Navigating barriers and pathways in capacity development for knowledge mobilization: perspectives from McGill University's Faculty of Education

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Introduction: This study offers a case study of capacity development for Knowledge Mobilization (KMb) within the context of McGill University's Faculty of Education, focusing on the experiences of researchers and students engaged in KMb. Amidst increasing global demands for academic research to contribute to societal benefits, this case study evaluated the participants' experiences of challenges and support received in doing KMb activities.

Methods: This case study followed a qualitative exploratory approach, utilizing semi-structured interviews to gather detailed insights from graduate students and faculty members within McGill University's Department of Integrated Studies in Education (Montreal, Canada). Ten participants were selected through convenience sampling, to provide a diverse representation of experiences in engaging with KMb practices. The study's inductive data analysis strategy allowed for a comprehensive analysis of the challenges and supports related to KMb and grounded findings in the real-world experiences and perspectives of those directly involved in KMb efforts.

Results: The research revealed organizational challenges, including inadequate recognition of KMb efforts and insufficient institutional support, as significant barriers to effective KMb. Despite these obstacles, certain enablers, such as KMb training and supportive relationships with supervisors, highlight the potential pathways for enhancing KMb capacity. Notably, the study uncovered a discrepancy between the availability and accessibility of KMb support, pointing to the necessity of tailored, accessible capacity development strategies.

Discussion: By emphasizing the need for systemic changes and prioritizing organizational capacity development, this research contributes to a more nuanced understanding of fostering effective and inclusive KMb practices with faculties of Education and beyond.

KEYWORDS

knowledge mobilization, research impact, capacity development, graduate students, education, knowledge translation (KT)

Introduction

Globally, universities have come under pressure to demonstrate more societal relevance and accountability by mobilizing academic research toward socially beneficial outcomes (Cain, 2017). Several countries, including the UK, Australia, and the Netherlands, have implemented frameworks within their higher education systems to evaluate and assess the societal outcomes and impacts of their publicly funded research. Additionally, researchers in some other nations are asked to describe the potential impact of their research when applying for public research

funding (Mac Gregor and Phipps, 2020). In this context, Canada's Social Sciences and Humanities Research Council (SSHRC) reflects this international push toward enhancing the societal relevance of academic research by requiring knowledge mobilization (KMb) plans of applicant researchers. SSHRC defines KMb as the two-way process of knowledge exchange between academic researchers and knowledge users to enhance intellectual, economic, social, and cultural impacts (Social Sciences and Humanities Research Council, 2019).

Despite such a push toward enhancing the uptake of research findings in decision-making and improving practices, there remain obstacles that prevent integrating research knowledge into these processes. Some of the documented challenges include competing demands, inadequate mechanisms for delivering relevant knowledge to users in a timely fashion and appropriate format, and limited opportunities for collaboration between different stakeholders (Lavis, 2006; Edelstein, 2016; Fahim et al., 2023). This is particularly evident in the education sector, where research shows a significant gap between actual educational practices in classrooms and educational research evidence (Cain, 2017; Schaik et al., 2018). The utilization of research knowledge in education has been described as low and inadequate (Lysenko et al., 2015; Zuiker et al., 2019), which undermines the potential benefits of investing in science for society (Mallidou et al., 2018).

Research has shown that education researchers face a range of challenges when collaborating with non-university partners such as schools or community-based organizations and engaging in KMb. These challenges, which can act as barriers in the process of KMb within the education field, may include insufficient institutional support, difficulty in establishing and maintaining relationships with partners, and gaps in competencies and individual skills needed to co-produce knowledge and make it relevant to local needs (Cooper et al., 2018; Welsh, 2021; Farley-Ripple et al., 2022; Lockton et al., 2022; Shewchuk and Farley-Ripple, 2022). Additionally, findings from Fischman et al. (2018), Zuiker et al. (2019) and Malik (2020) show that, similar to other fields, the most critical challenge that educational researchers face in doing KMb is the misalignment between organizational priorities and current support for KMb. These authors describe university promotion and tenure processes for researchers as primarily rewarding 'academic currency,' meaning traditional academic outputs (Malik, 2020). Interestingly, this inconsistency remains an entrenched challenge in academia even as research has been pinpointing and discussing it in the context of Canadian Faculties of Education (Jacobson et al., 2004; Sá et al., 2011; Welsh, 2021).

Given the potential significance of KMb activities for enhancing societal benefits from publicly funded research, many universities are attempting to address these challenges by enhancing their capacity to assist their researchers and students with KMb, thereby fostering societal impacts (Kislov et al., 2014; Lal et al., 2015; Brownson et al., 2017). Capacity development is the process by which individuals and organizations enhance and improve their systems, resources and knowledge to perform functions and solve problems (Economic Co-operation and Development, 2006). In other words, capacity development is an individual and institutional process that results in higher skills and abilities to carry out specific functions, such as research or KMb (Brownson et al., 2017).

Capacity development initiatives are common and widespread, occurring globally at a range of levels and in diverse contexts, often through international and intersectoral partnerships (see Golhasany and Harvey, 2023 for a review). However, they remain understudied in terms of their approaches, methodologies, contextual characteristics, and effectiveness for KMb and more broadly (Golhasany and Harvey, 2023; Harvey et al., 2024). In Canada, a notable example is Research Impact Canada (RIC), established in 2006 as a network of more than 20 research institutes and universities dedicated to enhancing research impact (Research Impact Canada, n.d.). RIC fosters capacity through four main programs: sharing KMb tools among institutes, hosting educational webinars, the Knowledge Mobilization Buddy (KMbuddy) program to facilitate collaborative funding for capacity development initiatives between members, and Dr. RIC, a monthly forum for discussing KMb challenges and solutions (Mac Gregor and Phipps, 2020). Another example of an initiative aimed at enhancing institutional-level capacities can be found at Washington University in St. Louis, Missouri, USA. There Brownson et al. (2017) describe a multifaceted institutional approach to KMb capacity, focusing on building expertise across three interconnected domains: people, settings, and activities. This includes fostering mentoring and interdisciplinary collaboration, creating a supportive organizational climate, and implementing various training programs, toolkits, and resources (Brownson et al., 2017).

Despite the numerous examples of capacity development initiatives, a review of the literature on capacity development for KMb highlights gaps in understanding and implementing effective strategies (Golhasany and Harvey, 2023). Notably, the evidence base on capacity development for KMb is fragmented and scattered across disciplines, mainly focusing on health-related contexts (Orem et al., 2014; Dagenais et al., 2016). Additionally, challenges related to capacity development for KMb are complicated by the inconsistency between KMb's theoretical literature and its practical implementation. In other words, research has shown that putting these concepts into practice has resulted in significant variations and, in some cases, has not been evidence-based (Ward, 2020). These limitations are particularly relevant to capacity development for KMb in the field of Education, where the limited academic literature might create more challenges to developing practical and accessible support for researchers and students to engage in KMb. As such, there is a pressing need for more robust evidence on perceived KMb needs as well as practices or mechanisms that work best to support researchers' capacity development in the context of Faculties of Education.

To address the need for contextualized evidence of how KMb capacity development is unfolding in the context of Faculties of Education, we undertook a case study exploring the experiences of researchers and students in McGill University's Faculty of Education (specifically its Department of Integrated Studies in Education; Montreal, Canada). In line with the research priorities outlined above, the central research questions we explored were: What challenges do researchers and students face, and what support do they receive while performing KMb? What do Faculty of Education researchers identify as the most critical capacities necessary for supporting KMb? This inquiry is crucial in determining essential capacities and illuminating methods to develop and prioritize these capacities. The ultimate aim of this case analysis is to provide empirical evidence that can enhance KMb capacity development in Canadian Faculties of Education.

Conceptual framework

In line with SSHRC's definition, we see KMb as a two-way process of knowledge exchange between academic researchers and knowledge

users to enhance intellectual, economic, social, and cultural impacts (Social Sciences and Humanities Research Council, 2019). However, in this study we focus specifically on social, economic, and environmental impacts that extend beyond the academic environment. This definition of KMb is consistent with the increasing recognition that effective KMb goes beyond a one-way transfer of information from knowledge producer to knowledge user, and must instead pursue two-way engagement that is often sustained and recurrent (Phipps et al., 2016; Sengalrayan and Harvey, 2023). With this in mind, this study proposes a conceptual framework centered around the concept of reciprocity, which shapes its definition and approach to KMb and collaboration for societal impact. We define reciprocity, in the context of research and KMb activities, as a kind of relationship that provides voice, agency, ownership, and benefits to everyone involved, including researchers and their non-academic stakeholders. To achieve reciprocal relationships, power, privilege, and contexts need to be critically interrogated on the part of the primary researchers (Brabeck et al., 2015; Hall et al., 2016). The concept of reciprocity in this research highlights the importance of an engaged approach to KMbs.

In addition to KMb processes, we propose that the principle of reciprocity also applies to KMb capacity development processes. In this research, we emphasize the importance of engaging end beneficiaries (i.e., faculty members, graduate students) in the design of these capacity development initiatives. Engaging end-beneficiaries of KMb capacity development initiatives, we will argue, can contribute to moving beyond "one-size-fits-all" approaches (Harvey et al., 2019; Glegg et al., 2021) and better attend to local needs while incorporating diverse knowledge systems (Graham et al., 2006; Ungar et al., 2015). A notable irony in the existing literature on capacity building for KMb is that only a small number of initiatives report actively involving end beneficiaries to identify their specific needs for structures and mechanisms that facilitate KMb (Golhasany and Harvey, 2023). This inclusion enhances the co-construction of knowledge regarding academics' KMb experiences and capacity needs, as detailed in the Method section. Additionally, we decided to include graduate students along with faculty members rather than concentrating solely on faculty members, as graduate students are a significant but often overlooked group in contributing to knowledge production and benefiting from KMb capacity development initiatives.

As the principle of reciprocity guides the approach and orientation of this study, a KMb model is needed to clarify the nuanced processes through which research knowledge transitions from conception to application within society and in collaboration with other stakeholders. To this aim, this study employs the Co-Produced Pathway to Impact model by Phipps et al. (2016). This model describes the research knowledge progression from the planning stage to impact through five phases of research, dissemination, uptake, implementation, and impact. Importantly, in accordance with the reciprocity principle, this model emphasizes a re-iterative and engaged collaboration between researchers and other stakeholders, ensuring that the research results are not only disseminated but also shaped by, and responsive to, the needs and insights of all stakeholders (Phipps et al., 2016). In terms of the research objectives, integrating this model will also enable the study to identify at which stage of KMb the researchers most need capacity support.

Finally, the concept of capacity development is crucial in mediating between researchers' aspirations of using KMb to foster reciprocal research practices and the specific stages of the Co-Produced Pathway to Impact model. We adopt the OECD's broad definition of capacity development, focusing on developing and organizing systems, resources, and knowledge at individual and organizational levels (Economic Co-operation and Development, 2006). This definition is congruent with the conceptualization of KMb in this study because it highlights multi-directionality and acknowledges the role of both individuals and organizations.

Previous studies on capacity development for KMb highlight the need for incorporating capacity development concepts from other fields, such as management, to bring a more systemic approach to capacity development (Darling et al., 2022; Golhasany and Harvey, 2023; Oborn et al., 2013). As such, this study incorporates Potter and Brough's (2004) capacity development model, which suggests a hierarchical needs-based framework to KMb capacity development. Their model emphasizes the importance of systematically strengthening capacity by moving beyond insular individual-level initiatives toward holistic capacity building that addresses both individuals' and institutions' needs and challenges. The model identifies a pyramid of nine separate but interdependent components with structures, systems, and roles (as foundations) established before investing in staff skills or tools at higher levels. This hierarchical approach can enable organizations to plan at multiple levels and tailor capacity development more effectively. Additionally, such a systemic lens can contribute to bridging theory and practice as it can act as a tool for both diagnosis (what kind of capacity is lacking?) and design (what sequence of interventions might work best?). Although the model depicts a hierarchy, the authors underscore that capacity development is iterative. Interventions at one level often unearth gaps or needs at other levels, and organizations must keep re-evaluating and refining their approach. This conceptualization of capacity development is consistent with the principle of reciprocity and the Co-Produced Pathway to Impact model (Phipps et al., 2016), as the authors emphasize the iterative nature of the process that should be responsive to complex contexts and dynamic needs (Potter and Brough, 2004).

Method

This study adopted a qualitative exploratory case study methodology. Case studies are suitable when the research question focuses on 'how' and 'why', the researcher has limited control over the events, and the focus is on current events in a real-life context (Yin, 2018). Case studies offer researchers the opportunity to gain a holistic view of a research problem, allowing for a better understanding and explanation of the situation (Baxter and Jack, 2008; Simons, 2009). The phenomena of interest in this study were researchers' experiences of doing KMb, the support received for KMb, and critical points for enhancing capacities for facilitating KMb. This approach to inquiry is grounded in the constructivist paradigm, which sees reality as socially and experientially based (Guba and Lincoln, 1994) and thus aims to describe and interpret the shared patterns of values, behaviors, and beliefs within a culture-sharing group (Creswell, 2007; Zhao et al., 2021).

Data collection consisted of qualitative interviews (Hatch, 2002) undertaken between June 2023 and January, 2024. The study employed semi-structured interviews, allowing flexibility and follow-up questions (see Appendix) to gather comprehensive insights from participants despite having predefined questions. Each interview, conducted and recorded via Microsoft Teams, spanned approximately 45–60 min. Ten participants were chosen through a convenience

sampling method from the Department of Integrated Studies in Education (DISE) at McGill University's Faculty of Education (Table 1). DISE is the largest Department in the Faculty and is responsible for teacher preparation and educational leadership development programming. As such, it is expected to have deep connections with the community, whether schools, non-profits, or other community organizations with a learning mandate. The research ethics protocol of this study was reviewed and approved by McGill University's Research Ethics Board Office [REB#22–04-095]. The participants provided their written informed consent to participate in this study.

To gain a holistic understanding of the KMb needs and priorities within the Department, we recruited both graduate students and faculty members as study participants (Table 1). Although there are significant differences in the professional work contexts of these two participant groups, both face growing calls (through funding and award opportunities, for example) to mobilize research evidence toward social impacts. The concept of reciprocity highlighted in this study emphasizes the importance of including graduate students, as they represent the majority of researchers within the Faculty. Consequently, they are also the primary targeted beneficiaries of capacity development for KMb initiatives. Previous research has pointed out that the exclusion of graduate students from discussions on capacity development for KMb is a significant limitation (McSween-Cadieux et al., 2023). Graduate students, including those from international backgrounds, play a crucial role in knowledge production and facilitating knowledge mobilization (Bilecen and Faist, 2015); therefore, this study aimed to incorporate their voices and perspectives. All participants in this study were actively engaged in ongoing research projects, either their own or those supervised by faculty members. Additionally, four participants—who were all from the student group—held international student status at the beginning of their studies at DISE. The decision to report this demographic, rather than factors like gender or ethnicity, is due to legal limitations on accessing research funding (e.g., SSHRC research fellowships) that could affect their ability to participate in KMb.

Stake (1995) and Yin (2018) emphasize that researchers should clearly delineate the boundaries of their case while acknowledging that these boundaries may be fluid due to the interconnectedness of experiences and settings. In the context of this study, despite including participants from a single department, participants referenced experiences and policies that spanned multiple levels—namely the Department of Integrated Studies in Education (DISE), the Faculty of Education, the university at large, and external entities such as research funding organizations. This is because a member of DISE will typically have access to KMb support from other parts of the university, such as workshops offered by the library, for instance (if any exist). In the present study, the authors distinguished between layers of experiences that were explicitly highlighted by the participants. Otherwise, the

term university or institution is used interchangeably in reporting. This approach is more consistent with the participants' narratives and the reality of working and studying in a large institute, allowing us to capture the complexity of these experiences across different levels.

The data analysis of the qualitative interviews was guided by the methods and techniques described by Merriam and Tisdell (2015). Significant attention was given to simultaneous data processing, thorough engagement with the data, and having an inductive and comparative analytical process in data analysis and the writing of the findings. Specifically, this process included identifying segments of data responsive to the research questions, category construction, sorting categories, and then interpreting relations between the categories (Babchuk, 2019). One researcher collected the data while both authors collaborated on data analysis, discussing emerging themes and resolving disagreements. The authors aimed to improve the dependability of the findings by employing member checking and providing detailed explanations of the data collection process and analysis.

In reporting the findings, quotes are presented in the participants' original language, albeit de-identified for confidentiality by removing sensitive information and replacing it with more general information enclosed in square brackets. Furthermore, while we acknowledge that researchers must exercise caution when using numbers to report qualitative findings (Wu et al., 2016), in this study, we used citation frequency counting to enhance the analytical depth in comparing and interpreting the emerging categories of participants' experiences and viewpoints (Sandelowski, 2001).

Founded in 1821 in Montreal, Quebec, Canada, McGill University is a research-intensive, student-centered university with an international reputation for excellence. With over 39,000 students enrolled, McGill has a graduate student population of more than 10,000 and an international student population of more than 34%. Although English is the primary language of instruction at McGill, it is situated in the French-speaking province of Quebec, and students are afforded the option to write essays, exams, and theses in either English or French. The university's mission is to conduct research and scholarly activities of the highest international standards while simultaneously serving society. Two of the three academic mission themes from the 2017–2022 strategic academic plan focus on expanding research and improving community engagement at the university, while the third theme emphasizes enhancing student life (McGill University, 2017).

The Faculty of Education, one of McGill's largest faculties, is home to three departments - the Department of Kinesiology and Physical Education (KPE), the Department of Educational & Counselling Psychology (ECP), and the Department of Integrated Studies in Education (DISE). In Fall 2022, the Faculty had over 1,000 graduate students and 11 postdoctoral students, and the faculty was supported by a team of approximately 100 academics[1]. Most tenure-track academic staff supervise doctoral student theses (Syncox et al., 2017). The Department of Integrated Studies in Education is the Faculty's largest department with 335 Master's, 127 PhD students, and more than 40 faculty members.

Much of the institutional policy and faculty support activities related to the effective planning and conduct of research are overseen

TABLE 1 Number and category of participants.

Participants	Frequency
MA Student (Participants 1–3)	3
PhD Student (Participants 4–7)	4
Post Doctoral Researcher (Participant 8)	1
Faculty member (Participants 9–10)	2
Total	10

1 All enrolment statistics are available at: https://www.mcgill.ca/es/registration-statistics/fall-2022.

by McGill's Research and Innovation office or its Faculty-level delegates. With this said, much of this work focuses on compliance with research ethics and data, privacy, and intellectual property guidelines rather than guidance on KMb. At present there is no dedicated university-wide nor faculty-wide (for Education) KMb support unit or program. An online search yields multiple references to KMb in university discussions and policy reports, in the web pages of individual faculty members or research labs, and in course descriptions. This is consistent with previous research indicating that in many academic settings, researchers are frequently expected to determine their own KMb strategies with minimal assistance or guidance (Cooper et al., 2018).

Results

Findings are organized into four categories and eleven themes. The four categories are: (1) understanding participants' pathways to knowledge mobilization, (2) Challenges of conducting knowledge mobilization, (3) current knowledge mobilization enablers, and (4) Emerging capacity development strategies. The category of challenges of conducting knowledge mobilization had the highest frequency of citation (FOC; 60), followed by descriptions of the Current knowledge mobilization enablers (31), and understanding participants' pathways to knowledge mobilization (29). The category of Emerging Capacity Development Strategies had the lowest FOC (14). Additionally, the authors classified themes at either organizational or individual levels based on the agency of addressing and scope of capacity development. Organizational-level variables require institutional action or change, reflecting the need for systemic adjustments or policy reforms. Individual-level variables, on the other hand, can be addressed through personal initiative or capacity development, emphasizing the role of individual researchers and students in enhancing their KMb skills, knowledge, and engagement. This classification resembles that made by Gerrish and Piercy (2014) and Murunga et al. (2020). The authors were not able to classify a few themes into these two levels based on the input from participants; therefore, they were recorded as unclassified.

Understanding participants' pathways to knowledge mobilization

In the initial segment of our interviews, participants were prompted to discuss their goals of doing KMb, their engagement with non-university partners, and the approaches to initiating KMb partnerships. Table 2 describes the multifaceted goals of the participants' KMb efforts. The variety of goals shows the diverse pathways for achieving impact, either in empowering non-university partners to enhance their programs or advocacy or in directly engaging with the public in pursuing impact. Additionally, the findings demonstrated that participants collaborated more with intermediaries and intermediary organizations such as hospitals, and community organizations than directly with the public or the general members of the communities to create grassroots activities. The reliance on intermediaries, as opposed to direct grassroots engagement, underscores intermediaries' important potential role in facilitating connection-making and closing gaps between stakeholders (Cooper and Shewchuk, 2015; Lockton et al., 2022). Furthermore, participants did not report individual schools as partners for KMb.

TABLE 2 Frequency of goals cited for knowledge mobilization in the participants' projects.

Goal	Frequency
Increase awareness about communities, their stories, and challenges	9
Help non-university partners access resources and funding	3
Change the policies that affect communities	5
Help partners access the latest research evidence	4
Help partners carry out community programs (e.g., needs assessment)	4
Help partners communicate or showcase their programs and achievements	3
Help partners find new economic solutions	1
Total	29

However, we found that community organizations are the most common partners for seeking the societal impact of research. This may suggest that community organizations are easier to access compared to other partners (such as schools and school boards) or demonstrate a higher capacity or motivation for partnering in KMb.

> "My goal was to build on something, some grounded experiences, because there are none, there are no literature on [x community] and help to develop further policy suggestions" P4 [PhD Student]

Participants also emphasized creating meaningful connections with non-university partners as the most essential factor for the success of KMb. While the specific challenges and needs of KMb may differ among various academic cohorts, such as students and faculty members, this finding remains consistent with other research (Thijsen et al., 2023). Most collaboration with communities and partners happened in the two stages of KMb (Phipps et al., 2016): research (when planning research and designing the KMb activities) and uptake (helping partners to access and assess research evidence in their contexts). This is a crucial factor as involving non-university stakeholders in establishing shared objectives for engaged research projects, and KMb has a significant impact on the success of these practices (Fulford, 2020). Some participatory collaborations and methods cited by participants included photovoice, action research, community mapping, needs assessment, and organizing collaborative sessions like workshops before and after research.

> "There are specifically two stages: connection building at the beginning to contextualize the research questions and then at the end after for example, research dissemination or even before that working again with the community partners to do implementation to bring about any kind of change or outcomes rather than just outputs and trying to have an impact." P9 [Faculty member]

Challenges of conducting knowledge mobilization

Table 3 describes the different aspects of participants' challenges in doing KMb, which was the category most discussed in the

TABLE 3 Frequency of citation (FOCs) for themes: challenges in KMb, current KMb enablers, and emerging capacity development strategies.

Theme	Level			
Category: challenges of conducting knowledge mobilization	Organizational	Individual	Unclassified	Total
Lack of recognition of KMb activities	23			23
Funding dynamics for students and researchers	11	5		16
Challenges in networking for KMb	7			7
Engaging with university administration	5			5
Exercising agency in KMb		9		9
Total	46	14		60
Category: current knowledge mobilization enablers				
Current accessible KMb training	6		5	11
Supervisors as key enablers		20		20
Total				31
Category: emerging capacity development strategies				
EDI principles	3			3
Shaping culture	7			7
Practice-oriented faculty	4			4
Total				11

interviews. The results reveal that participants believed organizational-level challenges (46 FOCs) affect them more than individual-level capacity barriers (14 FOCs).

Lack of recognition of KMb activities

The respondents highlighted substantial challenges that stemmed from how the institution recognizes and values KMb and engaged research. These challenges are categorized into four specific themes:

Institutional reward systems

Speaking about the misalignment between institutional expectations for academic outputs and the realities of the engaged scholarship, participants mentioned there are many ways to engage in KMb with non-university partners. However, most of these engagement practices (e.g., publishing practice-oriented papers, such as reports and policy analysis papers), remain unrecognized and unrewarded by the institution. Students, postdocs, and faculty experienced this challenge in various ways, such as fear of missing out on department awards or facing promotion obstacles. However, within this category, an incongruent recognition system at the institution was the most identified challenge by all participants. This finding is consistent with previous studies (Thijsen et al., 2023).

Time allocation for KMb

Participants noted that the institution's rewarding structure fails to consider the time needed to establish connections and engage in effective KMb, particularly within practice settings. These time constraints often make it more convenient to avoid KMb activities altogether despite the interest in and acknowledgment of KMb's importance. Additionally, lack of time recognition can lead to researchers being indirectly penalized for allocating time to KMb, as program requirements and performance evaluations typically do not account for the time investment required for KMb.

This qualitative study did not analyze specific time-related factors that might affect the participants' experiences of this theme, such as the

number of years spent in academia and whether a student is in year one or year six of their Ph.D. program. However, this potential challenge may be more pronounced for students in the later stages of their programs as entrance funding (typically 3–4 years in length) expires and students must face the potential consequences of exceeding degree time limits (McGill University, 2016). Participants suggested that it may be crucial for research funders to provide targeted support for KMb activities, including offering tuition assistance.

> "[when planning for KMb] I had to finish the data collection and move to data analysis and then start writing as soon as possible." P7 [PhD Student].

Lack of clear communication on KMb

Many participants noted that a significant challenge was a lack of clear communication and guidance about KMb, especially at the university level. They were generally unaware or confused about the role, significance, and past experiences related to KMb within their department and institution. Often, they did not hear or learn about it until later stages of their academic journey. The absence of explicit communications or structured opportunities to discuss KMb left many students and faculty members alike feeling uncertain about how to plan for KMb practices.

> "The university doesn't necessarily make it easy for us to engage with the supports that it offers, both in terms of not being aware of them, but also in terms of the difficult bureaucratic processes in order to actually apply for things" P10 [Faculty member]

Integrating KMb focus in academic pathways

Integrating KMb focus in academic pathways. Some students argued that the institution should recognize the value of KMb activities for researchers and students' professional development and

career advancement. Failure to do so, they argued, creates a barrier to engagement in these activities by leaving it to their individual abilities and chances. Incorporating KMb into graduate programs can also help students build skills and connections for their future practice.

Funding dynamics for students and researchers

After the lack of recognition, our findings show that the scarcity of financial support for KMb within the department and university had the second-highest frequency of citation (Table 3). Previous literature already depicts dedicated funding as a key enabler of KMb practices (Malik, 2016). However, the semi-structured interviews provided in-depth insights into other factors that could worsen the limited accessibility to this crucial support.

Limited university resources and external funding opportunities

All participants but one mentioned that they knew of no available dedicated funding for KMb at the faculty level. Some recognized the availability of a few external funding opportunities, like the support offered by the SSHRC. However, they noted that these opportunities are more accessible to senior researchers with established careers and community connections.

> "It's really like the type of people that are on your committee or that you engage with. They'll either know about these things or they won't, and it really can drastically change your experience of how much support you have" P10 [Faculty member].

Challenges in securing funding for KMb

Participants faced challenges in obtaining funding for KMb either through dedicated KMb funding or funding for research involving KMb such as the provincial and federal doctoral and Masters scholarships. Participants highlighted this difficulty particularly if their projects were not perceived as immediately relevant to the local or national context. One participant's experience during the planning phase illustrated this difficulty, where the relevance of their research to Canada was questioned.

> "So when I was doing my FRQ application [Fonds de recherche du Québec (FRQ) is the provincial research funding organization in Quebec, Canada], one professor from the department…. She was reviewing my application and she was like, why are we even submitting this application to FRQ? Why would they give you their tax money? This is not relevant to Canada at all." P5 [PhD Student].

Additionally, participants identified several factors related to this subtheme: 1 the need to align engaged research with the interests of funding agencies, 2 the capacity of researchers and students to establish connections with external community partners, and 3 the ability of students to envision or articulate the practical applications of their research projects.

Personal funding for KMb

Participants observed that although some research labs within the faculty offer non-monetary support (e.g., video equipment), the absence of specific and dedicated KMb funding at the department or university level—which often requires less time and workload to secure in comparison with external sources—continues to be a significant barrier. We found that some researchers needed to rely on personal funds for KMb activities due to funding shortfalls.

> "All of them [referring to their KMb activity, which was a workshop] was expensive. And I think, if I'm not mistaken, I spent like $1,000 on the [KMb activity]. And considering the fact that the room was free, if the room wasn't free, it would be like $3,000 maybe." P7 [PhD Student].

Challenges in exercising agency in KMb

Compared to the previous categories, this category centers around the nuanced individual-level barriers that especially affect those lower in the academic hierarchy, such as graduate students and junior researchers.

Exercising agency in KMb

Some students who work in research labs or under the funding of another principal researcher felt disenfranchised in KMb due to their limited ability to influence the design and implementation of research and KMb activities. Students encountered professors, project reviewers, and program coordinators who lacked understanding or interest in knowledge co-production, faced institutional processes that restricted their input, and experienced a lack of acknowledgment for their contributions, leading to frustration and disillusionment. This lack of agency may limit their sense of ownership in the project, leading to the perception that their meaningful contributions could go unrecognized.

> "I'm a [.] researcher, I'm not pouring my blood and time into someone else's [project] because if the project is working, well, it's not me who gets applauded for it." P8 [Post Doctoral Researcher].

Challenges arising from supervisors' skills and attitudes

Students faced difficulties due to a lack of shared vision and inspiration and a perceived lack of leadership among some supervisors and collaborating professors who have the agency to direct the KMb partnerships. These challenges were evident in various forms, such as academic supervisors not valuing the diversity in their stakeholder groups, valuing personal gains rather than the project's success, inability to manage collaboration, and a general lack of KMb skills.

> "They [the student's supervisors and other academic professors involved in the project] did not acknowledge the benefits, I think, what the [external partner] brought in and that resulted in the partner's leaving the project" P8 [Post Doctoral Researcher].

The present individual-level factors necessitate more detailed qualitative studies to understand the attitudes of researchers, their positions, and seniority in academia concerning different aspects of supporting KMb. Previous studies have shown that most Canadian researchers support KMb (Gopaul et al., 2016; McSween-Cadieux et al., 2023). However, it is essential to compare this support and individual belief to real-life behaviors, such as senior researchers supporting graduate students or non-university partners to participate in planning KMb activities or developing KMb-related skills despite the current organizational challenges.

Challenges in networking for KMb

Participants faced challenges in understanding and accessing opportunities for collaboration with non-university partners, including understanding local needs and building connections. Students often resorted to cold emailing due to a lack of support, guidance, and informal introductions in their attempts to establish

connections with non-university partners. The absence of regular structured opportunities like technology fairs in Faculties of Education (particularly in the wake of the COVID-19 pandemic, where many conferences were canceled or moved online), and clear informative guidelines outlining opportunities for students was noted as a significant gap. Additionally, the lack of local experience, especially for international and out-of-province students, was a barrier to making connections, further hindering their KMb efforts.

> *"You don't know how to navigate these types of systems as a student who perhaps isn't aware of how to make those connections with the community." P3 [MA Student].*

We classified this theme as an organizational-level challenge, indicating that the institution needs to take action to facilitate networking with non-university partners. This classification is because participants directly requested the university's action to facilitate the process. However, such an organization-level perspective does not undermine the relevance of individual-level factors highlighted by theories like the Theory of Planned Behavior, Diffusion of Innovations, and Social Network Analysis (Ajzen, 1991; Conner and Armitage, 1998; Scott and Carrington, 2014; Rogers et al., 2014). These theories emphasize the crucial role of an individual's attitude, willingness, and capacity to establish social connections for KMb (Colquhoun et al., 2010; Glegg et al., 2019).

Barriers to engaging with university administration

Participants felt that no opportunities exist to engage with university administration and participate in capacity development for KMb, stating that the program development at the university is often top-down. They emphasized a systemic bias that favors individuals with established prestige, such as senior faculty and department chairs. This bias often results in the marginalization of students and pre-tenure faculty members. Formal mechanisms for engaging with the administration, like faculty council meetings, were seen as controlled and restrictive.

> *"Prestige is what talks in the university. And so those people with prestige are the ones who get heard. And the ones without prestige are not gonna be heard as much." P9 [Faculty member].*

Current knowledge mobilization enablers

This category focuses on the existing support for KMb practices that assisted participants in conducting their KMb practices, both at individual and organizational levels. The Frequency of Citations (FOCs) relevant to each theme are presented in Table 3. The FOCs in this category were found to be significantly fewer than the previous category, and a higher number was observed to contain more individual-level factors.

Current accessible KMb training

The participants' narratives collectively underscored the significance of KMb training within research methods courses and internship opportunities.

Academic rigour and KMb planning

Research methods courses were found to be accessible opportunities to develop KMb planning skills and tailor community-engaged research and methodology to align with participants' specific KMb interests. This adaptability granted participants greater agency and empowerment in designing research that met the department's methodological standards and requirements while also remaining consistent with their research and KMb interests. Additionally, completing these courses fulfilled program requirements.

> *"Our course instructor allowed reviewing articles and reports and their methodologies as the course assignments rather than writing proposals [....] their flexibility helped us understand how to critique academic evidence which is going to help me more" P2 [MA Student].*

Internship opportunities (unclassified)

These opportunities played a crucial role in increasing local connections and enhancing students' KMb skills. Some students were proactive in finding internship opportunities and engaged in volunteering even beyond the support of their supervisors and institutions. These experiences are greatly beneficial by providing opportunities to apply academic knowledge and develop soft skills such as active listening, project management, team building, teamwork, and understanding workplace politics in practice settings. Participants had differing views on whether it is the university's responsibility to provide internship opportunities or if students should be more proactive in seeking them out.

Although this study did not assess the content of the department's research methods courses, the inclusion of KMb training within research methods courses was seen as substantially enhancing support accessibility. However, there is limited research on the types of KMb education available within program courses and how they can be best utilized to serve students (Mac Kay et al., 2023). The integration of KMb training into research methods courses is particularly pertinent as universities seek efficient ways to offer accessible KMb training without adding undue pressure on their time and resources (Holmes et al., 2014; Tait and Williamson, 2019).

Supervisors as key enablers

This theme explored how supervisors could facilitate KMb by helping students and researchers navigate the different structures of academia and practice settings. This contrasts with the difficult experiences of exerting agency in engaged research and KMb practices ("Challenges in Exercising Agency in KMb" section).

Positive relationships

Participants expressed that positive relationships between supervisors and students are crucial for facilitating KMb. Students believed these relationships help students progress academically while pursuing social impact in a mentoring and enabling environment. They also believed supervisors could be a great source of inspiration and motivation in the face of challenges. A faculty member (P9) also talked about *the apprenticeship model* as an example of a supportive relationship to help students advance professionally, allowing them to develop their own experiences in doing community-engaged research and KMb.

> *"So I was a researcher […] Project I essentially had Professor [… as my supervisor] who was a very big mentor who helped a lot with […] my knowledge mobilization and the ability for me to comprehend how to take those steps forward." P3 [MA Student]*

Research mentorship

Participants emphasized the importance of using community-relevant forms of knowledge production, like verbal storytelling, in their research. They argued that the supervisors could provide a platform for students to adopt more appropriate research methodologies that align with their research community while adhering to academic traditions in the programs. This support could range from helping them navigate complex processes, such as research ethics applications, to challenging them to expand their experiences, such as presenting at conferences.

> *"My supervisor was a really supportive person. And the way he made me understand candidacy paper and help, not just understand, like, helped me explore them in the way I wanted and let me find my writing style." P4 [PhD Student]*

Furthermore, participants found RA experiences to be excellent platforms to gain practical insights into communities of interest, learn about active organizations in that subject field, and connect with change-makers working with these communities. These experiences allowed enhancing their understanding of relevant past KMb experiences with the relevant community partners.

Helping to navigate dual frameworks

The challenge of balancing the structured environment of the university (e.g., program requirements) with the more fluid dynamics of community organizations was highlighted multiple times. Participants reflected on the unsettling yet insightful experiences of navigating these dual frameworks, underlining the importance of supervisor support in these situations.

> *"I still have assignments to give and, like, to describe my research and everything, but we're still waiting to hear back from the community organization that's working with the flow of their things going on, and so I guess it's kind of difficult to balance the two" P2 [MA Student].*

The emerging evidence on the role of supervisors in either facilitating or inhibiting KMb practices among students requires further exploration. This qualitative study aligns with existing literature, such as Gagliardi et al. (2014), Gerrish and Piercy (2014), King et al. (2021), McMahon et al. (2021), McSween-Cadieux et al. (2023) that highlight the potential for supervisors to either enable or challenge KMb practices through the quality of their relationships with researchers. Our findings revealed that supportive supervisors are pivotal in enabling students to effectively engage with local communities, gain essential knowledge, and develop skills necessary for collaboration with non-academic partners.

However, this study also underscored a crucial issue: the absence of clear institutional guidance and sufficient resources for KMb, which escalates the dependency of students on their supervisors for support in these initiatives. In such a scenario, the individual characteristics of supervisors and their interests, play a more pronounced role in influencing the ability of students and researchers to engage in KMb. As highlighted in the "Challenges in Exercising Agency in KMb" theme, this finding pointed to the necessity for further research to evaluate faculty members' individual attitudes at the practice level to understand how these factors can either facilitate or inhibit KMb among graduate students.

Emerging capacity development strategies

Discussions about capacity building drew upon forward-looking perspectives on ways of supporting KMb. These initiatives require more strategic and systemic changes with a long-term vision and implementation. All factors identified in this category emphasize organizational capacity development, which is consistent with the broad emphasis highlighted in the previous categories. However, this study found only 14 Frequency of Citations (FOCs; Table 3) in this category through interviews which could be because building organizational capacity may require a more advanced level of complex institutional assessment and planning (Bayley and Phipps, 2023; Golhasany and Harvey, 2023).

Support for connecting knowledge mobilization and EDI principles

Participants underscored the potential of integrating Equity, Diversity, and Inclusion (EDI) principles to improve university support for KMb. They pointed out the shared goal of KMb and EDI principles to increase inclusivity in research projects and argued that this might also be an avenue to increase support for KMb. Furthermore, they emphasized the potential of students coming from marginalized groups as a unique opportunity to engage in KMb because of their closer familiarity with these groups.

> *"My background is very related to the … community [minority group] so I can say I know which methods could work with them but overall the faculty needs to consider being more inclusive of people with minority groups." P6 [PhD Student]*

Despite the paucity of literature explicitly connecting Equity, Diversity, and Inclusion (EDI) principles with enhanced capacities for KMb, practical applications of this concept are evident in the initiatives of leading Canadian research funding agencies. For instance, the Canada Research Coordinating Committee and its tri-agency members have announced their commitment to integrating EDI into research practice and design. This commitment is grounded in the belief that a more equitable, diverse, and inclusive Canadian research enterprise is crucial for producing impactful research. Such research is necessary to advance knowledge that can address local, national, and global challenges (Social Sciences and Humanities Research Council, 2024).

Shaping culture

Students and faculty members highlighted the influential role of senior researchers in shaping the culture and setting precedents for KMb. Senior figures who have established supportive attitudes and culture for such work can contribute to securing recognition and validation for KMb in the academic context. Participants acknowledged that the positive influence could lead to other key enablers, such as more flexible promotion criteria, faculty recognition favoring community engagement, and increased grants and funding for community-based work within the department. The following quote highlights the impact of some senior faculty in promoting a

supportive culture that can be instrumental in enhancing KMb support at the faculty and university levels.

> *"So yeah, so I would say that this was just a space, not even in our faculty, but actually in our department […] that was kind of carved out by a few people who came before, like […] and …] who were doing this work in many different ways". P9 [Faculty Member]*

Practice-oriented faculty

Participants emphasized the need to hire faculty members with previous experience working in practice-oriented environments who can effectively support and mentor students in applying learned methodologies to real-world scenarios. Participants believed such faculty members would be more capable of guiding students in understanding how their academic work can translate into tangible contributions within various communities of practice.

Although the previous themes in this category revolved around enhancing capacities at the organizational level, they also reflect the importance given by the participants to the availability and accessibility of individual-level support, such as mentorship from supervisors ("Supervisors as Key Enablers" section) or training in KMb through research methodology classes ("Current Accessible KMb Training" section).

Discussion

This study explored the experiences of students and researchers in engaging with KMb, focusing on their challenges, the support they received, and strategies for enhancing KMb capacities. It employed a case study methodology, which allowed obtaining a holistic view of the intricate dynamics of KMb practices at McGill University's Department of Integrated Studies in Education (DISE). Through semi-structured interviews with diverse participants, the study unveiled three primary findings presented in this section. Overall, this qualitative study provides in-depth insights that contribute to the capacity development for KMb through understanding critical capacities, incorporating the voices of researchers and students as beneficiaries of these initiatives, and proposing an evidence-based process for more effectiveness and accessibility.

Insufficient organizational support: the principal challenge

The principal challenge related to KMb facing students and researchers in the Department of Integrated Studies in Education (DISE) is organizational in nature. The most substantial barrier is the lack of recognition by the institution of KMb efforts, a finding that aligns with the previous research (Murunga et al., 2020; McSween-Cadieux et al., 2023; Thijsen et al., 2023). The literature extensively discusses the importance of organizational capabilities that support, facilitate, and encourage KMb engagement. Essential elements include leadership that is proactive, committed, and receptive to KMb-related changes, encourages staff to acquire KMb skills, demonstrates KMb accountability, recognizes and rewards KMb achievements in promotions and tenure, and fosters collaboration with external partners (Ward and Mowat, 2012; Dobbins et al., 2018; Mallidou et al.,

2018; Barwick et al., 2020; Mac Gregor et al., 2021; Zhang et al., 2023). Accordingly, our study corroborates the significance of developing such organizational capacities for effective KMb (Sá et al., 2011; Oliver et al., 2014; Lapointe and Propst, 2023). Concerning our case, despite McGill's promotion of community-engaged research at the institutional level, our findings reveal that 46 out of 60 frequency of citations (FOC) highlighted challenges related to organizational capacities, with all issues within the capacity development theme—such as recognition and funding—pertaining more to organizational than individual capacity enhancement. These insights underscore where support is most needed for students and researchers.

Additionally, this study provides a more nuanced understanding of the organizational recognition challenge. It identifies key issues such as the absence of dedicated KMb funding, unclear communication, and failure to acknowledge the time investment required for KMb. For example, while the importance of KMb funding is recognized as a crucial enabler for researchers (Shaxson et al., 2012; Holmes et al., 2014; Malik, 2016), participants suggested that accessibility issues, application requirements, and challenges in demonstrating research relevance to local contexts can impede their ability to utilize available funds for KMb.

Considering the importance of organizational capacities emphasized in this research, we can also point out a misalignment between current institutional capacity development practices and beneficiaries' needs and potential misalignment with research evidence. Golhasany and Harvey (2023) reported that nearly two-thirds of capacity development initiatives target individual-level changes. As such, this study emphasizes the priority for organizational capacity development, which is also in line with Potter and Brough's (2004) systematic capacity development framework, which begins with establishing structures, systems, and roles and subsequently focuses on staff, facilities, skills, and tools. Similarly, Bayley and Phipps (2023) propose a hierarchical model for KMb capacity development, categorizing institutions into three levels: "supportive" (basic), "enabling" (intermediate), and "driving" (advanced), based on their ability to support researchers and students in KMb.

Beneficiary engagement and moving beyond one-size-fits-all approach

The study highlights the significance of offering capacity development programs that cater to the unique needs of the recipients. For this purpose, previous literature emphasizes the importance of listening to end-users, which can help identify the most critical areas for capacity development and optimal procedures (Powell et al., 2018). This arrangement allows initiatives to move beyond the "one-size-fits-all" approach (Harvey et al., 2019; Glegg et al., 2021). Additionally, engaging beneficiaries in identifying capacity needs can also lead to cost savings, as some needs pinpointed in this study can be met without substantial investment from the university. For instance, the participants highlighted the fact that they had not received communications from the department or the university about KMb and available support. Accordingly, this research identifies effective and consistent communication about KMb as a vital capacity that can be bolstered without significant financial outlay. This is considered a fundamental and crucial step in building organizational capacities, as indicated in the literature (Potter and Brough, 2004; Bayley et al., 2018).

Moreover, this study aimed to amplify the voices of KMb capacity development beneficiaries, especially graduate students in education, in both scholarly discussions and practical applications. This emphasis is particularly significant due to the scant research on this group in KMb capacity development literature (McSween-Cadieux et al., 2023). However, interviews indicated that participants at DISE needed more opportunities to engage in discussions with university administration to articulate their capacity needs. In other words, they lacked adequate channels to communicate their needs, concerns, and preferences regarding the support required for KMb. This finding suggests a need for evaluative processes to understand better how organizations supporting research develop practices related to KMb (McLean et al., 2018).

Support availability versus accessibility needs

Despite existing challenges, this study identified enablers at both the individual and organizational levels that provide valuable insights into essential aspects of capacity development for KMbs. Students from Depart of Integrated Studies in Education (DISE) highlighted KMb training in research methods classes, research assistantship experiences, and the presence of supportive supervisors as significant facilitators. These supports are noted not just for offering KMb training and empowering students but also for their accessibility. Thus, this research underlines the critical difference between the availability of supports and their accessibility for effective KMb engagement, an important consideration that needs to be discussed more thoroughly in the literature (Cooper et al., 2018; Golhasany and Harvey, 2023; McSween-Cadieux et al., 2023). This difference suggests that for KMb to be meaningfully facilitated within education faculties, support must not only be established but also made accessible. While the primary focus of this study was not on the accessibility versus availability of KMb support, participants repeatedly brought up this distinction. They noted accessibility considerations related to funding accessibility, access to KMb training through research methods classes, research mentorship through supportive supervisors, challenges in accessing university administration for KMb capacity development, and the need to increase KMb support accessibility by adhering to EDI principles.

Such a consideration is especially relevant to the process of designing and implementing capacity development for KMb initiatives. However, reviews of the literature on these initiatives suggest that many initiatives do not sufficiently address the process, including needs assessment, delivery mechanisms, and evaluation, often focusing on defining ideal outcomes such as skills acquisition and grant procurement (Glegg et al., 2019; Golhasany and Harvey, 2023). The planning and execution processes of KMb capacity development initiatives are critical, as decisions on design and delivery significantly impact their accessibility and efficacy (Cooper et al., 2018; Murunga et al., 2020; Golhasany and Harvey, 2023). Further research is needed to explore why some current supports are perceived as inaccessible despite being acknowledged as available (e.g., external funding reported in this study). Such studies will be vital for meaningfully improving program planning, resource distribution, and the evaluation of KMb capacity development initiatives, hence their usage and effectiveness.

Limitations

The primary consideration of this research lies in its design as a case study that focused on a single department within McGill University. This approach aimed at providing an in-depth exploration of a specific context rather than producing findings that are broadly applicable across diverse settings. Furthermore, the research notably draws from a sample dominated by graduate students, with minimal representation from faculty members, which may skew the perspective toward that of students. These considerations underscore the necessity for subsequent research to ascertain the extent to which these findings can be applicable to other contexts, especially considering the pivotal role that faculty members play in influencing KMb practices and policies.

Secondly, while robust in its qualitative approach, the methodology predominantly centers on the subjective experiences and perceptions of the participants. While this is invaluable for understanding personal and collective narratives, it might not capture the full complexity of organizational and systemic factors influencing KMb. Furthermore, while the study underscores the importance of organizational readiness in facilitating KMb, it could delve deeper into how these cultures are formed, sustained, or altered over time, considering factors beyond the immediate academic setting. Future research might explore these factors for a more comprehensive understanding.

Conclusion

This research on capacity development for KMb in Canadian Faculties of Education reveals a critical need for tailored capacity development strategies that align with the specific needs of researchers and students. The study highlights a commitment to societal engagement among participants yet underscores a significant disconnect with the availability and accessibility of KMb support. Key findings include the necessity of garnering supportive organizational structures and cultures, the influential role of supervisors in guiding KMb processes, and the importance of integrating KMb training within research methods courses for better accessibility. Additionally, the study points to the potential of integrating EDI principles to enhance KMb practices. This research also underscores the gap between theoretical understanding and practical implementation of KMb capacity development initiatives, advocating for a systematic, needs-based approach that emphasizes organizational readiness and inclusivity.

Data availability statement

The original contributions presented in the study are included in the article/Supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving humans were approved by McGill University's Research Ethics Board Office [REB#22–04-095]. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/feduc.2025.1423832/full#supplementary-material

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