclusion – Students' responses revealed that physical characteristics of the space were less important than proximity, the major factor that impacted their use of the curriculum collection. This revelation confirms Lefebvre's idea that spatial practice, i.e., how users access and use the space, is more significant and identifiable to students than the design and physical characteristics of the space.

Evidence Based Library and Information Practice

Research Article

If You Build it, Will They (Really) Come? Student Perceptions of Proximity and Other Factors Affecting Use of an Academic Library Curriculum Collection

Madelaine Vanderwerff
Librarian, Assistant Professor
Mount Royal University Library
Calgary, Alberta, Canada
Email: mvanderwerff@mtroyal.ca

Pearl Herscovitch
Librarian, Associate Professor
Mount Royal University Library
Calgary, Alberta, Canada
Email: pherscovitch@mtroyal.ca

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Abstract

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Background

In 2009 Mount Royal University (MRU) transitioned from a college to a university, and in 2011, a university transfer program in education became a full Bachelor of Education degree. Based on a recommendation by the provincial approval body, Campus Alberta Quality Council (CAQC), the education librarian was granted one-time funds to transform the collection, which had focused on pedagogical theory and children's literature, to support students in their academic work and their practicum placements in K-7 settings. This transformation required the acquisition of physical objects such as kits, realia, games, manipulatives, puppets, musical instruments, teacher support material, and textbooks. Special funding for the collection was expended by 2014. After 2014, the curriculum collection was supported through an annual collection budget allocation.

The provincial government committed funding to support the building of the Riddell Library and Learning Centre (RLLC), a free-standing, four-story facility, which opened in 2017. Features of the RLLC include: data and touch-screen visualization spaces, a makerspace, a 360-degree immersive studio, an XR experience lab, 2 flexible teaching classrooms that can accommodate up to 70 students, a temperature-controlled archive, audio-productions suites, 31 bookable group rooms outfitted with screens and white boards, 2 presentation practice rooms, silent study areas, computer commons, and group study areas, and more. The building is also home to the Academic Development Centre, the Institute for the Scholarship of Teaching and Learning, Student Learning Services (Mount Royal University's student writing centre) and the Department of Education. The curriculum collection was relocated from its dusty, dark corner in the old library to a bright space with flexible furniture and shelving that is both adaptable and appropriate. The collection is adjacent to the Department of Education where Bachelor of Education students attend classes in the majority of their core courses, and is now essentially embedded in the department.

In anticipation of the move, the authors were interested in examining whether improved library facilities would have an impact on the use of the curriculum collection. We supposed

that the curriculum collection was not well-used in the old library because of the unfavourable location and predicted that an improved environment would have a positive impact on use. The collection was in a remote corner that had very poor lighting and on shelving that could barely accommodate the oversized materials and larger kits. The space did not provide students or other potential users with an inviting place to explore the collection. We were interested in investigating what effect co-location or proximity to classrooms might have on students' use of the collection.

Terms used:

Use: Use has been defined in many ways in library literature. Fleming-May (2011) identified multiple applications of the word "use" through content analysis, which could include an interaction with all library resources (things, people, services, space) measured by door counts, occupation of physical space, bibliographic analysis measuring instances in which library resources are applied or referred to as an abstract concept such as process, or utility. In the context of this study, use is defined as access to items in a physical collection. Use refers to transactional instances in which individuals check physical items out of the library or interact with physical collection items.

Co-location: Researchers applied the definition provided by Bodolay et. al (2016) as a location convenient to users across separate campus units. This does not imply the creation of new services that leverage the joint expertise of the library and campus partners.

Curriculum collection: ACRL's Curriculum Materials Committee has developed Guidelines for Curriculum Materials that define Curriculum Collections as physical locations for instructional resources for preschool through grade 12 students. Materials are used by education students and faculty to develop curricula and lesson plans and to complete course assignments. These collections or branch libraries are often referred to as a Curriculum Materials Center or Instruction Materials Lab. Curriculum collections may be housed in a main campus library or the building housing the Faculty or Department of Education program. (Curriculum Materials Committee, Education and Behavioral Sciences Section, ACRL, 2017)

The Literature

Facility Improvement and Impacts on Library Use

Libraries completing facility improvements have reported an increase in use of library space and library collections post-renovation (Albanese, 2003; Martell, 2008; Shill &Tonner, 2004). Certain factors impacting use of facilities or collections in academic libraries have been identified in the literature over the past 20 years. These include amount of space, noise level, crowdedness, comfort, type and flexibility of furniture, cleanliness, access to services and technology, and availability of collaborative space (Bailin, 2013; Cha and Kim, 2015; Gardner & Eng, 2005; Given & Leckie, 2003; Holder & Lange, 2014). Proximity to collections also affects how students make choices in the selection of information to support their assignments and coursework as well as where they physically choose to sit in the library (Julien & Michels, 2004; May & Swabey, 2015). McCreadie and Rice's (1999) examination of how and why users access information included physical constraints such as geography, space, distance, and proximity. Time factors, convenience, and ease of use have been identified as significant considerations in the context of information seeking behaviour (Connaway, Dickey & Radford, 2011; Savolainen, 2006). Literature on the importance of a student-centred approach to library access suggests that library co-location with a student's home department contributes to the development of a more student-focused environment, increasing access to both services and discipline-specific resources (Defrain & Hong, 2020).

Convenience and Proximity

The theoretical grounding for this study was based on Henri Lefebvre's spatial triad theory applied to library design and subsequent user perception and use. Lefebvre was a Marxist philosopher, well known for his work on spatial theories. In Lefebvre's view, space "cannot be separated from social relations and is the product of ideological, economic, and political forces (the domain of power) that seek to delimit, regulate, and control the activities that occur within and through it" (Zieleniec, 2013, para. 9). The spatial triad theory is introduced in Lefebvre's, *The production of space* (La production de l'espace) (Lefebvre, 1992). This is a complex theory that has the potential for wider application in the study of library spaces as it seeks to "uncover the social relations involved in the production of space and the significance this has for a comprehensive knowledge of space" (Zieleniec, 2007, p. 70). The relevance to libraries becomes apparent in Lefebvre's work when we consider the importance of social relationships in the production of space—space transformed to place as it is imbued with significance and meaning assigned by the everyday practice of its users (Zieleniec, 2007). The three elements of the triad are:

- representations of space (conceived space) interpreted as the actual characteristics of library space as developed by architects, planners, and engineers,
- spatial practices (perceived space) interpreted as the user's perception of the built space,
- representational spaces (lived space) interpreted as library users' access and use of the space (Ilako et al., 2020; Leckie & Given, 2010).

In Lefebvre's view, "spaces become places when individuals and groups assign meaning and social significance to them". Without meaning, space remains and exists in the realm of the abstract, defined by architects and planners (Zieleniec, 2013, p. 953). Our application of Lefebvre's spatial triad theory aligns with McCreadie and Rice's (1999) description of constraints, such as geography, demographics, environmental arrangement, space, distance, and proximity which can lead to perceived availability or convenience. The physical attributes of a library space can serve to influence or constrain access to information along dimensions of distance and proximity, openness and security, and clarity or obstruction. This investigation provides an opportunity to explore how user experience impacts use of or access to a discipline specific collection. Applying Lefebvre's theory allows for a better understanding of the meaning and significance users assign to this area of the library as it transitions from space to place. An understanding of students' perception of the space, and their everyday practice within it, will help the authors identify elements of control and regulation that may hinder or contribute to how students might assign significance to the space.

Savolainen's (2006) work aligns with McCreadie and Rice (1999), reinforcing the importance of space and time on the use of information and spatial factors related to physical distance between the information seeker and information sources. Savolainen's idea that distance and time factors serve as a context that informs choice about information seeking is detailed by Connaway et al. (2011), who view convenience as a situational criterion in people's actions, and together with ease of use, as determining factors in how individuals make their information seeking decisions.

Feedback gathered through student consultations on library redesign often reflects a preference for discipline specific libraries near their department (McCullough & Calzonetti, 2017; Teel, 2013). Students may protest or organize petitions as they did in response to a proposed STEM branch library consolidation at University of Akron (McCullough & Calzonetti, 2017). MRU Library's curriculum collection is primarily a physical collection, consisting of

print materials, manipulatives, juvenile literature, kits, and models that users need to physically access. Guidelines for Curriculum Materials Centres (2017), developed by an ad hoc committee of ACRL, suggest that these libraries are often located in the same building as the Department of Education. This preference for a library's proximity to a department is reinforced in an article reviewing curriculum collections in Australian universities, where a change in use patterns was identified when curriculum collections moved from the building housing the education department to the main library:

> ...moving into the library often changed the focus of collection use, from being an active teaching and learning area that replicated classroom and school library spaces, to being simply another library collection distant from the students' learning environments. Hence, the collections were not used as much or in the same way. For example, academics did not bring groups into the collection as much as they had previously, when the collection may have been adjacent to their lecture rooms. Nor did students use the collections located in the library in the same way (Locke, 2007, p.4).

In a study by Teel (2013), student consultations revealed the need for improvement in physical space and technology in their curriculum materials centre and importantly, a preference for the centre to relocate to the Faculty of Education building. A more recent study by Stoddart and Godfrey (2020) examined space usage in a newly renovated curriculum centre housed in the education building. They identify the most frequently used spaces in order to better understand the centre's contribution to "campus learning", and emphasize the importance of connecting library design to program and university learning outcomes. These authors refer to Van Note Chism's discussion of the creation of spaces that have been intentionally designed to impact student learning. Many of the elements described by Van Note Chism were considered in the design of MRU's curriculum collection area, including flexibility that allows for group work, comfortable seating, natural and task appropriate lighting and de-centeredness where learning spaces flow (Van Note Chism, 2006, as cited in Stoddard & Godfrey, 2020). The curriculum collection area at MRU's new library was designed to serve as an extension of the education department's classrooms with flexible and comfortable seating and an open space that doubles as an informal gathering area or a classroom. Instructors sometimes teach in the space or provide students with class time to walk down the hall and retrieve items to bring back to class. Library classes are often taught in this area, requiring students to apply critical evaluation and literacy skills as they examine resources in groups. The goal of this research is to examine the impact of a very significant and intentional change in environment and space allocated to the collection and surrounding area. Researchers formulated survey questions to identify the importance of location and other space related factors influencing collection use before and after the move to the new building.

Methodology

This longitudinal study employed exploratory mixed methods research to examine possible changes in use of this collection over time. The goal was to try and establish meaningful connections between two sets of data collected by comparing qualitative survey responses with physical item circulation data (Chrzastowski &Joseph, 2005; Creswell, 2003; Hiller & Self, 2001). Ethics approval was granted by Mount Royal University's Human Research Ethics Board (HREB). A survey was sent to students enrolled in a third-year education course (EDUC 3361) in 2017, prior to the move to a new building. The same student cohort was surveyed in a fourth-year education course (EDUC 4020) in Winter 2018 after the library collection was moved to the new building. The survey responses were kept anonymous, as individual

changes in use were less of a concern to the researchers than growth or patterns in use from the entire cohort. The rationale behind anonymizing the survey was to reduce the impulse to provide pleasing or socially desirable responses. The education librarian works closely with students in this program and has built a rapport with many of the students surveyed. As a result of this established relationship, the researchers felt that an anonymous survey would encourage honest responses regarding library use. Recruitment of participants was based on their enrolment in these courses, as they are core courses in the Bachelor of Education program, and was conducted by both investigators during an in-person class visit. Students were encouraged to complete a short, 7-8 question online survey on the Survey Monkey platform.

The survey questions were developed with spatial triad theory in mind. The three elements of Lefebvre's theory - representations of space/conceived space, spatial practices/perceived space, and representational spaces/lived space, provided a grounding for our survey questions and data analysis (Ilako et al., 2020). We attempted to determine how the design of the new library space occupied by the curriculum collection (representations of space) affected students' use. The survey asked students which factors contributed to increased use, to determine their perceptions of the space. Through the analysis of qualitative and quantitative data, the authors assessed whether the students' perceptions of use (spatial practices) and actual collection use (representational spaces) were aligned. To further understand students' experience of the space and collection, we asked about the purpose of their collection use. While the triad identifies three elements of space, the interaction of these elements in the production of space is important to our interpretation of Lefebvre's theory. The survey included a question regarding student perceptions of the location and its impact on their use of the curriculum collection. The questionnaire also had a series of multiple-choice questions related to how students first learned about the collection, the purpose of their collection use (with children, for assignments etc.) and a demographic question about their minor. The 2018 iteration of the survey included an additional question about what factors, if any, impacted their use of the collection after the move.

A visual representation of the survey questions (excluding demographic questions) in relation to each element of the triad theory has been provided in Figure 1. Interpretations of the theory and its elements vary in the literature, making the process of categorizing questions difficult. The intent was not to separate them as they are interrelated. The decision to locate the collection close to the department was part of the planning process, but clearly influenced student perceptions (perceived space) and their use of the space (lived space). The impact of the architecturally conceived space on students' perceptions and the influence of these perceptions on their daily practice or lived spatial experience demonstrates a fluid process in the production of space. The area was designed to create meaningful connections between departmental classrooms and the collection area. Furniture was selected to create an informal classroom and meeting area and the hope was that the survey questions would prompt students to comment on furniture and lighting as details that influenced their perception of the area. The goal was to increase understanding of student perceptions of the space and the majority of the survey questions were concerned with spatial practice and how students' perceptions contributed to their actual experience of the space.

In addition to the survey, physical item circulation data between the period of 2013-2019 was gathered and analysed. With the assistance of a staff member in the library's Information Systems unit, and a staff member in the Collections unit, data was extracted from the two integrated library systems (Voyager and Alma), in use during the study period.

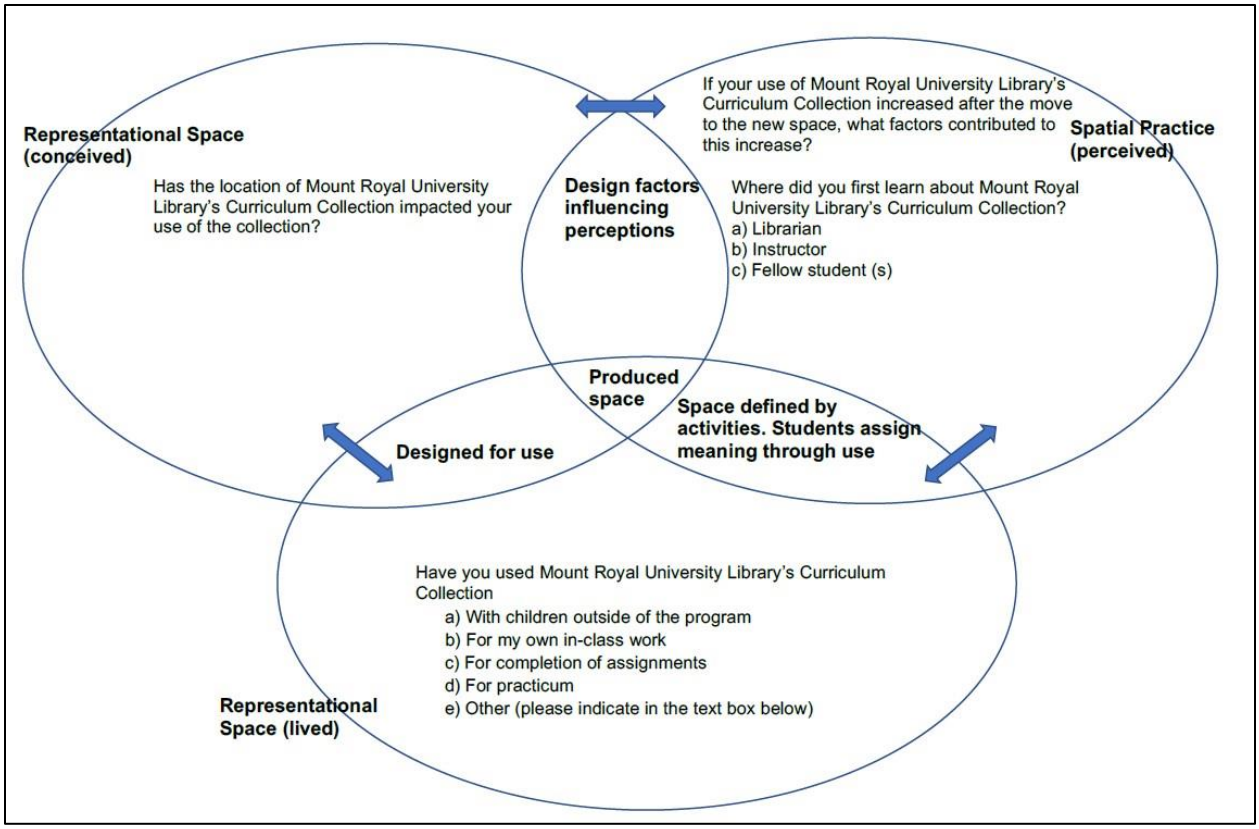

Figure 1
Survey questions mapped to Lefebvre's spatial triad.

Transactions which qualified for inclusion included any item that was signed out by a patron.

Results

Survey Results

The sample size was small, with 62 students enrolled in EDUC 3361 in 2017 and 65 students enrolled in EDUC 4020 in 2018. In 2017, 59 students completed the online survey (n=59 or 95% response rate) and in 2018, 38 students completed the survey (n=38 or 58% response rate). Responses were migrated from SurveyMonkey into a spreadsheet, multiple choice answers were tallied, and a content analysis schema was applied to the text of the short answer/open text responses by two independent coders guided by pre-established codes and themes.

General Knowledge of the Collection

Out of the 59 students surveyed in 2017, 56 (95%) were aware that the collection existed. Again, in 2018, 34 out of 36 (95%) students surveyed said that they knew about the collection. If students answered no to this question, they were not asked subsequent questions and the survey ended. This question helped eliminate responses from students who could not answer the rest of the survey, so sample size changed to n=56 in 2017 and n=36 2018.

In 2017, 24 (41%) students indicated that they learned about the library through the education librarian, while 27 (47%) learned about it through instructor endorsement and 7 (12%) discovered the collection through their peers. In 2018, responses to this question shifted as 23 (61%) students indicated that they learned about

the collection through an instructor, followed by the librarian at 32% (12) and 8% (3) from their fellow classmates. The "power users" of the collection, who used it 10 or more times, were minoring in Indigenous Studies, Humanities, Math, General Sciences and Teaching English as a Second Language (TESL), a pattern consistent in both years.

Student Perceptions of Use

Students were asked to select a number range reflecting their use of the curriculum collection during the course of their program (Table 1) as well as the purpose of their use (Table 2).

Factors that Impacted Use

Students were asked a direct question about whether location had an impact on their use of the curriculum collection. In 2017 (pre -move), 33% of students said that location did impact use, and 67% of students surveyed indicated location did not have an impact. In 2018, 44% of students responded that location had an impact, while 55% said that it did not affect their use of the collection. Students were asked to list other factors that impacted their use. The following themes were identified in their responses:

- Types of material available in the collection (suggestions of what we need more of, or what was useful to them, by way of subject or format)
- Characteristics of space (dark corner, "squished aisles", accessibility, location within the library)
- Knowledge of the collection
- Proximity to practicum
- Proximity to classes
- Cost savings (having access to the collection meant that they did not have to purchase their own materials)

In response to an open-ended question at the end of the survey in 2017, several students indicated that they did not learn of the curriculum collection until later in their degree. As mentioned previously, the location of the curriculum collection in the old library was not highly visible, housed at the back corner of the library with very little lighting and not many workspaces or seating directly adjacent to the collection. In 2018, almost all qualitative responses were related to the location of the collection. The primary focus of those responses was on how convenient it was to access the collection now that it was on the same floor as their classes and how the space more organized. The data indicates that planning the new building to locate the curriculum collection adjacent to the collection, so that students pass it every day to get to their classrooms, has had a positive impact on their perceived use of the collection.

Table 1
Frequency of Student Use of Curriculum Collection

Number of times you have used the collection throughout the course of your studies to date	2017 Responses	2018 Responses	Increase/ Decrease
0	5	2	-1.6%
1-5	35	16	-18.23%
6-10	12	14	+16.15%
10 or more	6	6	+5.45%
Total Responses	58	38	

Table 2
Purpose of Student Use of Curriculum Collection

For what purpose have you used the curriculum collection?	2017 Responses	2018 Responses
With children outside the program	31%	42%
Class work	78%	81%
Completion of assignments	80%	97%
Practicum	64%	44%
Other	1%	3%

Circulation Data Analysis

MRU Library employs a liaison delivery model for library instruction and maintains a similar model for collection development. Each program is assigned a subject librarian with an annual collection budget allocation. The collection allocation formula considers several factors including number of enrolled students, full time faculty, and circulation data in the determination of each disciplinary budget. Subject budgets align with the overall acquisitions budget and, due to the current economic climate, the library has not seen an increase in the acquisition budget for some time. Annual acquisitions in all disciplines have primarily attempted to maintain library collections to support current programs.

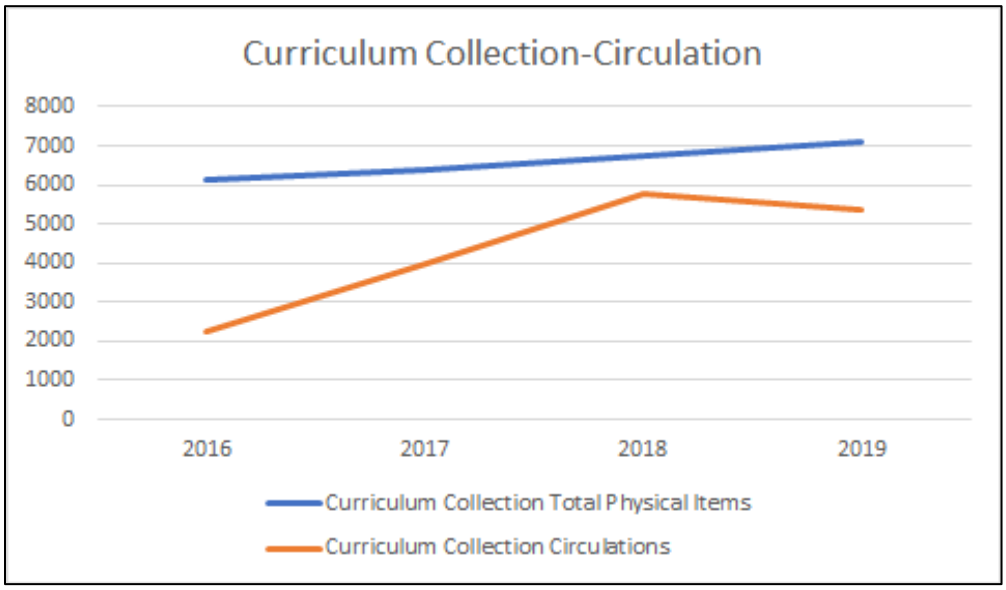

Figure 2
Total items versus circulations in curriculum collection.

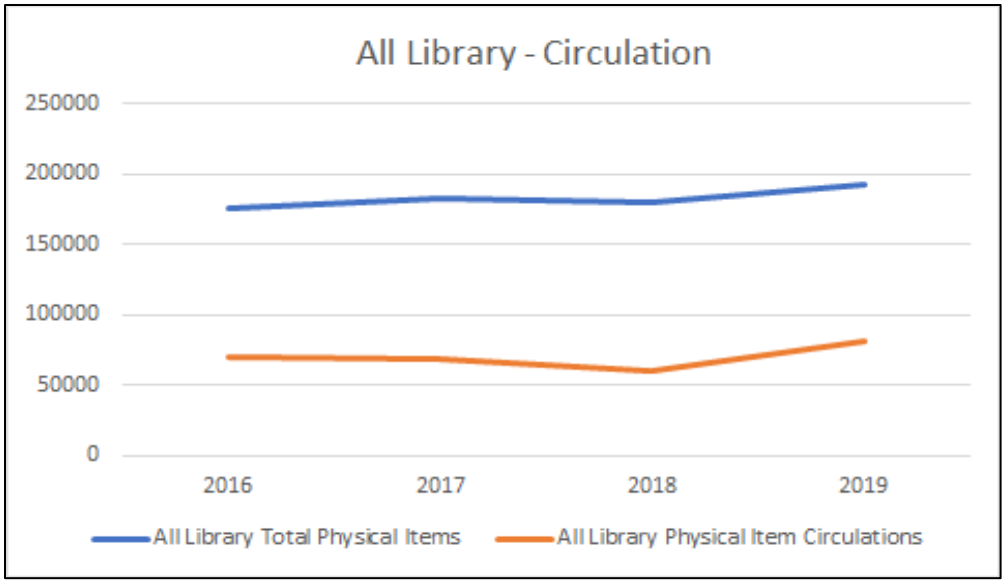

Figure 3
Total items versus circulations in library.

Analysis of circulation patterns reflects steady growth of the curriculum collection and an increase in the use of the collection between 2016 (before the move) and 2019. (Figure 2). Items circulated refers to physical item transactions (charges, recalls, renewals, holds). We compared curriculum collection circulation of physical items (Figure 2), with overall circulation of the entire library (Figure 3). From 2016-2019 all library circulation statistics remained relatively consistent before and after the move; 40% of the collection circulated (either browsed or borrowed) in 2016, 37% in 2017, 33% in 2018, and 42% in 2019. The curriculum collection saw a significant increase in use immediately after the move to the new building with 36% of items circulating in 2016,62% in 2017, 85% in 2018, and 75% in 2019.

Discussion

Student Survey Responses

Of the Bachelor of Education students surveyed, 95% were aware of the collection, once the collection was moved next door to their classrooms. Of particular interest was the way in which students learned about the collection. In 2018, survey responses indicated that students learned of the collection more often from their instructors. When students were asked about how they used the collection, data reflected increases in use for supporting in-class work and completing assignments. In both years surveyed, students who identified as power users (those users who used it ten or more times), indicated that they also used the collection beyond the classroom and used materials from the collection for practicum related work or for purposes directly involving children. Students who used the collection less, generally responded that they used the collection to support class work or assignments and remained consistent both years surveyed. The new location is a few metres from Department of Education classrooms, allowing students to use the space for group work, study, and completing assignments. The program employs a cohort model and group assignments are common in many of the required courses (Mount Royal University, 2020). The results of the survey indicate that those who use the collection often are taking advantage of the

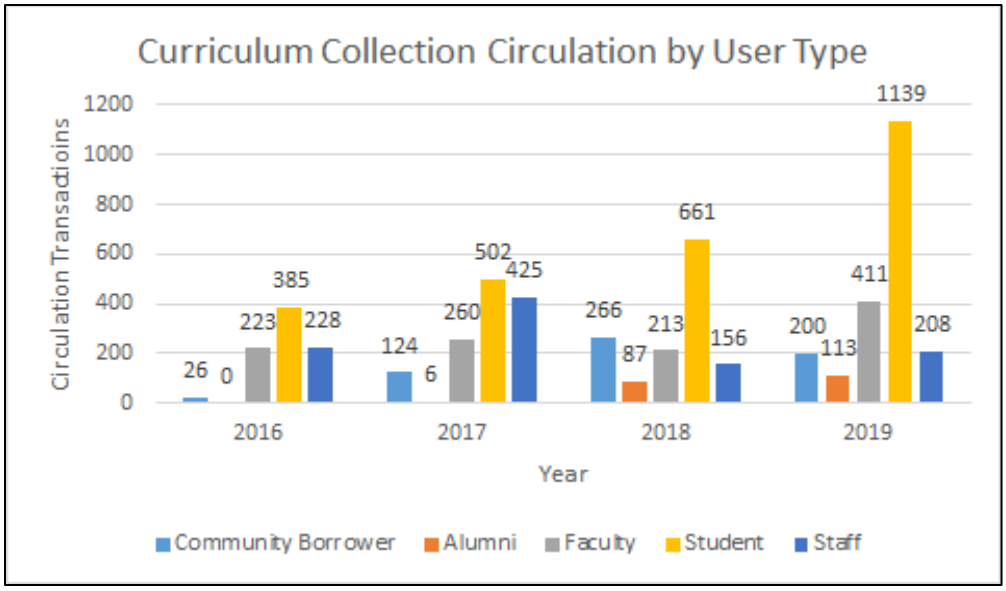

Figure 4
Curriculum collection circulation by user type.

collection and bringing materials off campus to support their practicums.

MRU Library applies a liaison librarian model with a single librarian assigned to a subject area or department in order to provide teaching, research and collections support. From 2016-2019 the education librarian delivered an average of 6 library sessions per semester. Library instruction is always assignment based and as the Bachelor of Education program is relatively new, assignments change regularly. There was no change in the education liaison librarian, so the general level of promotion for the curriculum collection did not vary pre- and post-move. However, after the move, library instruction delivered to education students took place in department classrooms, library labs, or the curriculum collection area located directly adjacent to the department. Before the move, the Department of Education, and many of the classrooms where library instruction occurred, took place in campus locations that were a 5–10-minute walk from the library. It is interesting that after the move there was a shift in how students learned of the collection from librarian to instructor, which could be indicative of an increase in faculty knowledge of the collection, faculty use of the collection, or faculty integration of the curriculum collection into course assignments. Due to data collection and retention policies at the university, the library collects limited personal data related to patrons, so it is difficult to identify who is using the collection and what program they are connected to. We looked at changes in use according to patron type before and after the move to the new library and noted that faculty circulation transactions doubled in the course of four years and that students are the primary users of the collection, with the greatest increase occurring after the move to the new space (see Figure 4).

There was a noticeable decrease in staff use of the collection post-move which reinforces the importance of collection proximity. The library moved from a location in the heart of the main campus building to a freestanding building on the edge of the campus. While convenience was enhanced for education students through co-location, convenience decreased for many staff on campus who, we can surmise based on the data, were deterred by the walk across campus

required to access the collection in the new building.

While the collection is available to patrons outside of the Department of Education, we focused on the curriculum collection's intended user group to understand the impact of co-location and other factors on students' use. Considering the observable growth in faculty use, and the increase in student responses indicating faculty endorsement of the collection, it would be worthwhile to investigate how often the collection is incorporated into assignments. The increase in community borrower and alumni use is also noteworthy. The RLLC is a free standing, 4 story building, where the previous library was a single level space located in the main campus building. The move and new adjacencies with building partners such as the Department of Education increased convenience and accessibility for these students, and circulation data also suggests a positive impact on access and convenience for members of the public and alumni. We built it and they came.

We asked students about their minor to determine if there were patterns in subject area use with the goal of providing direction for future collection development. Correlating minors with use levels was a challenge because the survey question asked students to respond based on a numbered range of uses. Students who identified the largest range provided, (10 or more times), were minoring in both arts and humanities-based disciplines such as Indigenous Studies, Humanities, and Teaching English as a Second Language (TESL), and STEM disciplines like Math and General Sciences. Previous studies have indicated that science students are less likely to access library collections in person while arts students are more likely to use print and on-site materials (Chrzastowski & Joseph, 2006; Whitmire, 2002). The responses to this survey could be indicative of faculty endorsement, disciplinary norms, or requirements for use of the collection in coursework and assignments.

Students' Perceptions of Use: Proximity is Everything

Student responses regarding the impact of proximity are both a reflection of the work of architects, designers, and planners (representations of space) and the perceived value students place on convenience and easy access (spatial practice). Other comments refer to the usefulness of the collection and its relevance to practicum or professional practice (representational space). Comments illustrate the relationship between the three elements of the triad. They are inextricably tied to one another as the meaning students assign to the space evolves from an initial response to the planners' location choice, leading to an ease of access for course work. Students proclaimed "love" and appreciation for the space and collection led to its incorporation into practicum and course work contributing to the production of space.

> *"The new location for the curriculum collection is easy to access and organized in a fashion that is easy to navigate. The central location and organized sections have made it more accessible and easier to utilize."*
>
> *"I enjoy going to the new location better, so I find myself near the curriculum collection more often."*
>
> *"Easier access"*
>
> *"Classes were all in the library building so (sic) was never out of my way to visit."*
>
> *"Before it moved, I did not use it because I was unaware of where it was".*
>
> *"It has because it is in closer proximity to where I study."*

Proximity emerged as the most significant factor in students' increased use of the Curriculum Collection. It was apparent that after the move

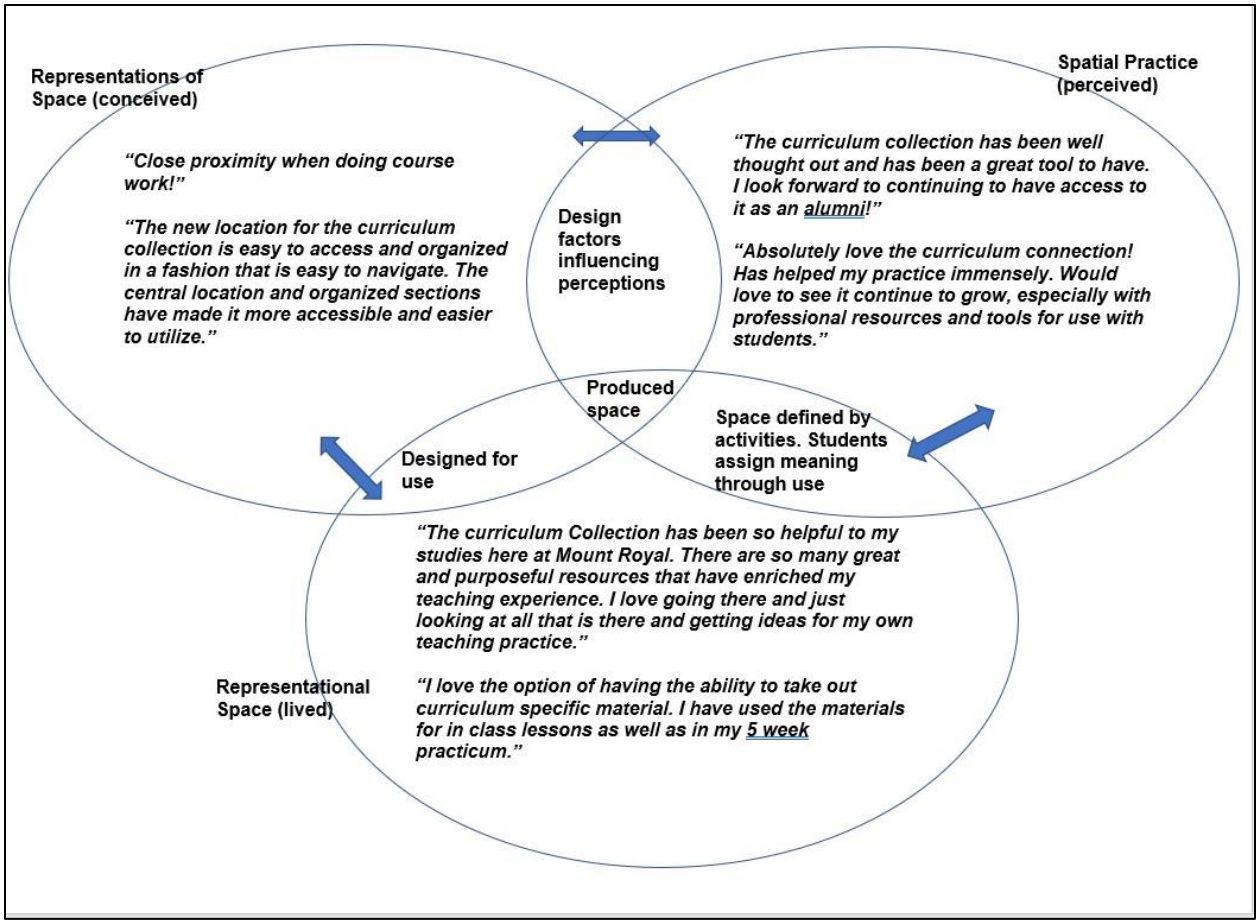

Figure 5
Student comments mapped to Lefebvre's Spatial Triad Theory.

to the new location adjacent to their classrooms, students were using the collection with greater frequency (Table 1). Because of the change in proximity, the collection became more visible to its target user group which had a positive impact on awareness and use of the collection. This reinforces the idea that physical proximity can have a positive effect on academic libraries' ability to serve their users (Freiburger et al., 2016). Circulation data verified a substantial increase in use between 2016 and 2018. This increase aligns with student responses and with the literature on library space improvement and increased use of an academic library collection.

Survey responses, however, suggest some confusion on the part of students about consistent definition of terms. Convenience was used interchangeably with proximity, which speaks to the likeliness that in the lives of students these terms may be equivalent. Students frequently referred to space as a limiting factor in accessing the collection. The physical space in the new library has been identified as a significant improvement by visitors, but students made few references to the space itself as a factor in their increased use of the collection. An open and bright space with tables, carrels, comfortable seating, and group rooms contrasts significantly with the crowded, dark corner previously used to house the collection. The survey questions did not prompt students to consider these specific factors in their assessment of increased use of the collection. While students in the pre-move survey indicated that location impacted use,

questions were not specific enough about whether it had a negative or positive effect. Certain questions on the survey could have been asked differently and might have elicited more informative and specific responses related to space.

Limitations

During the process of coding qualitative responses, it was discovered that there were some omissions and minor flaws in the wording and specificity of the survey questions. While maintaining a Likert scale, the same cohort could have been asked to describe their range of perceived use in the year surveyed, not the duration of their studies, assuming that as students progress through their degree, their library use would only have increased. Also, there was growth in the collection over the 3-year period from which circulation data was extracted and analysed, and a larger or more improved collection could have contributed to the increase in students' use. Analysis of circulation data showed an increase in use specific to user type, but privacy restrictions mean the program to which students and faculty are attached cannot be determined. Without that data it is not possible to assign the increase in circulation to education students with perfect certainty. A review of transactions by patron type pre- and post-move also reveals that other borrowers are using the collection. Librarians' definitions of terms may differ from students. Providing definitions at the start of the survey for terms like "use" ensures clearer and more meaningful responses (Kidston, 1985). There was also an expectation that students would have elaborated in their responses regarding the improved space. If the survey was redeployed, questions would provide details specific to lighting, furniture, and study spaces to determine if these were additional factors that impacted use. Some students mentioned these factors within their responses, but not to the extent anticipated.

Other Considerations - Academic Branch and Specialized Collections

Recent branch closures and consolidation in academic libraries underscore the importance of identifying the value of locating discipline-specific collections close to the departments they support. In 2004, Hiller reported on a series of measures used at University of Washington to evaluate the viability of branch libraries. He predicted the acceleration of branch library closures and mergers with the exception of those serving programs that are "dependent on print collections and that provide space that supports students work in a collaborative teaching and learning environment" (p. 131). Curriculum collections fall into the category of libraries that rely on print and physical objects, but this has not protected them from mergers. More recently, McCullough (2017) identified branch consolidation as a long-term trend in the context of academic libraries' response to budget reductions, the shift to electronic collections, and campus space concerns. Evidence relating to use patterns and the integration of library material into course assignments and curriculum are crucial, particularly in light of de-funding, and budget cuts. When assessing the closure of branch libraries, budget concerns and low circulation statistics inform part of those decisions. Branch closures or amalgamations with larger libraries can have a variety of negative impacts on university library systems, including a decline in overall use of print or physical resources, a negative perception of service, and a decrease in requests for information literacy instruction (Lange et al., 2015). Sometimes the notion of "library as a place" or the intrinsic value of a physical space offers value despite low circulation statistics or gate counts. However, even high-use branches that serve large student populations are subject to closures. University of Alberta Coutts Library, a branch library serving the faculties of education and kinesiology, was recently closed due to budget cuts (Lachacz, 2020). High circulating collections that consist of physical books and manipulatives are clearly not exempt

from this trend. Curriculum collections, or other specialized collections that rely heavily on the circulation of physical resources and student use of physical spaces, have been identified as vulnerable to branch consolidation (Zdravkovska, 2011). Budget concerns are driving branch consolidations in the face of evidence presented by many studies suggesting that these high-use branches serve their users more effectively when they are in close proximity to their corresponding department or faculty (Locke, 2007; Hiller, 2004).

Conclusion

This study demonstrates that a particular user group's use of a collection and space, in this case undergraduate Bachelor of Education students, is significantly impacted by how they perceive the space that houses the collection. Participants in this study demonstrated a change in their perception of a discipline specific collection after a significant improvement was made to the library space housing the collection. The curriculum collection, which was in an unfavourable and inconvenient library location, distant from classrooms and education department offices, was used less frequently prior to the Library's move to a new building. Once the curriculum collection was relocated, adjacent to the Department of Education, where the collection's primary, intended user group gathered for classes, circulation statistics increased. In their survey responses, students identified proximity to the collection as having a positive impact on their use of the collection. This reinforces Lefebvre's spatial triad theory describing how conceived space is directly related to perceived and lived space. A question remains regarding the particular meanings or social significance assigned to the current space and how these may be controlled or prompted by course curriculum or assignment requirements. An exploration of the incorporation of the collection into the education curriculum will provide a more comprehensive understanding of factors contributing to student use of the space and collection. The investigators are currently collecting data in the second part of this study, investigating how education faculty use the collection in their teaching and assignments.

Readers may find it useful to consider the power of Lefebvre's theory to provide a lens through which to understand how library space planning contributes to the production of space where users assign meaning in the completion of their course and professional work. Leckie and Given (2010) state that "the relationship between perceived, conceived and lived are not linear and not stable but rather are fluid and dynamic" (pp. 228-229). The curriculum area examined in this study is not a static space and will continue to evolve to meet users' curricular and professional needs. A future study may provide opportunities to understand how the space and collection can serve as a more effective extension of the classroom and education program curriculum, allowing users to challenge our original design and create a more meaningful lived space. Lefebvre's theory has provided a context for the cyclical nature of space production as challenges provide users with the opportunity to produce and reproduce space.

Important issues came to the attention of the researchers indirectly during this study. Responses from students suggested that there could be a connection between increased student use and the incorporation of the collection into assignments and course curriculum. After the move, faculty increasingly recommended the collection to students and developed assignments that required the use of curriculum resources. The researchers will endeavour to explore use patterns among user groups and survey faculty about changes in how they incorporate the curriculum collection into teaching and assignments. A future study that investigates the relationship between student collection use with curriculum integration could provide deeper insight into how the collection is being used. This point of inquiry was identified through the triangulation of survey and circulation data, which provided a more

complete picture of how the collection was being used, or in Lefebvre's terms, how the space was produced. Knowing how faculty and students are integrating physical collections into their course work and assignments will inform space planning and librarians' collection development and teaching practices to meet users' needs more effectively. There is also a growing number of branch and specialized collection closures and consolidations occurring in academic libraries. Evidence of the importance of collection proximity to academic programs and integration with student learning may inform future management of these spaces and difficult decisions related to closures.

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Pearl Herscovitch: Conceptualization (equal), Formal analysis (equal), Investigation (equal), Visualization (equal), Writing – original draft (equal), Writing – review & editing **Madelaine Vanderwerff**: Conceptualization (equal), Data curation, Formal analysis (equal), Investigation (equal), Methodology, Visualization (equal), Writing – original draft (equal)

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