



STRENGTHENING  
ONTARIO'S CENTRES  
*of* CREATIVITY,  
INNOVATION *and*  
KNOWLEDGE



*A discussion paper on innovation to make  
our university and college system stronger*

Une publication équivalente est disponible en français sous le titre suivant : *Renforcer les centres de créativité, d'innovation et de savoir en Ontario : Document de travail sur l'innovation pour renforcer notre réseau collégial et universitaire, 2012*

This publication is also available on the Ministry of Training, Colleges & Universities website, at [www.ontario.ca/tcu](http://www.ontario.ca/tcu).

♻️ Printed on recycled paper • 12-030 • ISBN 978-1-4435-9766-1 (Print) • ISBN 978-1-4435-9767-8 (PDF) • ISBN 978-1-4435-9768-5 (TXT)

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# Introduction

Postsecondary education (PSE) systems around the world are rapidly transforming in response to evolving economic, social, and student learning realities. A number of factors are converging to bring about this reconfiguration of higher learning: economies are adjusting to heightened competition and to increased labour market demand for greater levels of knowledge and skills; increasingly diverse and mobile learners are expecting ever-increasingly high quality in return for what they pay; and the broader public is looking for concrete results from the investment of scarce public resources.

At the same time, governments face growing demands to increase capacity in postsecondary education as college and university credentials have become prerequisites for success in our new labour market and creative economy. This change in the economy, accompanied by changes in demographics in recent years, has driven up enrolment rates dramatically.

## Overview of Ontario's Postsecondary Education Sector

Ontario's 20 publicly assisted universities contribute to the development of Ontario's innovation economy through the education of a highly skilled workforce to meet labour market needs and research and development (R&D) activity and commercialization. All publicly assisted universities have undergraduate programs that provide conceptual and field-specific knowledge and graduate programs that provide advanced analytical and research skills. Some universities also provide professional programs.

Since their inception, Ontario's 24 community colleges have been playing a key role in providing occupationally oriented education and training, including apprenticeship. Colleges are known to be flexible, responsive to labour market needs, and accessible to students from different backgrounds. Over time, colleges have diversified their credential offerings to respond to the demand of

higher levels of education and have also strengthened their ability to provide students with general education. As well, colleges have been pioneers in adopting common program learning outcomes, and have done so, among other reasons, to ensure that employers can consistently rely on the skills and abilities of college graduates, regardless of the college they come from.

Ontario's apprenticeship system remains a critical part of building a well-educated and highly skilled provincial workforce. Over the past eight years, the government has significantly expanded the apprenticeship system, nearly doubling the number of apprentices in the province to more than 120,000. This expansion has translated into an increasing role in apprenticeship for colleges; 90 per cent of in-class apprenticeship training happens in colleges. As the apprenticeship system continues to grow, its strength must be measured by the proportion of apprentices who complete their programs and obtain certification. To that end, the government announced measures in Budget 2012 to help apprentices complete training and to ensure that the right people are getting into the right jobs to support key sectors of the economy.

## Ontario Has a Proven Track Record in Postsecondary Education

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By building on this strength, we have the opportunity to modernize our postsecondary education system in a way that will make it more relevant, more flexible, and more beneficial to Ontario students.

It will grow our economy and, by

modernizing the system and increasing its productivity, we can reduce the cost to the public.

Our government has recently made a number of PSE commitments, including:

- ◆ ensuring that there would be space for every qualified Ontario student by creating an additional 60,000 spaces in the system;

- ◆ establishing a new 30% Off Ontario Tuition Grant for students from middle income families to build on the success of the Ontario Access Grant that provides students from families with low incomes with up to 50 per cent in grants;
- ◆ improving pathways to apprenticeship by removing barriers to completion;
- ◆ focusing on our youngest and brightest minds, providing increased dedicated support to our young entrepreneurs;
- ◆ creating the conditions to reach a 70 per cent attainment rate among Ontario's adult population.

As demonstrated in Budget 2012, PSE continues to be one of the government's highest priorities. We have made great strides in accessibility in recent years. Today we have more students than ever attending colleges and universities. Just as colleges have played a key role in growing the apprenticeship system, it will be important to leverage partnerships with colleges to ensure that apprentices are completing their training and have the skills they need to be successful in the labour market. Online learning, experiential learning, and the acceleration of knowledge creation and transfer are driving a major shift in our PSE education system.

## **A Vision for Ontario's Postsecondary Education Sector**

This paper seeks to apply the vision for postsecondary education in Ontario, as articulated by our government, to the issue of sector transformation in a way that builds on our past successes. As our government begins the process of transforming this sector, a number of stakeholder consultations and opportunities for input will be made available. Over the next few months, the government will hold a series of discussions on specific topics, including tuition policy, funding formulas, and productivity and innovation in the sector.

The vision presented by our government is:

**Ontario's colleges and universities will drive creativity, innovation, knowledge, and community engagement through teaching and research. They will put students first by providing the best possible learning experience for all qualified learners in an affordable and financially sustainable way, ensuring high quality, and globally competitive outcomes for students and Ontario's creative economy.**

This paper and the resulting consultation process seek to identify ways to improve productivity through innovation in the Ontario PSE system. Increased innovation in the PSE sector will improve student learning options, meet the needs of lifelong learners, enhance quality, and ensure the long-term financial sustainability of the sector. It is the government's intention to generate responses to this paper that recognize global trends in PSE in addition to addressing the local priorities of acceleration, productivity, technology, quality, and student choice.

# The Financial and Global Context for Transformation

## The Financial Context

In light of the current fiscal climate, and as we continue to recover from the recession, it is necessary to lead the province's publicly funded higher education system towards lower rates of spending growth. Costs in the postsecondary sector have grown at a rate above inflation during a time when growth and grants from government have become constrained. At the same time, a balanced tuition policy is essential for both students and the government in order to ensure financial sustainability as well as adequate recognition of the public and private benefits of education.

The government will lead its publicly funded postsecondary institutions towards lower rates of spending growth and higher levels of productivity through innovation.

Efficiency-focused strategies to contain costs can reduce the capacity of critical services and may not always deliver sustainable operational savings. This often leaves citizens feeling as if they are paying more and getting less. In the short term, cost reductions and the elimination of redundancies are essential parts of our government's fiscal plan. However, they alone will not be sufficient to meet the fiscal challenges facing the postsecondary sector.

These challenges can potentially be addressed in the medium and long term by adopting innovation in the sector to drive productivity. Significant productivity improvements will be needed to protect the gains we have made in accessibility as we move forward with improving the quality of higher education and the student experience in Ontario. This will be an enormous challenge.

In the postsecondary sector, innovations are those new ideas, systems, and processes that create new learning and teaching



modalities, improve learning outcomes, enhance the student experience, and create long-term savings through improved productivity. This innovation-focused approach is in direct contrast to an efficiency-focused approach – looking through an efficiency lens, one might state “class sizes could be increased to create savings,” whereas looking through an innovation and productivity lens, one would ask “can we create savings while maintaining class sizes and improving learning outcomes by moving some learning modules online?”

Through creative work, thinking, and evidence-based policy, the government will enable the sector to respond to these forces by providing it with the tools needed to make our system as innovative and productive as possible. The fiscal challenge facing our province is not unique to us, but by acting now we can ensure that the Ontario PSE system will excel in providing a high-quality and competitive education with a world-leading student experience.

### Managing Costs: Compensation and Pensions

Managing growth in compensation costs will be key to sector sustainability. The government expects all broader public sector (BPS) partners to bargain responsibly and to consider aspects of collective agreements that enhance productivity and facilitate transformation.

The government is also working towards a number of initiatives intended to improve the sustainability, affordability, and efficiency of pension plans in the BPS. Consultations have already begun on a proposed framework for jointly sponsored public sector pension plans. The government will also consider a variety of tools to enhance the sustainability of single-employer pension plans, and expects that these plans will move to a 50-50 cost sharing formula for ongoing contributions within five years.

## Around the World Postsecondary Education Is Evolving

Higher education is confronted with new and fundamental questions arising from the speed of learning today and the stress on learners and teachers. Despite these changes, the importance of critical thinking and wisdom remains central.

## Technology-Enabled Learning Is on the Rise

During the past generation, information technology has created new ways to access information, from Internet resources, to electronic periodical indices, to electronic books. This shift has enabled a change in education delivery, such that course content can be increasingly delivered online. From comprehensive online universities to open-source courseware, students have new ways to access top teaching talent from around the world in both formal and informal ways.

Technology does more than just accelerate access to data. It can also enable new ways for students to learn from and interact with faculty and each other. Rather than faculty

“transmitting” lecture data to students sitting in a hall, digital delivery of course content can free faculty in traditional institutions to engage in direct dialogue and mentorship with students. Technology is driving worldwide changes in education, and it is important that Ontario recognize and respond to these changes so that credentials from Ontario PSE institutions hold their high value.

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## High-Quality, Outcomes-Based Credentials Are Becoming the Norm

In 1999, 29 countries signed a landmark agreement called the Bologna Declaration, which set a goal to create a common “European space” for higher education to enhance the employability and mobility of citizens and to increase the competitiveness of European higher education. As part of this process, signatories agreed to key action items with the purpose of improving student-centred learning. It was agreed that each signatory would work collaboratively to, among other things:

- ◆ create comparable degrees and diploma supplements;
- ◆ organize higher education in two main cycles (three-year undergraduate baccalaureate degrees and two-year master’s degrees);
- ◆ manage educational credentials through a recognized system of credits; and
- ◆ commit to compatible quality-assurance measures.

For those countries and institutions that previously operated on four-year or longer programs, the objective was not to compress existing programs. Rather, new three-year bachelor's programs created comparable degrees across jurisdictions that were aligned with inter-jurisdictional trends in technology and the economy.

Today, the number of countries engaged in the Bologna Process has expanded to nearly 50 countries, which all recognize that the value of their degrees is directly tied to quality. Ongoing quality evaluation and assurance is a key part of the European education system and increasingly of systems worldwide. Canada is paying attention to Bologna. The 2009 Association of Universities and Colleges of Canada (AUCC) symposium focused on the Bologna Process and Canada's role in the ever-changing global landscape of higher education.

### Students Are Increasingly Mobile

In North America, individuals in their mid-20s are at the peak of their mobility and are very likely to move from one jurisdiction to another or between different economic regions. As the regions of Ontario move increasingly into the knowledge economy, each one attracts different types of talent. Whether students are entering a first or second PSE program or deciding where to work, cultural, social, and economic factors affect their decisions about where to

The mobility of credentials (and credits) is an important economic building block.

go. For this reason the mobility of credentials (and credits) is an important economic building block.

The Bologna Process recognizes this trend and the importance of transferability in its list of ten actions, one of which is: "promote student mobility and create the European Credit Transfer System to ensure tradeability of credits and degrees." In short, the Bologna Process has defined two separate transferability issues and has addressed both: (1) transferability of credits within the system, and (2) transferability of credentials across systems.

Australia has addressed transferability of credits within their system and between jurisdictions by developing a "diploma supplement" that accompanies a student's credential. These supplements may identify the student's achievements and provide details about the

program curriculum, standards, and other key data about the system that can be reviewed by employers and PSE institutions abroad. This gives a degree earned in Australia's system additional value to students: quality is high and transferability is high.

## Experiential Learning and Mentoring Have Become Essential

Globally, there has been tremendous growth in entrepreneurial education. Some of these opportunities already exist in Ontario, including the Ryerson University Digital Media Zone, the University of Waterloo VeloCity Program/Residence, the Georgian College Henry Bernick Entrepreneurship Centre, the University of Ottawa Young Entrepreneurs Program, the University of Toronto DesignWorks, and the Ontario College of Art and Design Imagination Catalyst.

New experiential learning facilities like these give students the opportunity to work together in shared space with the private sector. This allows students to be mentored through the process of building a company based on their own ideas and inventions.

As more academic learning can be moved online, opportunity may exist in the longer term to adjust capital budgets to focus on creating this type of shared space. Funding options could be provided on a performance basis (e.g., number of firms created, number of angel investments in student companies, number of new jobs).

## Innovation in PSE Demands New Data and Accountability Measures

Ontario's economy is an innovation economy. New ideas and the entrepreneurial skills that move these ideas to market are vital to our province's long-term success. A primary source of these

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ideas and skills is derived from the knowledge generation and mobilization that takes place in our province's colleges and universities.

If the postsecondary sector is being charged with improving productivity through innovation, it is important to understand where our institutions

stand now and how well they are progressing towards achieving the vision and goals that have been set for the sector. Ensuring that there is accountability for the quality of teaching and learning as well as for the quality of research that occurs in our postsecondary institutions is critical.

Assessing formal learning outcomes – the skills and competencies that institutions develop in their graduates – is an emerging international trend, and the possibilities are being explored in Ontario. Through the Higher Education Quality Council of Ontario (HEQCO), several Ontario university engineering programs are participating in the OECD's Assessment of Higher Education Learning Outcomes (AHELO) feasibility study, exploring how quality learning could be measured across countries. In addition, a number of colleges and universities are piloting the use of the Collegiate Learning Assessment (CLA), a standardized learning assessment tool, to provide a measure of critical thinking in students in various disciplines. HEQCO is also working with a number of college and university faculty across various disciplines on the Tuning Project. The Tuning Project originated in Europe, and was designed to establish what students should know and be able to do within a specific discipline in an effort to promote mobility, credit transfer, and credential recognition.

## Discussion

### Ideas to Drive Innovation and Strengthen Quality

**W**e outline a range of options below and invite the stakeholder community – including students, faculty, instructors, and administrators – to respond to these ideas and to consider each idea's impact on the Ontario PSE sector. We also invite the stakeholder community to respond with additional proposals to find savings and improve productivity through innovation in learning and teaching.

### Innovation to Drive System Transformation

There are numerous ways Ontario could build on the PSE sector's existing strengths in quality, productivity, and innovation. They include expanded credential options, credential supplements, a better credit-transfer system, and year-round learning. While thinking about the range of policy discussion options below, the stakeholder community should consider overarching questions about innovation and productivity in the sector, and the improvements to our system that could further facilitate innovation and productivity.

**DISCUSSION:** How do we further strengthen the culture of innovation in the sector in order to enhance quality and productivity? What are the barriers or roadblocks to innovation and productivity today? What measures could be taken to remove them? Are there some practices already in place that could be used as best practices to guide the sector?

## Expanded Credential Options and Supplements

Students who pursue a postsecondary education in Ontario have access to a significant range of credential options from colleges and universities. There is, however, room to explore additional approaches to credentials, including:

- ◆ supporting flexible degree structures that provide new learning options made possible by advancements in technology;
- ◆ developing revitalized, labour-market-focused three-year degrees that could include specific experiential learning opportunities;
- ◆ exploring the creation of a provincial credential supplement to facilitate labour-market credential recognition and transferability between jurisdictions.

**DISCUSSION:** How can we improve on Ontario's current range of credential offerings – for example, through three-year degrees, an increased focus on learning outcomes, and time to completion? How else could Ontario move forward to increase student choice and improve labour-market outcomes for students? What action could government and universities take to ensure that PhD students graduate in a reasonable timeframe?

## Credit Transfer, Credential Compatibility, and Student Mobility

The Ontario system has been increasing multilateral partnerships in the creation of pathways that promote greater accessibility and choice for students. Despite gains, Ontario's credit transfer system continues to lag behind comparable jurisdictions' systems, and student mobility remains a challenge for the province. For students, their parents, employers, and the general public, it is difficult to understand why students have to repeat the same courses when they transfer from one institution to another. In addition to decreasing costs, effective credit transfer can contribute to the efficiency of the PSE system and promote lifelong learning.

Moving forward, Ontario could pursue various options to increase mobility, such as the following:

- ◆ Make 100 per cent of first- and second-year introductory, general education, and core courses fully recognized across institutions.
- ◆ Provide new and enhanced tools for the Ontario Council on Articulation and Transfer (ONCAT) to assist students in achieving academic success sooner.
- ◆ Develop a better credit transfer system to enhance student mobility between and among institutions, including between colleges and universities.
- ◆ Evaluate establishing "Bologna compatible" credentials to improve international mobility of Ontario graduates.

**DISCUSSION:** The government hopes to further improve credit transfer and student mobility between colleges, between universities, and between colleges and universities. What further steps should the province take to improve Ontario's credit transfer system? What additional tools are needed? How do we ensure that Ontario credits and credentials remain compatible and competitive?



## Year-Round Learning

Currently, at least 12 of Ontario's colleges operate on a year-round basis. Some of Ontario's university co-op programs operate year-round, and online learning courses are sometimes offered on a year-round or ongoing basis.

Offering year-round learning options could increase choice and allow students to earn their credentials sooner, which could result in decreased PSE-related costs. Year-round learning could add to the mix of employment options available to students by letting them work when they want – summer, fall, or winter. Increased efficiency at the institutional level, including full-year use of campus facilities, could be a benefit. Year-round learning can also be further enhanced through more technology-enabled modes of delivery.

**DISCUSSION:** What opportunities exist to provide year-round program delivery to more colleges and universities? How have some institutions in Ontario and around the world overcome challenges to year-round program delivery, such as attracting students to summer courses?

## Quality Teaching and Learning Outcomes

A continued focus on teaching and learning outcomes in our postsecondary institutions not only contributes to an enhanced learning experience for students, but also supports the overall excellence of our educators.

There are a number of ideas we could explore:

- ◆ Consider more widespread implementation of the Collegiate Learning Assessment (CLA) or other similar assessment tools to measure the achievement of desired learning outcomes and skills.
- ◆ Consider flexible provisions for the teaching and research balance for faculty.
- ◆ Encourage the establishment and use of teaching and learning centres to promote and support a culture of teaching.
- ◆ Develop benchmarks for the sector, including building on the current college Key Performance Indicators (KPIs), to measure growth in outcome-based learning.

**DISCUSSION:** What are the competencies that you expect graduates of our institutions to have and how do you measure whether they have been acquired? How heavy a weight could learning outcomes have in a renewed funding formula?

## Technology-Enabled Learning Opportunities

More widespread use of technology-enabled learning has the potential to increase access for all learners, particularly those who are prevented from attending in-class education as a result of barriers that may be financial, geographic, physical, family-related, or work-related. Innovative applications of emerging technologies not only offer flexibility in time and place of delivery, but also could support improvements to the teaching and learning process. However, consideration must be given to the appropriate level of technology integration and the appropriate instructional support for different groups of learners and for different program areas.

Technology-enabled learning can also promote inter-institutional collaboration, coordination, and more efficient use of resources through the sharing of course development and delivery services, ultimately leading to more choice for students, improved pathways for student mobility, and potential cost efficiencies for institutions.

Some options we could explore include the following:

- ◆ More widespread use of technology in the classroom.
- ◆ Revamping the vision for the Online Institute to provide Ontario students with online degree and diploma options to serve students who prefer to learn online, lifelong learners, and students with dependents who are unable to easily attend physical campuses.

**DISCUSSION:** In what ways are learning technologies best used to promote effective learning? How could a degree- and diploma-granting Ontario Online Institute interface with existing institutions?

## Creating a Tuition Framework That Is Fair for Students and Institutions

While a separate forum will be used to engage stakeholders in a dialogue about tuition, it cannot be completely disconnected from a discussion about innovation and productivity. Getting tuition policy right is essential for PSE transformation to be successful. A new multiyear tuition framework should balance affordability for students and families with institutional revenue needs, and recognize the public and private benefits of higher education.

The province has made significant investments in student financial assistance since the announcement of Reaching Higher, and recently introduced the 30% Off Ontario Tuition grant in January 2012 for low- and middle-income students and their families. Our government also offers programs for mature students, such as Second Career, which helps to provide retraining and skill development to Ontarians who have lost their jobs because of the recent economic downturn.

**DISCUSSION:** Consultation on a new tuition framework is about to get underway. How can this conversation about innovations and productivity best inform the forthcoming policy decisions regarding tuition, and vice versa?

## Entrepreneurial and Experiential Learning

In order to address Ontario's persistent lag in productivity compared with productivity in the United States, we must explore more opportunities for the development of entrepreneurial education. Growth in entrepreneurialism is fuelled by access to lifelong learning, but also includes making greater use of a variety of innovative learning tools and teaching approaches.

Some of the ways in which we can begin to foster greater creativity and innovation in outlook could be the following:

- ◆ Find ways to make "incubators" and entrepreneurship mentoring centres more financially sustainable.
- ◆ Work with institutions to create better links and build relationships with employers, investors, and community partners to increase opportunities for experiential learning.
- ◆ Expand co-op and work-integrated learning options to make future Ontario students more career and job ready than ever before.
- ◆ Work with institutions to increase sector awareness of the benefits of experiential learning and to provide recognition for faculty for their work related to experiential learning.

**DISCUSSION:** The government is committed to providing new and dedicated support for Ontario's young entrepreneurs. How can the postsecondary education system contribute to this objective through experiential learning initiatives? What kinds of curricula, programs, or support are needed to increase the labour-market readiness and entrepreneurship capacity of students graduating from Ontario colleges and universities? What lessons can be learned from the apprenticeship programs as we design new experiential learning opportunities for Ontario college and university students?

# Conclusions

**A**s we move towards developing a transformation strategy for PSE in Ontario that leverages innovation and productivity, we look to students, faculty, staff, administrators, and employers to work together with the government to help identify actions that will make our system more productive and that will improve quality.

We see a higher education sector that has more fluidity between learning, training, and the workforce. We imagine a next generation of PSE that will instill in all students the skills needed to participate in lifelong learning. We see a system that is driven by learning outcomes and the quality of education. We see a sector that fosters and supports our young entrepreneurs. And, most importantly, we imagine a PSE system that is highly innovative and productive – a nimble sector that is ready to adapt to the accelerating change of pace in technology and in our economy.

This is an exciting time for PSE in Ontario. The entire PSE community is urged to be a part of the discussion and to engage in answering some of the key questions we have posed in this discussion paper to help us move forward.

## Feedback

Throughout the summer and early fall, the Ministry of Training, Colleges and Universities will launch a series of roundtable discussions with the PSE sector on the topics presented in this discussion paper. All publicly funded institutions, student groups, and staff and faculty associations will be invited to send representatives to participate.

Institutions, student associations, Colleges Ontario, the Council of Ontario Universities, and other associations are asked to submit written submissions on behalf of their members to the ministry no later than September 30.

Submissions can be sent by email to: [PSEsubmissions@ontario.ca](mailto:PSEsubmissions@ontario.ca) or by mail to:

Postsecondary Education Transformation – Submissions  
Strategic Policy and Program Division  
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Both the written submissions and roundtable discussions will provide direct input into the development of a postsecondary productivity and transformation strategy.

