

The Mitacs logo features the word "Mitacs" in a bold, white, sans-serif font. The letter "i" is lowercase and has a white dot above it. The background of the logo is a blue circle with a white dot in the center, resembling a stylized sun or a light source. The background of the entire top section is a solid blue color with a subtle pattern of overlapping, semi-transparent blue shapes that create a sense of depth and movement.

*Inspiring innovation  
Inspirer l'innovation*

**Professional Skills Training:  
An Essential Complement to Research Excellence**

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***The Mitacs Policy and Evaluation Team***

Canada has an outstanding higher education system that has produced one of the most highly educated populations in the world. However, many university students find that upon their graduation, the skills they have acquired through their studies do not always align with the skills employers are seeking. Although Canadian universities are taking steps to provide more opportunities for students to develop professional skills, graduate students often report that their academic programs have not provided them with the career development and professional skills training opportunities they need to secure meaningful careers.<sup>1</sup> This apparent skills gap in turn limits Canada's overall innovation capacity, with more than a quarter of businesses surveyed by Statistics Canada citing a lack of skills as an obstacle to innovation.<sup>2</sup>

To gain a better understanding of the skills challenges facing Canadian graduate students, Mitacs surveyed over 1,000 participants of our Step professional development training workshops. These graduate students and postdoctoral fellows have engaged in one or more Step workshops that Mitacs provides online and at universities across Canada.

The data from the survey reflect strong demand among graduate students for professional training opportunities, and provide insight into the skills that participants prioritize as important for career success.

### **Canada's research strength**

Canada's highly educated population and outstanding researchers, in addition to its high-quality universities and research facilities, represent formidable assets for Canadian competitiveness.<sup>3</sup> Canada is ranked number one among OECD countries in the percentage of adults aged 25–64 who have obtained a tertiary education (53 percent compared to the OECD average of 32 percent), and Canadian universities are globally competitive, with three placing in the global top 40 for overall rankings.<sup>4</sup>

Canada ranks seventh in the world in the number of publications tracked in the Scopus database, and contributed 4.1 percent of the global total of 9.6 million research publications over 2005–2010,<sup>5</sup> despite

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<sup>1</sup> Sekuler, A.B., Crow, B. & Annan, R.B. (2013). *Beyond Labs and Libraries: Career Pathways for Doctoral Students*. Higher Education Quality Council of Ontario. Retrieved from <http://www.heqco.ca/SiteCollectionDocuments/Beyond%20Labs%20and%20Libraries.pdf>

<sup>2</sup> Innovation, Science and Economic Development Canada. (2009). *Survey of innovation and business strategy*. Ottawa: Statistics Canada. Retrieved from <http://www.ic.gc.ca/eic/site/eas-aes.nsf/eng/ra02097.html>

<sup>3</sup> Economist Intelligence Unit (EIU). (2004). *Sharing the idea: the emergence of global innovation networks*. London: The Economist Intelligence Unit., Cantwell, J. & Iammarino, S. (2000). Multinational corporations and the locations of technological innovation in the UK regions. *Regional Studies*. 34(4), pp. 317–322.

<sup>4</sup> Times Higher Education. (2015). *World University Rankings 2014–2015*. Retrieved from <https://www.timeshighereducation.co.uk/world-university-rankings/2015/world-ranking#/sort/0/direction/asc>

<sup>5</sup> Council of Canadian Academies. (2013). *Paradox Lost: Explaining Canada's Research Strength and Innovation Weakness*. Ottawa: Advisory Group, Council of Canadian Academies.

being home to just 0.5 percent of the global population, publishing a larger share of scientific articles than countries such as Germany, Japan, and the United States.<sup>6</sup>

A top quality education is essential to a productive and entrepreneurial workforce, and universities provide students with the key ingredients they need for success in an innovation economy: critical thinking, skills in research and analysis, and a foundation of knowledge in diverse subjects. Canada's research excellence is a major strength as it transitions towards the knowledge economy.

### **Canada's skills challenge**

There's no question that the mandate of Canadian universities goes well beyond preparing students for the workforce. A degree is not a commodity, nor should it be viewed as such. University graduates emerge as well-rounded global citizens, having gained new knowledge, friendships, and perspectives through their experiences at Canadian universities. But for many, particularly those facing high levels of student debt, their employability upon graduating is an important priority.

What's troubling is that there is an apparent disconnect between the perspective of higher education providers and employers on the career readiness of graduates. A 2013 study found that 83 percent of education providers felt that Canadian graduates were adequately prepared for the workforce; however, this sentiment was shared by only 34 percent of employers.<sup>7</sup> A mismatch in the qualifications of graduates and the needs of employers is also reflected in the 600,000 recent university graduates aged 25–34 who were reportedly overqualified for their jobs in 2014.<sup>8</sup> Relatedly, average earnings for university graduates in Canada are proportionately among the lowest in the OECD.<sup>9</sup>

Although Canada's university graduates are well-educated, evidence suggests that they are not always equipped with the skills that employers are looking for, and with 1.3 million<sup>10</sup> Canadians enrolled in university across the country, Canada is not able to fully deploy its highly educated population across a changing and dynamic workforce. This limits our country's innovation potential and dampens economic competitiveness.

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<sup>6</sup> The Conference Board of Canada. (2015). *Provincial and Territorial Ranking: Scientific Articles*. Retrieved from <http://www.conferenceboard.ca/hcp/provincial/innovation/sci-articles.aspx>

<sup>7</sup> McKinsey & Company. (2015). *Youth in transition: Bridging Canada's path from education to employment*. Retrieved from [http://www.cacee.com/Library/docs/Youth\\_in\\_transition\\_Bridging\\_Canadas\\_path\\_from\\_education\\_to\\_employment\\_2.pdf](http://www.cacee.com/Library/docs/Youth_in_transition_Bridging_Canadas_path_from_education_to_employment_2.pdf)

<sup>8</sup> Office of the Parliamentary Budget Officer. (2015, Nov. 12). *Labour Market Assessment 2015*. Retrieved from [http://www.pbo-dpb.gc.ca/web/default/files/Documents/Reports/2015/Labour%202015/Labour\\_Market\\_Assessment\\_2015\\_EN.pdf](http://www.pbo-dpb.gc.ca/web/default/files/Documents/Reports/2015/Labour%202015/Labour_Market_Assessment_2015_EN.pdf)

<sup>9</sup> OECD. (2014). *Education at a Glance: Canada*. Retrieved from <http://www.oecd.org/edu/Canada-EAG2014-Country-Note.pdf>

<sup>10</sup> Statistics Canada. *Postsecondary enrolments by institution type, registration status, province and sex (Both sexes)*. Retrieved from <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/educ71a-eng.htm>

## Survey results

In January 2016, Mitacs surveyed 1,280 graduate students and postdoctoral fellows who participated in Step workshops since the program launched in 2008. The respondents participated in workshops focused on four competencies: leadership and management; communication and relationship building; personal and professional management; and entrepreneurialism. These workshops complement the programming that is sometimes offered directly by graduate schools, student groups, faculties, or other university organizations.

The results speak to the ongoing demand for enhanced skills training opportunities in Canada, with 90 percent of participants reporting that they would recommend Step workshops to other graduate students.

Further demonstrating the impact of skills training workshops, 79 percent of all survey respondents said that their participation in Step positively influenced their confidence and success in their current occupation — whether in academia, industry, or entrepreneurship. In addition, 75 percent of respondents agree or strongly agree that the knowledge and skills they have gained through the workshops have positioned them for success in their careers, and 84 percent continue to apply those skills and knowledge in a professional setting.

Along with questions about the impact of the workshops in which they participated, respondents were also asked to list the skills they considered to be the most important for career success. The most common answers, in order of response, were:

1. Project management
2. Interpersonal skills
3. Presentation skills
4. Networking
5. Time management
6. Confidence
7. Leadership

These responses align closely with the skills that hiring managers are looking for,<sup>11</sup> and demonstrate a clear link between the skills employers look for and the skills that many students and postdocs recognize as important. For example, the Business Council of Canada found that, when considering candidates, employers often look for soft skills such as collaboration and teamwork skills (essential for project management), people skills and relationship-building (interpersonal), and communication skills (such as presentation skills). Employers also value functional knowledge and problem-solving skills when considering new candidates.<sup>12</sup>

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<sup>11</sup> Business Council of Canada. (2016, March). *Developing Canada's future workforce: a survey of large private-sector employers*. Retrieved from <http://thebusinesscouncil.ca/wp-content/uploads/2016/02/Developing-Canadas-Workforce-March.pdf>

<sup>12</sup> Business Council of Canada. (2016).

The Conference Board of Canada explains, “Many employers want to see ‘job-ready’ candidates with skills that have immediate value in a non-academic workplace. In particular, they value practical skills and PhDs who can easily integrate into the culture and values of their organization.”<sup>13</sup> For career success in the knowledge economy, graduate students need access to professional skills development workshops like Step to complement the world-class research and academic training they are receiving in Canadian universities.

## **Summary**

Canada’s graduate students are an essential asset to our continued prosperity and competitiveness, but we need to ensure that they are provided with the skills they need to successfully transition into the workforce.

The results from Mitacs’ survey of past Step workshop participants help to illustrate the role of professional skills training opportunities in helping graduate students better transition to private-sector careers. Notably, workshop participants and employers prioritize similar skills when assessing career preparedness, and this alignment is instructive for institutions and organizations that look to provide relevant skills training opportunities.

Professional skills training workshops have an important role to play in positioning today’s graduate students and postdoctoral fellows for career success. In promoting career development and strengthening the professional skills of students and postdocs, Canada will be able to more fully leverage and deploy its research advantage. The capacity of the Canadian economy to adapt to changing circumstances is strengthened by developing highly educated researchers who have the skills that businesses demand.

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<sup>13</sup> Edge, J. & Munro, D. (2016). *Inside and Outside the Academy: Valuing and Preparing PhDs for Careers*. The Conference Board of Canada: Ottawa. Retrieved from <http://www.conferenceboard.ca/e-library/abstract.aspx?did=7564>