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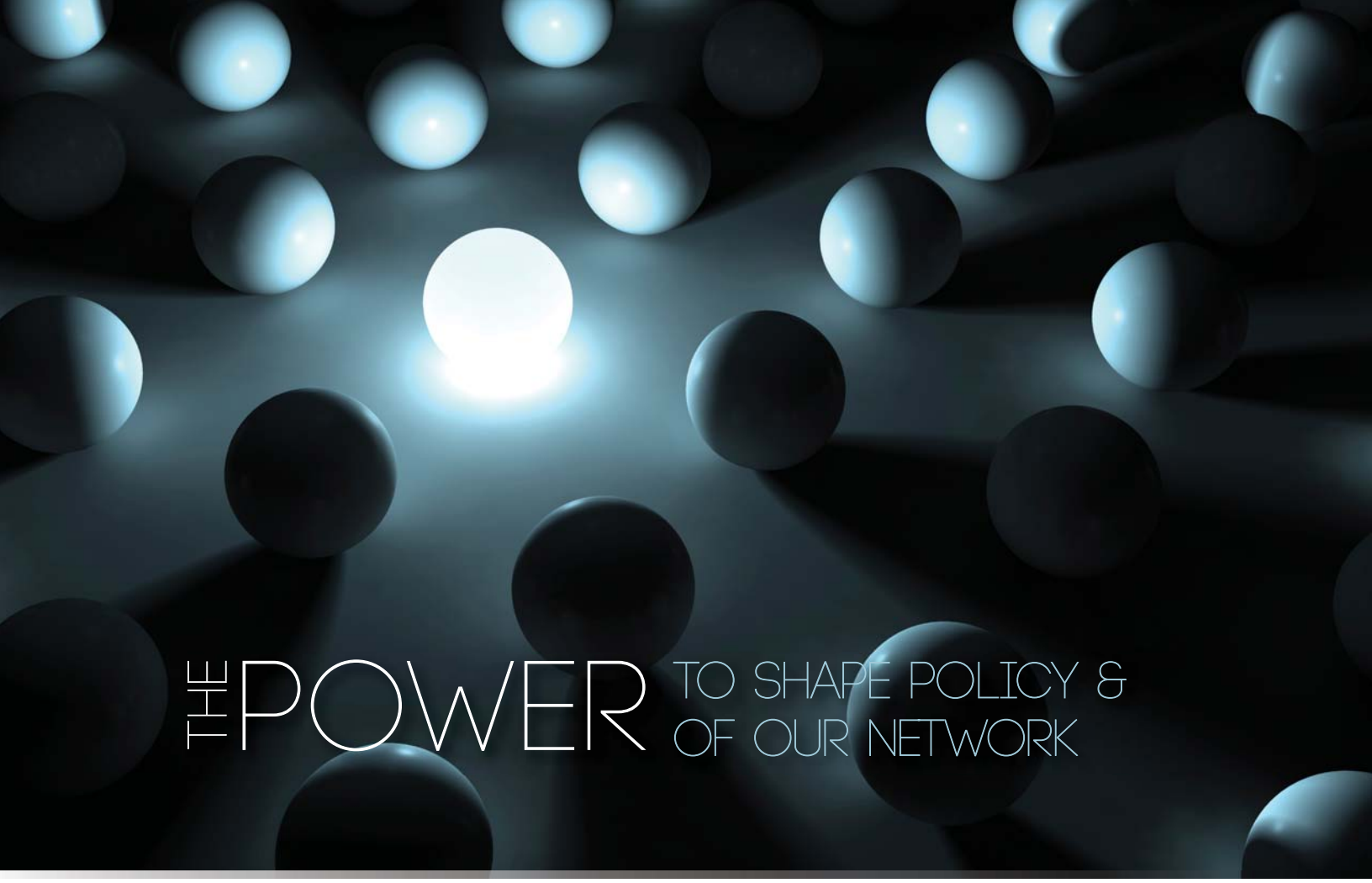
Fragmented Systems:

Connecting Players in Canada's Skills Challenge

September 2015



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Acknowledgments

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WHY THIS ISSUE MATTERS FOR CANADA

A highly educated and skilled population is fundamental to the success of an advanced economy and society. Every year, Canada invests billions of dollars in its post-secondary education systems—in systems that are not measured in outcomes. As a country, we achieve the highest proportion of post-secondary educational attainment among the member countries of the Organisation for Economic Co-operation and Development (OECD).[1] Yet "our actual skills attainment is underwhelming," according to the Conference Board of Canada.[2] Narrowing the gap between education and skills, by exploring the relationship between employers' needs and Canada's post-secondary education systems, is the focus of this report.

Canada has all the right ingredients to drive skills development and provide talent for employers and the economy. Among adults aged 25-64, 53% have completed a university or college education. The employment rate amongst those with a college or university credential standing, at about 82%, is also around the OECD average.[3] The World Economic Forum also rates the quality of Canada's education as seventh in the world,[4] but there appears to be a disconnect somewhere. A recent survey undertaken by McKinsey & Company Canada found that over half of graduates and around two-thirds of employers felt that graduates were unprepared for employment. In contrast, the vast majority of education providers—fully 83%—felt their graduates were employment ready.[5]

One outcome of this is a skills gap, which is said to be costing Ontario around $24.3 billion each year in lost GDP[6] and British Columbia $6 billion.[7]

Amongst the skills shortages identified in a survey of employers, the "usual suspects" of engineering, information technology, finance and skilled trades are identified as areas of most need.[8] But soft skills are also in high demand. In British Columbia, 73% of employers were concerned about a lack of critical thinkers and problem solvers, with concerns also raised about a lack of skills in oral communication, literacy and working in teams.[9] Many university educators contest this view. They argue there is an unrealistic view from employers of "job-ready" graduates and that employers themselves need to step up training efforts to help graduates adapt.[10] Other educators from the technical and vocational sector state that their model of applied learning builds these soft skills too.

1 http://www.oecd.org/edu/education-policy-outlook-2015-9789264225442-en.htm

2 Munro, Daniel, James Stuckey and Cameron MacLaine. *Skills – Where Are We Today? The State of Skills and PSE in Canada.* Ottawa: The Conference Board of Canada, November 2014, p. ix.

3 http://www.oecd.org/canada/education-at-a-glance-2014-country-notes.htm

4 http://reports.weforum.org/global-competitiveness-report-2014-2015/economies/#indexId=GCI&economy=CAN

5 http://www.mckinsey.com/global_locations/north_america/canada/en/our_work

6 http://www.conferenceboard.ca/press/newsrelease/13-06-21/skills_shortages_cost_ontario_economy_billions_of_dollars_annually.aspx

7 http://www.conferenceboard.ca/press/newsrelease/15-02-05/british_columbia_economy_losing_billions_due_to_skills_shortage.aspx

8 http://www.ceocouncil.ca/wp-content/uploads/2014/03/Second-survey-report-skills-shortages-in-Canada-13-March-20141.pdf

9 http://www.conferenceboard.ca/press/newsrelease/15-02-05/british_columbia_economy_losing_billions_due_to_skills_shortage.aspx

10 http://www.theglobeandmail.com/news/national/education/the-expectation-gap-students-and-universities-roles-in-preparing-for-life-after-grad/article21187004/?page=all

The journey between education and employment seems more fragmented and complex than ever before. Post-secondary education (PSE) in Canada is a $40 billion sector, offering over 18,000 programs through almost 250 institutions.[11] The sheer scale of the options available can be daunting and confusing. The lines between different post-secondary institutions have become more blurred, and the transition to employment is seemingly ever more challenging.

One solution the Conference Board recommends is better linkages between employers and post-secondary institutions. It is not alone in banging this drum. Organizations of all types recognize the need for greater coordination between employers and educators and have been vocal on the issue.

As a large and complex ecosystem, post-secondary education in Canada is not easily navigable by students and employers alike—much like the labour market itself. There are several systems across multiple jurisdictions delivering academic, professional, technical and vocational programs and credentials. Differentiation exists between:

- PSE sectors (universities/polytechnics/publicly-funded community colleges and CEGEPs/private career colleges);
- types of institutions (research-intensive/comprehensive/liberal arts); and
- programs (professional/applied sciences and technology/arts and sciences/fine arts).

When it comes to grasping how and where PSE, in all its various forms, integrates with the needs of the labour market, it is important to start by differentiating between the forms of post-secondary education and then identify those that may seem more directly linked or relevant to employers' engagement. The question of how employers should be engaged in the design of curriculum is going to have a different answer in each of these cases. Are we talking about lawyers and doctors? Mathematicians and chemists? Economists and historians? Mechanics, plumbers and pipefitters?

The point is that the nature of the discussion about employers' engagement and the alignment of curriculum or needs is very different in each case. What might be meant by "work-ready skills"—and the role of employers in defining them—varies depending on whether we are talking about the regulated professions, the scientific research community or graduates from polytechnics or technical colleges.

If Canada's post-secondary education sectors are to be more relevant to the opportunities of its economy, employers should be engaged in ways that are reflected in the curriculum and/or in the learning outcomes. Clearer, easier and more efficient ways to reflect employers' needs in the education and training systems would go a long way in improving graduates' success in the employment market and in encouraging lifelong learning as an underpinning of a highly competitive workforce.

There may be some kinds of PSE and training that seem more directly linked or relevant to employers. A host of programs already involve employers—mostly in the applied and professional domains. There are also a host of other programs that would not be of direct relevance to an employer—think medieval studies or philosophy—where such engagement would not make sense but where soft skills may still need to be demonstrated.

As well as better preparing students for employment, partnerships with employers can be compelling drivers of innovation and economic growth. Certain institutions and sectors are already doing this very well, but with the fast pace of technological innovation, the shifting dynamics of the workplace and intense international competition, we need to build on these efforts if more of Canada's talent is to reach its potential in the economy.

11 http://www.educationau-incanada.ca/educationau-incanada/study-etudes/index.aspx?lang=eng

WHAT ARE THE BARRIERS BETWEEN EMPLOYERS AND EDUCATION?

Variety is a great strength of the Canadian post-secondary education system but can also pose challenges. Students and employers—even post-secondary institutions themselves—need the decryption skills of Alan Turing to make sense of the system and the navigational skills of Magellan to take anything but the most straightforward route to employment, the destination.

"Part of the issue is that for teachers, lawyers, physicians, pipefitters, electricians, whatever profession or trade, they have a clear educational and training path; everyone else doesn't," says Robert Carlyle, Director of Strategic Workforce Management at Royal Bank of Canada.

It should not be this hard. It should be easy to see what educational options are available and what employment those choices can lead to and compare them directly across the country. The system should allow and enable students to move around to get experience in different areas. Learners of all ages and disciplines should also be able to get a taste of the destination (employment) through hands-on experience before they find themselves having spent years getting to a place that was not quite what it seemed in the brochures. To reach this point, information needs to be freely available and easily comparable, institutional barriers between employers and education must be dismantled, new skills and relationships need to be nurtured and ideas must be shared.

We start by exploring some of the barriers that exist across post-secondary institutions, employers, students and governments.

Barriers between PSE and employers

In an interview with *The Globe and Mail*, Janet Lane from the Canada West Foundation said, "There is no such thing as a 'job-ready' graduate. Everyone needs training." But the figures highlighted by the McKinsey survey show the huge gap in expectations between employers and post-secondary institutions on where students should be in their development by the time they start work. With 83% of education providers stating they think graduates are adequately prepared, compared to only 34% of employers, Canada has the highest disparity of the 10 countries studied.[12]

One area that could help bridge this gap is the clarity that better information could bring to both solitudes. Not knowing what professions are in demand is preventing some educators from responding by ensuring the focus of studies addresses any changes in demand, and a lack of comparable data on educational institutions hinders employers looking to recruit and strike up strategic partnerships. The shortcomings and constraints of the National Graduate Survey and the former Workplace and Employee Survey have been criticized by business and academics for limiting the information available to help all parties make better choices.[13] The Canadian Chamber of Commerce's report card on labour market information, published earlier this year, cited specific areas for improvement.[14]

The transition from student to employee is also often considered a major challenge, particularly in getting the first job. The current approach of allocating funding based purely on enrolment has been criticized as not giving due regard to what students will do

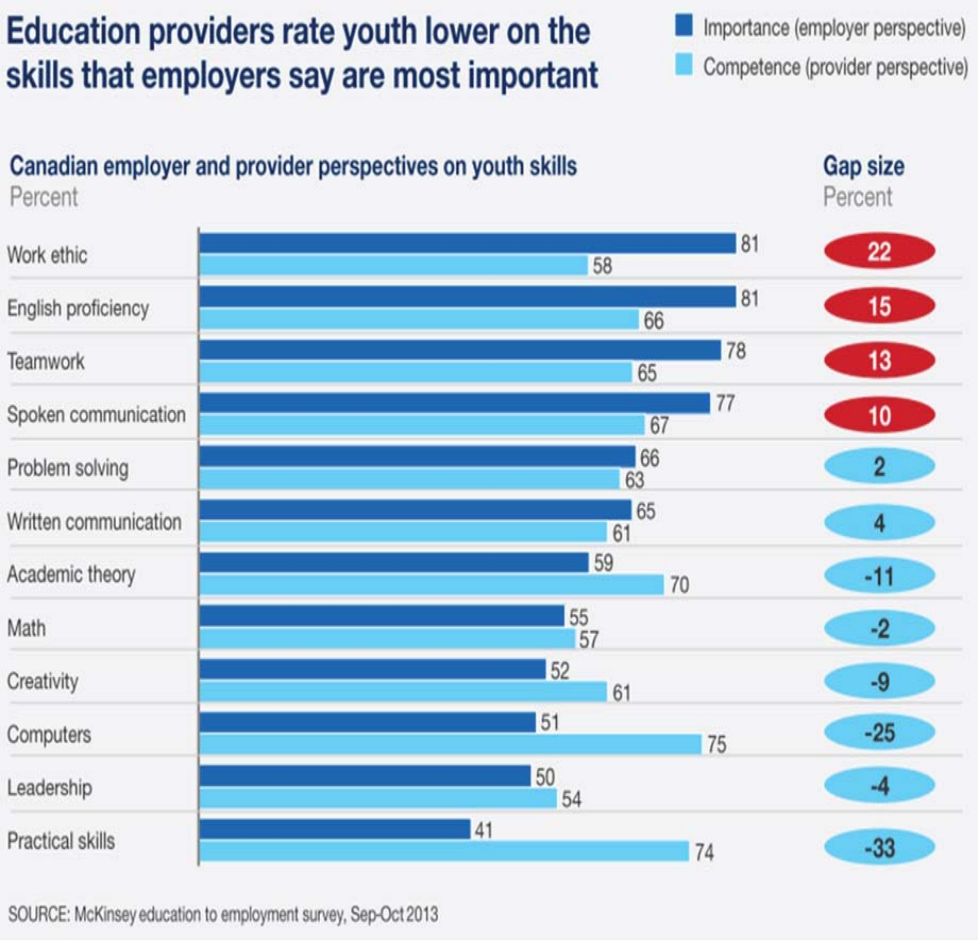
12 http://www.mckinsey.com/~/media/McKinsey%20Offices/Canada/Latest%20thinking/PDFs/Youth_in_transition_Bridging_Canadas_path_from_education_to_employment.ashx

13 http://www.theglobeandmail.com/news/politics/cities-footing-the-bill-for-data-gap-after-long-form-census-scrapped/article22695286/

14 http://www.chamber.ca/download.aspx?t=0&pid=3703f4f6-25ff-e411-bafe-000c29c04ade

once they complete their studies.[15] McKinsey's study noted that only 9% of education providers in Canada coordinate frequently with employers and 20% do not coordinate at all.[16] In addition, in a list of priorities, Canadian universities ranked helping students to find a job as eighth out of 10 options and partnering with companies as ninth according to McKinsey. For Canadian colleges and vocational institutes, jobs for graduates were the fifth-highest priority and partnering with companies was sixth by comparison.

The fast pace of change in the workplace, highlighted by Robert Hardt, the CEO of Siemens Canada,[17] means skills needs are constantly changing. There are a variety of ways in which employers and post-secondary institutions can work together, but there are institutional and cultural barriers too.



15 http://www.ceocouncil.ca/wp-content/uploads/2015/03/Career-Ready-Ken-Coates-final-March-251.pdf

16 http://www.mckinsey.com/~/media/McKinsey%20Offices/Canada/Latest%20thinking/PDFs/Youth_in_transition_Bridging_Canadas_path_from_education_to_employment.ashx

17 https://www.siemens.ca/web/portal/en/NewsEvents/Siemens-Canada-News/Pages/PSE-Strategy-for-Canada.aspx

"What post-secondary education needs to do—be it through a liberal arts degree or a polytechnic program—is prepare the students not for a job but for a lifetime of morphing careers."

Todd Hirsh, Chief Economist with ATB Financial

Main disconnects between educators and employers:

1. Lack of understanding or visibility of each other's strengths due to the poor standards of data.
2. Uncertainty of the roles employers can play in education and the framework for collaboration and the shared vision for work-integrated learning.
3. Gap in expectations between preparedness of graduates for employment.

Barriers across jurisdictions

In April 2014, British Columbia unveiled a 10-year skills strategy to focus efforts on providing a sufficient talent pool for the province to make the most of its abundant natural resources, with an eye on anticipated growth in the liquefied natural gas industry and the requirement to build big, complex infrastructure to deliver it to markets.[18] A few months later and a lot of miles to the east, Conestoga College in Kitchener, Ontario was signing a strategic mandate agreement with the Government of Ontario focusing on advanced manufacturing, digital content creation and security and intelligence, amongst other programs. These are focus areas you would expect to be useful on the doorstop of a number of technology firms in the area, including BlackBerry.[19]

As the second-largest country by area in the world, with different economic drivers from region to region, the technical skills needed are very different across the country. Education is under provincial and territorial jurisdiction; there is no federal department of education. The federal government's role in post-secondary education is limited to providing fiscal transfers to the provinces and territories, funding research and student and apprentice assistance, and Aboriginal post-secondary education. Many of the provinces have delegated responsibility for regulating and setting educational standards for many professions to around 500 organizations across the country.[20] A coordination role is played by the Council of Ministers of Education, Canada (CMEC), set up by the provinces and territories in 1967. But as noted in a report by Bernard Simon, its achievements have been limited to date.[21]

18 http://www.theglobeandmail.com/news/british-columbia/bc-to-boost-skills-training-in-public-education/article18317352/#dashboard/follows/

19 http://www.tcu.gov.on.ca/pepg/publications/vision/ConestogaSMA.pdf

20 https://www.ppforum.ca/sites/default/files/collaborative-federalism.pdf

21 http://www.ceocouncil.ca/wp-content/uploads/2013/12/Bernard-Simon-December-2013.pdf

In July 2014, "aligning education and skills training systems with the evolving needs of Canadian labour markets" was the commitment by education and labour market ministers from Canada's 13 provinces and territories.[22] Among their three principles for action, they cited "partnerships and alignment with business, labour, education and training providers (as) key to ensuring synergy between education and skills training systems and Canada's labour markets." One year later, after meeting on July 2, 2015, CMEC stated that topics discussed included learning outcomes, pathways and transitions, but no tangible actions were reported. The ministers did commit to share in the coming months "a pan-Canadian tool kit of promising practices to better align education systems and skills training with the evolving needs of labour markets," including identifying practices where PSE programming is targeting labour-market needs.[23]

While the question of alignment and responsiveness seems top of mind for many ministers, substantive activity at the provincial level seems limited to British Columbia (which continues to reshape its education system with labour market needs), Saskatchewan (where similar activity is underway) and Ontario (which is reviewing its funding model for universities, including a focus on accountability).

The fragmented landscape of 13 different post-secondary systems has no standardized testing in place and still fails to recognize some qualifications earned in other provinces and territories. There is no national accreditation body for PSE credentials and no impartial arbiter of credit transfer. Domestic credential recognition is as confounding a case as foreign credential recognition.[24]

The picture also varies between types of post-secondary institutions. Provincial ministries of education fund both the university and college sectors on the basis of enrolment. But they retain the right to provide guidance or require institutions receiving funding to provide strategic and operating plans. The government at all levels usually exerts its influence through funding, but funding levels differ across the country and how funding is allocated also varies by province and by type of post-secondary institution.[25]

Provincial governments understandably want to see post-secondary institutions cater to local needs to at least prepare students for work in the local area. Ideally, they may like to see educational institutions at the heart of clusters of expertise that can drive economic development in the area and, hopefully, have broader benefits for the province as a whole—as with Conestoga College in the Kitchener-Waterloo region of Ontario.

"Our national data systems for higher education, the backbone that supports the development of evidence-based policy, research and informed public discussion of issues facing our universities and colleges, are embarrassingly inadequate."

Glen Jones, Ontario Research Chair in Postsecondary Education Policy and Measurement[26]

22 http://www.cmec.ca/278/Press-Releases/Ministers-and-Key-Partners-Chart-Path-Forward-for-Education-and-Skills-in-Canada.html?id_article=831

23 http://www.cmec.ca/278/Press-Releases/Press-Releases-Detail/Ministers-of-education-host-pan-canadian-aboriginal-educators-symposium.html?id_article=874

24 http://www.tcu.gov.on.ca/pepg/audiences/universities/uff/uff_ConsultationPaper.pdf

25 http://www.conferenceboard.ca/Libraries/EDUC_PUBLIC/spse_nov2013_summitpaper_economic.sflb

26 http://forum.academica.ca/forum/data-in-decline-the-gradual-demise-of-canadas-national-data-systems-for-higher-education

Main challenges across jurisdictions:

1. Lack of "supply side" or graduate data disaggregated by credential and outcome.
2. Inadequate "demand side" data available at the local, regional, provincial/territorial and national levels.
3. Too many players setting educational standards and the absence of a qualifications recognition system.
4. Lack of strong leadership in driving mutual recognition between provinces/territories and institutions.
5. Funding models designed purely around enrolment, as opposed to outcomes.

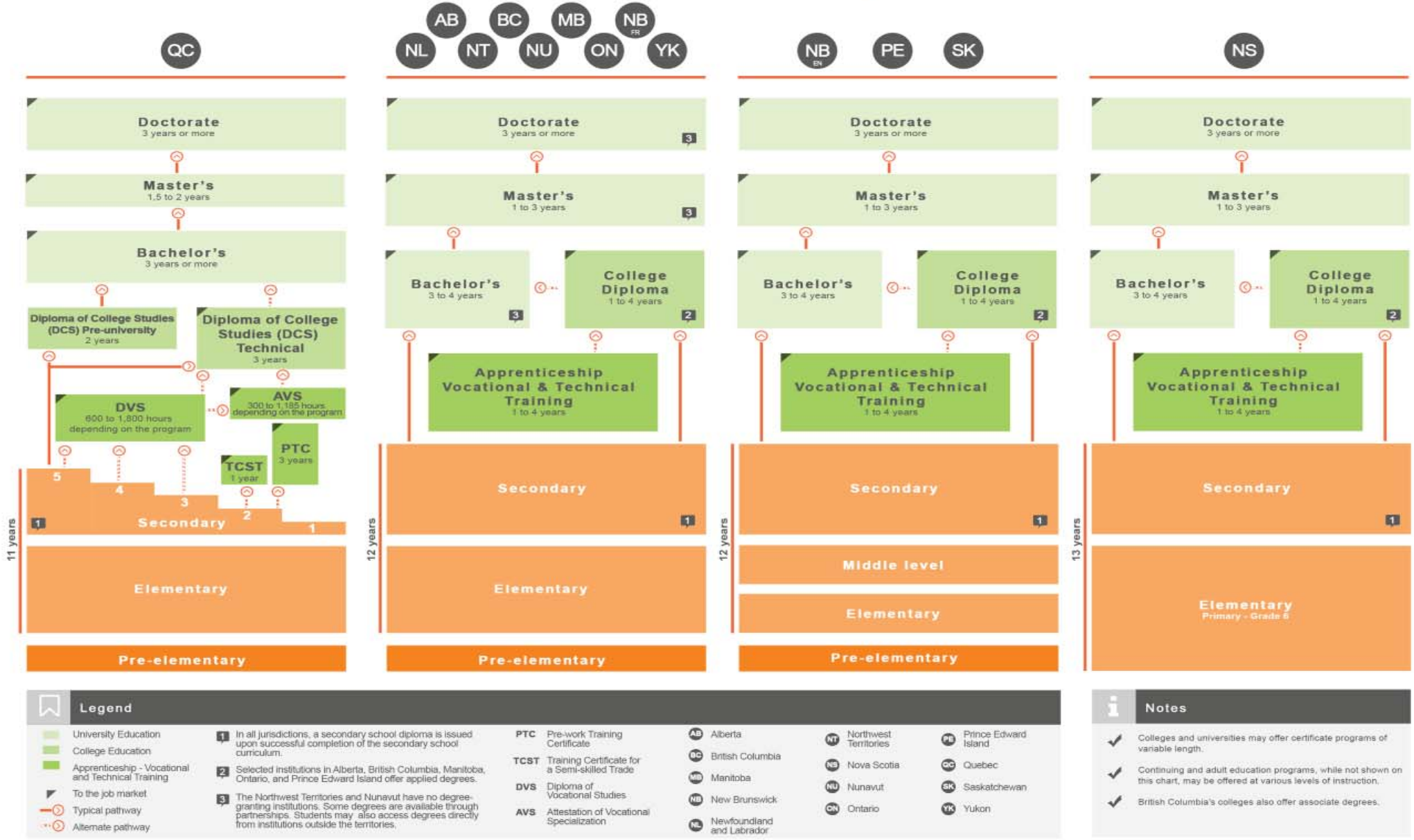
The Post-secondary Landscape in Canada

Credentials
Certificates: One-year programs or less
Trades certificates (apprenticeship programs): Requires demonstration that a candidate has fulfilled all training requirements and passed the qualifying entrance examination
Diplomas: Longer than certificate programs, most college diploma programs require two years of study
Associate degrees: Two-year program only available in British Columbia for students debuting their PSE in college before transferring to university
Applied degrees: Usually bachelor's degrees offered by select institutes and polytechnics
Graduate certificates: One-year or two-year programs, normally require at least a bachelor's degree for entry
Bachelor's degrees: Three- or four-year programs offered by universities as well as select colleges, institutes and polytechnics
First professional degrees: Require a baccalaureate as a prerequisite but are still considered undergraduate
Master's degrees: Graduate degrees that normally follow undergraduate degrees and take one to two years of study. Degrees can either be thesis-based (required for PhD) or course-based, which tend to be professional masters (e.g. MBA, MEng, etc)
Doctoral degrees: Highest degree attainable, above a master's degree.

Sources: The Canadian Chamber of Commerce; The Canadian Information Centre for International Credentials (CICIC), a unit of CMEC[27]

27 http://cicic.ca/871/Read-more-information-about-the-Directory-of-Educational-Institutions-in-Canada/index.canada

Canada's Education Systems



Source: The Canadian Information Centre for International Credentials (CICIC), a unit of CMEC

Barriers within the PSE ecosystem

Oscar-winner Chris Williams studied fine arts at the University of Waterloo before going on to study animation at Sheridan and his story is far from unusual. The approach from education to employment now being taken by many in order to find work or to make themselves unique and attractive to employers provides institutions and employers with plenty of latitude to work together to develop innovative partnerships. According to Statistics Canada, 49% of university undergraduates went on to undertake further education at either university or community college, compared to 35% of college graduates.[28]

The idea of joint ventures in education between post-secondary institutions could be viewed in the same context as those in the business world. As estimates suggest, somewhere between 50-70% of business joint ventures do not succeed—this does not even take into account potential joint ventures that never got off the ground. There needs to be a rigorous approach to setting up partnerships. Issues such as a lack of information on goals and capabilities, uncertainty and immeasurability of quality or performance, irreversibility, lack of focal points on agreements and the role of regulators are cited as potential areas that could create difficulties.[29] In the end, a functional pan-Canadian credit transfer and recognition system may be the ever-elusive solution.

Lines have blurred between different types of post-secondary institutions outside of Quebec. Thirty-four colleges, institutes and polytechnics now offer a total of 209 bachelor degrees, and universities are offering more hands-on experience. Post-secondary institutions too often see each other as competitors for students and duplicate scarce resources. This is entrenched by the business model many post-secondary institutions favour of students staying with the institution all the way through to completion.[30] However, there are signs of increasing collaboration between different types of post-secondary educational institutions. Close to 100 collaborative programs between colleges and universities are included on the ONTransfer.ca website provided by the Ontario Council on Articulation and Transfer.

In another positive development, Universities Canada and Colleges and Institutes Canada launched a joint framework for collaboration in September 2014 to advance the goals of strengthening the quality of the sector as a whole, sharing innovative practices and ensuring students can pursue appropriate pathways throughout their education experience.

A barrier that has been recognized by government in student mobility is the recognition of credits, experience and qualifications between post-secondary institutions. Improving the process for transferring credits between institutions has been identified as a priority for the Council of Ministers of Education, Canada (CMEC). However, students are on their own to cope with the potentially inconsistent treatment by institutions of their credits upon transfer.

Finally, comparing different institutions and the job market across different regions is made difficult by the lack of national data. Ontario, Alberta and British Columbia produce surveys on the job market, but other provinces must rely on infrequent national surveys or trawl through any available third-party research.[31] Educational institutions may promote success but they often measure success very differently. In this environment, making decisions about which careers to pursue and the best route to get there is very difficult.

28 http://www.statcan.gc.ca/daily-quotidien/141114/dq141114b-eng.htm

29 http://www.heqco.ca/SiteCollectionDocuments/Making%20College-University%20Cooperation%20Work.pdf

30 http://www.conferenceboard.ca/Libraries/EDUC_PUBLIC/spse_nov2013_summitpaper_economic.sflb

31 http://www.macleans.ca/work/jobs/the-myths-about-canadas-skills-gap/

"Despite the fact that students often change majors or entire courses of study, the post-secondary system is generally inflexible and hard to navigate. Artificial and cultural barriers interfere with student mobility between institutions and make it more difficult for students to pursue employer-sponsored co-op terms or apprenticeships."

Ken Coates, Professor and Canada Research Chair in Regional Innovation in the Johnson-Shoyama Graduate School of Public Policy at the University of Saskatchewan[32]

Main disconnects:

1. Lack of an objective and national framework to compare the performance of institutions with graduate employment metrics and other measures.

2. Lack of labour market information to assess the jobs of the future and the changing nature of in-demand occupations and professions.

Barriers to students' career transitions

The students themselves are the most important piece of this process: they are both the customers and the end product of the post-secondary education system. Between 41% and 50% of graduates finish with between $15,000 and $41,000 in debt, depending on their credentials.[33] The expectation amongst most students is that a good education should lead to employment in a related field.

Upon the completion of studies, graduates often face a world with a lack of jobs in their preferred field, or a requirement for more experience.[34] Perhaps as a consequence, many find themselves undertaking further studies in order to make their skills more specific or to get hands-on experience through educational programs with work-integrated learning components such as internships and co-ops. Employers look for graduates to come with soft skills, as well as the technical knowledge or training, to benefit from on-the-job training and succeed as new hires.[35] (The roles, responsibilities and motivations of employers to train new and existing employees are explored in *Upskilling the Workforce: Employer-sponsored Training and Resolving the Skills Gap*, a Canadian Chamber report.)

The lack of comparable data both on the labour market and the performance of specific post-secondary institutions make informed decision-making on career paths difficult. Professor Lyons from the University of Guelph published a paper that called for students to adjust their early career expectations.[36] He also highlights that many students pick their courses to delay decision-making and many only start thinking about careers towards the end of their studies. This means many have not given themselves time to explore work experience options that can help them on a chosen career path or at least rule out some options.

32 http://www.ceocouncil.ca/wp-content/uploads/2015/03/Career-Ready-Ken-Coates-final-March-251.pdf

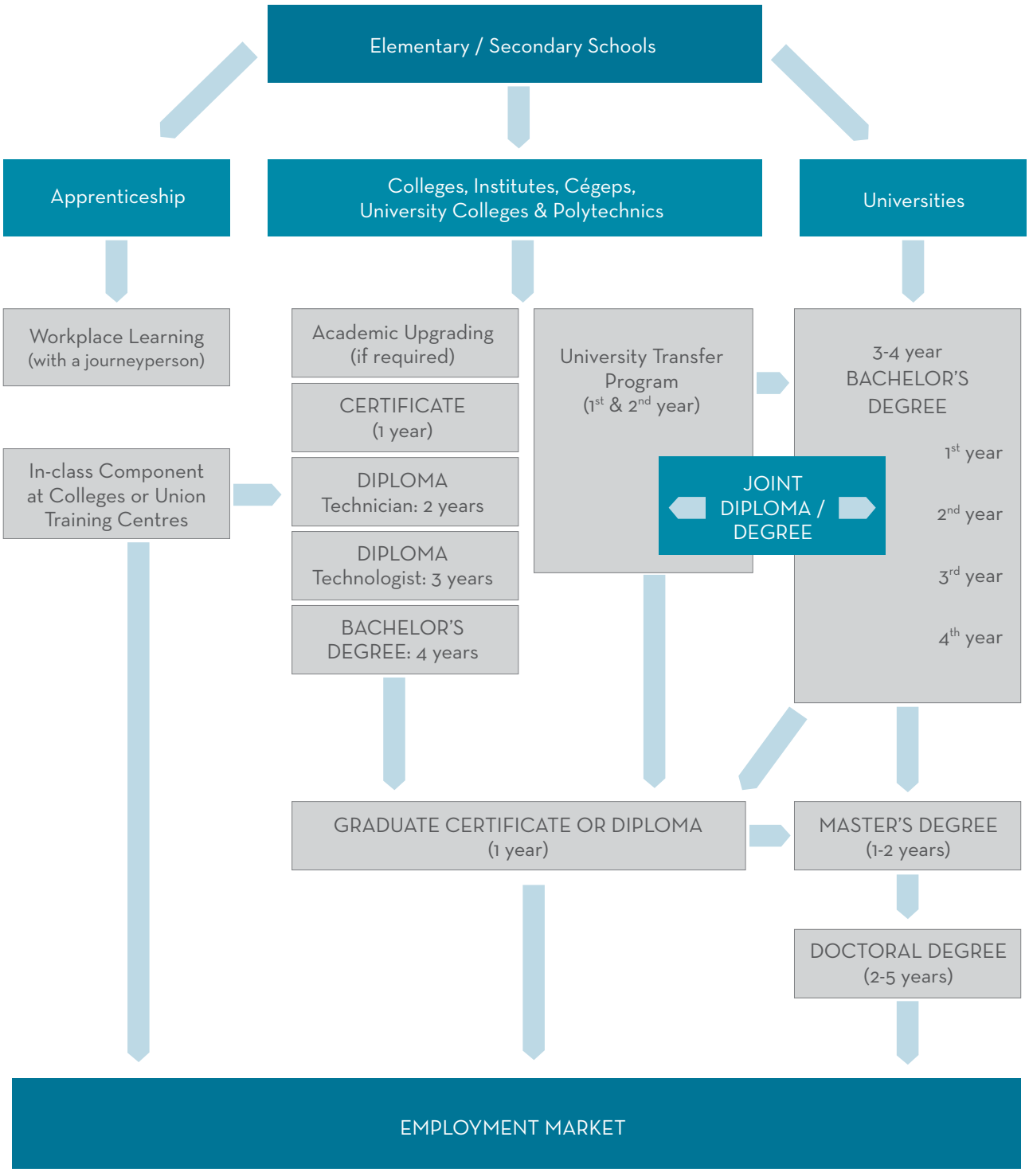
33 http://www.statcan.gc.ca/daily-quotidien/141114/dq141114b-eng.htm and http://www.cbc.ca/news/canada/average-student-debt-difficult-to-pay-off-delays-life-milestones-1.2534974

34 http://www.heqco.ca/en-ca/Research/ResPub/Pages/The-Great-Skills-Divide-Bridging-the-Divide.aspx

35 Ibid.

36 http://www.uoguelph.ca/news/2014/06/young_people_need_change_goals_for_employment_prof.html

PATHWAYS TO EMPLOYMENT



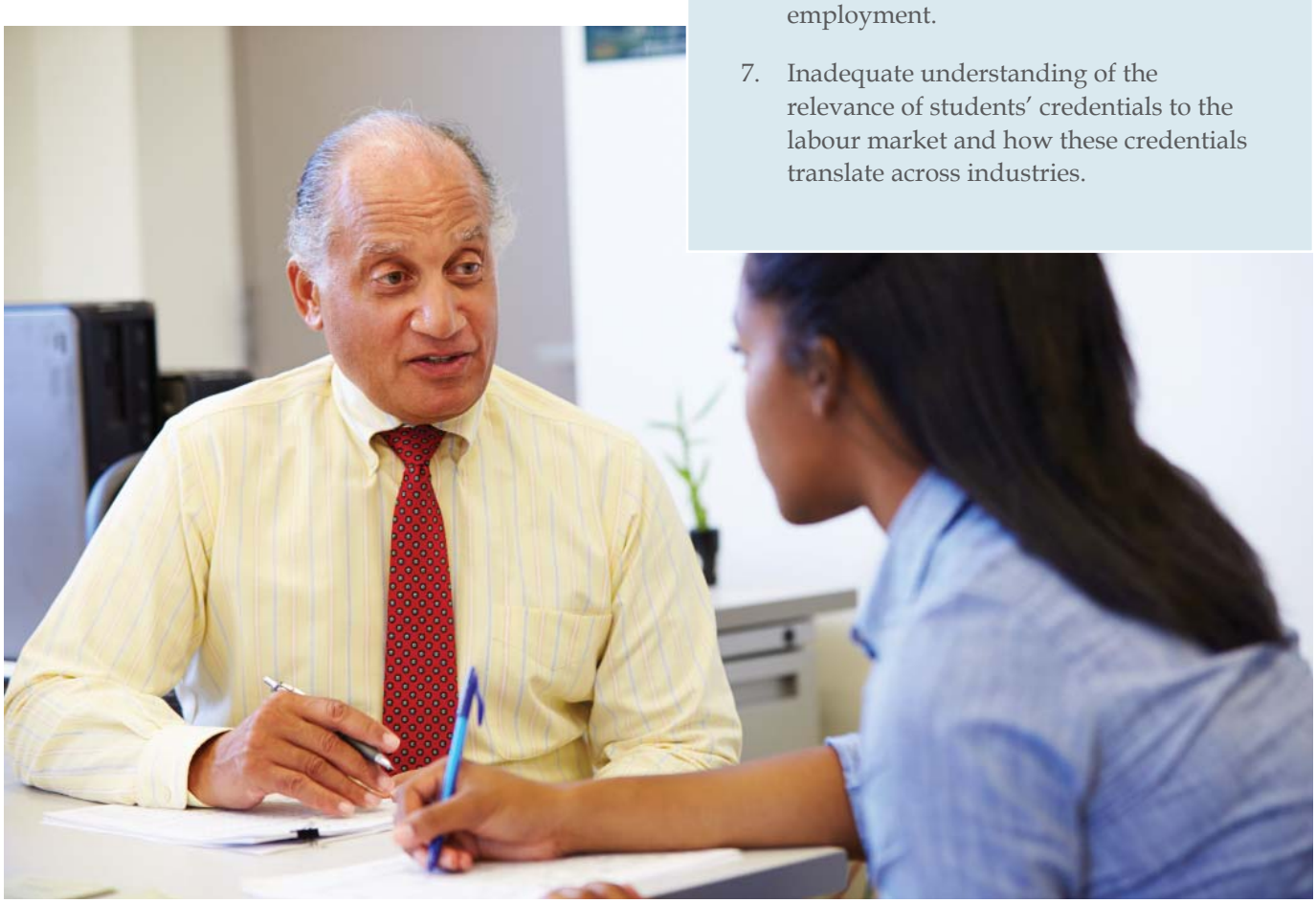
Source: Polytechnics Canada

Advice on career options is lacking for many students, particularly at a young age when it could have the most impact. When looking at careers, parents and friends are the most common source of information and advice,[37] which may not be a good thing. An article in the *Toronto Star* highlights three main challenges as students seek guidance on future careers: parents can give ill-informed or misguided career advice; career education in Canada is patchy and needs improvement; and finally, young people do not give future careers enough thought.[38]

Despite the host of education options and credentials available, ranging from industry-based certificates to two- and four-year degrees, "individuals are unsure what credentials to seek out, and employers are unsure how to evaluate all of these credentials."[39]

Main disconnects:

1. Inability to directly compare educational options and performance by institution.
2. Lack of awareness of different advisory options.
3. Patchy standards and gaps in career advisory support.
4. Challenge of getting experience in favoured career options.
5. Lack of prioritization by students to research career options.
6. Barriers to mobility in education and employment.
7. Inadequate understanding of the relevance of students' credentials to the labour market and how these credentials translate across industries.



37 http://ceric.ca/national-survey-accessing-career-and-employment-counselling-services/

38 http://www.thestar.com/news/insight/2012/12/01/atkinson_series_career_education_lacking_in_canada.html

39 http://www.huffingtonpost.com/jim-gibbons/what-credentials-mean-in_b_7595784.html

How Are We Addressing the Barriers?

Collaborations between post-secondary institutions and employers happen on many different levels, with many institutions making that collaboration core to the value proposition they offer to incoming students. Professor Stephen Toope draws parallels between the challenges faced by education providers and other "content-based industries." He states that given the amount of information available online, institutions will either need to rely on their reputational advantage or offer a truly unique on-campus experience, including access to employment placements, in order to stand out.[40]

This is already happening in a variety of ways across Canada. Collaborations go from simple corporate donations and sporadic acceptance of interns at the most basic level to more structured educational or research partnerships. Some of these partnerships are highly innovative and are driving the economic development of key sectors in some regions of Canada. Our focus is on relationships that help to incorporate employers' skills needs within the post-secondary education system.

1. Program advisory committees

The fast pace of change is catching many big and well-resourced companies off guard, with companies such as Kodak and Blockbuster struggling to adapt to disruptive innovation. Whole industries, such as journalism and retail, have been completely transformed by technology. With these changes happening so quickly and few sectors immune to far-reaching change, there are sure to be advantages in having regular interactions between employers and educators, especially in more technical programs.

In several provinces, community colleges, polytechnics, institutes of technology and CEGEPs are either required to have or choose to have a program advisory committee (PAC) in place per program or discipline area. These committees are made up of experts in the field and employers in the local catchment area of the college or polytechnic and help ensure programs are up-to-date and relevant, given current industry trends. The governments require PACs to review programs on a periodic basis and provide quality assurance reports to the governing body of the college or polytechnic. PACs can also play a hands-on role in identifying resources and in establishing co-op and graduate employment opportunities.[41] Such partnerships are mutually beneficial, with colleges and polytechnics gaining access to current insight they would struggle find and employers seeing better prepared graduates as well as being exposed to some of the fresh ideas and talent coming out of the colleges.

Leading the way on collaboration with employers are the polytechnics. Their focus on providing applied education to deliver talent for a well-specified employer need means they have to be very closely in tune with the needs of the market. SAIT Polytechnic in Calgary, for example, has 65 advisory committees encompassing 1,000 business and industry representatives to advise on degree programs, apprenticeships and curriculums.[42]

"Program advisory committees do vary from program to program, and if you have related programs, you may cluster them," explains Laura Jo Gunter, Senior Vice President, Academic, at George Brown College, where they keep a close eye on what their PACs are doing. "PACs keep us current on industry methodology. They are not just about technical advice but also how the industry operates."

40 http://www.ceocouncil.ca/wp-content/uploads/2014/09/Toope-CCCE-Paper-FINAL.pdf

41 http://www.senecacollege.ca/about/advisory/

42 http://www.ceocouncil.ca/wp-content/uploads/2013/12/Bernard-Simon-December-2013.pdf

That said, PACs are made up of individual employers, and it is worth noting that those individuals may not always be connected to the national industry association or the relevant sector council.

The success of PACs has been emulated in other jurisdictions and by universities that have no requirement to have such committees in place. Advisory councils have more tangible impacts in the professional programs, admits Dr. Elizabeth Cannon, who is a former dean of the engineering faculty and now President of the University of Calgary. "You have engineering programs and companies coming to hire engineers, and there is a direct link between the program and the profession."

"When you are in an arts faculty, offering history for example, who are the employers in that case?" she asks. "The employers recruiting such people are not as easily identifiable. The faculty of arts has an advisory council to give broad feedback at the macro level."

2. Work-integrated learning

One of the most common ways that employers and educators work together is through experiential or work-integrated learning (WIL) opportunities. There are several different kinds of WIL, including co-op, internship, field placement, applied research projects and service learning (see the definitions of each kind of WIL, below). Some of Canada's biggest companies are avid believers in co-op programs—RBC and IBM are among them. The study by McKinsey found that students felt they learned most from on-the-job training and practical hands-on experience. Elsewhere, research by Gallup found that those who participated in experiential learning were twice as likely to be engaged in work. It also found that students who had undertaken co-op placements, community-based projects, international exchanges or genuine research experience in a lab had more of the soft skills highly sought by employers.[43]

Seven types of work-integrated learning

Work-integrated learning (WIL) is the term used to refer to "the process whereby students come to learn from experiences in educational and practice settings." Seven types of WIL are listed by the Higher Education Quality Council of Ontario, cited here verbatim:

- Apprenticeship: Training that combines learning on the job with classroom instruction, leading to a certificate of apprenticeship
- Field placement: Practical experience in a real work setting
- Mandatory professional practice: Work hours needed to obtain a licence to practise or a professional designation or to register with a regulatory college/professional association
- Co-op: Academic study that alternates with paid work experience developed and/or approved by the college/university
- Internship: Program-related experience in a professional work environment
- Applied research projects: Student projects to address specific business or industry problems
- Service learning: Student projects to address identified community needs or global issues

Source: Higher Education Quality Council of Ontario

43 http://www.theglobeandmail.com/news/national/education/the-expectation-gap-students-and-universities-roles-in-preparing-for-life-after-grad/article21187004/?page=all

Likewise, work-integrated learning can be an important tool for post-secondary institutions. The University of Waterloo runs one of the biggest co-op programs with around 19,000 co-op students enrolled and partnering with 5,200 employers.[44] That said, institutions should not consider expanding co-op placements without first considering how to manage employers' potential constraints during economic downturns as happened in 2008-09, says Richard Wiggers, Executive Director, Research and Programs at HEQCO. He notes that work placement demand already often outstrips supply, and students may see their academic career in jeopardy if they cannot complete their work placements within an academic program. Wiggers also notes that work-integrated learning is not the only way for students to gain work experience. Many students obtain career-relevant skills through part-time and summer jobs or extra- and co-curricular activities. "The focus on WIL may be pushing onto post-secondary institutions the burden of offering work experience that many young people used to find for themselves," he adds.

There is no national baseline of data on WIL and having the information, combined with the success stories, would be key to encouraging more employers to become involved.

Applied research projects allow businesses to bring problems or challenges for post-secondary students to solve. The results can open the door to commercialization opportunities, as well as productivity enhancements and improved technological capabilities for business. The bonus for students is that by helping industry increase innovation and productivity, they acquire valuable innovation skills, which in turn make them attractive "hires."

There are other innovative approaches emerging for students to gain experience. Trends, such as gamification, that teach problem-solving and can provide a vehicle for testing students' skills through simulated real-world situations, provide multiple possibilities for educators and employers to collaborate in the design of these challenges. TalentEgg.ca, an online career resource for students, launched a platform whereby businesses could upload challenges for students to solve.[45]

44 http://www.theglobeandmail.com/report-on-business/rob-commentary/for-students-and-employers-co-op-education-is-a-bridge-to-a-wider-world/article24316976/

45 http://academica.ca/top-ten/%E2%80%9Ctalentegg-challenges%E2%80%9D-help-students-gain-career-experience

3. Other employer engagement

For the University of Calgary, one of its advantages is its proximity to a large employer base. "We have an incentive to engage them to give us feedback on trends and advice on outcomes that students should have in different programs and faculties," says its President, Dr. Elizabeth Cannon. "We expect our academic leaders to be out in their respective communities, promoting their programs and their students as future employees."

Recognizing the importance of bringing different skills into the same physical space, the University of Toronto announced the development of a new Centre for Engineering Innovation and Entrepreneurship (CEIE). This new building represents the shape of things to come and has been designed to harness technology and collaboration.[46] The same logic should apply to contact between employers, students and academics.

There are a number of ways that employers can form connections with post-secondary institutions. IBM, for example, set up its *Transition to Teaching* program for skilled retiring staff to retrain as teachers to help make up a shortfall in educators for STEM subjects in secondary education and establish partnerships with colleges and universities.[47] This is just one of many initiatives where IBM has worked directly with the education sector to help develop skills.

In addition to the core subjects being taught, students are keen to learn about new and emerging technologies and business management as supplemental skills—businesses can provide ideas here.[48] This often requires partnerships and new models of cooperation in curriculum development. Many courses are now integrating business elements; for example, McGill University introduced a business of music course to help the musicians they develop make a better life out of their unique talents.[49] The University of Windsor offers classes on how entrepreneurship relates to students in all fields.[50]

Graduate certificate programs are a relatively new way for post-secondary institutions to respond to employer demand for job-ready graduates. The minimum requirement for these one- to two-year programs is the completion of a previous post-secondary credential, usually a bachelor's degree. Polytechnics Canada reports that 75% of their members' graduate certificate programs involve a work-integrated learning component.

There are a growing number of exciting developments as departments within post-secondary institutions work together. Recently, the John Molson School of Business at Montreal's Concordia University undertook a pilot project revolving around surgical innovation. The pilot brought together two MBA students from Concordia, two surgical students from McGill and two engineering students from L'École de technologie supérieure (ETS) de Montréal. Not only did this project produce a device that provided real-time feedback during CPR, it also exposed each of the students to different skill sets.[51]

In 2014, Siemens set up the Siemens Canada Engineering and Technology Academy. It is working directly with five Canadian institutes of higher education to provide hands-on workplace experience that comes long before graduation for approximately 30 students.[52]

46 http://news.engineering.utoronto.ca/ceie_groundbreaking/

47 http://www.ibm.com/ibm/responsibility/teaching.shtml

48 http://www.palgrave-journals.com/articles/palcomms20151

49 http://www.macleans.ca/education/taking-care-of-business/

50 http://www.theglobeandmail.com/news/national/education/the-expectation-gap-students-and-universities-roles-in-preparing-for-life-after-grad/article21187004/?page=all

51 http://business.financialpost.com/executive/business-education/a-new-way-of-mba-thinking-pulls-on-outside-disciplines

52 https://www.siemens.ca/web/portal/en/NewsEvents/Siemens-Canada-News/Pages/PSE-Strategy-for-Canada.aspx

4. Sector councils and industry associations

Originally established with federal funding, sector councils were created along occupational or sectoral lines to research labour market issues and provide tools to deal with any mismatches or shortages. Today, existing councils outline the general skills required for their sector and also highlight upcoming trends that could impact future labour requirements. Industry associations are also good vehicles for discussion and platforms for leadership on issues around skills development.

In its 2015 budget, the federal government earmarked $65 million for business and industry associations to work with willing post-secondary institutions to align their curricula.[53] The final shape of the curriculum should be determined by educational institutions, but employers can provide knowledge, experiences and tools to enhance the learning experience. For some programs, such as information communications technology, advice on curricula is essential.

Associations can play important roles in developing the tools that can help students, employers and educators. In Ontario, the provincial government invested $1.2 million to help expand Magnet, a career-networking platform developed at Ryerson University in Toronto with the Ontario Chamber of Commerce. This tool provides labour market information and connections to around 60,000 Ontario businesses, with 17 colleges and universities involved.[54]

Seeing a need in the U.K., the Confederation of British Industries worked with the National Union of Students to develop a guide that defines employability, its value and how to enhance it.[55] In the U.S., the National Network of Business and Industry Associations is working with various partners to launch the Connecting Credentials framework to help build a common language about what credentials mean and what recipients can do with them, whether degrees or certificates, licences or certifications or badges or micro-credentials.

53 http://www.budget.gc.ca/2015/docs/plan/ch3-3-eng.html

54 http://academica.ca/top-ten/institutions-partner-magnet-career-networking-platform

55 http://educationandskills.cbi.org.uk/reports

What More Should We Do to Align Education with Skills Needs?

The system of skills development is already much more fluid than it once was, and employers and educators are collaborating more than ever before. Some of the main challenges relate to the disjointed nature of the entire system that has developed across Canada. Canada's federated system of government has some drawbacks in that it creates a confusing patchwork of different rules and standards across the country, making it difficult for employers to engage with educators beyond smaller localized partnerships.

At the same time, the diversity of Canada's education system across geographies and post-secondary sectors is, in many ways, a strength. Any changes should try to maintain the rich variety of approaches to skills development being deployed across the country. A system that is too rigid may not give success stories, like Sheridan, the latitude to focus on what they are good at but at the same time, the system itself should not be a barrier to skills development.

Overcoming any barriers requires greater mutual understanding and a greater degree of openness and transparency between different players to allow fair comparisons to be made. It requires system changes to reduce any unnecessary steps or restrictions designed to benefit the few as well as any uncertainty. It also requires leadership to drive change. Resources and incentives will be needed to bring on this kind of change. Finally, it requires different organizations and people to actually experience working together in the long-term.

There are many examples around the world that show what steps can be taken to boost the skills development of Canadian students. To deliver the skills needed for today's fast-changing labour market, there are a number of core elements, which we explore below.

Measuring outcomes

Much of the criticism levelled at the education system by employers is that many new employees plucked from the education system do not have basic cognitive skills such as literacy and numeracy.[56] If true, this is a real problem as employers are reluctant to have to invest in skills they believe should have been established through the secondary or post-secondary education systems. Without a full understanding of the scale of the challenge faced, it is very difficult to put forward solutions. This is a frustration highlighted by Harvey Weingarten who points to the international consensus and tests already available to measure these skills but the lack of the political will to put them to use.[57]

A qualifications framework to measure and compare educational institutions and courses across the country would also help potential students immensely as well as help employers look at potential partnerships. As pointed out by Stephen Toope, we should have trust in students to make the right decisions if we make useful data available to them.[58]

Currently in Canada, each individual PSE institution reports their outcomes the way they want. Those in the college sector are obliged to track key performance indicators (KPIs) and many have data that go beyond what their province or territory publishes. Due to a lack of consistency or uniformity in the data available across provinces and territories, there are gaps in the PSE data available on a national basis for comparison purposes. The National Graduate Survey needs to be improved, administered regularly and the results made publicly available on a timely basis. Incorporating an employer satisfaction measure would be a valuable addition.

Good examples of data available at the provincial level include the publication by Colleges Ontario of annual key performance indicators each year, which include satisfaction rates, graduation and employment rates and quality assessments.[59] In British Columbia and Alberta, there is an annual student outcome survey that looks at a cross-section of graduates two years after graduation.[60]

At the institution level, the Data Dashboard at The Northern Alberta Institute of Technology (NAIT) offers an example of performance metrics reporting that show how promises to students and to industry, among other stakeholders, are being met. Among the metrics displayed are employer satisfaction with graduates, graduate satisfaction with the relevancy of courses and the employment of graduates.[61]

Other barriers identified, like graduate and labour mobility, also require tools to measure results. The Bologna Process, which is an initiative to drive greater cross-border recognition of qualifications in the much more diverse European Union, is underpinned by significant investments in measurement and information systems.[62] It, therefore, seems counterintuitive not to develop a single framework for measuring information that would support a similar drive for the mutual recognition of qualifications across Canada. Ideally, there would be a robust

56 http://blog-en.heqco.ca/2014/02/harvey-p-weingarten-managing-for-quality-classifying-learning-outcomes/?_ga=1.9388213.1246365087.1395430662

57 http://blog-en.heqco.ca/2014/02/harvey-p-weingarten-managing-for-quality-classifying-learning-outcomes/?_ga=1.9388213.1246365087.1395430662

58 http://www.ceocouncil.ca/wp-content/uploads/2014/09/Toope-CCCE-Paper-FINAL.pdf

59 http://www.collegesontario.org/outcomes/key-performance-indicators/2015_KPI_English.pdf

60 https://news.gov.bc.ca/factsheets/factsheet-bc-post-secondary-education-facts

61 http://www.nait.ca/datadashboard/

62 http://forum.academica.ca/forum/data-in-decline-the-gradual-demise-of-canadas-national-data-systems-for-higher-education

national labour market information system, a pan-Canadian qualifications system and accreditation body, and a pan-Canadian credit transfer system.

Employers have to admit that some skills can only be gained with experience, says RBC's Robert Carlyle. "No educator can provide the practical experience that forms the basis of sound judgment—a critical foundation for the application of skills and knowledge."

At George Brown College, Ms. Gunter observes that "soft skills get developed all the time through the applied work. These students have already worked on that piece of equipment; they are ready to be productive as soon as they are hired."

Dr. Cannon points out that a transcript does not cover what a student has achieved outside the classroom. The University of Calgary was early out of the gate a numbers of years ago when it launched a co-curricular record (CCR). A CCR indicates all of the qualifying on-campus volunteer and leadership activities of a student, along with the key skills he or she has learned. Each record is vetted and backed by the university. "It demonstrates the importance of students being involved outside the classroom as part of their total student experience," says Dr. Cannon.

The record (and other initiatives to measures attributes) is appreciated by the employers, but the students often need to see its value. "The challenge is getting all students to buy into it; not everyone is mature enough or savvy enough," says Dr. Cannon. Employers and philanthropists are supporting these initiatives as tangible ways to show students' outcomes and attributes, she adds.

Clear outcomes will help make students as competitive as possible in the job market. As an institution, the University of Calgary is also considering the attributes its graduates should have to prepare them for life and work in a complex world; attributes such as leadership, critical thinking and a commitment to sustainability. Once the academy has agreed on the attributes, they will be widely shared externally with employers and community leaders. The attributes will ultimately be mapped across the curriculum. "Then we will drive the accountability within the faculties and programs to deliver graduates who can confidently align to the attributes we expect," says Dr. Cannon.

In addition to co-curricular records, the use of "badges" is another way for institutions to recognize an accomplishment or acquired skill, beyond what is on a student's official transcript. While new in Canada, there are at least two PSE institutions that are looking at badges as a form of micro-credentialing. At the time of writing, The Excellence in Research and Innovation badge, awarded by George Brown College, is the only one of its kind in Canada.[63] Established by Robert Luke, Vice-President of Applied Research and Innovation at the college, the badge recognizes hands-on, real-world experience gained outside the classroom through student involvement in applied research projects.

These badges or micro-credentials attest to the fact that a student has acquired a skill such as problem-solving, communicating with team members and producing innovative solutions to industry problems. Badges can be put on students' LinkedIn profiles or wherever a prospective employer may see them.

At the exploratory stage, UBC is piloting three programs using badge technologies, which are seen as "a vital component of open, flexible learning systems" and "a way to signify levels of participation as well as the achievement of skills and knowledge."[64]

63 http://www.georgebrown.ca/research/badges/

64 http://badges.open.ubc.ca/2014/10/18/open-badges-ubc-project/

Learning Outcomes: A Way to Demonstrate that Graduates Have the Skills Employers Need

"Are students graduating with the skills, knowledge and competencies to allow them to succeed in life and work?" asks Dr. Harvey Weingarten, President of the Higher Education Quality Council of Ontario (HEQCO), an independent government agency that focuses on research on post-secondary education. "You graduate with a transcript with a list of the courses and the grades. What information is actually conveyed by that piece of paper? Beyond the courses and grades, it says nothing about the knowledge, skills and competencies you have."

"This is a source of great angst to employers in Canada and other countries," says Dr. Weingarten. It's the reason he and his colleagues at HEQCO are interested in learning outcomes, which, they argue, will help solve the alignment problem between post-secondary education and employment. (Learning outcomes are what students should know or be able to do at the completion of a course or program.)

The alignment problem stems partly from the divergent language used by employers compared to educators.

"Employers are articulating quite well a skill set they need, either because they have specific jobs in mind or have a range of skills in mind, such as digital and problem-solving skills," says Dr. Weingarten. Employers have done a reasonable job of identifying a set of skills and competencies, in his opinion, and there is good convergence among them.

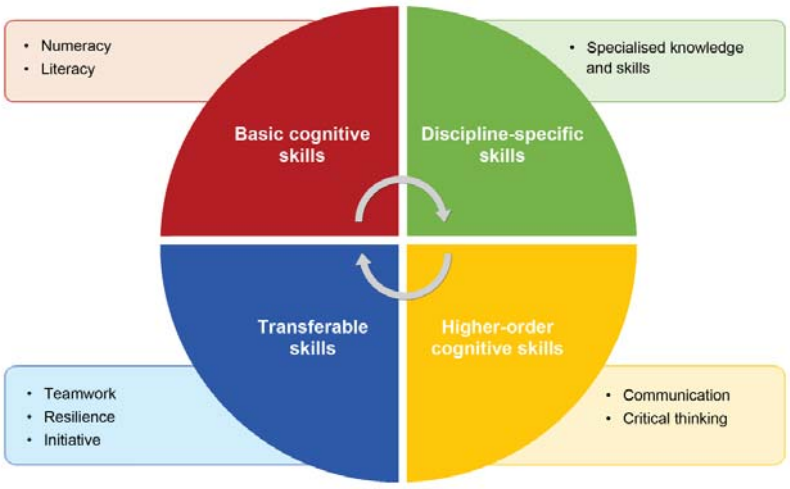
"Universities do not speak that language—they speak the language of disciplines, degree programs and credentials," he explains. "When they talk (about degrees), implicitly they think there are skills and competencies embedded."

"We need the post-secondary institutions to talk about skills and competencies and not to make assumptions that because a student passed course, that student has those skills and competencies," says Dr. Weingarten. "We need them to be demonstrated."

The road to system-wide alignment starts by using a common vocabulary and by measuring learning outcomes, says Dr. Weingarten. Consider, for example, the skill of critical thinking. How can you measure it in a reasonable way? How can you ensure someone has the ability to ask questions when they do not understand what they are supposed to be doing?

HEQCO is working with seven institutions on learning outcomes assessments, namely the University of Toronto, Queen's University, Durham College, George Brown College, Guelph University and Humber College, with the Aga Khan Foundation as an observer. Learning outcomes to succeed in life and in the workplace are included in a taxonomy covering four kinds of skills and competencies: basic cognitive skills, discipline-specific skills, transferable skills and higher-order cognitive skills (see the illustration, below). The goal is to measure these competencies and give students verified credentials.

The learning outcomes approach is not without its skeptics. Some argue that we cannot measure everything and not everything that matters can be



Source: Higher Education Quality Council of Ontario

measured. Two corollaries to that concern are: if you cannot measure something, it may not be taught; and sometimes the things you measure might get too much attention. As one educator cautioned, "Soft skills aren't like math—there is no right answer."

Dr. Weingarten believes that you cannot manage what you do not measure, and what gets measured gets done, to paraphrase Peter Drucker.

"Competency-based education and credentialing are huge now in the U.S.," says Dr. Weingarten. "Entire institutions are switching." In the U.S., the lead group is the National Institute of Learning Outcomes Assessment. The Collegiate Learning Assessment tool is now a required test for graduates applying to work at McKinsey in the U.S., for example.

Canada has not embraced learning outcomes, competencies and credentialing like other countries, although there are isolated examples mostly in professional programs. And that's unfortunate in Dr. Weingarten's view. Canada should speed up the adoption of competency frameworks to support skilled workforce development, according to a report by the Canada West Foundation.[65]

"The punch line is that the relationship between education and labour market outcomes is about taking a learning-outcomes perspective."

65 http://cwf.ca/publications-1/competence-is-the-best-credential

Availability of information

Canada's data collection, which forms the bedrock of any research, has been criticized as being amongst the worst in the OECD.[66] As a result of cuts to Statistics Canada's budget, work has had to be rationalized and the data available on higher education has been gutted. This lack of information is highlighted again and again as the main hindrance to progress on skills development and collaboration.

In Australia, students have access to the MyUniversity website that shows all programs available across the country and their subsequent employment rates; no such comprehensive resource is available in Canada currently. (The new Career Tool on Canada's Job Bank website provides information by program but it does not present outcomes by post-secondary institution since the federal government cannot access data from all institutions directly.) A report by Ken Coates recommends that all colleges, polytechnics and universities should be required to make graduates' incomes and experiences easily accessible online.[67] The logic suggests this would force institutions to put more emphasis on preparing students for the workplace. It would also give them a greater incentive to incorporate career advice earlier in the process and help with the transition to employment after graduation.

Promising development

A meeting of the Forum of Labour Market Ministers in July 2015 recognized the importance of labour market information (LMI) and has endorsed the creation of a new LMI Council and a complementary new National Stakeholder Advisory Panel to provide access to unbiased information.[68] There is no government commitment to invest to improve or add new surveys or to require public access to existing data from publicly-funded post-secondary educational institutions.

Shared vision

The mandates of educational institutions and employers are often markedly different, but the skills of graduates are where interests overlap. Educators want their students to get good jobs, and employers want their employees to be able to do those jobs well. The Canadian Business/Higher Education Roundtable was launched in April 2015 as a forum for dialogue between several large employers and post-secondary institutions.[69] The roundtable aims to help build greater coordination between education and employment, focusing on the transition and seeking greater synergies in teaching and research.[70]

Provinces have their priorities as well, as the economic picture across Canada differs greatly. Most provinces have their economic and social priorities and use the policy levers at their disposal to deliver the talent needed to achieve these priorities. A recent example is British Columbia's big push for natural gas and the expansion of liquefied natural gas terminals, which

66 http://forum.academica.ca/forum/data-in-decline-the-gradual-demise-of-canadas-national-data-systems-for-higher-education

67 http://www.ceocouncil.ca/wp-content/uploads/2015/03/Career-Ready-Ken-Coates-final-March-251.pdf

68 http://news.gc.ca/web/article-en.do?nid=998209

69 http://www.ceocouncil.ca/news-item/business-leaders-and-post-secondary-presidents-launch-businesshigher-education-roundtable-to-improve-school-to-work-transitions

70 http://www.ceocouncil.ca/news-item/business-leaders-and-post-secondary-presidents-launch-businesshigher-education-roundtable-to-improve-school-to-work-transitions

are seen as being essential to the economy. As a result, the province put forward its Skills for Jobs Blueprint plan, which reoriented the province's education budget around projected industrial development. (This approach has been met with some criticism from the university sector[71] and from at least one economist who questions the employment forecast.[72])

Where the visions are most closely aligned, though, is at the local level. Regional partnerships are springing up across Canada and are proving to be promising hubs of economic activity and innovation. Post-secondary institutions are one of the driving forces of the knowledge and know-how economy in Canada. Collaboration with employers is very important not only for research but also for skills development and commercialization. Educational institutions with strong long term relationships with employers are best at equipping students for employment, and the most successful institutions are acutely aware of the needs of the local economies around them.[73]

Promising development

Recognizing that a strong Vancouver Island is in all their interests, Camosun College, North Island College, Royal Roads University, the University of Victoria and Vancouver Island University formed the Vancouver Island Post-secondary Alliance. This alliance was built from the shared vision of improving student transfer pathways and working towards meeting regional employment needs.[74]

System-based approach

The OECD has commenced a project on an in-depth analysis of the labour market relevance and outcomes of higher education across several countries. The analysis will take a system-based approach, recognizing that addressing one part of what is a very complex system is not sufficient. The analysis will look at approaches and incentives countries employ to enhance the relevance and outcomes of post-secondary education. Canada is among the seven countries currently involved.

In addition, the OECD is developing multi-dimensional measures to benchmark higher education system performance, with employability as one of the potential performance dimensions. It is possible that engagement with employers could be one of the benchmarks in this project, according to Shane Samuelson, Senior Policy Analyst in the OECD's Directorate for Education and Skills.[75]

While there are multiple parts involved in the education system, there are gaps. Back in 2006, a report indicated that Canada's system had not undergone a review in the preceding five years, had no system-wide goals and objectives, did not have funding aligned with national priorities, had no quality assurance agency, no mechanism for federal/provincial/territorial planning and no federal department of education.[76] Little has changed in the intervening years.

The most difficult phase for students is when they transition from student to employment. This is when the most support is needed but is where gaps exist. On average, four out of 10 students take longer than three months to find a job post-graduation, and one in 10 take over a year, according to McKinsey's survey of 1,500 youth in Canada in 2013.[77]

71 http://academica.ca/top-ten/bc-risks-trusting-labour-market-forecasts-too-much

72 https://www.policyalternatives.ca/BC-LNG-jobs

73 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/306968/A_New_Conversation.pdf

74 http://www.timescolonist.com/search-results/vancouver-island-colleges-universities-form-alliance-1.877890

75 The OECD projects are called: In-depth analysis of higher education systems' labour market relevance and outcomes; and Benchmarking higher education system performance. At time of writing, no details were available on the OECD's website.

76 http://www.cclcca.ca/pdfs/PSE/2006/PSEReport2006EN.pdf

77 http://www.mckinsey.com/~/media/McKinsey%20Offices/Canada/Latest%20thinking/PDFs/Youth_in_transition_Bridging_Canadas_path_from_education_to_employment.ashx

Employers should be playing a bigger role with new hires. As mentioned previously, it is unrealistic to expect graduates to arrive in a position and be 100% job-ready. A study by Accenture points to the need to provide detailed competency models to help set expectations, guide development and point to the value of co-op programs in identifying talent and smoothing transitions.[78] Where challenges remain, governments have been willing to step in to encourage employers to take a chance on new talent by offering tax incentives.

Promising development

In February 2015, Nova Scotia launched its Graduate to Opportunity program to help with the transition to full-time employment. Under the program, eligible employers will get 25% of the salary paid to a new graduate in the first year and 12.5% in the second year.[79]

Mobility and choice

Canada has a small population in global terms and has, up to now, hampered its competitiveness through hindering the movement of skilled workers around the country. Artificial barriers to mobility also contribute to a high level of reluctance to relocate to find work. There are a long list of qualifications and professions that do not translate across provincial borders, let alone international borders, for various—largely administrative—reasons.[80]

Efforts have been made by a number of provincial governments and associations, with CMEC reporting on progress, but it is a slow process, and the bigger picture on credit transfer is still confusing for anybody wanting to navigate the system in a non-linear manner. For post-secondary institutions, this new approach to learning, which involves people moving between different types of courses and institutions, presents large administrative challenges. This has led to additional costs that are mostly being passed on to learners who may have to repeat courses to meet prerequisite requirements.[81]

78 http://www.ceocouncil.ca/wp-content/uploads/2015/04/accenture-increasing-return-talent-development-canadian-companies.pdf

79 http://novascotia.ca/news/release/?id=20150206002

80 http://www.ceocouncil.ca/wp-content/uploads/2014/07/Paul-Cappon-Think-nationally-act-locally-July-4.pdf

81 http://www.conferenceboard.ca/Libraries/EDUC_PUBLIC/spse_nov2013_summitpaper_economic.sflb

Encouraging collaboration

Funding can be used as a lever to exert change and encourage certain behaviours. At present, most post-secondary institutions rely heavily on enrolment-based grants, but funding formulas in some jurisdictions are being closely examined. Factors such as employment rates for graduates, graduate satisfaction with employment and graduate earnings have been used in jurisdictions, such as the State of Tennessee, to fund post-secondary institutions.[82] Tennessee has found there is now a much greater focus on student success, while additional funding is in place to encourage schools to take on low-income students.[83]

Funding models are big drivers of collaboration. If funding becomes more dependent on graduates getting jobs, for example, this should drive more investment in career services and strategies to help students' transition. In some instances, departments within institutions have been very successful in attracting outside funding and, as a consequence, have been given more freedom around their approaches to teaching and research.[84] Incentives in the form of tax credits are also used in Ontario, Quebec and Manitoba to encourage businesses to hire interns or co-op students. Although larger companies may have the resources and experience to make internships or co-ops a valuable experience for both student and employer, smaller companies often do not, so it can be challenging for them to take on an intern. Also, administratively, it can be more demanding for smaller employers to find the right partner. Here, organizations such as MITACs, which works with universities, government and companies to encourage collaboration through internships or research, are playing an important role by connecting organizations of all sizes with university graduates.[85]

Promising development

MITACS is a not-for-profit organization that has supported more than 10,000 research internships and trained more than 19,000 student and post-doctoral career-skills participants from the university sector over the past 15 years.[86]

82 http://www.state.tn.us/thec/Divisions/Fiscal/funding_formula/1-Outcomes%20Based%20Formula%20Narrative%20-%20for%20website.pdf

83 http://www.theglobeandmail.com/news/national/education/some-ideas-to-reform-higher-education/article15361901/

84 http://www.conferenceboard.ca/Libraries/EDUC_PUBLIC/spse_nov2013_summitpaper_economic.sflb

85 https://www.mitacs.ca/en/about-mitacs

86 http://www.mitacs.ca/en/programs/accelerate

Drivers of collaboration

With no federal ministry of education, it has fallen to the Council of Ministers of Education, Canada (CMEC) to coordinate nationally. CMEC's purpose is laid out as being a forum for discussion, a mechanism for collaboration, a means by which to consult and cooperate and an instrument to represent the provinces internationally.[87] What is missing crucially is leadership. Many are calling for a national education strategy from the federal government.[88]

At the levels of both the educational institutions and the employers, there needs to be a body or a group of people responsible for leading or coordinating partnerships. In the U.K., some of the leading companies in the country, including Rolls Royce and GSK, have appointed people to explicitly focus on relationships with universities. This provides clear contact points for educational institutions looking to partner and potentially gives these companies an advantage over rivals.[89]

The most logical coordinators with educational institutions would be career services, but the main contact point is often less clear than it is for business.[90] These departments can be isolated from their academic colleagues and are often under-resourced and underutilized by students. However, this group makes the most logical sense in a coordination role given their focus on students' transition to employment. Departments and individual academics have many of their own connections, including university leadership who may have strong financial or research partnerships in place. A coordinator could help advise across the institution on the best ways to leverage relationships that may already be in place.

Promising development

The University of Windsor announced the launch of a Student Co-op, Careers and Employment Centre. The centre will be headed up by a professor who will be a special advisor to the provost and who has taught in the areas of human resources and leadership at the university's business school.[91]

87 http://www.cmec.ca/11/About/index.html

88 http://business.financialpost.com/executive/should-canada-have-a-national-education-and-training-strategy?__lsa=21c1-6c0e

89 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/32383/12-610-wilson-review-business-university-collaboration.pdf

90 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/32383/12-610-wilson-review-business-university-collaboration.pdf

91 http://blogs.windsorstar.com/news/university-of-windsor-to-launch-co-op-careers-and-employment-centre

Recommendations

Across jurisdictions in Canada and internationally, there is an important dialogue about education's role in skills development for labour market needs. Canada's post-secondary institutions are facing challenges to compete and demonstrate their value and relevance. Strong collaboration between post-secondary institutions and business will be a crucial driver in supporting a knowledge and skill-based economy.

Collaboration with individual employers is already well-established at many institutions. However, there needs to be a more open approach to sharing information in an understandable and comparable way, a more system-wide approach to address gaps and barriers, policy incentives to encourage more collaboration between employers and educators where it makes sense and work to build the tools needed to help all this happen.

The following are recommendations to the federal government:

Labour market relevance and outcomes of post-secondary education:

Require the provinces and territories, as recipients of funds for post-secondary education transferred through the Canada Social Transfer, and other supports through training programs, to report on the enrolment, learning and/or skills outcomes[92] and employment outcomes of post-secondary graduates. (This federal initiative would be in the context of improving the quality and availability of labour market information by the federal government.)

Labour market information:

Ensure labour market information in Canada comprehensively and accurately reflects the range of credentials offered across post-secondary education and through apprenticeship training, the supply of graduates on a per program basis, timely reports on graduates' employment outcomes and official forecasts of future demand by occupation.

92 Learning outcomes are what students should know or be able to do at the completion of a course or program.

Career education:

Provide funds for specific communications and tools for guidance counsellors at the secondary school level to ensure they are informed on the range and labour market relevance of post-secondary education and vocational training options. (This federal initiative would be in the context of improving the dissemination of labour market information by the federal government.)

Work-integrated learning:

Establish a national baseline understanding of the range of work-integrated learning options on offer for Canadian employers, with a compendium of best practices and success stories. Invest in the collection of data and information on the current state of WIL to provide employers with information to make data-driven decisions to invest in WIL themselves and to assess the relationship between WIL and learning and/or academic outcomes.

Co-op placements:

Provide a financial incentive for employers to offer co-op placements to students, with a focus on employers who are small in size and/or have not participated previously.

Competencies development:

Fund sector-specific development of competencies through the Sectoral Initiatives Program (in keeping with past practice).

Promote a pan-Canadian adoption of a competency framework, in concert with the Council of the Federation, the Council of Ministers of Education, Canada and/or the Forum of Labour Market Ministers.[93]

93 These recommendations are drawn from the report by Janet Lane and Naomi Christensen, *Competence is the Best Credential*, Canada West Foundation, April 2015.

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