

# FUTURE-READY GRADUATE EDUCATION IN CANADA

Big Thinking Summit. Proceedings



## Table of Contents

<b>THE STATE OF GRADUATE EDUCATION: PERSPECTIVES ON CURRENT DISRUPTIONS.....</b>	<b>5</b>
GRADUATE EDUCATION UNDER PRESSURE: THE CHALLENGES OF REFORM .....	6
RETHINKING RESEARCH EXCELLENCE THROUGH AN EQUITY LENS.....	7
GRADUATE STUDENT EXPERIENCE, IDENTITY, AND MENTAL HEALTH.....	8
EMPLOYABILITY, SKILLS, AND THE LIMITS OF ADD-ON PROGRAMMING.....	9
INNOVATION PARTNERSHIPS AND LEARNING BEYOND THE UNIVERSITY.....	10
CONCLUSION .....	10
<b>REFLECTION 1.....</b>	<b>12</b>
COLLABORATION AND RESOURCE MOBILIZATION.....	13
SKILLS, CAREER PATHWAYS, AND INCLUSIVITY .....	13
RETHINKING THE PURPOSE OF GRADUATE EDUCATION .....	14
INTEGRATING APPLIED KNOWLEDGE AND EXPERIENTIAL LEARNING .....	14
INDIGENOUS AND COMMUNITY-RESPONSIVE EDUCATION .....	14
FACULTY ENGAGEMENT AND INSTITUTIONAL CULTURE .....	15
DIFFERENTIATED APPROACHES ACROSS DISCIPLINES.....	15
BALANCING FUNDAMENTAL AND APPLIED RESEARCH .....	15
BUILDING A SYSTEM-WIDE VISION .....	16
<b>KEYNOTE. REIMAGINING GRADUATE EDUCATION: BIG IDEAS FOR A CHANGING WORLD.....</b>	<b>17</b>
A CHANGING WORLD AND CONTEXT FOR GRADUATE EDUCATION IN CANADA.....	18
SOCIAL MOVEMENTS AND SOCIETAL IMPERATIVES .....	19
THE PURPOSE OF GRADUATE EDUCATION .....	20
MOVING GRADUATE EDUCATION FORWARD.....	21
INDIGENOUS EDUCATION.....	23
GOVERNANCE AS SYSTEM-LEVEL STEWARDSHIP.....	23
<b>TRANSFORMING GRADUATE EDUCATION: WHAT CAPACITY TO EFFECT AND MANAGE CHANGE IN UNIVERSITIES? .....</b>	<b>24</b>
<i>Panelists.....</i>	<i>25</i>
RE-CENTRING GRADUATE EDUCATION AROUND MEANING, SKILLS, AND INTERDISCIPLINARITY .....	25
STRUCTURAL CONSTRAINTS AND THE LIMITS OF EXTRA-CURRICULAR PROGRAMMING .....	26
LEADING STRATEGIC CHANGE .....	26
INDIGENIZATION, COMMUNITY, AND TRUST.....	28
DATA, EXPERIMENTATION, AND SYSTEM-LEVEL INTERVENTIONS .....	28
<b>REFLECTION 2 .....</b>	<b>30</b>
PROGRAM DESIGN, EVALUATION, AND STRUCTURAL LEVERS FOR CHANGE .....	30
LOCAL ACTION, DATA GAPS, AND ENGAGEMENT WITH LABOUR MARKETS.....	31
SOCIETAL RELEVANCE, PUBLIC VALUE, AND COMMUNITY NEEDS .....	31

SKILLS-BUILDING AND WORK-INTEGRATED LEARNING .....	31
GOVERNANCE, AUTHORITY, AND THE FEASIBILITY OF MANDATED CHANGE.....	32
DECOLONIZATION AND STRUCTURAL CRITIQUE.....	33
TRANSFORMATION THROUGH STRUCTURAL, CULTURAL, AND ETHICAL RENEWAL .....	33
<b>HOW WILL CANADA BUILD THE GRADUATE EDUCATION SYSTEM IT NEEDS? .....</b>	<b>34</b>
<i>Panelists.....</i>	34
THE PROBLEM WITH “DISCOVERY-FIRST” FRAMING.....	35
TALENT AND SOVEREIGNTY.....	35
THE CHANGING ROLE OF EXPERTS IN THE AGE OF AI .....	36
PRIVATE SECTOR ENGAGEMENT AND THE LIMITS OF CURRENT INCENTIVES.....	37
PROGRAM DESIGN, CAPACITY AND TIME-TO-DEGREE .....	37
CULTURAL CHANGE TO FOSTER AGILE EMPLOYMENT TRANSITIONS .....	38
FUNDING ARCHITECTURE AND RESEARCH INFRASTRUCTURE .....	39
IMMIGRATION, TALENT ATTRACTION, AND RETENTION .....	40
INSTITUTIONAL MISSION, DIFFERENTIATION, AND COLLABORATION.....	40
GOVERNANCE, STEWARDSHIP, AND SECTORAL CHANGE.....	40
SOVEREIGNTY, RECONCILIATION AND EQUITY .....	41
PATHWAYS FOR POLICY .....	42
A CALL FOR INTENTIONALITY AND COORDINATION .....	42
<b>PARTICIPANTS .....</b>	<b>44</b>

# Foreword

On 15 and 16 October 2025, the Federation for the Humanities and Social Sciences, the Canadian Association of Graduate Studies, and the Canadian Collaborative for Society, Innovation and Policy welcomed 100 participants to McMaster University for two days of discussion and deliberative sense-making at the Big Thinking Summit on Future Ready Graduate Education in Canada.

The event combined deliberative workshops and catalyst roundtables, prompting reflection on key themes associated with the future of graduate education in Canada, helping to collectively move a vision forward in which success means fully enabled higher education institutions equipped to support future-ready emerging researchers and leaders.

The Proceedings summarize the transcripts of roundtable discussions, reflections, and the keynote panel. For our team at CCSIP, the record and analysis of deliberations feed into the evidence needed to guide our research and action agenda and, as such, are a vital element of our approach to systems change.



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15 October 2025

# THE STATE OF GRADUATE EDUCATION: PERSPECTIVES ON CURRENT DISRUPTIONS

Panelists:

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Jessica Braimoh, Co-Chair of the EDID Committee Impact Training for Social Innovation; Assistant Professor, York University

Julie Jonkhans, President, Graduate and Postdoctoral Professional Development Network

*Shakib Mahamud, Chairperson, National Graduate Caucus*

*Simone Têtu, Vice-Présidente du Comité Intersectoriel Étudiant du Fonds de recherche du Québec*

*Yu (Yulian) Weng, Vice-Chair Membership, Canadian Association of Postdoctoral Scholars*

## **GRADUATE EDUCATION UNDER PRESSURE: THE CHALLENGES OF REFORM**

The misalignment between how graduate education is structured and where graduates end up working is broadly perceived to be worsening. Training models, supervisory expectations, and program requirements remain oriented toward academic reproduction. However, only a small minority of PhD graduates secure academic research positions. The majority end up pursuing careers in industry, government, non-profits, and adjacent sectors.

The general perception is that graduate education continues to operate as though academic employment were the normative outcome, leaving most students underprepared for non-academic pathways. This misalignment should be described not simply as a skills gap, but as a systemic failure to acknowledge the full range of outcomes that graduate education is actually for. Universities can no longer avoid confronting this reality and must redesign graduate education to prepare students for leadership, innovation, and applied problem-solving beyond the academy.

Despite the need for overarching, systemic change, we should be wary of assuming that graduate education is uniform in process and purpose across disciplines. For this reason, current disruptions are affecting different fields differently. The humanities and social sciences are arguably more susceptible to disruptions associated with generative artificial intelligence, which some perceive as challenging the very foundation of disciplinary practices such as writing and interpretation. By contrast, laboratory-based sciences tend to be perceived to face fewer existential challenges to their core methods.

The perceived variability with which disruptions such as the progress of AI may affect disciplines, challenging some more than others, raises concerns about perceptions of value, and how transitions and reform agendas may unintentionally privilege STEM fields. In this context, it is crucial to develop approaches to transitions and reform frameworks both recognize disciplinary differences and articulate shared commitments to critical thinking, creativity, and societal well-being.

## RETHINKING RESEARCH EXCELLENCE THROUGH AN EQUITY LENS

The current state of graduate education reflects a broad range of disciplinary conceptions of research excellence, including how it is defined, operationalized, and evaluated. Despite disciplinary differences, excellence in graduate education is often narrowly measured through quantifiable outputs, such as peer-reviewed publication and speed of completion. These metrics not only tend to shape research cultures and mentoring practices, but they also end up shaping student behaviors in ways that can be harmful, exclusionary, and misaligned with societal needs.



Current definitions of excellence discourage collaborative, community-engaged, interdisciplinary, and slow scholarship. Students who wish to work with communities or pursue relational, participatory research report that such approaches are often penalized because they require more time and do not align with dominant performance indicators. This creates structural disadvantages in funding competitions and career progression.

Panelists broadly agreed that excellence cannot be disentangled from equity, diversity, and inclusion. In some cases, prevailing evaluation systems function as disciplinary gatekeeping mechanisms rather than genuine measures of quality. Calls were made for

greater use of qualitative evaluation, broader recognition of diverse contributions, and alignment with emerging reforms such as narrative CVs. However, while momentum exists, concrete change remains slow and uneven across institutions.

Equity concerns cut across virtually all these themes. Expectations to “do more” during graduate training disproportionately burden students who are already navigating structural barriers. Compressed timelines, rigid milestones, and punitive funding rules were described as particularly harmful to students from marginalized backgrounds.

The insistence on speed was repeatedly challenged. Participants argued that excellence defined by rapid output is incompatible with equity, community-engaged research, and student well-being. Any serious reform agenda must address time-to-degree expectations, funding structures, and evaluation practices together, rather than layering new demands onto already overburdened students.

## **GRADUATE STUDENT EXPERIENCE, IDENTITY, AND MENTAL HEALTH**

The discussion addressed the challenges that many graduate students face. These include a intense pressure to meet rigid milestones within fixed timelines, often under conditions of financial precarity, immigration uncertainty, caregiving responsibilities, housing insecurity, and declining mental health. There is ground to worry that even when students know, often early on, that they are unlikely or uninterested in securing an academic position, they nonetheless feel compelled to “perform” the role of aspiring academic to survive the program. This creates a double bind: students must internalize academic norms they know are misaligned with their futures in order to complete their degrees.

Current misalignment between the academic focus of graduate education and the reality of a post degree career has significant psychological and emotional costs. For many students, moving away from an academic career trajectory involves a sense of loss, grief, and identity disruption. Participants argued that universities rarely acknowledge this emotional labor, leaving students to navigate these transitions alone.

Many students experience their doctoral training as a narrowing process, where curiosity, exploration, and experimentation give way to risk-avoidance and performance anxiety. The expectation to complete degrees within compressed timelines leaves little space for broader skills development, career exploration, or relationship-building outside the university. For international students—who constitute a significant proportion of graduate enrolments—these pressures are compounded by unfamiliar systems and limited social safety nets.

## EMPLOYABILITY, SKILLS, AND THE LIMITS OF ADD-ON PROGRAMMING

Employability at the graduate level is not about vocational training in a narrow sense, but about preparing individuals for leadership and decision-making roles across sectors. This requires explicit recognition of the skills developed through graduate training and clearer pathways for translating those skills into societal contexts.



To have the best chance of success both within and beyond academia, graduate students require skills that extend beyond disciplinary expertise, including communication, leadership, project management, collaboration, and systems-level thinking. However, incremental adjustments to skills programming are insufficient without deeper changes to academic culture, evaluation systems, and institutional expectations. The availability of optional workshops, certificates, and professional development opportunities are perceived to have limited impact in a context where departmental cultures, supervisory practices, and degree expectations send the signal that they have little value. Students often lack permission—explicitly, implicitly or both—to pursue non-academic identities and skills-building opportunities, even when institutional programming nominally supports them.

Helping students name and value what they have gained through graduate education can be transformative. When students receive support and recognition for their effort in developing skills and broadening their capacity to contribute to research, confidence replaces disorientation and career transitions become more navigable. However, this

requires academic leaders and faculty members to embrace these transitions and new realities, rather than treating non-academic careers as deviations or failures.

One important aspect of this transition might revolve around an effort to shift some responsibility for training away from academic faculty, and to recognize and value the contributions of highly trained academic staff and professional personnel whose expertise is essential to institutional functioning but often marginalized within academic hierarchies.

## **INNOVATION PARTNERSHIPS AND LEARNING BEYOND THE UNIVERSITY**

From the standpoint of organizations whose role is to promote innovation and understand how research moves into societal use, partnerships between universities and external partners are crucial. The role of organizations that support such partnership potentially extend to various aspects of building innovation and impact capacity and literacy: collaborating on curriculum design, experiential learning, and systems education, helping students understand how ideas travel through regulatory, commercial, and public infrastructures.

While such partnerships do not replace academic training, they act as complements that help students situate their research within broader innovation ecosystems. Participants stressed that innovation processes are rarely linear and that graduate education should be an opportunity to experience this complexity.

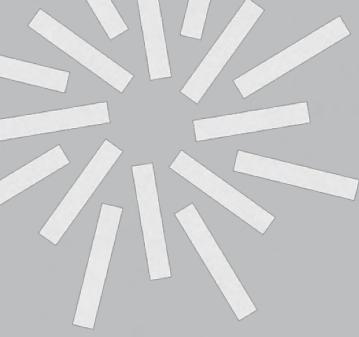
However, partnerships require time and capacity on all sides: university, partners, and students. Social and public sector organizations, just like those in industry, face their own constraints, and collaboration must be designed in ways that are reciprocal, ethical, and sustainable.

## **CONCLUSION**

The disruptions facing graduate education are not merely technical problems of skills alignment or curriculum design. They are deeply cultural, emotional, and structural. A meaningful transition requires rethinking research excellence, redefining success, realigning incentives, and transforming academic cultures that constrain both students and faculty.

Graduate education must prepare students not only to produce knowledge, but to understand its value, to apply it across contexts, and to carry it into society with confidence. Without addressing questions of identity, evaluation, equity, and culture alongside skills and partnerships, efforts to reform graduate education risk remaining superficial. The discussion ultimately framed graduate education reform as a collective responsibility—one that demands honesty about current failures, courage to experiment, and willingness to be changed by the change itself.





# REFLECTION 1

## Panelists

**Cathy Barr**, Senior Advisor, Research and Data, *Imagine Canada*

**Jeff Casello**, Associate VP, Graduate and Postdoctoral Affairs and Professor of Transportation Planning and Engineering, *University of Waterloo*

**Julie Dirwimmer**, Strategic Advisor, *Fonds de Recherche du Québec*

**Kathryn Grandfield**, Associate Dean, Graduate Studies, *Faculty of Engineering, McMaster University*

**Kusum Bhatta**, President, *McMaster Graduate Student Association*

**Sheila Cote-Meek**, Professor and Director, *Indigenous Educational Studies Programs, Brock University*

Following the first round of sense-making, panelists reflected on how to structure graduate training to meet societal, industrial, and community needs while preserving the rigor and academic purpose of graduate education. Panelists focused on collaboration, skills development, career pathways, and balancing fundamental research with applied innovation.

Panelists highlighted the urgent need for graduate education in Canada to evolve in response to societal, industrial, and community needs. Key priorities include:

1. Collaboration and resource mobilization across institutions, government, industry, and community organizations.
2. Skills development and career preparation for diverse academic and non-academic pathways.
3. Inclusive, community-responsive education, particularly for Indigenous and underrepresented students.
4. Faculty engagement and institutional culture change to support interdisciplinary, applied, and student-centered approaches.
5. Balanced and differentiated research strategies, integrating fundamental inquiry with applied and mission-oriented knowledge.

6. System-wide alignment and planning to embed these priorities across graduate programs and institutions.

Achieving these goals requires cultural and structural change. Graduate education should be seen as a dynamic ecosystem in which students, faculty, and institutions co-create knowledge and skills for societal impact, innovation, and leadership.

## COLLABORATION AND RESOURCE MOBILIZATION

A recurring theme was the urgent need for collaboration to ensure graduate students have access to the resources necessary for success. Panelists noted that many institutions may not have sufficient funding to meet student needs, but that partnerships with external stakeholders—including policymakers, industry, and community organizations—could pool resources and provide critical support.

Drawing on past experiences, one panelist cited an MA course that connected students with nonprofit organizations to provide experiential learning opportunities. Such models were highlighted as exemplary ways to build connections, networks, and practical skills for graduate students, emphasizing that collaboration is not only a resource strategy but also a pedagogical one.

Panelists also discussed international examples. In Germany, companies actively identify knowledge needs and send employees to pursue PhDs before integrating them back into the workplace. This “reverse knowledge flow” aligns more research with industrial and societal needs, presenting a model for linking graduate education more closely with innovation ecosystems.

## SKILLS, CAREER PATHWAYS, AND INCLUSIVITY

The panel emphasized that graduate education must prepare students for diverse career paths, both within and beyond academia. Several participants noted that graduate students are often socialized to prioritize academic positions, despite the reality that the majority will work in non-academic roles. Studies cited during the discussion indicated that upwards of 90% of graduates in some departments pursue careers outside universities.

This gap has critical implications for graduate training. Faculty members are typically ill-equipped to advise students on non-academic career paths, leaving many students unaware of the transferable skills they already possess. Panelists highlighted project management, program evaluation, and collaborative problem-solving as examples of skills that graduate students already develop but often fail to recognize as marketable in non-academic sectors.

Equity and inclusion were also raised as key considerations. Graduate programs serve highly diverse populations, including international students, Indigenous students, and students from underrepresented backgrounds. Panelists stressed the importance of recognizing and accommodating these differences, ensuring that all students have equitable access to opportunities and support.

## RETHINKING THE PURPOSE OF GRADUATE EDUCATION

A central point of discussion was the ongoing debate about the fundamental purpose of graduate education. Some participants highlighted tension between traditional notions of graduate education as a vehicle for curiosity-driven, fundamental research and the growing demand for applied knowledge and societal impact.

Panelists argued that the century-old linear model—in which fundamental research leads to applied research, which then produces innovation—is increasingly inadequate. Instead, graduate education should adopt a more systems-oriented approach that balances curiosity-driven inquiry with responsiveness to societal, industrial, and technological needs. This includes cultivating interdisciplinary skills and innovation literacy across all fields of study, ensuring that graduates can contribute meaningfully to complex, real-world challenges.

## INTEGRATING APPLIED KNOWLEDGE AND EXPERIENTIAL LEARNING

The discussion underscored the importance of integrating experiential learning and applied knowledge into graduate programs. Panelists advocated for programming that allows students to work across disciplines, collaborate in teams, and engage with real-world challenges in nonprofit, industrial, and community contexts.

By doing so, graduate education can better prepare students for leadership roles that extend beyond academia. Panelists highlighted the value of building anticipatory innovation capacities, where students and institutions forecast emerging societal and industrial needs and respond proactively with research and training.

## INDIGENOUS AND COMMUNITY-RESPONSIVE EDUCATION

Indigenous education and community responsiveness were emphasized as critical but presently under-supported dimensions of graduate training. Panelists noted that graduate education has historically focused on academic or industrial career pathways, often neglecting the needs and priorities of Indigenous communities.

Programs that engage with Indigenous communities and respond to their specific contexts were highlighted as models for more inclusive and relevant graduate education. This includes creating pathways for students to return to their communities equipped with leadership skills, methodological expertise, and the capacity to implement meaningful change.

## **FACULTY ENGAGEMENT AND INSTITUTIONAL CULTURE**

Panelists identified faculty as key partners in any transformation of graduate education. Program delivery remains largely discipline-driven, and faculty historically design curricula for academic audiences rather than broader societal impact. Faculty will need to change how they think about and do graduate training if any real change is going to be feasible, but they are often resistant to such change.

To bridge this gap, some participants recommended workshops and collaborative planning with faculty to align graduate programs with both student needs and broader societal goals. This requires shifting institutional culture to value interdisciplinary collaboration, skills development, and engagement with innovation ecosystems.

## **DIFFERENTIATED APPROACHES ACROSS DISCIPLINES**

The discussion highlighted significant heterogeneity across disciplines in Canada when it comes to non-academic integration and engagement. Engineering programs, for instance, often have strong connections to industry, with faculty and students actively engaged in applied research and entrepreneurship. Humanities programs, by contrast, tend to maintain a narrower focus on academic career pathways, even as funding and enrollment pressures change and make such a focus untenable for most trainees.

Graduate education strategies must account for these differences while ensuring that all students acquire transferable skills and access diverse career pathways.

Differentiated approaches also support alignment with national innovation priorities and workforce needs, allowing institutions to play complementary roles within broader ecosystems rather than competing.

## **BALANCING FUNDAMENTAL AND APPLIED RESEARCH**

A recurring theme was the challenge and need to balance fundamental, curiosity-driven research with applied, mission-oriented work. Panelists agreed that fundamental research remains essential for long-term innovation, which should be reflected in graduate training. But the traditional linear model linking basic research to applied outcomes is outdated.

Instead, a systems-level perspective is needed, where graduate programs respond to the knowledge needs of diverse stakeholders and sectors. This requires rethinking innovation ecosystems (and the place of universities within them) to integrate both fundamental discovery and applied problem-solving, rather than treating them as sequential stages.

## BUILDING A SYSTEM-WIDE VISION

Panelists concluded that systemic engagement across the university sector is critical to implementing meaningful changes. Graduate training reforms require alignment among faculty, program leaders, students, and institutional decision-makers.

Strategies for embedding skills development, interdisciplinary training, and applied learning into graduate education include:

- Making these competencies part of required curricula, co-curricular activities, or micro-credential programs.
- Tracking student flows across universities and colleges to optimize talent development within innovation ecosystems.
- Developing clear institutional mandates and differentiation to allow universities and colleges to play complementary roles.

Participants emphasized that these measures must be implemented alongside a broader cultural shift within universities, promoting a student-centered, skills-focused, and ecosystem-aware approach to graduate education.



15 OCTOBER 2025

# KEYNOTE. REIMAGINING GRADUATE EDUCATION: BIG IDEAS FOR A CHANGING WORLD

Speaker/Moderator: **Fahim Quadir**, President of Canadian Association for Graduate Studies; Dean of Graduate Studies, Queen's University

Speakers: **Jackie Pichette**, Director of Skills Policy, RBC Thought Leadership; **Jessica Riddell**, Founder, Hope Circuits Institute; **Mike DeGagné**, President and CEO of Indspire

The Big Thinking Summit keynote session convened leaders from academia, industry, and the nonprofit sector to examine what graduate education can and should become within a rapidly transforming and destabilized world. The discussion, which was hosted at the Art Gallery of Hamilton, focused on three interconnected themes: the shifting context surrounding graduate education, the evolving purposes of advanced study, and strategic directions needed to shape the future of graduate programs in Canada. While panelists agreed on the overarching importance of graduate education, the discussion revealed nuanced tensions between workforce preparation and civic and intellectual formation and how to respond to artificial intelligence.

Discussion converged on several priorities:

- Clarifying and expanding the purpose of graduate education
- Fostering equitable access and student success
- Emphasizing collaboration, interdisciplinarity, and lifelong learning
- Strengthening universities' civic and democratic role
- Supporting Indigenous leadership and excellence
- Enhancing flexibility and responsiveness in programming
- Cultivating a culture of opportunity, stewardship, and hope

## **A CHANGING WORLD AND CONTEXT FOR GRADUATE EDUCATION IN CANADA**

Graduate education operates within a world undergoing accelerated change, driven by technological disruption, evolving societal expectations, and changing student demographics. Artificial intelligence and other emerging technologies are transforming how knowledge is produced. The twentieth-century model of graduate education, which assumed that humans perform most cognitive, analytic, and creative labor, is under pressure. Panelists emphasized that AI introduces opportunities and dilemmas: it can enhance learning and accessibility, yet raises questions about authenticity, human control over thought, and the future of scholarship. As one speaker noted, "AI has fundamentally changed the game," highlighting the urgency of rethinking pedagogy, assessment, and the broader purpose of graduate programs.

Industry, government, and civil society are shaping expectations of career-ready graduates. These stakeholders require skills and capacities aligned with evolving societal and technological priorities. The panel noted that while graduate programs have traditionally focused on academic preparation, increasing attention must be paid to workforce readiness, innovation, and interdisciplinary engagement.

## SOCIAL MOVEMENTS AND SOCIETAL IMPERATIVES

Social movements are pressing universities to align research and teaching with societal needs. Frameworks such as the UN Sustainable Development Goals challenge traditional disciplinary silos and encourage the creation of integrative, problem-solving approaches.



Graduate students are seeking more flexible learning experiences that allow them to engage in continuous, applied, and experiential learning. Panelists stressed that graduate programs must accommodate diverse learner trajectories, from recent bachelor's graduates to mid-career professionals, and provide pathways that reflect evolving personal and professional goals.

Public trust in universities is under strain. Skepticism about the value of graduate degrees is rising, fueled by political rhetoric, anti-intellectual populism, and broader societal shifts. One panelist cautioned that Canadians should not assume insulation from global trends, noting that the emergence of anti-intellectual populism is creating an environment that is more suspicious of universities as institutions and the value of the graduate education that they offer.

Universities occupy a critical frontline in defending democratic practices and values. Yet, panelists highlighted, the dominant paradigms in higher education are beginning to

"accumulate anomalies" and show signs of imminent collapse. The discussion emphasized the urgency of reasserting the sector's societal role and demonstrating the value of graduate education in shaping informed and engaged citizens and leaders.

## THE PURPOSE OF GRADUATE EDUCATION

The evolving context for graduate education raises questions about its purpose, prompting reflection on its intellectual, professional, and civic roles and goals.

Graduate education is about more than awarding degrees. As one speaker noted, graduate education is about preparing the next generation of leaders, innovators, problem solvers, and, more importantly, equipping students to become responsible citizens. Panelists stressed that programs must cultivate students' capacities to navigate complex social, political, and professional landscapes, though there was some disagreement about which capacities to emphasize.



The cultivation of critical thinkers remains foundational. At the same time, panelists noted the importance of articulating graduate education's broader value proposition. One speaker observed, "People are asking questions: you have a PhD? What do you know? And what can you do for us?" Graduate programs must prepare students to answer such questions in ways that combine intellectual depth with practical relevance.

Given ongoing labor-market disruptions, graduate programs must equip students with transferable competencies and skills. Panelists emphasized the need for graduate education to remain a route to socioeconomic mobility, supporting students' adaptability in a rapidly changing employment landscape.

But universities were also described as "playgrounds of civic imagination, the rehearsal space for creative futures, and the incubator for the courageous compulsion to move forward." One panelist argued that graduate education should foster creativity, imagination, and civic engagement, encouraging students to envision and contribute to a better society.

Graduate education has traditionally favoured select groups. Panelists highlighted the urgent need to improve access and outcomes for Indigenous students, students from lower socioeconomic backgrounds, and racialized students. Equity was framed not only as a moral imperative but as essential to cultivating the talent required to meet societal and professional challenges in Canada's diverse communities.

## MOVING GRADUATE EDUCATION FORWARD

The central forward-looking question was: **What must graduate education look like in 2035 to remain inclusive, relevant, and transformative?** The discussion emphasized big ideas over incremental reform, focusing on inclusion, relevance, societal impact, and institutional transformation, none of which will be possible without a renewed commitment to funding postsecondary institutions.

Institutions must redefine student success. One speaker noted that success extends beyond graduation to "helping them to build a good and rewarding life after graduation." This includes navigating systemic pressures such as precarity, funding instability, AI disruption, and colonial legacies. Programs must cultivate hope, creativity, and a positive vision for the future. Panelists also emphasized the need to shift from ensuring students can answer questions to teaching them to ask the right questions and think creatively. Education in an information-rich world requires developing analytical capacities, critical reasoning, and collaboration.

Greater differentiation between institutions is necessary. Universities should define and lean into unique mandates, whether oriented toward particular industries, learner populations, or research strengths. Alignment with national priorities, including AI, energy, and technological innovation, was identified as critical to Canada's competitiveness by one panelist. But financial constraints remain a key barrier. Without adequate funding or policy flexibility, institutional transformation cannot succeed.

Graduate education must emphasize:

- Collaboration and teamwork

- Interdisciplinary experiences
- Leadership and collective problem-solving
- Human-centered skills

Panelists stressed the importance of lifelong learning and competency-based programs to accommodate diverse learner trajectories, including early-career and mid-career students.

Beyond workforce preparation, graduate education should foster civic imagination and collective flourishing. Students must learn to interpret complex systems, develop critical empathy, and see themselves as architects of change. One speaker highlighted the generational urgency: "Our young generation right now, the ages of 18 to 25, is reporting the lowest levels of hope since we've been reporting it at the end of World War II. If we are not alarmed by that...we will become obsolete and irrelevant."



Higher education's "superpower," panelists noted, lies in enabling movements—defined as diverse actors moving together while thinking differently—rather than enforcing conformity. Sector revitalization must originate internally through collaboration with students, faculty, and partners across domains.

## INDIGENOUS EDUCATION

Graduate programs must modernize to support Indigenous excellence. Funding models currently favor Indigenous undergraduate study, and initiatives like INDSPIRE remain the largest funders of Indigenous graduate students. One panelist highlighted the challenge that Indigenous leaders are expected to reform critical systems—such as child welfare—without adequate graduate-level education. The panel emphasized that enabling Indigenous leadership in graduate education is urgent, actionable, and broadly beneficial for Canadian society. But, as one speaker observed, “We spent a lot of our resources just trying to acclimatize Indigenous students to our institutions rather than going to where they live and asking them: what do you need?”

Graduate programs must be adaptive and responsive to Indigenous communities and be able to serve communities on their own terms, not only according to semester schedules or the rhythms of the institution. Flexibility in delivery, curriculum, and institutional structures is central to serving both societal goals and individual learners.

## GOVERNANCE AS SYSTEM-LEVEL STEWARDSHIP

Panelists observed that homogenized university mission statements impede differentiation and collaboration. Clarifying mandates allows institutions to address pressing societal issues while collaborating with minimal duplication or conflict. Institutions that focus on strengths can more effectively contribute to labor-market alignment and public service.

Effective governance requires treating faculty, staff, and students as co-creators of the university mission. Senates and leadership bodies must embrace stewardship, balancing institutional integrity with responsiveness to societal and student needs.

Panelists emphasized the need to move beyond scarcity narratives. One participant reflected on sectoral strengths: “We are, as a sector, living in abundance and flourishing compared to many other sectors. We cannot get out of our own way to recognize that.” Critical self-reflection, shared vocabulary, and collective sense-making can transform unprocessed grief, anger, and disorientation into hope and actionable insight.



16 OCTOBER 2025

# TRANSFORMING GRADUATE EDUCATION: WHAT CAPACITY TO EFFECT AND MANAGE CHANGE IN UNIVERSITIES?

## Panelists

- **Annie Pilote**, *Dean, Faculty of Graduate and Postdoctoral Studies, Université Laval; past Chair of the Board of Directors, Federation for the Humanities and Social Sciences*
- **Evelyn Asiedu**, *former Senior Director of Research and Head of EDI at CIFAR*
- **Jarita Greyes**, *Assistant Professor of Indigenous Studies, McMaster University*
- **Loleen Berdahl**, *Executive Director, Graduate School of Public Policy, University of Saskatchewan*
- **Robert Luke**, *CEO, eCampusOntario*
- **Suzanne Curtin**, *Dean of Graduate Studies, Brock University; Past Chair of Ontario Council of Graduate Deans*

This Catalyst Roundtable shifted the theme of discussion from problem identification to considerations of institutional capacity by asking to what extent universities and other relevant actors are equipped to enact the transformations needed to bolster graduate education in Canada. While consensus around the need for change is emerging, high-level agreement does not automatically translate into action. Instead, transformation depends on leadership, resources, greater risk tolerance, and the ability to align institutional structures with stated priorities. Differences in regional governance cultures, particularly comparisons with Quebec, highlighted that change may not only be slow or fast, but structurally distinct depending on institutional and policy environments.

## RE-CENTRING GRADUATE EDUCATION AROUND MEANING, SKILLS, AND INTERDISCIPLINARITY

Universities must prepare students not only for disciplinary practices, but for meaningful participation in complex professional and social worlds. Graduate education needs to cultivate curiosity, openness, and confidence alongside technical expertise.

Interdisciplinarity emerged as a central theme, though it needs to be framed not as a dilution of disciplinary rigor, but as a critical meeting point between different forms of knowledge. The contribution of the social sciences and humanities across all dimensions of the research process is essential to innovation and prosperity. They are not merely tools for impact assessment or communication but should be seen as essential ingredients in shaping research questions, ethical frameworks, and societal relevance from the outset.

At the same time, long research trajectories often entail psychological and motivational challenges, which implies that helping students to understand how their work connects to broader societal purposes and future possibilities is important. Re-establishing a

sense of meaning in graduate research is central to well-being, inclusion, and sustained excellence.

## **STRUCTURAL CONSTRAINTS AND THE LIMITS OF EXTRA-CURRICULAR PROGRAMMING**

Much of the current investment in professional development, career support, and skills training is external to degree structures and requirements. Professional skills, experiential learning, and career exploration are typically positioned as optional or supplementary, competing with tightly constrained research timelines. The four-year PhD is a key pressure point, leaving little space for activities that are not formally integrated into program structures.

Authority over degree design largely resides at the program level, where disciplinary norms continue to dominate decisions about coursework, examinations, and milestones. This governance structure limits the ability of graduate schools and other central administrative units to embed institution-wide priorities—such as interdisciplinary collaboration, systems thinking, or employability—into graduate education.

A shift from content-heavy requirements toward competency-based frameworks at the graduate level is desirable. Rather than relying solely on comprehensive exams and other more traditional assessment formats to demonstrate aptitude in research, degree requirements could focus on ways to foster other types of foundational research capacities: collaboration across fields, contextual understanding of research impact, engagement beyond academia, and the ability to situate specialized research within broader ecosystems. Faculties of graduate studies are potential sites of leverage, given their oversight role in program approvals and cyclical reviews. Embedding the assessment of various aspects of competencies development within degree requirements may be a promising path toward aligning graduate education with contemporary realities without eroding disciplinary depth.

## **LEADING STRATEGIC CHANGE**

Universities are often extremely difficult to change, making institutional adaption to emerging societal needs extremely challenging. Narratives that portray universities as inherently agile should be questioned, given that meaningful change typically occurs only under extreme external pressure. Academic faculty are key actors in graduate education reform yet also seem to fail to grasp the urgency of responding to current disruptions.

Rather than relying on a narrative of change as driven by crisis, some speakers advocated for values-based leadership approaches. By prompting departments to articulate what they believe their programs are for—and by pairing those conversations with data on actual graduate outcomes—leaders can create spaces for reflection and reform. Change, in this view, requires patience, trust, and sustained collaborative engagement, rather than top-down mandates. It also requires high levels of “patient impatience”: leadership should insist on transition while allowing time for difficult cultural shifts to take hold.



Individual institutions cannot drive transformation alone. Academic associations, external agencies, and system-level organizations are also critical actors in legitimizing change, coordinating efforts, and reducing institutional risk. Examples include academic associations producing data on various outcomes, external reviewers prompting long-term reflection during program evaluations, and social innovation advocates and practitioners (e.g. Ashoka) offering co-design and mission-oriented change frameworks. These external pressures and supports are essential for normalizing reform, creating alignment, and fostering connectivity to prevent the unnecessary duplication of efforts that happens when institutions act in isolation.

## INDIGENIZATION, COMMUNITY, AND TRUST

Priorities around Indigenization are an opportunity to reframe the question of capacity for change by challenging the assumption that universities are the primary or most appropriate stewards of all forms of research and knowledge. However, the chronic underfunding of Indigenous postsecondary institutions perpetuates the underrepresentation of Indigenous scholars at the doctoral and faculty levels. The ensuing structural limitations on providing adequate mentorship and the difficulty of establishing broader networks of support that extend beyond campus boundaries constitute a profound contradiction to national commitments to reconciliation.

To overcome these limitations, leadership must reconcile institutional priorities with community-defined needs and visions. Graduate education reform must be shaped not only by academic ideals and aspirations, but by what communities require to sustain knowledge, culture, innovation, and well-being over the long term.

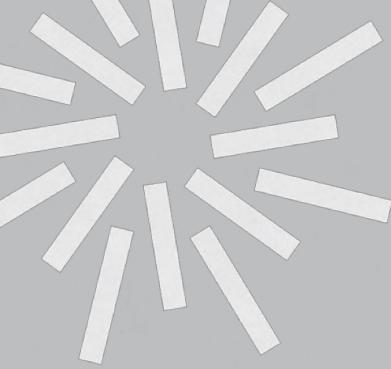


## DATA, EXPERIMENTATION, AND SYSTEM-LEVEL INTERVENTIONS

The absence of robust, shared data is an obstacle to meaningful transformation. Inconsistent collection of socio-demographic information, limited tracking of graduate

outcomes, and maladapted measures of research impact constrain institutions' ability to understand their effectiveness or demonstrate value to the public. This in turn could be a factor in increasing concerns about declining public trust in science, as transparency around skills, knowledge, outcomes, and societal contributions is essential to maintaining legitimacy and support.

The session concluded with examples of practical interventions already underway, including micro-credentials linked to labor market data, AI-enabled tools to surface skills acquired through research and experiential learning, foresight units designed to anticipate future disruptions, and platforms that connect universities with communities and small- and medium-sized enterprises. These experimental and adaptive initiatives can be leveraged to make learning outcomes explicit and to increase institutional permeability without prematurely fixing new models into rigid curricula.



## REFLECTION 2

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## PROGRAM DESIGN, EVALUATION, AND STRUCTURAL LEVERS FOR CHANGE

Program renewal requires rethinking the assumptions and processes that shape graduate education:

- Program evaluation models are outdated, often relying on input and direction from the same faculty who created or maintain existing programs. Several participants proposed integrating *self-study* components, clearer *program outcomes*, and explicit attention to *career pathways* beyond academia.
- Mandated coursework, including in EDI, decolonization, and applied or cross-sector skills, surfaced as a possible change mechanism—but faculty resistance grounded in academic freedom remains a significant barrier.
- Leaders must navigate unionized environments, balancing the need for rapid change (from the student perspective) with slower-paced faculty processes.
- The new Tri-Agency Narrative CV was identified as a potential tool for shifting norms around research excellence and valuing broader scholarly contributions.

Participants agreed that structural incentives—promotion criteria, evaluation policies, senate approval processes—shape what faculty and programs actually do. Adjusting

these levers was seen as essential to enabling innovation rather than relying on individual champions.

## **LOCAL ACTION, DATA GAPS, AND ENGAGEMENT WITH LABOUR MARKETS**

System-level and institutional-level reforms already underway. In Quebec universities collaborated to gather longitudinal data on PhD career outcomes to address uncertainty about what graduates actually go on to do. However, surveys of employers have showed troubling results: even when asked if they would hire PhDs “for free,” many expressed skepticism about their value—especially outside STEM fields. This highlighted a major public signal problem about what PhDs can contribute. A recurrent theme, therefore, was the need to explain and demonstrate the societal value of graduate-trained talent, especially to employers who remain ambivalent.

Participants emphasized the need for stronger collaborations with provincial governments, professional groups, and national coordination bodies like the Tri-Council. Modest shifts in evaluation criteria could unlock considerable energy and innovation. If incentive structures are not altered, cultural change is unlikely to stick.

## **SOCIETAL RELEVANCE, PUBLIC VALUE, AND COMMUNITY NEEDS**

Graduate education should not be seen solely as an internal academic matter but as a public good. At present, however, it is not clear that it is viewed this way. One way forward, participants argued, is for universities to show how graduate education helps address urgent, complex problems. This requires deeply engaging with students, communities, Indigenous partners, industry, and government to understand what value they need and how programs can supply it.

Universities’ legitimacy depends not on better messaging alone but on creating real public value and rebuilding trust through action. The metaphor of “renovation versus innovation” captured the need to work with existing structures while still enabling significant change.

## **SKILLS-BUILDING AND WORK-INTEGRATED LEARNING**

Work-integrated learning (WIL) surfaced as a key strategy for aligning graduate education with societal and labour-market needs. Participants stressed that WIL is not

a single model, however. Successful approaches include product-based, workplace-based, and entrepreneurial models.

Lack of faculty incentives remains a bottleneck to introducing these and other changes to graduate education. Faculty resist new approaches because:

- they are not rewarded for them in promotion and tenure,
- such work falls disproportionately on junior and equity-seeking faculty,
- innovation often requires uncompensated labour.

Some caution should be exercised in integrating professional skills development, especially given the identity-driven and intellectual motivations that draw students to graduate study. Students often pursue PhDs for reasons other than direct job preparation. Program reform should therefore honor the scholarly vocation while still developing transferable skills.

Faculty can play a key role here by modeling the kind of adaptiveness and public engagement they ask of students. Transforming graduate education requires faculty themselves to:

- engage in public service or community-engaged scholarship,
- partner with industry or government,
- rethink what doctoral mentorship means in a rapidly changing society.

Participants argued for recognizing and empowering PhD-trained staff in universities, who are an often overlooked source of expertise and leadership capacity.

This cultural shift, participants noted, must accompany structural change to be credible.

## **GOVERNANCE, AUTHORITY, AND THE FEASIBILITY OF MANDATED CHANGE**

A major theme concerned the question of authority. Who is empowered to change graduate education?

Some participants argued that top-down mandates are necessary. Senate-approved breadth requirements exist at the undergraduate level but not at the graduate level, where authority has been ceded to programs.

Existing models—such as industry advisory boards for business schools—demonstrate that continuous curriculum renewal is possible when consultation is built into governance structures. Participants suggested consulting employers, government, alumni, and students through formalized bodies such as “Committees of Champions” or “Coalitions of the Willing.”

Mandatory internships for all graduate students were viewed as valuable but currently infeasible; pilot projects were proposed as a practical first step.

## DECOLONIZATION AND STRUCTURAL CRITIQUE

Panelists described the current structure and function of universities as part of an “educational industrial complex,” implicated in epistemic colonialism. Participants were urged to ask whether they were merely “rearranging the chairs on the Titanic” in discussions about transforming graduate education, rather than addressing foundational structures.

Some institutions are already pivoting to community or Indigenous-centred program design, such as community-based Master of Education programs co-developed with local communities. This work is becoming increasingly urgent as demographic and policy shifts require universities to engage meaningfully with Indigenous learners, rural communities, and northern populations.

Reconciliation, participants stressed, requires both self-critique and structural imagination.

## TRANSFORMATION THROUGH STRUCTURAL, CULTURAL, AND ETHICAL RENEWAL

The deliberations ended with a recognition that graduate education reform must proceed on multiple fronts:

- Structural (governance, incentives, evaluation models, mandated requirements)
- Cultural (faculty norms, program identity, perceptions of value)
- Societal (alignment with labour markets, community needs, public priorities, and social challenges)
- Ethical (reconciliation, decolonization, and trust-building)

Change is needed—and time is short. Participants agreed that universities cannot simply renovate at the margins. They must simultaneously honor scholarly traditions, respond to student and societal needs, and confront the epistemic and historical foundations of current structures. The next steps will require coordinated action, experimentation through pilots, stronger incentives, and genuine partnerships with communities, governments, Indigenous nations, and industry.



16 October 2026

# HOW WILL CANADA BUILD THE GRADUATE EDUCATION SYSTEM IT NEEDS?

## Panelists

- **Barrington Walker**, Vice-Provost Equity and Inclusion, McMaster University; Chair of the Board of Directors, Federation for the Humanities and Social Sciences
- **Frédéric Bouchard**, Dean of Arts and Sciences, Université de Montréal

- *Joshua Lovell, Director of Policy, Council of Ontario Universities*
- *Rahina Zarma, Director of Policy, Mitacs*
- *Sandra Boisvert, Assistant Director, Policy and Research, Universities Canada*
- *Tim Wilson, Associate Vice-President of Research Programs, Social Sciences and Humanities Research Council*

The discussion explored a proposal for a “science sovereignty initiative” developed by the Chair of the Advisory Panel on the Federal Research Support System: how should Canadian graduate education and talent strategy be reoriented to strengthen national capacity for innovation-driven prosperity. The current arrangements for producing research and training graduate students have been predicated on a set of assumptions about discovery, labour markets, and international exchange that no longer hold. The discussion therefore revolved around the strategic value of reframing universities as talent-producing enterprises and aligning competencies with societal and industrial needs, as well as the feasibility and desirability of incentives and institutional structures that will allow Canada to retain and deploy its own expertise at scale.

## THE PROBLEM WITH “DISCOVERY-FIRST” FRAMING

One panelist argued that universities and policymakers have long over-promised what discovery-driven investment will deliver in terms of economic outcomes. The dominant logic positions faculty, graduate students, and research infrastructure as instruments of national prosperity, conceived narrowly in terms of economic growth. Panelists argued that this instrumental view creates a mismatch between aspiration and delivery: governments and publics expect clear returns on research investments, but the causal chain from basic discovery to economic growth is neither direct nor guaranteed.

One proposed strategy is to flip the “discovery-first” framing: instead of scientific breakthrough, talent formation should be seen as the primary purpose of research systems, with discovery as one of many paths through which talent is cultivated. This “talent-first” posture reframes graduate education as public infrastructure for producing human capital—people with the capacities needed to sustain public administration, industry R&D, and civic institutions—rather than merely a pipeline to academic positions or a mechanism to generate start-ups and patents.

## TALENT AND SOVEREIGNTY

Talent is a central component of scientific sovereignty. Canada trails its OECD peers in the number of PhDs per capita and the degree to which PhD holders are embedded across the economy. The latter problem—how Canada deploys doctoral- and master-level talent beyond the university—bears directly on national capacity to evaluate,

adapt, and apply innovation processes, new technologies, and enhanced policy domestically.

Producing more MA and PhD graduates is necessary to prosperity, but not sufficient. Innovation ecosystems must also be designed to streamline their meaningful integration into private, public, and non-profit sectors. Doing so is essential if Canada is to avoid becoming merely a consumer of offshore technologies or external scientific direction. A sovereign posture requires both quantity and quality: more graduates and graduates whose training includes the epistemic and interpretive skills to evaluate complex outputs (for example, the products of AI systems) and to embed knowledge into organizational practice.



## THE CHANGING ROLE OF EXPERTS IN THE AGE OF AI

Advances in artificial intelligence may directly affect the social and economic role of expertise. Rather than mostly producing knowledge, experts may increasingly be required to assess, qualify, and adapt machine-generated outputs. This could create a new epistemic function for a range of research-trained experts: quality control and contextual interpretation of AI-produced content. With the spread of AI technologies, organizations across sectors will need employees with the capacity to evaluate AI-generated materials; the alternative means outsourcing interpretation to external AI vendors, which might have direct implication for the capacity to innovate and compete.

Such scenarios support the case for expanding graduate-level education. In the emerging economic and technological landscape, expertise is less about having unique possession of facts or specialised technical and methodological skills in a specific field, and more about the ability to understand, critique, validate, and apply algorithmically mediated knowledge which requires more than disciplinary knowledge. Graduate programs that cultivate these interpretive and translational skills are a crucial component of national scientific resilience.

## **PRIVATE SECTOR ENGAGEMENT AND THE LIMITS OF CURRENT INCENTIVES**

An important challenge for a talent-first approach to innovation concerns the implication for private-sector behaviours and incentives. Despite generous tax credits for innovation and R&D, few firms hire MA or PhD-level people at scale to perform R&D or steward organizational transformation. This as a shared responsibility problem: universities, governments, and the private sector must all participate if talent is to be cultivated, included and retained. Several speakers raised concerns that existing tax-credit models incentivize companies to claim R&D spending without necessarily expanding in-house capacity for research and experimentation or without hiring the talent that would make long-term innovation sustainable.

Mitacs and similar work-integrated learning models offer parts of the solutions, by connecting students to industry through co-investment and employment pathways. But this might not be enough to shift preference away from tax credits and towards direct hiring. Metrics that reward quick, measurable returns (for example, company sales or exits) can encourage the selling of small firms rather than long-term capacity-building. One approach might be to rethink current support mechanisms for innovation, such as moving from tax-credit-based incentives toward salary-based supports that require firms to hire and build internal capability.

## **PROGRAM DESIGN, CAPACITY AND TIME-TO-DEGREE**

Graduate education has grown considerably over the last decades, and some are concerned about the capacity of current programs to absorb and train larger cohorts. The problem is less with physical space and supervisory bandwidth, as many departments might still increase enrolments modestly, but rather with the quality of training and the structure of programs, which would need significant adjustment to maintain excellence while expanding scale.

One policy lever often considered is the shortening length of the PhD, possibly aligning degree duration more closely with European norms (for example, four years rather than protracted seven-year tracks). Shorter degree timelines and reconsidering reliance on postdoctoral fellowships as bridges to an evasive academic position might offer avenues to increase throughput and reduce the “false hope” of PhD graduates. However, adding pressure on completion timelines without changing degree requirements could also increase stress and reduce training quality. The need to redesign program requirements, mentoring structures, and cohort models is crucial if accelerating completion is an objective.



## CULTURAL CHANGE TO FOSTER AGILE EMPLOYMENT TRANSITIONS

Changing graduate education to serve broader societal roles will also require cultural change across universities and should factor in the psychological burden of moving from an academic self-conception toward careers in industry, government, or nonprofit sectors. Graduate education culture typically revolve academic career trajectories and outcomes, and expanding the range of career pathways implies reconfiguring values around training so students do not perceive or experience leaving academia as a failure.

Individual development plans, career-diversification strategies embedded in funding programs, and mentorship practices explicitly guided by the desirability of a broader range of competency can help prepare students for non-academic careers. Likewise, measures that reduce the time and social cost of transition should be implemented to support alternatives to the traditional academic ladder.

## FUNDING ARCHITECTURE AND RESEARCH INFRASTRUCTURE

The current funding architecture raises practical concerns. Recent enhancements to scholarship and fellowship funding programs are welcome but have a limited reach: tri-agency funding increases, while important, benefit only a small share of students. One option could be to prioritize funding opportunities aligned with national strategic needs and experimenting with matching funds and priority scholarships that would tie training more closely to large research project or mission-driven innovation in relevant sectors.



The need for investment goes far beyond funding research led by graduate student and postdoctoral fellows. It also includes support for research infrastructure and dissemination platforms. Control over the platforms that host and distribute research (e.g., repositories, publishing infrastructures, data platforms) matters if the goal is science sovereignty. Infrastructure investments that sustain domestic research

ecosystems and reduce dependency on external channels are therefore vital at this moment.

## **IMMIGRATION, TALENT ATTRACTION, AND RETENTION**

Immigration policy is a critical component of any national talent strategy. Some actors argue for national-level action to remove restrictive quotas, to make immigration processes more fluid, and to accelerate processing times to attract and retain global talent. Others emphasized that recruiting internationally remains important but should not be the only strategy: equally important is developing and sustaining domestic talent pipelines and ensuring domestic graduates have opportunities at home.

Because international student recruitment has often been used to subsidize institutional finances, policy shifts and limits to international enrolment growth raises questions about the strategies of Canadian universities for scaling domestic recruitment and retention, including the availability of base funding and support to make graduate study attractive and financially viable for domestic students.

## **INSTITUTIONAL MISSION, DIFFERENTIATION, AND COLLABORATION**

An adapted education landscape is one in which the diversity of the contexts and geographies in which institutions evolve is reflected in a diversity of research portfolios and offerings. From an ecosystem perspective, differences in the institutional missions of colleges, universities and specialized schools implies that they should play complementary roles. Understanding these differences and complementarity could reduce duplication and encourage meaningful specialization, which would play to institutional strengths that facilitate collaborative arrangements to meet regional and national training and research needs.

To encourage cooperation rather than competition, such a system would depend on clear mandates and aligned incentives. A systems approach to mapping these needs can help institutions clarify their roles—focusing, for example, on industry-aligned training, community-engaged research, or specialized disciplinary scholarship—and better coordinate collaborations.

## **GOVERNANCE, STEWARDSHIP, AND SECTORAL CHANGE**

Governance reform is a necessary underpinning of any initiative to scale talent and align research with national priorities. Senates, boards, and faculty governance structures must be reoriented toward stewardship of institutional missions and public

purpose. The panel argued for a collective sense of ownership across faculty, administration, and students; doing so would allow institutions to experiment responsibly and to coordinate with public actors and industry further afield.

Shared vocabulary and principles are currently lacking across campuses. Large-scale change therefore requires leadership and the use of inclusive sense-making processes to help address uncertainty and skepticism while building common goals and practical road maps.



## SOVEREIGNTY, RECONCILIATION, AND EQUITY

Graduate education must be modernized to support Indigenous excellence and sovereignty. In this respect, the concept of “science sovereignty” raises the issue of defining whose sovereignty is being supported. Arguably, a rush to “sovereignty” could be co-opted in ways that undermine equity and decolonial commitments. Any sovereignty initiative must be coupled with robust commitments to accessibility, fairness, and Indigenous inclusion, rather than treating EDI as expendable in the face of crisis or perceived existential threats.

The panel acknowledged political headwinds, including debates in other jurisdictions over equity, diversity, and inclusion (EDI). Some participants warned that anti-EDI sentiment poses reputational and policy risks for the Canadian research ecosystem, and

that preserving the Canadian distinctiveness of inclusive research cultures is part of the country's comparative advantage.

## PATHWAYS FOR POLICY

Several policy instruments could be used to advance a talent-first innovation agenda. These include:

- Shifting incentives from tax credits to salary supports to encourage firm hiring.
- Expanding scholarships and fellowships in mission-relevant areas.
- Designing priority chairs or targeted supports to attract and retain early-career researchers.
- Investing in research platforms and infrastructure.
- Developing regional or sectoral workforce alliances to align training with industrial needs.

Participants also stressed the importance of experimentation, emphasizing the value of a portfolio of reforms over any single policy lever:

- Redesigning doctoral timelines in some programs
- Piloting work-integrated graduate models.
- Co-investing with industry in shared hires.
- Creating intermediaries that translate between universities and government.

## A CALL FOR INTENTIONALITY AND COORDINATION

The panel closed on a note of urgency. The choice facing Canada is not between isolation or openness, but between being passive participants in global knowledge flows or being intentional architects of national capacity. Reorienting graduate education toward a talent-first conception of science sovereignty requires changes in funding, program design, governance, and culture. It also requires political willingness to coordinate across levels of government and sectors, and ethical clarity to ensure that increased national capacity does not come at the expense of inclusivity or Indigenous self-determination.

The Science Sovereignty Initiative, as discussed by the panel, is therefore less a narrow technical reform than a comprehensive project of institutional renewal. Its call is to train people who can not only advance knowledge but can also apply it in ways that preserve Canada's capacity to make its own decisions about science, technology, and public welfare.



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