



UNIVATION

HOW UNIVERSITIES ARE INNOVATING TO PREPARE
STUDENTS FOR A DISRUPTED WORLD

OCTOBER 2018
REPORT



**Universities
Canada.**



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“Universities will have to consider their responsibility in providing students with the tools and support that will help them reach their full potential, express themselves, stand out, and feel good about change.”

– Olivier Lépine, student participant, Université du Québec à Montréal

Introduction

Our world is experiencing a period of unprecedented change – a time of many opportunities but also volatility and uncertainty. Canada must be prepared to navigate these changes, and universities are well-positioned to help lead the way.

Canada’s universities are increasingly connected with the private and non-profit sectors, social enterprise partners and all levels of government. Universities play a central role in preparing Canadians for our rapidly changing labour market and the global knowledge economy.

To advance higher education’s collaborative efforts to ensure all Canadians are equipped to achieve their potential, Universities Canada and the Rideau Hall Foundation convened Univation in February 2018. This national forum brought together university, public service, business and civil society leaders – as well as students and young entrepreneurs – to explore challenges, opportunities and successes in how universities equip students for the future.

The event highlighted that the process of innovating involves a culture shift – a change in thought leadership and everyday practices across sectors. This change is a challenge to all sectors and requires increased collaboration among not only students, faculty and administration, but also with business, government and the wider community.

Univation showcased examples of tangible, transformative shifts in university communities through entrepreneurial education, and building new, non-traditional pathways for student success in some of the most critical areas of Canada’s economy. The meeting also explored gaps and ongoing needs and brought fresh thinking to the search for solutions.

This document aims to highlight the ways in which Canada’s universities and their partners are innovating in teaching, learning and discovery to equip graduates for success in a rapidly changing global knowledge economy, examined through the lens of Univation’s discussions and takeaways. Rather than serve as a summary or chronicle, it is hoped this document will further Univation’s objective to advance the conversation on how universities, civil society and private sector partners can work together to unleash the creativity and innovation Canada needs to meet its future skills, innovation and workforce needs.



The Forum

Univation: How universities are innovating to prepare students for a disrupted future was part of a new series of national summits the Rideau Hall Foundation is supporting to promote a culture of innovation in Canada. The first of the RHF's series of sectoral "deep dives", *Univation* was also part of Universities Canada's ongoing work to convene dialogues on public policy topics important to Canadians. In recent years, similar gatherings have addressed themes such as the future of energy, cybersecurity, reconciliation, refugees and migration, and economic development.

The forum highlighted the interdisciplinary approaches Canadian universities and their partners are taking to innovate in teaching, learning and discovery; to advance equity, diversity and inclusion; and to strengthen access and success for all students.

Universities of the Future



Sethuraman "Panch" Panchanathan
*Executive vice-president, knowledge
enterprise development, and chief research
and innovation officer*
Arizona State University

Innovations in teaching and learning

This armchair discussion explored what innovations in teaching and learning will be needed to prepare graduates to thrive in a disrupted global knowledge economy.



Sheldon Levy
CEO
Next Canada



Paulina Cameron
Director (BC & Yukon)
Futurpreneur Canada



Kevin Kee
Dean of the faculty of arts
University of Ottawa



Jennifer Ditchburn
Editor in chief
Policy Options



Mark Beckles
*Senior director,
youth strategy &
innovation*
RBC

**Innovations to
improve student
access and success**

This panel discussion advanced the conversation on how to make university education more accessible to all and build pathways to success.



Jennifer Flanagan
CEO
Actua



Maayan Ziv
Founder and CEO
AccessNow



Ralph Nilson
President
**Vancouver Island
University**



Deborah MacLatchy
President
**Wilfrid Laurier
University**

Innovations in experiential learning

This TED-talk style session explored innovations in experiential learning across disciplines with a focus on identifying opportunities for replication and scaling.



Anna Moro
Associate dean of humanities
McMaster University



Andrea Ross
Senior lead of computing education
Shopify



Margaret Biggs
Matthews Fellow on Global Public Policy
Queen's University



Valerie Walker
Vice-president, talent and skills
Business Council of Canada



Alan Shepard
President
Concordia University



Paul Salvini
CEO of Accelerator Centre, associate vice-president, research commercialization
University of Waterloo

Innovations in entrepreneurial education

This “world-café” session explored how universities are transforming education to mobilize the next generation of entrepreneurs with 21st century skills.



David Coleman
Professor, technology management and entrepreneurship
University of New Brunswick



Mary Kilfoil
Director, Norman Newman Centre
Dalhousie University



Julia Christensen Hughes
Dean of the college of business and economics
University of Guelph



Brent Mainprize
Program director of the Aboriginal Canadian Entrepreneur program
University of Victoria



Sarah Lubik
Director of entrepreneurship
Simon Fraser University



John Baker
President and CEO
D2L

The next chapter

Students reflected on how universities, employers and civil society can help prepare our future leaders and innovators for the next 50 years.

Unleashing innovations: a shared agenda

This interactive session focused on university-industry-civil society collaborations preparing Canadians with skills for the future – including innovative and scalable practices producing promising results.



Jesse Darling
Senior projects designer
**Brookfield Institute
for Innovation +
Entrepreneurship**



Lisa Watson
Co-founder
Openly



Jon Medow
Research fellow
**Brookfield Institute
for Innovation +
Entrepreneurship**

Innovating the student experience



Patrick Deane
President
McMaster University



Vianne Timmons
President
**University of
Regina**



Ruby Barclay
Student
**Victoria Island
University**



Olivier Lépine
Student
**Université du Québec à
Montréal**



Alyssia Jovellanos
Student
McMaster University

The Context

Universities as drivers of change

University education in Canada – and across much of the world – has expanded significantly in recent decades. Between 1980 and 2017, Canada’s undergraduate university enrolment doubled, from 551,000 (full and part-time) to an estimated 1.1 million in 2017.¹ Once accessible to a privileged few, university education has grown in size and scope, becoming a leader in how Canada prepares its citizens for the future. And how that preparation takes place has evolved. For example, beginning in the 1970s, universities’ program offerings vastly expanded, with more applied programs complementing traditional disciplines. Today, the skills Canadians need for a disrupted future continue to evolve.² Canada’s universities are at the forefront of meeting those needs through dynamic, responsive and innovative programming and supports. They’re also evolving in lifelong learning to meet Canadians’ upskilling needs at every career stage.



“I see universities at the heart of tackling the challenges that face us as a society.”

– John Baker,
President and CEO, D2L

1 Statistics Canada, Postsecondary Student Information System and Universities Canada estimate. 7 December 2017.

2 Universities Canada, “Equipping Canada’s Youth for the Future of Jobs and Skills.” October 2015.



New world of work

Our economy is rapidly changing due to automation and artificial intelligence. These are multifaceted forces reshaping many parts of our economy and lives. For Canadians in occupations requiring routine cognitive and manual tasks, artificial intelligence and automation can trigger job displacement and the need for retraining. For those whose work is mostly “non-routine, cognitive and analytical,” technological change can lead to increased productivity, changed work habits and higher earnings.³ For others, technological change offers the potential to innovate, develop and market new products – building wealth and driving job creation.⁴

Univation speaker Sean Mullin, executive director of the Brookfield Institute for Innovation + Entrepreneurship, pointed out that 42% of the Canadian labour force – primarily the lower-earning, less-educated segments of the population, are at risk of job loss over the next 10 to 20 years due to automation and other issues. A central challenge for universities is helping Canadians – both recent graduates and mid-career and older workers - navigate these risks and opportunities.

In a fast-moving labour market, where new hires are expected to hit the ground running, universities and their partners have a key role to play in equipping Canadians with a well-rounded skillset and direct work experiences that will help them thrive.

3 Institute for Competitiveness and Prosperity, “The Labour Market Shift.” September 2017.

4 Lamb, “The Talented Mr. Robot.” June 2016.



Discussion highlights and key take-aways

Creating, adopting and scaling institutional innovations

Universities adapt — developing new programs and modes of teaching — to meet the changing needs of our society and economy. This institutional innovation has an increased urgency in the current context of technological and economic change. Promising innovations presented at Univation included examples of programming and partnership-building from which universities, government, business and civil society can learn, and which they can potentially adapt, adopt and scale for the benefit of all Canadians.

A captivating look at institutional innovation was presented by Sethuraman Panchanathan, executive vice-president, Arizona State University (ASU). Dr. Panchanathan opened Univation with a keynote profiling the ground-breaking cultural and structural transformation of ASU over the past 15 years. He described the university's journey from a traditional focus on “basic, incremental innovation” toward a new institutional approach — one designed to incentivize and deliver “large-scale and high-risk innovation.”

Dr. Panchanathan described ASU as a university that has broken down disciplinary boundaries and adopted an intensive focus on nurturing creative spirit and entrepreneurial mindsets, embracing external partnerships and solving global problems – all with a holistic focus on access and inclusion. His picture of a “university transformed” set a forward-looking tone for Univation's focus on Canadian university innovation.

Emphasizing the importance of building a rapid response to addressing external needs for innovation, Dr. Panchanathan described the “day one mindset” coined by Amazon's Jeff Bezos of taking risks immediately to get ahead of the curve, rather than waiting too long on departmental or institutional approvals. Waiting for such approvals increases the likelihood that innovative partnerships will evaporate, often within a matter of months. This speed and willingness to take risks is critical.



Dr. Panchanathan gave the example of Starbucks approaching ASU with the specific problem of needing an educational platform where the company’s employees could finish their undergraduate education remotely. ASU’s partnership began with a single meeting and the program was built in only eight months, a feat that Dr. Panchanathan credited to the institution’s direct willingness to be responsive and act quickly.

Innovating in teaching and learning

Through traditional academic activities, university education imparts analytical and critical thinking skills with broad relevance and application. Innovations in teaching and learning explore new ways to blend disciplines, mobilize skills and help students experiment and deepen their learning in an applied setting or new conceptual context. Technical skills are undoubtedly required in today’s economy, but cross-cutting “human skills” are essential to navigating change and creating solutions.⁵

Bridging the practitioner-academic divide

Paulina Cameron, director of start-up program Futurpreneur Canada for BC and Yukon, teaches entrepreneurship at Simon Fraser University. A key component of her classes is helping students build self-awareness and resiliency, key skills to be a successful entrepreneur in today’s changing economy. Students reflect on their experiences with failure and overcoming obstacles. By welcoming professionals from outside an academic context to teach alongside faculty, universities offer students a blended experience, giving them the opportunity to connect academic content with professional experience.

Building on traditional programming

A core strength of university education is its longstanding support for free inquiry and curiosity-driven discovery. These activities form the human skills that help students adapt and thrive in the workforce. Kevin Kee, dean of arts at the University of Ottawa, described how the university’s new social entrepreneurship program supplements its conventional Bachelor of Arts degree. The program helps students translate their academic learnings

5 Stirrett, “It’s Human Skills – Not Technical Skills – That We Need the Most in Today’s Work Force.” August 8, 2017; McKean, “In a Time of Robots, Educators Must Invest in Emotional Labour.” November 26, 2017; Hume, “How to Spot a Machine Learning Opportunity, Even If You Aren’t a Data Scientist.” October 20, 2017. Royal Bank of Canada. “Humans Wanted: How Canadian youth can thrive in the age of disruption.” March 26, 2018.



into social ventures, supported by mentorship from a business professor, competitions in the form of venture pitches, and micro-financing. Kee explained that most arts students do not feel empowered enough to make significant leaps from their interests to these real-world applications. By providing a multi-platform education using social entrepreneurship as a bridge between theory and action, students become change-makers. Micro-financing, mentoring and business tools given to students are a critical missing element in most traditional arts programs.

“Students are hungry to find meaning in their work – whether it’s through internships, school or their communities.”

– Alyssia Jovellanos,
Student participant,
McMaster University

Enhancing student access and success

Innovations in teaching and learning can only succeed if barriers to participation in higher education are removed. This is exemplified by the 2017 public commitment made by Canada’s 96 universities to seven principles and action plan to promote equity, diversity and inclusion at all levels of university studies and across Canada.⁶

While progress in improving access and equity, diversity and inclusion in higher education has been made over the last few decades, participants recognized existing shortfalls and identified areas for action in achieving better outcomes across the university community. This includes working with outside stakeholders to reduce barriers, and mobilizing the full spectrum of ideas, talent, perspectives and experiences within the academy to advance Canadians’ quality of life, social inclusion, innovation, and prosperity.

⁶ Universities Canada, “Universities Canada Principles and Action Plan on Equity, Diversity and Inclusion.” October 2017



In his opening keynote, Dr. Panchanathan gave an impassioned plea for integrating the pursuit of diversity and the pursuit of attracting top talent. He credited ASU's success to "defying the assumption" that accepting students from a diverse socioeconomic landscape is a hindrance. Through intentional outreach and targeted programs, twenty per cent of ASU students come from families that fall below the poverty line of \$20,000 a year, while 40 per cent fall under a family income of \$45,000. Meanwhile the university has increased its research funding exponentially. Dr. Panchanathan said ASU has proven that universities can achieve excellence in student outcomes, inclusivity and research funding simultaneously.

Vianne Timmons, president of the University of Regina, highlighted that students often come with a career-focused mindset, particularly first-generation post-secondary students and those from economically disadvantaged areas – which reflects her own experience. She explained the University of Regina Guarantee, a program which supports students through every step of university to connect them with the resources needed to gain employment, with the institution's ultimate guarantee: if a student does not secure career-related employment in six months, they are eligible to come back for another year of undergraduate courses, free of charge.

Univation participants highlighted the importance of addressing the diverse needs of students– including racialized and Indigenous peoples, students with disabilities, and students without family supports – and drawing on their experiences to inform university decision-making about how to create a supportive and enabling environment for student access and success.



“Instead of just teaching people about adversity, what if we became a culture of teachers, leaders and partners in our social responsibility to provide education with open access.”

– **Ruby Barclay**,
Student presenter,
Vancouver Island
University

Prioritizing early outreach

Improving equity, diversity and inclusion requires reaching prospective students as early as possible to help them envision and realize a path to university. Early outreach to marginalized potential students has, historically, not been viewed as an urgent priority — but this is changing. Universities are deepening partnerships with national initiatives working to increase access and inclusion into postsecondary studies.

Jennifer Flanagan, CEO of Actua Canada, outlined Actua’s outreach activities: the organization has 35 network members operating in 500 communities, working with youth to inspire interest in science and technology. This programming focuses on girls, Indigenous communities and at-risk youth, by designing content that specifically addresses educational gaps in these populations and gives them a welcoming environment to explore career opportunities in STEM fields.

Thirty-five university and college partners play an enormous role in the success of Actua’s programs, with 1000 undergraduates employed to mentor and inspire young people to go into higher education. Canada’s universities serve as a hub of content delivery for most of Actua’s programming, helping more than 250,000 youth across Canada connect with innovative teaching programs — including the Coding and Digital Skills program, which leverages university facilities to provide computer science education, or InSTEM, which engages Indigenous youth in their own communities and connects them to STEM programming.



Developing wrap-around supports

Several student representatives spoke passionately about the need for enhanced mental health supports on campus, as well as sexual violence prevention initiatives that “go beyond posters.” Mark Beckles, senior director of youth strategy and innovation at RBC, described how mental health programming is a key component of the bank’s multi-year Future Launch investment, aimed at preparing young people for the new world of work. RBC is targeting critical gaps by helping youth get work experience, grow their professional networks, and gain skills, through a 10-year, \$500 million investment. So far, RBC has been able to build a career-launch program through their company and a groundbreaking internship program for data scientists and software developers to tackle real business challenges.

Facing uncertainty requires resilience and a culture that normalizes asking for help — and makes that help available, both on campus and in the workplace. Well-being and safety are essential preconditions to learning. That’s why university communities are reimagining mental health supports and sexual violence prevention measures. Universities are investing in strategies and tools addressing issues relating to the student experience, including student mental health, sexual violence and misconduct, risky drinking, and the provision of safe and inclusive student orientation activities. Universities Canada plays a role in gathering and sharing promising practices at Canadian universities and beyond our borders, and collaborating with organizations such as the Mental Health Commission of Canada, whose efforts include developing Canada’s first new voluntary National Standard for Psychological Health and Safety of Postsecondary Students.

At the institution level, innovative and far-reaching responses have had a positive impact. For example, the University of Calgary reacted swiftly to survey results suggesting most students experienced stress related to their education, and 18 per cent of students were diagnosed or treated for a mental health condition. In 2015, the university designed a comprehensive strategy, with areas of action ranging from awareness and promoting well-being, building self-management strategies, early upstream identification, direct



service and support, to full-scale institutional policies, processes, and procedures. The university committed to a culture which fostered wellness and support to all its community members and backed their pledge up by applying a mental health lens to its policies, units, academic expectations, and high-level strategies.

Incorporating Indigenous knowledge

Increasing access to university education for Indigenous Peoples is an imperative for Canada. It requires multi-dimensional action in partnership with Indigenous communities. Ralph Nilson, president of Victoria Island University, described measures his institution has undertaken to address financial and geographic barriers faced by Indigenous students, as well as changing institutional culture to better meet the needs of Indigenous students and communities. An example is VIU's unique partnership with Rideau Hall Foundation, MasterCard Foundation, and Yukon College to provide culturally and vocationally relevant educational experiences to Indigenous learners and provide wrap-around supports tailored to individual communities, including leadership and cultural programming.⁷ The university also demonstrates the value of Indigenous knowledge in practical terms, by formally recognizing the expertise of elders at the university. "There has been shellfish cultivation in BC for 9,000 years. How do we respect that knowledge? ... Looking to an elder as a faculty member, we fundamentally change the environment."

Letting inclusion drive decision-making

Maayan Ziv, founder and CEO of AccessNow, spoke about how her university experience inspired her to create an app that shares location-specific accessibility information and promotes accessibility. Ziv explained that to help people with disabilities achieve their potential, universities must be flexible enough to customize enriching learning experiences around what a person with a disability can do,

7 Victoria Island University. "Learning Partnership." September 2017.

“The focus may be accommodations for someone with a disability, but the goal is inclusion . How can we create an integrated opportunity for someone who learns differently – whether they have a disability or they don’t – to reach their full potential?”



– Maayan Ziv,
founder and CEO, AccessNow

rather than focusing on what their disability prevents them from doing. This requires curricular flexibility, faculty openness and a more self-reflective institutional approach to accommodation.

Scaling up experiential learning

Experiential learning opportunities such as co-ops, internships, service learning, apprenticeships, practicums and hands-on research⁸ are key to preparing students for success in the labour market. *Univation* speaker Valerie Walker, vice president, talent and skills at the Business Council of Canada, leads the work of the Business-Higher Education Roundtable (BHER). BHER, a collaboration between postsecondary institutions and some of Canada’s largest companies, has called for a national goal of 100 per cent of Canadian post-secondary students — across disciplines — benefiting from a meaningful work-integrated learning (WIL) experience before graduating.⁹ For BHER, creating WIL opportunities is about developing a talent pipeline. Students are similarly seeing WIL as a pathway to success and demand for these opportunities outstrips supply.

8 Universities Canada, “Equipping Canada’s Youth for the Future of Jobs and Skills.” October 2015.

9 Business Higher Education Roundtable, “Every University and College Student Should Have Access to Work-Integrated Learning, Business and Post-Secondary Leaders Say.” June 2, 2016.

“New technologies and innovations are already disrupting the work forces of [Canadian businesses] And as a result of this disruption and the increased rate of change, ...we now ask more of our new graduates today than ever before.”

– Valerie Walker, vice-president, talent and skills, Business Council of Canada.

Concordia University has embedded this challenge within their strategic vision, noting that students learn more, and achieve higher outcomes when they are highly engaged in their studies. Among the university’s nine strategic directions is “Get your hands dirty.” This calls for experiential learning as one of the most effective forms of achieving this engagement, complementing and extending classroom outcomes, bolstering civic involvement and enhancing career preparedness.

Partnerships create mutual successes

Andrea Ross, senior lead of computing education for Shopify, described their Dev Degree partnership with Carleton University, launched in 2016. In this unique WIL model, students concurrently complete a computer science degree at Carleton, taking three courses per term, while working 25 hours per week as developers at Shopify.¹⁰ For Shopify, this partnership provides an opportunity to build the workforce they need: **“There is no degree or diploma for what we need people to know. Tech is moving too fast. What we try to do is create adaptability.”** Fifty per cent of participants in the program are women, compared to 12 per cent of software developers in the industry overall. Ross also highlighted the importance of engaging girls through programs such as those offered by Actua, Virtual Ventures and Canada Learning Code, to inspire an interest in STEM fields before girls and others underrepresented in the industry “filter themselves out.” Shopify aims to expand this model soon in partnership with other universities.

¹⁰ Shopify pays participants’ tuition and provides a salary. After four years, students will have accumulated 4,500 hours of work experience, 4,000 hours of academic experience and \$160,000 in cumulative salary, tuition and paid vacation.



Building on success

The University of Waterloo was founded with co-op education in its DNA. Today the university places 19,800 students in paid co-ops every year across all disciplines, the world's largest co-op program. And Waterloo continues to innovate, with a unique academic schedule, organizational structure and industry ties. Paul Salvini, CEO of the University of Waterloo Accelerator Centre, spoke about the university's new Global Entrepreneurship and Disruptive Innovation (GEDI) program, a gateway for industry to access the full innovation capacity of the university and its entrepreneurship ecosystem. The goal of the GEDI initiative is to “make access to disruptive innovation faster and easier” by creating a single pathway for access to multiple programs and streams that can involve current students, recent graduates, custom research teams and other industry and corporate partners.

Laddered learning opportunities

Anna Moro, associate dean of humanities at McMaster University, described her initial work in creating “traditional” experiential learning opportunities for humanities students (internships, placements and research practicums). Seeing the demand from students to pair their humanities education with a wider set of skills-development opportunities, in October 2014 she established a specialized minor in commerce for humanities students, and subsequently, in September 2017, an integrated business and humanities program. A leadership program focused on reflective practice and self-awareness, and a specialized certificate in leadership and cross-cultural fluency soon followed. The result is a rounded suite of options for students to explore the application of their theoretical knowledge, enhancing the core value of their humanities studies.



Fostering international learning

Global education helps build an innovative economy, inclusive society and valuable global links. Margaret Biggs, Matthews Fellow on Global Public Policy at Queen's University and chair of the International Development Research Centre, shared the results of a new ground-breaking report of the Study Group on Global Education, *Global Education for Canadians: Equipping Young Canadians to Succeed at Home & Abroad*. This landmark study calls on Canada to invest in outbound mobility opportunities to help all young Canadians develop the future skills to adapt to rapid global economic and societal change. Biggs noted there is a strong correlation between the skills that are gained by studying outside the country and the skills that today's employers demand. Despite this, Canada is falling behind other jurisdictions in the number of students studying abroad. Increasing the number of students with international experience – and diversifying their destinations beyond traditional locations - needs to be reconceived as an essential part of a national economic strategy, Biggs argues. International experiences are particularly beneficial for less-advantaged students; studies show that the social mobility benefits are particularly pronounced for Indigenous students, first-generation university students and people with disabilities.

“Only 11 per cent of Canadian university undergraduate students participate in an international mobility experience over the course of a degree, (including exchanges, internships, co-op placements and volunteer opportunities).”¹¹



Advancing entrepreneurial education

Students as entrepreneurs

Canadian youth are highly skilled, well educated and exhibit the characteristics needed to pursue entrepreneurship.¹² The impact of universities in this space is widely felt: 58% of Canadian entrepreneurs are university students or graduates. However, this path “remains underdeveloped as a source of employment for young people.”¹³ In an economy driven by innovation, entrepreneurship is an important route for students to consider – with support from universities. More students need to see themselves as job-creators.

Canada’s universities have long offered supports and services to help students interested in starting their own business, and these programs are becoming more sophisticated. Today Canadian universities are home to more than 60 business incubators, accelerators and start-up programs that help fuel Canada’s economic growth. And almost 40 per cent of Canada’s student/graduate entrepreneurs said their coursework influenced their decision to start a business.

Numerous *Univation* participants spoke about their university’s efforts to widen access to entrepreneurial education for students across disciplines. While not all students will pursue the path of entrepreneurship, entrepreneurial skills and innovative mindsets are important for career success in the new global economy. Discussion at *Univation* demonstrated that partners across sectors are committed to enhancing programs and opportunities that nurture students’ entrepreneurial aspirations and capacities.

Making entrepreneurial connections

Dalhousie University’s *Starting Lean* program takes the unique approach of bringing together undergraduate and graduate students from across disciplines and pairing them with people who have launched successful businesses. Mary Kilfoil, acting academic director for the initiative, said six of the last nine participating teams have launched scalable businesses, with support from pitching and funding opportunities within the program. Kilfoil spoke of their recent breakthrough partnership with the U.S. National

¹² Lamb and Doyle, “Future-Proof,” 5. March 2017.

¹³ Expert Panel on Youth Employment, “13 Ways to Modernize Youth Employment in Canada: Strategies for a New World of Work,” 14. June 1, 2017



Science Foundation, becoming the first Canadian Innovation Corps (I-Corps). I-Corps prepares scientists and engineers to extend their focus to accelerating the economic and societal benefits of their research beyond the laboratory. Dalhousie's program will gear up over the next two years as academics from across Atlantic Canada engage in projects to improve the success of start-up corporations in the region.

Entrepreneurship as co-op

Simon Fraser University (SFU) offers an interdisciplinary entrepreneurship course accessible to all students across the institution. Sarah Lubik, director of entrepreneurship for SFU, described how this course serves as a gateway to a certificate program in entrepreneurship. SFU also offers entrepreneurship as a co-op program, allowing students to work on their own business for credit, with financing available on a competitive basis. Pursuing their business ideas while in co-op gives students “protected time.” By retaining their student status, they can develop their business and avoid the need to begin repaying student loans. Dr. Lubik described the value of this “protected time” as very significant for many student entrepreneurs. Examples of successful projects from the program include Locus, a retail analytics hardware and software solution giving managers consumer behaviour insights that work with their current data to optimize product placement, pricing, and store layout.

Supporting values-driven innovation

Many university entrepreneurship programs include learning opportunities around social innovation and social impact. Julia Christensen Hughes, dean of the College of Business and Economics at the University of Guelph, described the school's deep commitment to economic, environmental and social betterment. For example, the university is a “champion participant” in the United Nations Principles for Responsible Management Education —the highest level of participation. Values of sustainability, equity and wage sufficiency are woven throughout the university's business programming. In a new course, students will study and visit an economically disadvantaged community, testing their assumptions and collaborating with community members on economic development solutions. Campobello Island in New Brunswick will be the first course site.



Responding to community need

The traditional drivers of the Atlantic economy are fishing, farming and forestry. David Coleman, professor of technology management and entrepreneurship at the University of New Brunswick, described how the contraction of these traditional economic bases has led to a “self-defeating cycle” of New Brunswickers staying in the province throughout their education, leaving during their working (and prime taxation) years and returning in retirement when their demands on the health system peak. To help remedy this situation, UNB’s Office of Technology Management and Entrepreneurship (MTME) was formed with the goal of supporting engineering graduates to start businesses in the province. The centre now offers courses for credit to students across all programs. The MTME program has been particularly effective at rapidly building new business opportunities for students by including hands-on learning, pitch competitions and professional development challenges to make entrepreneurship a tangible outcome— not just an abstract idea. The MTME has been the launching point of over 60 start-up businesses since 2006, in various parts of the technology and innovation industries, while other graduates have gone on to key decision-making roles in Fortune 500 companies, not-for-profits and government.

Taking the university to the community

The University of Victoria Aboriginal Canadian Entrepreneurs program takes entrepreneurial education hundreds of kilometres from campus to Indigenous communities in Northwestern B.C. As Brent Mainprize, program director, observed: “The very fact of having a program on a university campus knocks out 80 per cent of potential participants.” Lianna Spence, a jewellery maker, carver and tattoo artist spoke about her experience participating in the program and how it supported her in marketing her products and finding greater success. A key to the program’s broad adoption has been its focus on co-development with communities. Before launching the six-month program, thorough discussions are held to ensure that the program responds to host nations’ priorities. In 2016, the program was recognized with the “Global Best” award of the International Business Education Network.¹⁴

14 Times Colonist, “Aboriginal Entrepreneurship Program Lands Global Award.”



A SHARED AGENDA

Brookfield Institute for Innovation and Entrepreneurship (BII+E)¹⁵ facilitated a cross-sectoral interactive session that convened *Univation* participants to discuss the case studies and success stories brought forward by forum participants. The goal was to identify ways universities, government, business, civil society and students could work together to scale promising practices across Canada. These principles are highlighted in the conclusion of this report. Through continued collaboration, the foundation set by *Univation* can be built upon to drive a strengthened agenda to support Canadians for success in a rapidly changing global knowledge economy.

Conclusion


Univation created a dynamic space for university, public service, business and civil society leaders – as well as students and entrepreneurs – to share bold ideas for supporting Canada’s next generation to succeed in a changing world. Over the course of the forum, participants had the opportunity to hear about many promising innovations that build future skills for a disrupted economy.

The landscape of Canadian university innovation is ultimately fueled by passionate faculty, students, university leaders and external collaborators mobilizing to prepare Canada for the future. *Univation* brought common conditions for the success of innovative initiatives—and common barriers that had to be surmounted—to the fore.

Univation highlighted that innovation in teaching, learning and the student experience:

- is not a program but a culture shift that needs to happen throughout the university;
- happens in mutually beneficial partnership – among students, faculty and administration; between universities and business; between universities and the community; and
- can be – and needs to be – deliberately inclusive to produce the best results.

¹⁵ BII+E is a nonpartisan institute, housed within Ryerson University, that is dedicated to making Canada the best country in the world to be an innovator or an entrepreneur. Members of the BII+E team listened to the presentations and discussions throughout the *Univation* forum which, together with the concluding session, informed this report.



“Leadership is like tending a garden, not dropping an anvil. The best ideas come from forward-thinking faculty and collaborators who have new ideas to better serve students, the community and economy. Give their ideas water and food and pull out the weeds and soon you’ll have a beautiful flower. Good things happen when you set a broad direction - let’s have a garden - and support the flowers to grow.”

– Sheldon Levy, CEO of Next Canada, former Ontario Deputy Minister of Advanced Education and Skills Development, and former president of Ryerson University


Cultural shift

A key theme of Univation discussions was that innovation flows from the bottom up. Dr. Panchanathan stated that ASU’s transformational shift was fueled by cultural change – a change that hinged on empowering ideas that crossed traditional boundaries between departments, roles of students and faculty, and the university and external partners.

Kevin Lynch, vice-chair of BMO Financial Group and a director of the Rideau Hall Foundation, noted that “universities are society’s great cauldrons of innovation in ideas, concepts, sciences, and technologies, so it is only natural that we should look to them to lead innovation in how we prepare students for a lifetime of careers in a profoundly changing world.” No one can fully anticipate where technology is going. Universities are called upon to prepare students for the future, but program design and implementation can take time. While some forum participants called for program development processes to be accelerated, the importance of simply valuing signals about the direction of change coming from faculty members, external partners and students cannot be overstated. This requires a cultural reorientation.

Universities nurture the curiosity, resourcefulness and resilience that build a mindset for lifelong learning. Given the rapid evolution of knowledge, universities are innovating to provide flexible options for non-traditional students to learn, adapt and advance in their careers.

Creating and sustaining cultural change can support formal strategies to drive innovation, but strategy alone cannot work in the absence of a supportive culture. That includes acceptance of risk and willingness to pilot new ideas. It also means creating structures that facilitate crossing disciplinary boundaries. Several participants highlighted that traditional paths to success in academia conventionally entail a process of narrowing focus within sub-fields. They called for solution-building collaboration across disciplines to be a core academic activity that is valued in hiring, tenure, promotion processes and in curricular development.



“I see students as critical players, drivers of innovation and change. I’ve seen that where students want change, change occurs. Where presidents want change, not much happens. Speaking as a president, I’m grateful to students.”

– Patrick Deane, president, McMaster University

Participants endorsed the notion of a shared responsibility between students and institutions for creating change. This requires establishing a baseline of shared understanding of how universities make decisions and chart their direction – a shift toward a more transparent culture of decision-making.

Partnerships and resources

Institutional and community resources matter deeply. Some participants from smaller universities described how the success of their initiatives depended on early investments, sometimes when institutional resources were scarce. Simple yet critical barriers like finding space to run a program were highlighted as challenges. With respect to WIL, several participants noted that finding work placements in dynamic urban economies is easier than in areas facing economic challenge. The creation of WIL opportunities in rural and remote communities is vital and requires deep community engagement that must be resourced.

External partnerships have the greatest success when they are designed for great mutual benefit for institutions, students and partners. In applied research, when institutions help businesses utilize student talent to solve pressing problems, the result is valuable experience for students and problem-solving for companies — making businesses eager to deepen their engagement with universities.

Continued collaboration and action

There are no fully developed, turnkey solutions for universities to best respond to today’s changes that will work in equal measure across all institutions and communities. The path to scale will require continued efforts to share information and best practices across and within universities, exploring models for multi-sectoral collaboration, and ensuring that institutions and external partners are effectively resourced to drive change.

Participants expressed optimism that a willingness to launch, improve and scale-up opportunities across sectors, as expressed by those taking part in the discussions, would yield meaningful results for Canada’s youth in the years ahead.



Univation's hosts, Universities Canada and the Rideau Hall Foundation, are committed to drawing on the learnings from this event to inform their thinking on the role of universities – and their partners in business and civil society — in preparing young people for a disrupted future.

One of the Rideau Hall Foundation's four pillars of activities is “Strengthening Canada's culture of innovation.” The discussion and insights brought forth at *Univation* constitute an important contribution to RHF's efforts to connect, cultivate and celebrate innovation in Canada.

The findings of *Univation* will help shape and strengthen Universities Canada's collaborative efforts to ensure today's students are equipped with the skills to adapt, advance and achieve their potential in the changing global economy.

