Written Thesis: A Scoping Review of Inclusive Spaces within Canadian Health Sciences Education

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Abstract

Inclusive spaces within health sciences education extend beyond the formal curriculum to include the physical, social, and institutional environments in which students learn and interact with one another. This scoping review aimed to examine how inclusive spaces are defined and enacted within Canadian health sciences education. A scoping review was conducted using the Joanna Briggs Institute framework and guided by the Population-Concept-Context (PCC) framework. A comprehensive search of MEDLINE, Embase, and PsycINFO identified 1,147 studies, of which 8 met the inclusion criteria.

Across studies, inclusive spaces were implemented through three main approaches: mentorship-based programs, holistic support initiatives, and institutional policy-level initiatives. Mentorship and holistic programs were associated with positive student experiences, including increased confidence, improved access to academic and professional opportunities, and a stronger sense of belonging.
Institutional initiatives focused on structural changes, such as curriculum integration and the provision of designated spaces, to address systemic barriers to inclusion. A key finding across studies was that belonging emerged as a key outcome, shaped through the interaction of academic, social, and structural supports.

Despite these findings, the limited number of studies and their concentration within specific disciplines suggest that inclusive practices in Canadian health sciences education remain underexplored. Future research is needed to examine how inclusive initiatives are implemented and sustained across diverse Canadian contexts. Strengthening institutional support may be important for advancing inclusive spaces and supporting diverse learners in health sciences education.

Introduction

Learning in higher education is shaped not only by curriculum, but also shaped by the physical and social spaces in which students study, interact, and build communities. These learning spaces extend beyond classrooms and play a critical role in shaping how students connect with one another, develop a sense of belonging, and engage with their institution.[1] In recent years, particularly following the COVID-19 pandemic, universities have increasingly emphasized the importance of rebuilding connection and belonging, recognizing that these

are not automatically produced through physical presence alone.[2] Instead, students' sense of belonging depends on how they experience and navigate university spaces, which in turn influences wellbeing and engagement in higher education.[3,4]

In the Canadian context, this is particularly important, as universities serve increasingly diverse student populations with varied cultural, social, and educational backgrounds. However, students from underrepresented and marginalized groups may experience barriers to belonging and success within university environments, limiting their ability to fully engage in academic and social life.[2] In response, Canadian universities have increasingly positioned inclusion as a core institutional responsibility, supported by the Truth and Reconciliation Commission's Calls to Action and the Scarborough Charter on Anti-Black Racism and Black Inclusion.[2,4] In Ontario, universities have publicly committed to fostering safe and inclusive campus environments through initiatives aimed at addressing systemic barriers and creating accessible, culturally responsive spaces for diverse student populations, including international students.[4] These efforts emphasize that inclusion extends beyond classroom instruction to encompass student services, informal learning environments, and broader campus culture.[4] However, research suggests that inclusion is ultimately shaped by everyday institutional practices and interactions, where barriers to belonging and support may persist.[4,5]

Within health sciences education, these environments are especially influential, as they not only shape students' academic experiences but also their professional identity formation and preparedness to engage with diverse patient populations.[6] As such, inclusive learning environments play a critical role in preparing a healthcare workforce that reflects and understands the communities it serves. Inclusive spaces in this context are understood as multi-dimensional environments that extend beyond classroom instruction to include physical accessibility, social support, and institutional culture.[7] Despite growing attention to inclusive learning environments in higher and health sciences education, there is limited synthesis on how inclusive spaces are defined and enacted within health science programs, particularly beyond formal classroom settings and in Canada. A preliminary search of the literature did not identify any scoping reviews specifically examining how inclusive spaces are defined and enacted within health sciences education in Canada. While existing research has explored inclusion and learning environments more broadly, there remains a lack of synthesis focused

on the conceptualization and implementation of inclusive spaces within this context. This scoping review aims to map how inclusive spaces are conceptualized and implemented in health science education, identifying key definitions, practices and gaps in the literature.

Research Question and Objectives

The research question guiding this study is:

How are inclusive spaces defined and enacted within health sciences education programs in Canada?

To address this question, the objectives of the study are to:

1. Identify how inclusive spaces are defined within health sciences education
2. Examine how inclusive spaces are implemented and experienced within health sciences educational contexts
3. Identify key themes and gaps in the implementation and effectiveness of inclusive spaces

Methods

A scoping review was conducted to map how inclusive spaces are conceptualized and implemented within health sciences education in Canada. This approach was selected as it allows for a broad examination of the existing literature and identifies key concepts, definitions, and gaps in research. The review was conducted in accordance with the Joanna Briggs Institute (JBI) framework for scoping reviews and guided by the Population-Concept-Context (PCC) framework.[8]

Both the research question and eligibility criteria were developed using the PCC framework and are summarized in Table 1. Studies were included if they focused on undergraduate or graduate students within health sciences education programs, including those in both academic and clinical training environments, as these settings represent key components of student learning. The concept of interest focused on inclusive spaces, broadly defined to include physical, social, and institutional environments, as well as initiatives related to belonging, inclusion, and accessibility. The review was limited to studies conducted in Canada to reflect the specific institutional and educational context of health sciences education and training.

Table 1: Inclusion and Exclusion Criteria.

	Inclusion Criteria	Exclusion Criteria
Population	• Undergraduate and graduate students enrolled in health sciences education programs (e.g., medicine, nursing, occupational therapy, physical therapy, BHSc) • Studies including learners within academic or clinical training environments	• Studies focusing on practicing healthcare professionals only (no student population) • Non-health sciences students • Faculty-only perspectives without student experience
Concept	• Studies examining inclusive spaces, environments, or initiatives within health sciences • Concepts related to belonging, inclusion, diversity, equity, safety, or accessibility	• Studies focusing solely on diversity without addressing inclusion or belonging • Clinical outcomes unrelated to student experience (e.g., patient-only outcomes) • General education without mention of health sciences
Context	• Studies conducted in Canada • Post-secondary or clinical training settings (e.g., universities, teaching hospitals, affiliated training sites) • Canadian institutional reports or program descriptions	• Studies conducted outside of Canada • Studies not situated within post-secondary education or clinical training settings • Research not relevant to health sciences education settings

A comprehensive literature search was conducted using MEDLINE, Embase, and PsycINFO. These databases were selected to capture literature related to health sciences education and student experience, with PsycINFO providing additional coverage of studies related to belonging and social environments. The search strategy was developed using three key concepts: students, inclusive spaces, and location (Canada). Boolean operators and a comprehensive list of keywords and synonyms were used, informed by database-specific subject headings such as Medical Subject Headings (MeSH). To ensure comprehensive inclusion of Canadian studies, the University of Alberta Health Sciences search filters were used to capture geographic terms across provinces and territories.[9] Minor adjustments were made to the PsycINFO search strategy to account for database-specific limitations. As PsycINFO was not included in the University of Alberta Health Sciences filters, field codes were removed from keyword lines and broader keyword mapping was used to ensure consistency with the overall search strategy.

Search results were imported into Covidence for screening and data management. A total of 1,147 studies were identified across databases, with 286 duplicates removed (6 manually and 280 by Covidence), resulting in 861 studies for title and abstract screening. Of those, 850

studies were excluded, resulting in 8 studies in the final review (Figure 1). Data was extracted using a structure spreadsheet in Google Sheets to ensure consistent capture of study characteristics. Extracted data included publication details, study population, type and description of inclusive spaces, implementation strategies, outcomes, and reported barriers or challenges (Figure 2).

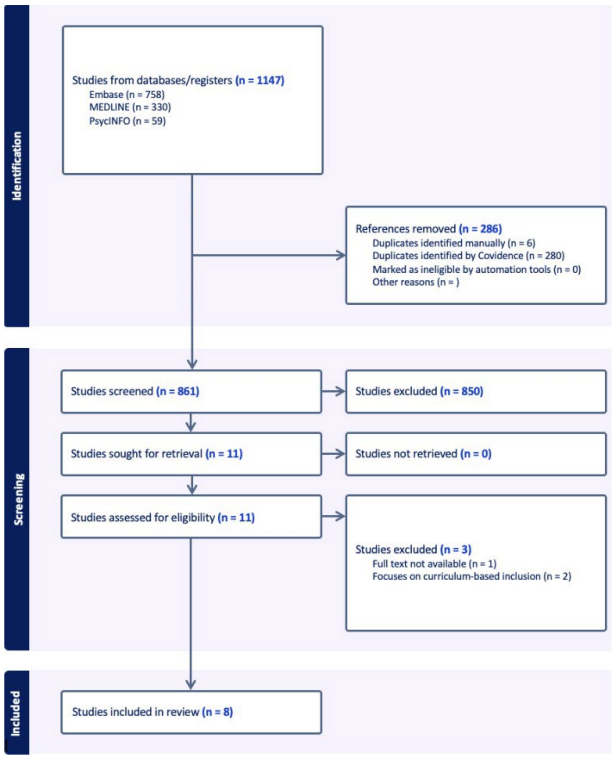


Figure 1: Study Selection Process (PRISMA Diagram)

Authors	Title	Year of Publication	Discipline	Population	Type of Evidence	Type of Inclusive Space	Description of the Inclusive Space
Arnault-Pelletier 2006	Circle of strength	2006	Nursing	Indigenous Nursing Students enrolled in the Nursing of Education Program of Saskatchewan (NEPS) under Native Access to Nursing Program (NAPS)	Grey literature	Other: Institutional + Relational + Cultural	A structured access and support program (NAPN) designed to recruit and retain Indigenous nursing students through academic support (tutoring), mentorship, faculty engagement, community-building activities, and culturally relevant programming

Implementation	Outcomes/Impact	Barriers/Challenges	Study Settings	Aim of Study	Key Takeaway/Theme
Developed through institutional collaboration between UofS and associated campuses (SIAST) and Indigenous organizations, with government funding (Health Canada). Includes academic advising, mentorship, recruitment, and community partnerships	Improved recruitment, retention, success of Indigenous nursing students. Students reported increased sense of support, belonging, and access to academic and social resources, contributed to reduced attrition and improved educational outcomes	Funding instability due to reliance of federal funding, geographic separation across campuses limiting access to services, and challenges in sustaining staff and program delivery	Canadian university programs across Saskatchewan (University of Saskatchewan, SIAST, First Nations University of Canada)	To describe the development, implementation, and impact of the Native Access to Nursing Program in improving recruitment, retention, and success of Indigenous nursing students	Holistic, culturally grounded institutional programs that integrate academic, social, and community-based supports are critical for fostering belonging and improving retention of Indigenous students in health sciences education.

Figure 2: Extraction Tool in Google Sheets with Example.

Results

A total of 8 studies were included in this review (Figure 1).[10-17] Across studies, inclusive spaces were conceptualized and implemented through three main approaches: mentorship-based programs, holistic programs, and institutional policy-level initiatives (Table 2)

Table 2: Summary of Inclusive Space Approaches Identified Across Included Studies.

Type of Inclusive Space	Number of Studies (n)	Key Features
Mentorship-Based Programs[10-11]	n=2	• Structured mentor-mentee relationships (often identify-formed) • Academic, career, and psychosocial support • Networking and professional development
Holistic Support Programs[12-15]	n=4	• Multi-component programs (academic, social, cultural support) • Tutoring, mentorship, community-building activities • Tailored to specific populations (Indigenous, EAL students)
Institutional Policy-Level Spaces[16-17]	n=2	• Drive institutional-wide initiatives within educational, clinical systems (physical spaces) • Address structural barriers (access, accommodations) • Promote equity through systematic change

The included studies were conducted across health sciences disciplines, primarily in nursing and medicine.

Mentorship-Based Programs

Mentorship-based programs (n=2) were a prominent form of inclusive space identified across the included studies.[10-11] These programs were designed to provide longitudinal support for learners and were commonly structured through formal mentor-mentee pairings. In some cases,
mentor-mentee pairings were intentionally informed by participant needs, shared identities, or career goals, reflecting a targeted approach to support underrepresented learners. Programs also incorporated multiple components, including academic support, career guidance, research mentorship, and psychosocial support.

Across studies, mentorship programs were associated with positive student experiences. Participants reported increased confidence, a stronger sense of belonging, and improved access to academic and professional opportunities.[10-11] Mentees also described high levels of satisfaction with mentorship relationships, particularly in relation to mentor availability, supportiveness, and guidance in navigating academic and career pathways. These programs contributed to creating supportive environments in which learners felt better equipped to navigate their studies and training.

Holistic Programs

Holistic support programs (n=4) were identified as a key form of inclusive space across the included studies.[12-15] These programs were designed to integrate support that extended beyond academic assistance, incorporating both academic and psychosocial components. For example, structured initiatives such as the English as an Additional Language (EAL) Nursing Student Support Program included workshops, peer and faculty mentoring, group gathering, and community-building activities aimed at addressing both educational and social challenges faced by students.[12,13] Similarly, broader institutional programs such as the Native Access Program (now known as The University of Saskatchewan Community of Indigenous Nursing [UCIN]) emphasizes culturally grounded support, including mentorship, academic advising, community partnerships, and culturally relevant programming to support Indigenous student success.[14]

A key feature across these programs was the integration of structured academic support aimed at strengthening students' ability to meet academic and clinical demands of their programs.[12-15] These supports are delivered alongside social and cultural components, reflecting an inclusion that addresses both academic preparedness and broader student well-being. Across studies, holistic programs were associated with positive student experiences. Participants reported increased confidence, improved communication and academic skills, and a stronger sense of belonging alongside reduced feelings of isolation. Programs also supported students retention and access to academic and social resources, particularly among underrepresented and marginalized student populations. These findings highlight the role of integrated academic, social, and culturally grounded supports in shaping students experiences within health sciences education and training.

Institutional Policy-Level Initiatives

Institutional policy-level initiatives (n=2) were identified as an inclusive space within health sciences education.[16-17] These approaches focused on structural changes within educational environments to address systemic barriers to inclusion, rather than individual-level support. For example, institutional policies were implemented to provide protected time and designated physical spaces for learners, addressing structural barriers within academic and clinical training environments.[16] Similarly, broader institutional efforts aimed at promoting inclusion included the integration of cultural safety initiatives within nursing and midwifery programs. These initiatives encompassed required coursework, the inclusion of Indigenous content within curricula, as well as program-level supports aimed at creating more accessible and culturally safe learning environments for Indigenous students.[17]

Across studies, institutional and policy-level initiatives highlighted the role of structural and program-level factors, such as policies, curriculum requirements, and access to resources, in shaping student experiences. While these efforts contributed to inclusive learning environments, findings also indicated that implementation remained inconsistent across programs, with few institutions meeting all identified criteria for inclusion, such as the delivering of Indigenous-specific supports, required coursework, and curriculum integration aligned with the Truth and Reconciliation Commission's Calls to Action.[17]

Discussion

This scoping review identified multiple approaches to creating inclusive spaces within health sciences education, including mentorship-based programs, holistic support initiatives, and institutional policy-level initiatives. Across these approaches, a consistent finding was that inclusion extends beyond individual interventions and is shaped by the broader environments in which students learn. In particular, a sense of belonging emerged as a key outcome across studies, highlighting the importance of mentorship and peer relationships, academic supports, and institutional structures in shaping how students experience and engage with their learning environments.[10-17]

Across the included studies, belonging was shaped through multiple aspects of the learning environment, rather than a single type of support. Mentorship-based programs and holistic support initiatives created opportunities for meaningful connection, peer engagement, and interaction with faculty, which contributed to students feeling supported and included.[10-15] These experiences were reinforced by academic and psychosocial support, suggesting that belonging is shaped by how students experience both social connection and academic support within their programs. Within health sciences education, this is important, as students are not only acquiring academic knowledge but also developing their professional identities. Experiences of belonging may influence how students perceive their place within the field, their confidence in engaging with fellow peers and instructors, and their ability to navigate both academic and clinical environments. Thus, inclusive spaces that foster belonging play a role in shaping future healthcare professionals who feel more prepared to engage with a diverse patient population and work within collaborative healthcare settings.

While mentorship-based programs were associated with positive student experiences, it is also important to consider the potential burden placed on faculty involved in delivering these initiatives.[11] In some cases, mentorship programs rely on individuals from underrepresented groups to provide support and representation. This may contribute to a "minority tax", where individuals take on additional responsibilities related to diversity and inclusion efforts.[18] Although these contributions are valuable, they may lead to increased and potential burnout if not adequately supported. This highlights the importance of institutional support to ensure that mentorship initiatives are both effective and sustainable over time.

The role of holistic support programs further reinforces the importance of addressing multiple aspects of the student experience.[12-15] These programs extended beyond academic

support to provide social, cultural, and community-based components, reflecting an understanding that student success is shaped by more than academic success alone. By integrating academic assistance and opportunities for connection and culturally relevant support, holistic programs address both academic and non-academic challenges, especially when they are informed by student experiences and needs. This approach highlights that inclusive spaces are most effective when they respond to the diverse needs of learners, particularly those from underrepresented or marginalized backgrounds.

Institutional policy-level initiatives further highlight the importance of embedding inclusive practices within the broader structure of health sciences education.[16-17] Efforts such as the integration of cultural safety initiatives and the delivery of designated spaces for learners demonstrate how inclusion can be embedded within the program design of health sciences education. Unlike mentorship or holistic programs, which operate at the level of the student experience, these initiatives shape the conditions in which learning occurs, influencing how inclusive environments are experienced across programs.

This review has several limitations that should be considered. The small number of included studies (n=8) limits the scope of findings and may not fully represent the range of inclusive spaces within Canadian health sciences education. Additionally, the concentration of studies within specific disciplines, primarily nursing and medicine, may limit the generalizability of findings to other health sciences programs. The review did not include grey literature, which may have excluded relevant institutional reports, program evaluations, and perspectives that are not typically published in academic journals. As a result, some aspects of how inclusive spaces are implemented in practice may not be fully captured.

This review also highlights several gaps within the current literature on inclusive spaces in Canadian health sciences education. The small number of included studies and their concentration within specific disciplines, primarily nursing and medicine, suggest that existing research may not fully capture how inclusive practices are implemented across a broader range of health sciences programs in Canada. Additionally, many initiatives identified in this review, including mentorship and holistic support programs, require coordination, resources, and ongoing institutional support, indicating that their sustainability may depend on the level of support available within institutions. Future research is needed to examine how inclusive initiatives are implemented and maintained across diverse Canadian educational contexts, including different provinces and territories, as well as to explore strategies for embedding these practices more

consistently within health sciences education.

Conclusion

Overall, this scoping review examined how inclusive spaces are defined and enacted within Canadian health sciences education. Across studies, inclusive spaces were implemented through mentorship-based programs, holistic programs, and institutional policy-level initiatives. A key finding was that belonging emerged as a key outcome, shaped through the interaction of academic, social, and structural supports. These findings highlight that inclusive spaces extend beyond individual interventions and are shaped by the broader educational environments to support diverse learners. Continued research and institutional support may be important for advancing inclusive spaces across health sciences education in Canada.

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