Addressing Grand Challenges in Higher Education: An Approach Toward Interdisciplinary Collaboration, Knowledge, and Experience Exchange

Sub-theme: Collaboration and Culture Building

Silvia Mazabel*, The University of British Columbia, silvia.mazabel@ubc.ca
Gülnur Birol*, The University of British Columbia, gulnur.birol@ubc.ca

Introduction

Making undergraduate teaching more inclusive and responsive to student diversity (including cultural background, language, identity, and lived experience with disabilities) is not a new challenge, nor is it specific to our large, research-intensive university in Canada (Salazar et al., 2017). While inclusive teaching practices and policies have advanced, science laboratory courses present unique accessibility challenges as they build foundational disciplinary competencies (Sukhai & Mohler, 2017). Building on existing efforts to enhance and create a culture of accessibility and inclusion in undergraduate laboratory experiences across Science departments at The University of British Columbia, we showcase a contextualized, collaborative, adaptive and iterative approach to address complex educational challenges for an increasingly diverse student body (Smith et al., 2022).

Our approach

Cultural, curricular, and pedagogical transformation emerge from creating opportunities for situated consultation, professional learning, tool and resource development, and ongoing support as informed by the unique expertise that our partners share. Students with disabilities act as experts in relation to their unique needs and accommodations in the context of lab learning; instructional teams are disciplinary and teaching experts; staff bring disciplinary, educational, and contextual expertise; and external consultants offer resources from similar projects to enrich our conversations. Together, we aim at supporting meaningful and sustainable change at our institution, with both short- and long-term impacts on students, teaching assistants (TAs) and instructors.

Our approach over time

We developed a two-year iterative plan to improve student and instructional team experience in lab settings with an accessibility lens. The first phase focuses on community building and exploring how accessibility is addressed in undergraduate science labs and on identifying supports for instructors to deliver more inclusive lab experiences. Initial strategic consultations (surveys, focus groups) with students, instructors & TAs highlighted strengths and gaps in current practices and surfaced areas of support needs for instructional teams. We have heard loud and clear the need to centre student lived experiences to inform resource design and training; and for capacity-building opportunities to enhance instructional teams' confidence and competence in addressing accessibility.

The second phase focuses on capacity and community building. We curated a speaker series for students and instructional teams that amplifies the voices and experiences of scientists and disability experts to deepen our understanding of disability, accessibility, and inclusive education practices. We are consulting with individual instructors to deepen our understanding of existing practices and challenges regarding accessibility, as well as to co-develop tools and resources to enhance accessibility in lab courses. So far, we secured additional funding through a co-constructed proposal, co-created a laboratory accessibility toolkit as a professional learning and pedagogical improvement tool, and co-developed/implemented surveys to learn about undergraduate student experience of accessibility and TA experience of supporting access needs in lab courses.

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In the third phase, through knowledge and experience exchange, we will continue to develop, pilot, and test a collection of best practices, tools, and resources to support teaching teams to design and deliver accessible lab experiences. Through iteration we will refine and expand pilots across courses and departments, leading to consolidating resources, evaluating the project, and knowledge mobilization.

Click to access more details about our project (https://tinyurl.com/IUT26examples): A list of our partners, an example of how we co-developed the undergraduate student survey and a description of our lab accessibility toolkit.

Key Takeaways

Partners appreciate the collaborative and contextually informed effort to transform laboratory teaching and learning. We have learned that:

- Working together helps us achieve more than working alone
- Ongoing funding keeps momentum and engagement strong
- Our approach helps us to meet people where they are
- Visible, ongoing support encourages meaningful change
- We need to go slow to go fast

References

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